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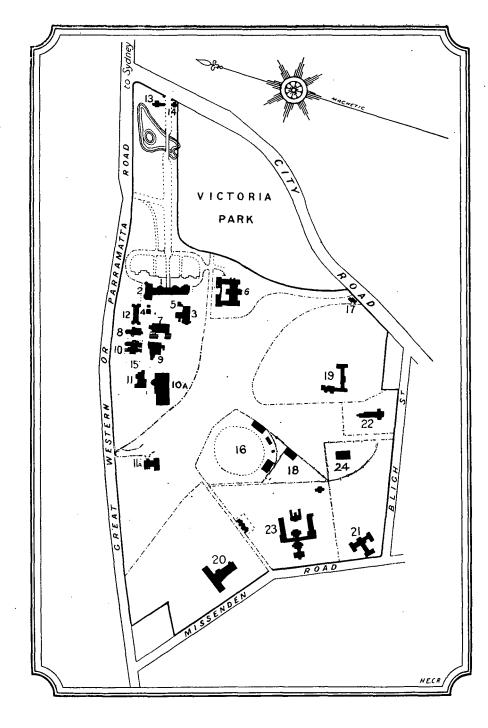
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#### PREFACE.

THE UNIVERSITY OF SYDNEY was incorporated by an Act of the Legislature of New South Wales, which received the Royal Assent on the 1st of October, 1850. This Act was amended by subsequent Acts, enlarging the scope of the University, and the whole were consolidated in the University and University Colleges Act, 1900.

By a Royal Charter issued 7th February, 1858, the same rank, style, and precedence are granted to Graduates of the University of Sydney as are enjoyed by Graduates of Universities within the United Kingdom.

By the University and University Colleges Act the University of Sydney is declared to be a body politic and corporate, consisting of a Senate constituted by sixteen elective Fellows, and not fewer than three nor more than six "ex officio" members, who shall be Professors of the University, in such branches of learning as the Senate shall by by-law select. The Chancellor and Vice-Chancellor are elected by the Senate from their own body. The term of office of the Chancellor is fixed by by-law at three years; that of the Vice-Chancellor is limited by statute to one year. In both cases the retiring officer is eligible for re-The Senate has power to appoint all Professors and other officers, and has the entire management and superintendence over the affairs of the University, with power to make by-laws governing the discipline and curriculum and other matters, which by laws, however, must be submitted for the approval of the Governor.

Vacancies in the Senate are filled by means of a convocation of electors, consisting of the Fellows of the Senate, Professors, Public Teachers and Examiners in the Schools of the University, Principals of Incorporated Colleges within the University, Superior Officers declared to be such by By-law, Masters and Doctors in any Faculty, and Bachelors of three years' standing.

The Senate is empowered to give such instruction, and to grant such degrees and certificates in the nature of degrees as it thinks fit, in all branches of knowledge except Theology and Divinity. Women are admitted to all University privileges equally with men.

The income of the University is derived chiefly from three sources—the Government annual endowment of £10,000, with £2,000 per annum for evening lectures; the income of private foundations, viz., the Challis Fund for general purposes, the Peter Nicol Russell Fund for the School of Engineering, and the Fisher Fund for the Library, and the fees of students.

An additional grant has been made by the Government of £5,000 per annum, for the establishment of Schools of Veterinary Science and Agriculture.

There are four Faculties in the University, viz., Arts, Law, Medicine and Science.

In the Faculty of Arts two Degrees are given—namely, Bachelor of Arts and Master of Arts. The curriculum of study for the Degree of B.A. extends over a period of three years, during which students are required to attend lectures and pass examinations. The subjects of study are the English, Latin, Greek, French and German Languages, Ancient and Modern History, Mental Philosophy and Logic, Mathematics, Chemistry, Physics, Geology and Palæontology, Biology, Physiology, &c.

Evening Lectures are given, which include all the subjects necessary for the Degree of Bachelor of Arts, with limited options. A three-year course for a diploma in Economics and Commerce has been established.

In the Faculty of Law the Degrees of LL.B. and LL.D. are given. The curriculum of study for the Degree of LL.B. extends over five years. The Degree of Bachelor of Law is recognised under certain conditions by the Board for the admission of Barristers in New South Wales as a qualification for admission to the Bar.

Graduates in Arts of this University enjoy certain privileges granted by Act of Parliament, exempting them from all examinations other than an Examination in Law before admission as Barristers of the Supreme Court. The Rules of the Supreme Court also provide for a shortening of the period of Studentshipat-Law, in the case of Graduates in Arts, from three years to

two, one of which may be concurrent with the final year of studentship at the University. Graduates who enter into articles of clerkship with attorneys and solicitors are required to serve for three years only instead of five.

The Universities of Oxford and Cambridge extend certain privileges to students who have completed two years' study in the University of Sydney and who desire to compete in the Examinations for Honours. Graduates of the University of Sydney who comply with certain requirements may be admitted as "advanced students" in the University of Cambridge. "Advanced students" may, under special conditions, proceed to the Degree of Bachelor of Arts or Bachelor of Law in that University, or obtain a certificate testifying to their proficiency in research.

In the Faculty of Medicine three Degrees are granted, viz., Bachelor of Medicine, Doctor of Medicine, and Master of Surgery. The course of study for the Degrees of M.B. and Ch.M. extends over a period of five years. A Diploma in Public Health is also granted.

The Degrees in Medicine and Surgery granted by the University of Sydney may be registered upon the Colonial List of the British Medical Register, under section 13 of The Imperial Medical Act of 1886.

In the Faculty of Science the Degrees of Bachelor of Science and Doctor of Science are given, and Degrees are also given in the several branches of Engineering, viz., Civil Engineering, Mechanical and Electrical Engineering, and Mining and Metallurgy. The course for the Degree of B.Sc. extends over a period of three years, during which the subjects of study are Mathematics, Chemistry (theoretical and practical), Physics (theoretical and practical), Mineralogy, Geology and Palæontology, Biology, etc. The curriculum in Civil Engineering covers three years, that in the other two departments four years.

In the Department of Veterinary Science there are granted a License in Veterinary Science and the Degree of Bachelor of Veterinary Science. For the former, a curriculum of four years is prescribed; and for the latter, a curriculum extending over a period of five years.

In the Department of Agriculture the curriculum, extending over four years, leads to the Degree of Bachelor of Science in Agriculture.

In the School of Dentistry the curriculum extends over a period of four years, leading to the Degree of Bachelor of Dental Surgery.

A department of Military Studies, providing instruction in Military History and Science, Military Engineering, Military Topography and Military Administration and Law, with a three-year curriculum including practical instruction, was brought into operation in 1907.

Courses of Lectures in connection with the scheme for University Extension are delivered in Sydney and other places upon application. Each course consists of six or ten lectures, and concludes with an examintion. Those persons who have attended any course regularly, and passed the concluding examination, receive University Certificates to that effect. The subjects of the lectures have hitherto been English Literature, Modern History, Ancient History, Political Economy, Logic and Mental Philosophy, Commercial Law, Science, etc.

Senior and Junior Public Examinations are held annually in Sydney, and at other places where persons approved by the Senate can be found to superintend the examinations.

The lectures of the Professors are open to persons not members of the University, upon payment of the fee prescribed for each course.

An Act to provide for the establishment of Colleges of Residence in connection with different religious denominations was passed by the Legislature during the Session of 1854. Ample assistance was offered towards their endowment; and the maintenance of the fundamental principles of the University—the association of students without respect of religious creeds, in the cultivation of secular knowledge—is secured consistently with the most perfect independence of the College authorities within their own walls. Colleges in connection with the Church of England, and the Roman Catholic and Presbyterian Churches, have been established. A College for Women has also been established on a non-sectarian basis. The Colleges have all been erected on the University grounds.

# SYDNEY UNIVERSITY CALENDAR 1911-1912.

#### 1911.

#### MARCH XXXI.

		<del></del>
1 (		
1	w	•
2	$\mathbf{Th}$	
3	$\ddot{\mathbf{F}}$	;
4	S	
5	S	First Sunday in Lent.
6	M	Senate meets. LENT TERM begins. University Examinations
7	Tu	[begin, viz., Matriculation Examination, Deferred Annual
8	W	[Examinations, Annual Law Examinations, Honour Exami-
9	Th	[nations in the Faculty of Arts, and Department of Engi- [neering. P. N. Russell Scholarship Examination. Latest
10	F	date for receiving Competitive Prize Compositions and
11	S	Theses for the degree of M.A.
12	S	Second Sunday in Lent.
13	M	Examinations for Higher Degrees begin.
14	Tu	
15	W	
16	Th	
17	F	Examination for Articled Clerks on April 3rd.
18	S	Last day for receiving entries for the PRELIMINARY
19	S	Third Sunday in Lent.
$\begin{vmatrix} 20 \\ 21 \end{vmatrix}$	M Tu	Lectures begin.
22	w	Doord of Studies in Engineering
23	Th	Board of Studies in Engineering.
24	F	
25	s	•
26	Š	Fourth Sunday in Lent.
27	M	Faculty of Science.
28	Tu	•
29	w	
30	Th.	
31	F	Finance Committee.
$\sqsubseteq$		

### APRIL XXX.

#### MAY XXXI.

1			Ì
1	M	Senate meets.	ı
2	Tu		l
3	$ \mathbf{w} $		1
4	$\mathbf{T}$ h		
5	F		Ì
6	S		
7	) N	Third Sunday after Easter.	
8 9	M Tu		1
10	W		١
110	Th		-
12	F	Last day for receiving entries for the Junior Public	ĺ
13	s	[Examinations on June 6th.	l
14	Š	Fourth Sunday after Easter.	١
15	M	Tours Sunday artor 200001	1
16	Tu		1
17	w		١
18	Th	· ·	1
19	$ \mathbf{F} $	•	ł
20	S		ı
21	S	Rogation Sunday.	1
22	M	Professorial Board.	
23	Tu	•	Į
24	W		i
25	Th	Ascension Day.	ļ
26	$ \mathbf{F} $	Finance Committee.	
27	S	LENT TERM ends.	
28	S	Sunday after Ascension Day.	١
29	M		
30	Tu W		-
101	, VV	·	i
-	ļ.		1

#### 1911.

#### JUNE XXX.

1	Th	
2	F	1771 1 Thi it 1
3	S	King's Birthday.
5	S M	Whit Sunday.
6	Tu	I Durant Ein-time bening
7	w	JUNIOR PUBLIC Examination begins.
8	Th	
9	F	
10	s	
11	S	Trinity Sunday.
12	M	Senate meets. TRINITY TERM begins.
13	Tu	<b>8</b>
14	W	
15	Th	
16	F	·
17	S	
18	S	First Sunday after Trinity.
19	M	Board of Studies in Engineering.
20	Tu	77 1, 6 A
21	W	Faculty of Arts.
$\frac{22}{23}$	Th	Prince of Wales Birthday.
24	F	Truce of wates Directuay.
25	Š	Second Sunday after Trinity.
26	M	Cecond Sunday after Trimity.
$\frac{27}{27}$	Tu	Faculty of Science.
28	w	
29	Th	•
30	F	Finance Committee.

#### JULY XXXI.

	<u> </u>	
1	S	
2	S	Third Sunday after Trinity.
3	M	Senate meets.
4	Tu	
5	W	
6	Th	, .
7	F	
8	S	
9	S	Fourth Sunday after Trinity.
10	M	Professorial Board.
11	Tu	
12		<u>.</u> √
13	$\mathrm{Th}$	ν.
14		<b>"</b> .
15		
16		Fifth Sunday after Trinity.
17	M	
18		
19		
20		
21	$\mathbf{F}$	
22		St. 1. S
23		Sixth Sunday after Trinity.
24	1	
25		
26		I A 4 1/7/7
27	1	on August 17th.
28		Finance Committee. [GINEERING Examinations
29		Last day for receiving entries for MEDICAL AND EN-
30		Seventh Sunday after Trinity.
31	M	•
	<del></del>	·

#### AUGUST XXXI.

1 2 3 4	Tu W Th F	
5 6 7 8 9	S M Tu W	Eighth Sunday after Trinity. Public Holiday.
10 11 12 13 14 15	Th FS <b>S</b> MTu	Ninth Sunday after Trinity. Senate meets.
16 17 18 19 20	W Th F S S	Examinations in Medicine and Engineering.  Trinity Term ends.  Tenth Sunday after Trinity.
21 22 23 24 25	M Tu W Th	Finance Committee.
26 27 28 29 30	S M Tu W	Eleventh Sunday after Trinity.
31	Th	

#### SEPTEMBER XXX.

1	म	
$ \hat{2} $	$\hat{\mathbf{s}}$	·
3	F S	Twelfth Sunday after Trinity.
4	M	Senate meets.
5	Tu	
6	w	
7	Th	
8	$\hat{\mathbf{F}}$	
9	ŝ	
10	š	Thirteenth Sunday after Trinity.
11	м	This book to the way water withing t
12	Tu	
13	w	
14	Th	
15		
16	F 0 <b>5</b>	· .
17	ŝ	Fourteenth Sunday after Trinity.
18	$\tilde{\mathbf{M}}$	_ · · · · · · · · · · · · · · · · · · ·
19	Tu	
20	w	
21	Th	
$\overline{22}$	·F	
23	ŝ	•
24	Š	Fifteenth Sunday after Trinity.
25	M	MICHAELMAS TERM begins.
26	Tu	· ·
27	w	
28	Th	·
29	F	Finance Committee.
30	ŝ	Latest date for receiving applications for Local Senior
		and Matriculation and Scholarship Ex-
		aminations on November 13th.
<u></u>	ļ	

#### 1911.

#### OCTOBER XXXI.

,—		
1 2 3 4	S M Tu W	Sixteenth Sunday after Trinity. Holiday.
1		
5	Th	
6	F	·
7	S	
8	S	Seventeenth Sunday after Trinity.
9	M	Senate meets.
10	Tu	
11	W	
12	Th	
13	F	
14	S	
15	S	Eighteenth Sunday after Trinity.
16	M	Board of Studies in Engineering.
17	Tu	o, o
18	W	Faculty of Arts.
19	Th	nations on November 13th.
20	F	nation, and Matriculation and Scholarship Exami-
21	S	Latest date for receiving entries for the SENIOR PUBLIC Exami-
22	S	Nineteenth Sunday after Trinity.
23	M	Faculty of Science.
24	Tu	
25	W	
26	Th	fon November 13th.
27	F	Finance Committee, nation for Articled Clerks
28	S	Latest day for entries for the PRELIMINARY Exami-
29	S	Twentieth Sunday after Trinity.
30	M	Professorial Board.
31	Tu	Latest date for receiving entries for the ANNUAL UNIVERSITY
		[Examinations in December.
ì	l	i

#### NOVEMBER XXX:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	WTh FSSMTWTh FSSMTWTh FSSMTWTh	Twenty-first Sunday after Trinity. Senate meets.  Twenty-second Sunday after Trinity. Senior Public Examination and Matriculation [and Scholarship Examinations begin. Pre- [LIMINARY Examination for Articled Clerks.  Twenty-third Sunday after Trinity. Professorial Board.  Finance Committee.  Twenty-fourth Sunday after Trinity.
1		

#### DECEMBER XXXI.

#### JANUARY XXXI.

	3.5	The James Land of American 1991
	M Tu	Federation of Australia, 1901.
2		
3	W	
4	$rac{\mathbf{Th}}{\mathbf{F}}$	
5	s	Eninhany
6	S	Epiphany. First Sunday after Epiphany.
8	M	Elist Sunday after Epiphany.
9	Tu	
10	w	
11	Th	•
12	F	
13	s	
14	Š	Second Sunday after Epiphany.
15	M	Second Sunday arter, Espirally.
16	Tu	
17	$ \tilde{\mathbf{w}} $	
18	$\ddot{\mathbf{T}}\mathbf{h}$	
19	F	
20	S	
$\frac{1}{21}$	ŝ	Third Sunday after Epiphany.
22	M	
23	Tu	, wa
24	W	
25	Th	·
26	$\mathbf{F}$	Foundation of N.S.W., 1788. Finance Committee.
27	S	
28	S	Fourth Sunday after Epiphany.
29	M	,
30	Tu	
31	W	
<del></del>		·

#### 1912.

#### FEBRUARY XXIX.

1 Th 2 F 3 S 4 S 5 M 5 Tu 7 W 8 Th 9 F 10 S 11 S Sexagesima Sunday.  Last day for receiving entries for the University [Examinations in March.]  Last day for receiving entries for the University [Examinations in March.]  Quinquagesima Sunday.  Quinquagesima Sunday.  Finance Committee. Latest date for receiving applications for Post- First Sunday in Lent.  First Sunday in Lent.  Graduate Scholarships [and for Bursaries.]
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#### MARCH XXXI.

1 2 3 4 5 6 7 8 9	FS MTu WTh FS S	Second Sunday in Lent. Senate meets. Lent Term begins. University Examinations [begin, viz., Matriculation Examination, Deferred Annual Examinations, Annual Law Examinations, Honour Examinations in the Faculty of Arts, and Department of Engineering. P. N. Russell Scholarship Examination. Latest date for receiving Competitive Prize Compositions, and [Theses for the Degree of M.A.
10		Third Sunday in Lent.
11	M	Examinations for Higher Degrees begin.
12	Tu	·
13	W	
14	Th	
15	F	[Examination for Articled Clerks on April 1st.
16	S	Last day for receiving entries for the PRELIMINARY
17	S	Fourth Sunday in Lent.
18	M	Lectures begin.
19	Tu	TO 1 00/ 11 / TO . 1
20	$egin{array}{c} \mathbf{W} \\ \mathbf{Th} \end{array}$	Board of Studies in Engineering.
$\begin{vmatrix} 21 \\ 22 \end{vmatrix}$	F	
23	s	
23	S	Fifth Sunday in Lent.
25	M	Faculty of Science.
26	Tu	Laboraty of Colonoo.
27	w	Faculty of Arts.
28	$\mathbf{T}_{\mathbf{h}}$	2 500 500 500 500 500 500 500 500 500 50
29	F	Finance Committee.
30	ŝ	
31	S	Palm Sunday.
	~	,
1	1	

#### APRIL XXX.

1	M	Senate meets. PRELIMINARY Examination for
2	Tu	[Articled Clerks begins.
3	W	
4	Th F	
5	F	Good Friday.
6	S	,
7	S	Easter Day.
8	M	
9	Tu	•
10	W	
11	Th	
12	F	
13	S	
14	S	First Sunday after Easter.
15	M	
16	Tu	•
17	W	.1
18	Th	
19	Th F S	
20	2	
21	) )	Second Sunday after Easter.
22	M	Professorial Board.
23	Tu	
24	W	Г . Т 411.
25	Th	[on June 4th.
26	F	Finance Committee. [Public Examinations
27	S	Last day for receiving applications for LOCAL JUNIOR
28	S   M	Third Sunday after Easter.
29		
30	Tu	·
	.	

#### MAY XXXI.

1	Ī	
1	w	
2	Th	
3	F	
4	ŝ	
5	ŝ	Fourth Sunday after Easter.
6	M	Senate meets.
7	Tu	· ·
8	w	
9	Th	
10	$\mathbf{F}$	Last day for receiving entries for the JUNIOR PUBLIC
11	s	Examinations on June 4th.
12	S	Rogation Sunday.
13	M	
14	Tu	·
15	W	
16	$\operatorname{Th}$	Ascension Day.
17	$\mathbf{F}$	
18	S	
19	S	Sunday after Ascension.
20	M	Professorial Board.
21	Tu	
22	W	
23	$\mathbf{T}\mathbf{h}$	
24	F	Finance Committee.
25	S	LENT TERM ends.
26	S	Whit Sunday.
27	M	
28	Tu	·
29	W	
30	Th	
31	$\mathbf{F}$	•
1		•

#### JUNE XXX.

1 2	<b>8 8</b>	Trinity Sunday.
3	M	King's Birthday.
4	Tu W	JUNIOR PUBLIC Examination begins.
5	Th	·
7	F	
8	S	
9	Š	First Sunday after Trinity.
10	M	Senate meets. Trinity Term begins.
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	S	Second Sunday after Trinity.
17	M	Board of Studies in Engineering.
18	Tu	
19	W	Faculty of Arts.
20	Th	
21	F	
22	S	
23	S	Third Sunday after Trinity. Prince of Wales
24	M	Birthday.
25 26	Tu W	Faculty of Science.
26	Th	
28	F	Finance Committee.
29	S	rmance committee.
30	S	Fourth Sunday after Trinity.
	~	
<u> -  </u>		

1912. JULY XXXI.

		·
1	M	Senate meets.
2	Tu	Schale meets.
3	w	
4	Th	
5	F	• *
6	8	
7	88	Fifth Sunday often Trinity
8	M	Fifth Sunday after Trinity. Professorial Board.
9	Tu	1 lolessorial Doald.
10	w	
111	Th	
12	F	
13	s	
14	Š	Sixth Sunday after Trinity.
15	M	Sixth Sunday attor Truity.
16	Tu	
17	W	
18	Th	
19	F	
20	S	
21	S	Seventh Sunday after Trinity.
22	M	
23	Tu	
24	$\mathbf{w}$	
25	Th	[on August 15th.
26	$\mathbf{F}$	Finance Committee. [GINEERING Examinations]
27	S	Last day for receiving entries for Medical and En-
28	S	Eighth Sunday after Trinity.
29	M	
30	Tu	
31	W	,
4	!	

#### AUGUST XXXI.

1 2 3 4 5 6 7	Th F S S M Tu W	Ninth Sunday after Trinity. Public Holiday.
8 9 10 11 12 13	Th F S M Tu	Tenth Sunday after Trinity. Senate meets.
15 16 17 18 19 20	W Th S S M Tu	Examinations in Medicine and Engineering.  Trinity Term ends.  Eleventh Sunday after Trinity.
21 22 23 24 25 26 27	W Th F S M Tu W	Twelfth Sunday after Trinity.
28 29 30 31	W Th F S	Finance Committee.

# Sydney Aniversity Calendar

## 1912.

## SEPTEMBER XXX.

1	S	Thirteenth Sunday after Trinity.
2	M	Senate meets.
3	Tu	•
4	W	
5	Th	
6	$\mathbf{F}$	
7	S	
8	S	Fourteenth Sunday after Trinity.
9	M	
10	Tu	<b>'</b>
11	W	•
12	Th	
13	$\mathbf{F}$	
14	S	
15	S	Fifteenth Sunday after Trinity.
16	M	
17	Tu	
18	W	
19	Th	•
20	F	
21	S	
22	S	Sixteenth Sunday after Trinity.
23	M	Michaelmas Term begins.
24	Tu	
25	W	on November 11th.
26	Th	[Scholarship Examinations
27	F	Finance Committee. [and Matriculation and
28	S	Latest date for receiving applications for Local Senior
29	S	Seventeenth Sunday after Trinity.
30	M	
	!	

# Sydney University Calendar

## 1912.

## OCTOBER XXXI.

		· · · · · · · · · · · · · · · · · · ·
1		
1	Tu	
2	w	
3	Th	
4	F	
5	ŝ	
6	Š	Eighteenth Sunday after Trinity.
7	M	Public Holiday.
8	Tu	, - 40000 12011111JV Ç
9	w	
10	Th	
11	F	
12	S	
13	S	Nineteenth Sunday after Trinity.
14	M	Senate meets.
15	Tu	
16	W	
17	Th	Inations on November 11th.
18	F	nation, and Matriculation and Scholarship Exami-
19	S	Latest date for receiving entries for the SENIOR PUBLIC Exami-
20	S	Twentieth Sunday after Trinity.
21	M	Board of Studies in Engineering.
22	Tu	
23	W	Faculty of Arts.
24	Th	Clerks on November 11th.
25	F	Finance Committee. Examination for Articled.
26	S	Last day for receiving entries for the PRELIMINARY.
27	S	Twenty-first Sunday after Trinity.
28	M	Faculty of Science.
29	Tu	
30	W	
31	Th	Latest date for receiving entries for the Annual University [Examinations in December.]

# Sydney Anibersity Calendar

# 1912. NOVEMBER XXX.

		,
1	${f F}$	
2	F S	
3	S	Twenty-second Sunday after Trinity.
4	M	Senate meets.
5	Tu	•
6	W	
7	$\operatorname{Th}$	
8	F	
9	$\mathbf{s}$	
10	S	Twenty-third Sunday after Trinity.
11	M	Professorial Board. Senior Public Examination and
12	Tu	Matriculation and Scholar-
13	W	SHIP Examinations begin. Pre-
14	Th	LIMINARY Examination for
15	$\mathbf{F}$	Articled Clerks.
16	S	· ·
17	S	Twenty-fourth Sunday after Trinity.
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	s	
24	S	Twenty-fifth Sunday after Trinity.
25	M	
26	Tu	
27	W	, in the second
28	Th	m: 0 ://
29	F	Finance Committee.
30	S	Lectures cease.
		·
<u></u>		

# Sydney University Calendar

## 1912. DECEMBER XXXI.

:			<del></del>
	1 2 3 4 5	S M Tu W Th	First Sunday in Advent. Senate meets. Annual Examinations begin.
	6 7 8 9 10	FS M Tu	Second Sunday in Advent.
	12 13 14 15 16 17 18	Th F S M Tu W	Michaelmas Term ends. Third Sunday in Advent.
	19 20 21 22 23 24	Th F S M Tu	Fourth Sunday in Advent.
	25 26 27 28 29 30 31	WTH S S M Tu	Christmas Day.  Finance Committee.  First Sunday after Christmas.

# ROYAL CHARTER

OF THE

# UNIVERSITY OF SYDNEY.

FEBRUARY 27TH, 1858.

Dictoria, by the Grace of God, of the United Kingdom Recites Act of Great Britain and Ireland, Queen, Defender of the poration. Faith, to all to whom these presents shall come Greeting: Whereas under and by virtue of the provisions of an Act of the Governor and Legislative Council of our Colony of New South Wales, passed in the fourteenth year of our reign, No. 31, intituled "An Act to Incorporate and Endow the University of Sydney," and to which our Royal Assent was granted on the 9th day of December, One Thousand Eight Hundred and Fifty-one, a Senate, consisting of Sixteen Fellows, was incorporated and made a body politic with perpetual succession, under the name of the University of Sydney, with power to grant, after Examination, the several degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, Doctor of Laws, Bachelor of Medicine, and Doctor of Medicine, and to examine for Medical Degrees in the four Branches of Medicine, Surgery, Midwifery, and Pharmacy. And whereas our trusty and well-beloved Sir William Thomas Denison, Knight Commander of our most honourable Order of the Bath, Lieutenant-Colonel in the Royal Engineers, our Captain-General and Governor-in-Chief

Petition of

in and over our said Colony, has transmitted to us the humble Petition of the Senate of the said University of Sydney under their common seal, dated the 9th of February One Thousand Eight Hundred and Fifty-seven, wherein is set forth a statement of the establishment of the said University, the appointment of learned Professors of the Faculty of Arts, and the provisions adopted and to be adopted in respect of the faculties of Laws and Medicine, and the course of Education and discipline for the Scholars, Undergraduates, and Graduates of the said University, and in which it is humbly submitted that the standard of acquirements which must be attained by Graduates in the University of Sydney is not below that prescribed by the most learned Universities of the United Kingdom, and the direction of the studies in the said University has been committed to Professors who have highly distinguished themselves in British Universities, that the rules under which the high standard in the University has been fixed cannot be altered without the approval of our representative in the Colony, and that there is invested in him the power of interference should the rules laid down be unduly relaxed in practice, and that, therefore, the Memorialists confidently hope that the Graduates of the University of Sydney will not be inferior in scholastic requirements to the majority of Graduates of British Universities, and that it is desirable to have the degrees of the University of Sydney generally recognised throughout our dominions; and it is also humbly submitted that although our Royal Assent to the Act of Legislature of New South Wales hereinbefore recited fully satisfies the principle of our law that the power of granting degrees should flow from the Crown, yet cthat as that assent was conveyed through an Act which has effect only in the territory of New South Wales, the Memorialists believe that the degrees granted by the said University under the authority of the said Act, are not legally entitled to recognition beyond the limits of New South Wales: and the Memorialists are in consequence most desirous to obtain a grant from us of Letters Patent requiring all our subjects to recognise the degrees given under the Act of the Local Legislature in the same manner as if the said University of Sydney had been an

Soliciting recognition of Degrees conferred by the University.

University established within the United Kingdom under a Royal Charter or an Imperial enactment; and the Memorialists therefore hereby most humbly pray that we will be pleased to take the premises into our gracious consideration and grant to the University of Sydney Letters Patent effective of the object therein set forth. Now know ye that we, taking the premises into consideration, and deeming it to be the duty of our Royal office, for the advancement of religion and morality and the promotion of useful knowledge, to hold forth to all classes and denominations of our faithful subjects, without any whatsoever, throughout our dominions encouragement for pursuing a regular and liberal course of education, and considering that many persons do prosecute and complete their studies in the Colony of New South Wales, on whom it is just to confer such distinctions and rewards as may induce them to persevere in their laudable pursuits; do, by virtue of our Prerogative Royal and our especial Grace and certain knowledge and mere motion, by these presents of us, our heirs and successors, will, grant, and declare that the Degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, Such Doctor of Laws, Bachelor of Medicine, and Doctor of granted. Medicine, already granted or conferred or hereafter to be granted or conferred by the Senate of the said University of Sydney shall be recognised as Academic distinctions and rewards of merit, and be entitled to rank, precedence. and consideration in our United Kingdom and in our Colonies and possessions throughout the world as fully as if the said Degree had been granted by any University of our said United Kingdom. And we further will and ordain that any variation of the Constitution of the said University which may at any time or from time to time be made by an Act of the said Governor and Legislature shall not, so long as the same or a like standard of knowledge is in the opinion of the said Governor preserved as a necessary condition for obtaining the aforesaid degrees therein, in any manner annul, abrogate, circumscribe, or diminish the privileges conferred on the said University by these our Royal Letters Patent, nor the ranks, rights, privileges, and consideration conferred by such degrees. And, lastly, we do hereby for us, our

heirs, and successors, grant and declare that these our Letters Patent or the enrolment or exemplification thereof shall be in and by all things valid and effectual in law according to the true intent and meaning of the same, and shall be construed and adjudged in the most favourable and beneficial sense to the best advantage of the said University, as well in all our courts as elsewhere, notwithstanding any non-recital, uncertainty, or imperfection in these our Letters Patent. In witness whereof we have caused these our Letters to be made Patent.

Witness ourself at Westminster, the Twenty-seventh day of February, in the Twenty-first year of our Reign.

By WARRANT under the Queen's sign manual.

C. ROMILLY.

# THE UNIVERSITY

AND

# UNIVERSITY COLLEGES ACT,

1900.

An Act to consolidate the Acts relating to the University of Sydney and Colleges within the University of Sydney.

[Assented to 22nd September, 1900.]

Whereas it is expedient for the better advancement of religion and morality and the promotion of useful knowledge, to hold forth to all classes and denominations of Her Majesty's subjects resident in New South Wales, without any distinction whatsoever, an encouragement for pursuing a regular and liberal course of education; and to ascertain by means of examination the persons who acquire proficiency in literature, science, and art, and to reward them by academical degrees as evidence of their respective attainments and by marks of honour proportioned thereto; and to encourage and assist the establishment of colleges within the University of Sydney, in which colleges systematic religious instruction and domestic supervision, with efficient assistance in preparing for the University lectures and examinations, shall be provided for students of the University: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:-

## Part I.

# Preliminary.

1. This Act may be cited as the "University and University Colleges Act, 1900," and is divided into Parts and Divisions, as follows:—

Part I.—Preliminary.—ss. 1-5.

Part II.—Incorporation and constitution of the University and provisions relating to the Senate.—ss. 6-18.

Part III.—Examinations and degrees.—ss. 19-23.

Part IV .- Endowment and finance. -ss. 24-29.

Part V.—Students, licensed masters, and privileged officers.—ss. 30-32.

Part VI.—Colleges within the University—

Division 1.—Interpretation.—s. 33.

Division 2.—Endowment and subscribed fund—

- (i.) Conditions of endowment.—ss. 34, 35.
- (ii.) Endowment for building.—s. 36.
- (iii.) Endowment for principal.—ss. 37-39.
- (iv.) Interest on subscribed fund.—s. 40.

Division 3.—Government of students.—8. 41.

Repeal Schedule. 2. (1) The Acts mentioned in the Schedule to this Act are, to the extent therein expressed, hereby repealed.

Officers under Acts hereby repealed.

(2) All persons elected or appointed under the Acts hereby repealed, and holding office at the time of the passing of this Act, shall continue in office as if this Act had been in force at the time they were appointed, and they had been appointed hereunder.

Regulations or by-laws under Acts hereby repealed.

(3) All regulations or by-laws made under the authority of any Act hereby repealed, and being in force at the time of the passing of this Act, shall be deemed to have been made under the authority of this Act, and references in such regulations to the provisions of any Act hereby repealed shall be deemed to be references to the corresponding provisions of this Act.

Interpretation.

3. In this Act, unless the context or subject-matter otherwise indicates or requires,—

- "Bachelor" means any person upon whom the degree of Bachelor has been conferred by the University.
- "Doctor" means any person upon whom the degree of Doctor has been conferred by the University.
- "Fellow" means a member of the Senate.
- "Master" means any person upon whom the degree of Master has been conferred by the University.
- "University" means the University of Sydney.
- 4. Nothing in this Act shall be deemed to affect or Act not to interfere with any right, title, or interest of Her with rights Majesty, Her Heirs and Successors, or in any way to of Her Majesty limit the Royal Prerogative.

  14 Vic. No. 31, s. 24.
- 5. The benefits and advantages of the University Women to be admitted and the provisions of this and any other Act relating to Univerthereto, shall be deemed to extend in all respects to sity privileges.
  women equally with men.

#### PART II.

Incorporation and constitution of the University and provisions relating to the Senate.

6. The University of Sydney is the body politic and The Univercorporate incorporated by that name under the Act 14 Vic. No. fourteenth Victoria number thirty-one, and shall, by 31, s. 1. that name, have a perpetual succession and a common seal and power to sue and be sued, and to take, purchase, and hold all real and personal property whatsoever, whether the same is situate in New South Wales or elsewhere, and to grant, demise, alien, or otherwise dispose of the same, and also to do all other matters and things incidental or appertaining to a body politic.

Provided that the University shall not, unless with Proviso. the approval of the Governor, alienate, mortgage, charge, or demise any of its lands, except by way of lease for any term not exceeding thirty-one years from the making thereof, by which lease there shall be reserved and made payable during the whole of the term the best yearly rent that can reasonably be obtained without any fine or foregift.

University to consist of a Senate. Ibid. s. 4. 24 Vic. No. 13, s. 2.

- 7. The said body politic and corporate shall consist of a Senate which shall be constituted by—
  - (a) sixteen elective fellows, who shall be elected as hereinafter provided, and of whom at least twelve shall be laymen; and
  - (b) not fewer than three nor more than six ex officion Fellows, who shall be Professors of the said University in such branches of learning as the Senate shall from time to time by any by-law select.

Elections of Fellows. Ibid. s. 4. 44 Vic. No. 22, s. 8.

- 8. Every vacancy occurring by death, resignation, or otherwise among the elective Fellows shall be filled up as it occurs by the election, at a meeting duly convened for the purpose, of such other fit and proper person as may be elected to fill such vacancy by the majority of the following persons present at such meetings, that is to say,—
  - (a) Fellows;
  - (b) Officials declared by this Act to have the same rights and privileges within the University as Masters and Doctors;
  - (c) Graduates keeping their names in accordance with any by-law in that behalf on the register of the University who have taken within the University the degree of Master or of Doctor;
  - (d) Bachelors and all other persons who obtain any certificate which the Senate by by-law declares to be equivalent to the degree of Bachelor, if such Bachelors or other persons are of three years standing in the University, after obtaining such degree or certificate, and are of the age of twenty-one years.

Vacancies. 24 Vic. No. 13, s. 4. 9. Unless by death or resignation no vacancy among the elective Fellows shall occur for any cause not previously specified in some by-law of the University.

Chancellor. 14 Vic. No. 31, s. 4. 24 Vic. No. 13, s. 5. 10. (1) The Senate shall elect out of their own body, by a majority of votes, a Chancellor of the University, who shall hold office for such period as the Senate shall from time to time appoint.

- (2) Whenever a vacancy occurs in the said office by Vacancies in office of death, resignation, or otherwise, the Senate shall, in Chancellor. like manner, elect out of their own body, a person to fill that office.
- 11. (1) The Senate shall annually, on a day of which Vice-Chandue notice has been given, elect out of their own body 14 Vic. No. a Vice-Chancellor of the University, who shall hold 31, s. 6. 24 Vic. No. office for one year.

- (2) Whenever a vacancy occurs in the said office by Vacancies in death, resignation, or otherwise before the expiration of of vice-Chanthe year of office, the Senate shall, as soon as con-cellor. veniently may be, hold a meeting of which due notice has been given, and at such meeting elect out of their own body some other person to be Vice-Chancellor for the remainder of the year.
- (3) Any Vice-Chancellor shall be capable of re-Vice Chanelection as often as is deemed meet.

eligible for 12. (1) At every meeting of the Senate the Chancellor Chairman. or, in his absence, the Vice-Chancellor shall preside as \$14 \text{Vic. No.} chairman, but if the Chancellor and Vice-Chancellor are \$24 \text{Vic. No.} \text{Vic. No.} \text{13, s. 5.} both absent, the Fellows present shall elect a chairman.

13. (1) All questions which come before the Senate Questions shall be decided at any meeting duly convened, at which how decided a convenience of the restaurant by a majority of the resta a quorum is present, by a majority of the votes of the 31, s. 9. Fellows present.

(2) The chairman at any such meeting shall have Chairman. a vote, and in case of an equality of votes a second or casting vote

(3) At any such meeting—

Quorum. Ibid.

- (a) five Fellows of whom the Chancellor or Vice- 16 Vic. No. 28, s. 1. Chancellor shall be one; or
- (b) in the absence of both the Chancellor and Vice-Chancellor, eight Fellows

shall form a quorum.

Senate may 14. (1) The Senate shall have full power to appoint appoint addismiss and dismiss all professors, tutors, officers, and servants officers. of the University.

31, s. 8.

(2) The Senate shall have the entire management And to have of and superintendence over the affairs, concerns, and manageproperty of the University, and in all cases unprovided for by this Act the Senate may act in such manner as appears to them to be best calculated to promote the purposes of the University.

Bý-laws. Ibid. 88. 8, 15, 21, 44 Vic. No. 22, s. 2.

15. (1) The Senate may make by-laws and regulations relating to—

(a) the discipline of the University; and

(b) examinations for and the granting of scholarships, exhibitions, degrees, certificates or honours; and

(c) the conferring of ad eundem degrees;

- (d) the mode and time of convening meetings of the Senate; and
- (e) all other matters whatsoever regarding the University;

Provided that no such by-law or regulation shall be repugnant to any existing law or to the general objects and provisions of this Act.

Approval of Governor.

(2) All such by-laws and regulations shall be reduced to writing and submitted for the consideration and approval of the Governor, and when approved shall be countersigned by him, and when so countersigned and sealed with the seal of the University shall be of full force and effect.

To be laid before the Legislative Council and Legislative Assembly.

(3) The Colonial Secretary shall lay every such by-law and regulation before the Legislative Council and Legislative Assembly during the session of Parliament in which it becomes in force or within six weeks after the beginning of the next ensuing session.

Evidence.

(4) Any such by-law or regulation may be proved in any Court by the production of a verified copy under the seal of the University.

University to report their proceedings to the Governor. 14Vic. No. 31, s. 22. Copy of laid before Legislative Council or Assembly.

- 16. (1) The University shall once at least in every year, and also whenever the pleasure of the Governor may be signified in that behalf, report their proceedings to the Governor.
- (2) A copy of such report shall be laid before the eport to be Legislative Council and Legislative Assembly within six weeks after it is made if Parliament is then in session, or, if not, then within six weeks after the beginning of Legislative the next ensuing session.

- 17. The Governor of New South Wales shall be the Visitor. visitor of the University, with authority to do all things that pertain to visitors as often as he deems meet.
- 18. No religious test shall be administered to any Religious person in order to entitle him to be admitted as a tests. student of the University, or to hold any office therein, or to partake of any advantage or privilege thereof.

Provided that this enactment shall not be deemed to prevent the making of regulations for securing the due attendance of the students for divine worship at such church or chapel as their parents or guardians may approve.

#### PART III.

### Examinations and degrees.

19. (1) The Senate may give such instruction as it Degrees. thinks fit, and may, after examination, confer the several \$\frac{14}{4}\$ Vic. No. degrees of Bachelor, Master, and Doctor, and such other \$\frac{47}{17}\$ Vic. No. degrees and such certificates in the nature of degrees as it thinks fit in all branches of knowledge, except theology and divinity.

Provided that no student in the University shall be compelled to attend lectures upon or pass examinations in any of the following subjects, namely:—Ethics, metaphysics, and modern history.

- (2) All persons who obtain any certificate or qualistatus of fication which the Senate by by-law declares to be of holders of equivalent rank to the degree of Bachelor shall have Ibid. s. 2. the same rights and privileges within the University as Bachelors.
- 20. (1) At the conclusion of every examination of Examiners candidates the examiners shall declare the name of to declare every candidate whom they deem entitled to any degree, examinations.

  14 Vic. No.
  - (a) the departments of knowledge in which his pro-<sup>31, s. 14</sup>
     ficiency has been evinced; and
  - (b) his proficiency in relation to that of other candidates.

Certificates.

(2) The Chancellor shall give every such candidate a certificate under the seal of the University and signed by such Chancellor, in which the particulars so declared shall be stated.

Ad eundem degrees. 44 Vic. No. 22, s. 1.

21. (1) When any person has obtained in any University, recognised by the by-laws of the University in force for the time being, any degree corresponding or equivalent to any degree which the Senate is now or may hereafter be empowered to confer after examination, the Senate may confer such latter degree upon such persons without examination.

Rights of holders.

(2) The persons upon whom degrees are conferred, under the provisions of the preceding subsection, shall be entitled to the same rights and privileges as appertain to those who have taken the same degrees in the ordinary course in the University.

Senate may authorise educational establishments to cates. 4 Vic. No. 31, s. 11.

22. (1) The Senate may authorise any college or educational establishment, whether incorporated or not, instituted for the promotion of literature, science, or art, issue certifi- to issue to candidates for the degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, and Doctor of Laws certificates to the effect that the candidate for any such degree has completed such course of instruction therefor as the Senate by regulation prescribes.

Upon which degrees may

(2) Any person who presents to the Senate any be granted, such certificate may be admitted as a candidate for the degree to which it has reference.

Report on medical establishments by Senate 14 Vic. No. 31, s. 12.

23. (1) For the purpose of granting the degrees of Bachelor of Medicine and Doctor of Medicine, and for the improvement of medical education in all its branches, as well in medicine as in surgery, midwifery, and pharmacy, the Senate may report to the Governor the medical institutions and schools, whether incorporated or not, in the city of Sydney, from which, either singly or jointly with other medical institutions and schools in New South Wales or in foreign parts, it appears to the Senate fit and expedient to admit candidates for medical degrees.

Candidates from such establishments may be admitted to degrees.

(2) On approval of such report by the Governor, the Senate shall admit as a candidate for the degree of Bachelor of Medicine or Doctor of Medicine any person who presents to the Senate a certificate from any such institution or school to the effect that such person has completed the course of instruction therefor which the Senate by regulation prescribes.

## PART IV.

## Endowment and finance.

24. (1) By way of permanent endowment for the Permanent University the Governor is hereby empowered by war- Ibid. s. 3. rant, under his hand, to direct to be issued and paid out of the Consolidated Revenue Fund the sum of five thousand pounds in every year as a fund for building, and for defraying the several stipends appointed to be paid to the several professors or teachers of literature, science, and art, and to such necessary officers and servants as are from time to time appointed by the Senate, and for defraying the expense of such prizes, scholarships, and exhibitions as are awarded for the encouragement of students in the University, and for providing gradually a library for the same, and for discharging all incidental and necessary charges connected with the current expenditure thereof.

Provided that the Senate may apply any portion of Proviso. the said endowment fund to the establishment and maintenance of a college in connection with and under the provisions of the University.

(2) The said sum shall be paid in four equal To be paid quarterly instalments, on the first day of January, the instalments. first day of April, the first day of July, and the first day of October, in every year.

25. The Senate may charge such reasonable fees for Fees for the respective degrees conferred as they with the appro- 14 Vic. No. bation of the Governor direct. Such fees shall be carried 31, s. 13. to one general fee fund for the payment of the expenses of the University.

26. The Senate may by any by-laws or regulations Fees to Proprovide for payment by the students of the University fessors and teachers. of reasonable fees to the professors or teachers for Ibid. 8.

attendance on their lectures. Such professors or teachers may, in addition to their stipends, demand and receive such fees from the students.

Fees for entrance, &c.

Ibid. s. 17.

bequest.

27. The Senate may in like manner provide for payment by such students of reasonable fees for entrance, degrees, certificates, and other University charges. The Treasurer of the University shall, on behalf of the University, collect such fees from the students.

Powers of 28. The securities representing the investments of the the Senate in respect of sum of money bequeathed by the late Solomon Levey, Levey's Esquire, to the Sydney College, with the interest legacy. 13 the Sydney Conege, with the thereon, 17 Vic. No. thereon, shall be held by the Senate upon trust to continue to hold the same, or to alter them from time to time in favour of other investments at interest upon such security and in such manner in all respects as the Senate in their absolute discretion think fit, and the clear or net interest or income arising therefrom shall be applied in or towards the endowment of a scholarship in the University under such regulations as the Senate, in their absolute and uncontrolled discretion in respect of making and altering the same, deem to be as nearly. as circumstances permit in accordance with the intention of the said Solomon Levey in making the aforesaid

Accounts of annual and annual and full account of the whole income and expenditure of the expenditure University to the Colonial Secretary, who shall submit before the the same to the Legislative Council and Legislative Council and Assembly to be subjected to such examination and audit. Assembly. as such Council and Assembly may direct. 31, s. 13.

### PART V.

Students, licensed masters, and privileged officials.

Residence of 30. No student shall be allowed to attend the lectures students. Its. or classes of the University unless he dwells—

- (a) with his parents or guardian; or
- (b) with some relative or friend selected by his parents or guardian and approved by the Chancellor or Vice-Chancellor; or

- (c) in some collegiate or other educational establishment; or
- (d) with a tutor or master of a boarding-house licensed by the Chancellor or Vice-Chancellor as hereinafter mentioned.
- 31. (1) Every person desirous of being licensed as a Licensing tutor or master of a boarding-house in connection with persons with whom the University shall apply for his license to the Chanstudents cellor or Vice-Chancellor in writing under his hand 14 vic. No. specifying the house or houses belonging to or occupied 31, s. 19. by the applicant and intended by him for the reception of students, and the number of students who may be conveniently lodged and boarded therein.
- (2) Such Chancellor or Vice-Chancellor may require Powers of of any such applicant testimonials of character and Chancellor fitness for the office, and thereupon may grant or with-Chancellor. hold the license for the academical year then current or then next ensuing.
- (3) Every such license shall be registered in the License archives of the University and shall lapse at the end of to be the academical year in which it was registered, but may be renewed by the Chancellor or Vice-Chancellor and re-registered.
- (4) Every such license shall be revocable at any Revocation time, and the Chancellor or Vice-Chancellor may forth- of license. with revoke the same in case of any misbehaviour of such tutor or master of a boarding-house or of the students under his care which, in the opinion of the Chancellor or Vice-Chancellor and a majority of the professors of the University, ought to be punished by immediate revocation of such license.
- 32. Each and every of the following officials, that is Members of the to say—
  - (a) every professor and other public teacher and <sup>24</sup>/<sub>13, 8. 3.</sub> examiner in the schools of the University; and
  - (b) every principal of any incorporated college within the University; and
  - (c) every superior officer of the University declared to be such by any by-law

shall, during his tenure of office, but no longer, have the same rights and privileges within the University as are enjoyed by Masters and Doctors.

#### PART VI.

## Colleges within the University.

Division 1.—Interpretation.

Interpretation. 18 Vic. No. 37, s. 10.

- 33. In this part of this Act, unless the context or subject-matter otherwise indicates or requires,—
  - "College" means a college within the University.
  - "Principal" includes the master, warden, rector, or any other head of a college.

Division 2 .- Endowment and subscribed fund.

(i) Conditions of endowment.

Endowment of Colleges.
18 Vic. No.
87, s. 1.

- 34. Whenever-
- (a) any college has been established and incorporated by any Act; and
- (b) the founders of or subscribers to such college have complied with the conditions mentioned in the next section,

such college shall be entitled to the endowments hereinafter severally mentioned, which said endowments shall be paid by the Treasurer under warrants signed by the Governor.

Conditions of endowment. [bid. s. 2.

- 35. No such college although incorporated shall be entitled to such endowments unless and until the sum of ten thousand pounds at the least has been subscribed by its founders, and of that sum not less than four thousand pounds has been paid and invested in such manner as the Governor approves, and the residue has been to his satisfaction secured to be paid within three years next following; nor unless
  - (a) the whole of the said ten thousand pounds is to be devoted exclusively to the erection of college buildings on land granted for that purpose by Her Majesty to the University in trust for such

college, if any is so granted, and if not then upon land otherwise conveyed to and accepted by the University in such trust; and

(b) it has been agreed by the founders that the entire amount shall be so expended, if the University so requires, within five years next after the first payment on account of either of such endowments.

## (ii) Endowment for building.

36. There shall be paid out of the Consolidated Revenue, Endowment in aid of the building fund of every college so incorporated, for building. a sum or sums not exceeding in the whole twenty thousand pounds, nor more than has been from time to time actually expended by the college out of its subscribed funds for the purpose of building.

## (iii) Endowment for principal.

37. There shall be paid out of the said Consolidated Endowment Revenue annually, to such incorporated college in per for principal's salary, petuity, a sum of five hundred pounds for the use of and Ibid. s. 4. as a salary to the principal of such college or in aid of such salary.

38. Every such principal shall be entitled to the annual conditions salary hereby provided for on the production of his own as to such endowment certificate at the time of each payment that he has Ibid. s. 5. during the period to which it relates performed the duties of his office.

Provided that he shall transmit to the Colonial Secretary once in each year a certificate to the like effect under the hands of such persons as are for that purpose appointed by the constitution or rules of the particular college.

39. Where any person selected to be the principal of Provision any such college is out of New South Wales at the time where selected of his appointment no such certificate shall be required principal is untl after he has actually entered on his duties, but he South shall be entitled to the salary, and the college to which Wales 18 Vic. No. he has been appointed may receive the same accordingly 37, s. 6. for his use from the day of his embarkation for New South Wales.

Provided that every principal shall actually enter on his duties within six months after such embarkation unless the Governor, upon being satisfied that unavoidable obstacles have intervened, thinks fit to extend that term to nine months.

## (iv) Interest on subscribed fund.

Accruing proceeds of subscribed fund until expended in building. Ibid. s. 7.

40. Until the subscribed fund is required for the erection of college buildings as aforesaid, the interest or other proceeds accruing from the investment thereof, or of the portion remaining unexpended from time to time, may be applied to the general purposes of the college as the governing body of such college may determine.

## Division 3.—Government of students.

Students of Colleges to of University and attend lectures. Ibid. s. 8.

41. All students in any such college shall immediately be members upon entering therein matriculate in the University, and shall thereafter submit and be subject to the discipline thereof, and shall be required duly and regularly to attend the lectures of the University on those subjects an examination and proficiency in which are required for honours and degrees, with the exception, if thought fit by any such college, of lectures on ethics, metaphysics and modern history.

## SCHEDULE.

Reference to Act.	Title or Short Title.	Extentof repeal. The whole.	
14 Vic. No. 31	An Act to incorporate and endow the University of Sydney.		
16 Vic. No. 28	An Act to amend an Act intituled an Act to incorporate and endow the University of Sydney.	The whole.	
17 Vic. No. 18	An Act to enable the University of Sydney to purchase the Sydney College with the land attached thereto.	The whole.	
18 Vic. No. 37	An Act to provide for the establish- ment and endowment of colleges within the University of Sydney.	The whole.	
22 Vic. No. 8	Ar. Act to amend an Act intituled an Act to provide for the estab- lishment and endowment of colleges within the University of Sydney.	The whole.	
24 Vic. No. 13		The whole.	
44 Vic. No. 22		The whole.	
47 Vic. No. 17	"University Extension Act of 1884."	The whole.	

# THE UNIVERSITY AND UNIVERSITY COLLEGES (AMENDMENT) ACT.

[Assented to 4th December, 1902.]

An Act to amend the University and University Colleges Act 1902.

BE it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:-

Short title.

1. This Act may be cited as the "University and University Colleges (Amendment) Act, 1902," and shall be construed with the University and University Colleges Act, 1900, hereinafter called the Principal Act.

Increase of

2. Subsection one of section twenty-four of the endowment Principal Act is amended by the substitution of the to £10,000. word "ten" in place of the word "five" where it occurs in that subsection.

Students of training schools and others to attend ' lectures on arts or science free.

3. The Senate shall allow students of training schools established under the Public Instruction Act of 1880 and such other persons training for the position of teacher under the Department of Public Instruction as the Minister may approve to attend, for the purpose of graduating in Arts or Science, the University lectures for the period required for such graduation, without the payment of any fees, provided that such students and other persons shall previously have passed the entrance examination prescribed by the University by-laws.

# BY-LAWS OF THE UNIVERSITY.

All By-laws heretofore passed by the Senate and now in force are hereby repealed, and in lieu thereof the following By-laws shall be and are hereby declared to be the By-laws under which the University of Sydney shall henceforth be governed. Provided always, that nothing herein contained shall be deemed to revive any By-law previously repealed, or to prejudice any matter already done or commenced under any By-law hitherto in force.

#### CHAPTER I. -THE CHANCELLOR AND VICE-CHANCELLOR.

- 1.—The election to the office of Chancellor shall take place 5-7-87 at a duly convened meeting of the Senate to be held in Lent Term.
- 2.—The Chancellor shall be elected for a period of three 5-7-87 years (except as hereinafter provided), to be computed from the date of election, but shall be eligible for re-election.
- 3.—In the event of the office of Chancellor becoming vacant 5-7-87 by death, resignation, or otherwise, before the expiration of the full term of office herein prescribed, the election of a successor shall be proceeded with at the next ensuing regular meeting of the Senate, and the Chancellor so appointed shall hold office until the Lent Term next after the expiration of three years from the date of such election.
- 4.—The election of Vice-Chancellor shall take place annually 5-7-87 at a duly convened meeting of the Senate, to be held in Lent 64 V. Term, except as in cases otherwise provided by the Act of s. 11. Incorporation.
- 5.—The Chancellor and Vice-Chancellor shall be members 6-5-90 ex-officio of every Faculty, Board, or Committee appointed by any By-law or otherwise by the Senate; and at every meeting of any such Faculty, Board, or Committee, the Chancellor, or in his absence the Vice-Chancellor, or, in the absence of both, the Chairman shall preside, or in his absence a member elected for that sitting. The President at such meetings shall have a vote, and in case of an equality of votes, a second or casting vote.

Note.—The dates in the margin are the dates of the approval of the various By-laws by His Excellency the Governor in Council.

#### CHAPTER II.—SENATE.

#### MEETINGS AND RULES OF PROCEDURE.

- 7-11-93 1.—The Senate shall meet on the first Monday in every month, or on the nearest convenient day should such first Monday be a public holiday, and may adjourn from time to time to conclude any unfinished business.
- 5-7-87 2.—At any time in the interval between such meetings it shall be competent for the Chancellor, or in his absence the Vice-Chancellor, in any case of emergency, to call a special meeting of the Senate, to be held as soon as conveniently may be, for the consideration of any business which he may wish to submit to them.
- 5-7-87
  3.—Upon the written requisition of any three members the Chancellor, or in his absence the Vice-Chancellor, or in the absence of both, the Registrar, shall convene a special meeting of the Senate, to be held as soon as conveniently may be after the expiration of seven days from the receipt of such requisition.
- 5-7-87
  4.—Except in any case of emergency as aforesaid, no motion initiating a subject for discussion shall be made but in pursuance of notice given at the previous meeting, and every such notice shall be entered in a book to be kept by the Registrar for that purpose.
- 5-7-87 5.—The Registrar shall issue to each member of the Senate a summons with a written specification of the various matters to be considered at the next meeting of the Senate, whether such meeting be an ordinary or special one; and such summons, except in any case of emergency, as aforesaid, shall be issued at least three days previous to such meeting.
- 6.—In the event of a quorum of the Senate not being present at any meeting within half an hour after the hour appointed, the members then present may appoint any convenient future day, of which at least three days' notice shall be given by the Registrar in the usual manner.
- 5-7-87 7.—All the proceedings of the Senate shall be entered in a journal, and at the opening of each meeting the minutes of the preceding meeting shall be read and confirmed, and the signature of the chairman then presiding shall be attached thereto.
- 18-7-93 8.—If any Fellow shall, without leave from the Senate, be absent from the aforesaid meetings for six consecutive calendar months his fellowship shall, ipso facto, become vacant; provided that, in computing the said six consecutive months, the month of January shall not be taken into account.

<sup>\*</sup> See University and University Colleges Act, sec. 18, p. 9.

#### ELECTION TO VACANCIES.

- 9.—At the first meeting of the Senate after the occurrence 5-7-87 of a vacancy among the Fellows, a day shall be fixed for a Convocation for the election of a successor, such day to be within sixty days from the date of such Senate meeting, and to be announced at least thirty days before such Convocation, by notice posted at the University and by advertisement in one or more of the daily newspapers. Due notice shall also be given of the day on which a ballot shall be taken, should such be required. Provided that no Convocation shall be held in the month of January.
- 10.—No person shall be eligible for election to fill any vacancy 5-7-87 among the Fellows unless his candidature shall have been communicated to the Registrar under the hands of two qualified\* voters ten clear days at least before the intended Convocation, and seven clear days at least after the fixing of the day for such Convocation; and it shall be the duty of that officer to cause the name of such person and the fact of his candidature to be forthwith advertised in one or more of the daily newspapers published in Sydney, and to be posted in a conspicuous place in the University for eight clear days at least before such Convocation.
- 11.—The Convocation for the election of a Fellow shall be 5-7-87 held in the University,† and shall be presided over in the same manner as if it were a meeting of the Senate. Every candidate submitted for election must be proposed and seconded by legally qualified voters. If one candidate only or one only for each vacancy be so proposed and seconded, then such candidate or candidates shall be declared by the President to be duly elected. But if more candidates are proposed and seconded than there are vacancies in the Senate to be filled at such Convocation, a show of hands shall be taken; and unless a ballot be demanded by at least two members of Convocation then present, the President shall declare the candidate or candidates in whose favour there shall be the greatest show of hands to be duly elected. Should a ballot be demanded it shall be conducted in the following manner:—
  - (a) The voters then present shall choose two or more members of Convocation to act as scrutineers.

+ By a resolution of the Senate, of date July 2, 1888, ballots for the election of Fellows may be held at the Royal Society's Rooms, or in some other central place within the city of Sydney, to be named by the Senate, or by the Chancellor, or by the Vice-Chancellor in his

absence.

<sup>\*</sup>The legally qualified voters are Fellows of the Senate for the time being, Professors, Public Teachers and Examiners in the Schools of the University, Principals of Incorporated Colleges within the University, Superior Officers of the University declared to be such by By-law, Graduates holding the Degree of Master or Doctor, and Graduates of three years standing, who hold the Degree of Bachelor. University and University Colleges Act, sees. 8 and 32.

- (b) The ballot shall not be held earlier than one week from the day of nomination at Convocation, and shall be notified by notice posted in the University and by advertisement in one or more of the daily newspapers.
- (c) The ballot shall commence at 10 a.m., and close at 2 p.m., on the day appointed.
- (d) At the expiration of the time allotted for the ballot the scrutineers shall proceed to the examination of the voting papers, and shall report the result to the President, who shall then declare the candidate or candidates having the majority of votes to be duly elected to the vacant seat or seats in the Senate.
- (e) In the event of an equality of votes, the election shall be decided by the casting vote of the President.
- 5-7-87
  12.—Before the time fixed for the Convocation for the election of a Fellow, the Registrar shall prepare for the President's use a complete list of all persons entitled to vote under the provisions of the law, and a copy of such list shall be posted in a conspicuous place in the University for two days at least before the time of Convocation.
- 5-7-87 13.—None but legally qualified voters shall be allowed to be present during the taking of a ballot.

#### EX-OFFICIO MEMBERS.

[University and University Colleges Act, 1900, Sec. 7 (b)]

27-9-10

14.—The Senate hereby makes and declares the following selections of branches of learning, the Professors in which shall be ex-officio members of the Senate—that is to say, Modern Literature, Law, Physiology and Engineering such selections to take effect from the date of the Governor's assent hereto, and to endure until the thirtieth day of September, one thousand nine hundred and twelve, unless sooner revoked by the authority of the Senate, and with the approval of the Governor.

# CHAPTER III.—MEETINGS OF CONVOCATION OTHER THAN FOR THE ELECTION OF FELLOWS.

25-11-57

1.—The Chancellor, or in his absence, the Vice-Chancellor, shall, in pursuance of a resolution of the Senate, or upon the receipt of a requisition signed by at least twenty members of Convocation, summon a meeting of Convocation to be holden at.

such time and place as he shall direct. And such meeting shall be held accordingly within twenty-eight days from the date of the requisition. And notice of such meeting shall be given by public advertisement not less than fourteen days before the day appointed for the meeting. Provided that every such requisition shall specify the subjects which it is proposed to bring before Convocation. And if, in the opinion of the summoning officer, the subjects so specified, or any of them, are such as ought not to be discussed in Convocation, he shall refer the matter to the Senate, which shall decide whether the meeting shall be held or not. Provided that no such meeting shall be held in the month of January.

- 2.—At all meetings so summoned the Chancellor, or in his 25-11-87 absence the Vice-Chancellor, shall preside. In the absence of the Chancellor and Vice-Chancellor, the members of Convocation present shall elect one of their number to be president of that meeting.
- 3.—The presence at any meeting of twenty-five members of 25-11-87 Convocation shall be necessary to form a quorum. And if within half an hour from the time of meeting there shall be no quorum present, the meeting shall lapse.
- 4.—At all meetings of Convocation the Registrar shall act 25-11-87 as Secretary, and keep the minutes of all proceedings.
- 5.—Every meeting may be adjourned by the President to 25-11-87 such day and hour as may be fixed by resolution.
- 6.—All questions submitted to the Convocation shall be 25-11-87 decided by a majority of members present. The President shall have a deliberative as well as a casting vote.
- 7.—All resolutions of Convocation shall be signed by the 25-11-97 President, and shall be laid by the Registrar before the Senate at its next meeting.
- 8.—All members of Convocation attending any such meeting 25-11-87 shall appear in the habit of their Degree.

CHAPTER IV.—SUPERIOR OFFICERS.
[University and University Colleges Act, 1900. Section 32 (c).]

1.—The Chief Clerk and Accountant, Robert Ambrose 1-3-09 Dallen, and the Auditor, David Fell, are hereby declared to be Superior Officers of the University, entitled to the rights and privileges conferred by Section 32 of the University and University Colleges Act, 1900.

#### CHAPTER V.-THE REGISTRAR.

- 5-7-87 1.—The Registrar shall keep all necessary records of the proceedings of the University, conduct all necessary correspondence, and keep such registers and books of account as may be required.
- 5-7-87 2.—All fees, fines, or other sums received by the Registrar in his capacity as such shall be paid into the Bank of the University, in order that the same may be applied, accounted for, and audited in such manner as the Senate may from time to time appoint.
- 27-9-10 3.—Notwithstanding the provisions of existing by-laws constituting the Professorial Board and the Faculties of Arts, Law, Medicine and Science, the Board for conducting the Public Examinations and the Library Committee, the present Registrar, Henry Ebenezer Barff, M.A., shall be a member of the aforesaid Boards and Faculties while holding office as Registrar.

CHAPTER VI.-THE SEAL OF THE UNIVERSITY.

5-7-87 1.—The Seal of the University shall be placed in the charge of the Chancellor or Vice-Chancellor and Registrar, and shall not be affixed to any document except by order of the Senate.

#### CHAPTER VII.-THE FACULTIES.

- 5-7-87

  1.—There shall be four Faculties in the University, viz.:—

  1. Arts. 2. Law. 3. Medicine. 4. Science.
- 9-2-92 2.—A Dean for each of the Faculties in the University shall be appointed by the Senate from time to time for a term not exceeding two years.
- 4-2-08 3.—In the event of the office of Dean becoming vacant by death, resignation, or otherwise before the expiration of the full term of office herein prescribed, the appointment of a successor shall be proceeded with at the next ensuing regular meeting of the Senate; and the Dean so appointed shall hold office until the expiration of the term of the Dean whose office has become vacant.

CHAPTER VIII.-LIMITATION OF THE TITLE OF PROFESSOR.

7-87 1.—The title of Professor shall be distinctive of those Public Teachers of the University upon whom the Senate shall have conferred that title, and no person in or belonging to the University, or any College within it, shall be recognised as Professor without the express authority of the Senate.

#### CHAPTER IX. - PROFESSORIAL BOARD.

- 1.—The Professors in the four Faculties, with the Chancellor <sup>27-9-92</sup> and Vice-Chancellor, shall form a Board to be called "The Professorial Board."
- 2.—Subject to the By-laws of the University, the Professorial <sup>27-9-92</sup> Board shall manage and superintend the discipline of all students in the University, and shall have power to determine all matters concerning the studies and examinations which affect the students of more than one Faculty.
- 3.—For these purposes the Professorial Board shall make 10-7-94 such rules as it may think fit, provided that these rules be not repugnant to any existing By-law; and shall have power to impose any penalties, in accordance with Academic usage, on any student for breach of such rule, or misconduct of any kind. All Public Teachers in the University shall be authorised to inflict a fine for breach of discipline, not exceeding two pounds, provided that every Public Teacher who inflicts any such fine shall immediately report the circumstances in writing to the Professorial Board.
- 4.—Any member of the University affected by any decision 27-9-92 of the Board, or any member of the Board, may appeal therefrom to the Senate, and thereupon the Senate may review such decision, and either confirm, vary, or annul the same.
- 5.—It shall also be the duty of the Professorial Board from <sup>27-9-92</sup> time to time to consider the By-laws which deal with the discipline of the University, and the By-laws which deal with the studies of students of more than one Faculty; and when the Board is of opinion that any such By-laws require amendment, it shall send up recommendations to the Senate to that effect.
- 6.—A precis of the proceedings of the Board shall be laid <sup>27-9-92</sup> upon the table of the Senate once in each Term, or forthwith in matters of special importance, and the Senate shall have power of its own motion to review any decision of the said Board.

#### CHAIRMANSHIP OF BOARD.

7.—The Chairman of the Professorial Board shall be elected 7-1-02 by the members present at a duly convened meeting to be held in Michaelmas Term. He shall hold office for a period of three years, and shall enter upon his office on the first day of January next following the date of his election. In the event of the office becoming vacant by death, resignation, or otherwise before the expiration of the full term herein prescribed, the election of a

successor shall be proceeded with at the next ensuing meeting of the Board, and the Chairman so elected shall hold office for three years from the first day of January preceding the date of his election.

CONVENING AND QUORUM OF BOARDS.

18-7-93 8.—Every meeting of any Board or Faculty shall be convened by written notice from the Registrar, by direction of and on a day named by the Chancellor, Vice-Chancellor, or Chairman, and on the requisition of any two members, addressed to the Registrar, a meeting shall be convened in like manner. At any meeting of the Professorial Board five shall form a quorum, and at any other meeting three shall form a quorum, unless otherwise provided. In case of an equality of votes, that of the presiding Chairman included, such Chairman shall have a casting vote.

#### REGISTRAR TO ATTEND.

- 5-7-87 9.—It shall be the duty of the Registrar, if required, to attend the meetings of the several Boards and record their proceedings, to collect all fines imposed by the Professorial Board, and generally to assist in carrying out the directions and rules of every Board.
  - CHAPTER X .- MATRICULATION.
- 24-1-05 1.—Candidates for any of the Degrees granted by the University shall be required to matriculate before entering upon the prescribed course.
- 24-1-05 2.—Candidates before being admitted to matriculation shall have passed one of the examinations required by the By-laws for admission to the prescribed courses in the different Faculties, or shall have been admitted ad eundem statum.
- 24-1-05 3.—Undergraduates of other Universities may, at the discretion of the Professorial Board, be admitted ad eundem statum in this University without examination. Provided always that they shall give sufficient evidence of their alleged status and of good conduct.
- 24-1-05 4.—Any person desirous of attending University lectures may do so without matriculation upon payment of such fees as the Senate may from time to time direct.
- 3-1-11 5.—All candidates for Matriculation shall be required to pass an examination in the following subjects:—
  - 1. English.
  - 2. Mathematics.

- 3. Latin, Greek, French or German.
- -4. One or more of the following, in accordance with the regulations prescribed hereinafter for admission to the several Faculties or Departments:—
  - (a) One or more of the foregoing languages not already taken.
  - (b) Mechanics.
  - (c) History. (i.) English History, (ii.) Modern History.
  - (d) One of the following Science subjects:—(i.) Botany, (ii). Chemistry (Inorganic), (iii.) Geology, (iv.) Physics, Part I., (v.) Physiology, and (vi.) Zoology.

In all subjects, except Science and Mechanics, there shall be a higher and a lower standard. A pass at the lower standard shall be deemed sufficient except in the cases where the provisions for admission to the several Faculties or Departments, as described in Section 6, expressly state that the higher standard is required. The lower standard in each subject corresponds to the pass standard of the Junior Public Examination, and the higher standard to that of the Senior Public Examination. In History, English History is held to be the lower standard subject, and Modern History the higher standard subject. The Examinations in Mechanics and the Science subjects are at the higher standard only.

Candidates must pass in all the subjects of the examination at one and the same examination.

Provided (a) that a candidate who has passed the Junior Public Examination or the Senior Public Examination will be permitted to complete his qualification at the Matriculation Examination in November or March, on the condition that he passes in all the prescribed subjects at not more than two examinations; and

(b) That any person who has passed both the Junior Public Examination and the Senior Public Examination, and who presents one Junior certificate and one Senior certificate showing that he has passed in the whole of the subjects prescribed for matriculation at the required standards in any Faculty or Department may be admitted to matriculation in that Faculty or Department without further examination.

Any person who has passed the Senior Public Examination at one and the same examination in all the subjects prescribed for matriculation in any Faculty or Department may be admitted to matriculation in that Faculty or Department without further examination.

But any candidate who has obtained Honours in one or more subjects of the November Matriculation Examination, without passing the Senior Public Examination, shall be permitted to complete his qualification at the Matriculation Examination in March.

- 3-1-11 6.—Candidates for matriculation in one of the several Faculties or Departments, besides passing at either the lower or higher standard in the other compulsory subject or subjects, must pass at the *higher* standard in the following subjects according to the Faculty or Department to which they seek admission.
  - \*(a) Faculty of Arts— Latin and one other subject.
    - (b) Faculty of Law -

(e) Department of Engineering—

- Latin and two other subjects. Candidates must pass in Greek or French or German at the higher or lower standard.
- (c) Faculty of Medicine and the Department of Dentistry—
  Three subjects, one of which must be Latin, Greek,
  French or German. If Latin be not selected at the
  higher standard, it must be taken at the lower
  standard. Candidates must pass in Greek or
  French or German at the higher or the lower
  standard.
- (d) Faculty of Science and the Department of Agriculture— Three subjects, one of which must be Latin, Greek, French or German.
- Mathematics, Mechanics, and one of the following languages:—Latin, Greek, French or German.

  They shall also be required to pass in a general

They shall also be required to pass in a general paper in English, comprising questions in English and Geography.

For matriculants intending to join the French or German classes there will be a
 Dictation test. Those who fail to satisfy the Examiners are recommended not to
 proceed with these subjects.

- (f) Department of Veterinary Science— Two subjects, one of which must be Latin, Greek, French or German.
- 7.—A student who has passed the Matriculation Examina-24-1-05 tion for the Faculty of Arts, has attended the lectures prescribed for students in the First Year of the Faculty of Arts, and has passed the First Year Examination in Arts, shall be qualified for admission to the curriculum in the Faculties of Law, Medicine and Science, and the Department of Engineering without further examination.
- 8.—The Matriculation Examination shall take place at the <sup>24-1-05</sup> commencement of Lent Term, but the examiners in special cases, with the sanction of the Chancellor or Vice-Chancellor, are authorised to hold such examinations at such other times as may be deemed expedient.

9.—The examination shall be conducted by means of written 24-1-05 or printed papers, but the examiners shall not be precluded from putting viva voce questions.

10.—The names of all candidates who have passed the 24-1-05 Matriculation Examination shall be arranged and published in such order as the Board of Examiners shall determine.

11.—Any person who shall have passed an examination <sup>24-1-05</sup> qualifying for admission to his faculty or department, and shall have paid a fee of two pounds to the Registrar, may be admitted as a matriculated student.

#### CHAPTER XI .-- TERMS.

1.—The Academic year shall contain three terms, that is to 5-7-87 say:—

LentTerm.—Commencing on the tenth Monday in the year and terminating with the Saturday before the twenty-second Monday in the year, with a recess at Easter not exceeding nine days.

Trinity Term.—Commencing on the twenty-fourth Monday in the year and terminating with the Saturday before the thirty-fourth Monday in the year.

MICHAELMAS TERM—Commencing on the thirty-ninth Monday in the year and terminating with the Saturday before the fifty-first Monday in the year.

#### CHAPTER XII.-LECTURES.

1.—Lectures shall commence on the first day of Term, except 5-7-87 in Lent Term, in which they shall commence on the third Monday of Term. In Michaelmas Term the lectures shall cease on the Saturday before the forty-ninth Monday in the year.

- 6-7-87 2.—Lectures of an hour each shall be given by the Professors and other teachers at such times and in such order as the Senate may from time to time direct.
- 5-7-87 3.—Before the admission of a student to any course of lectures he shall pay to the Registrar of the University the fee appointed by the Senate.
- 5-7-87 4.—Full and complete tables of lectures and subjects of examinations shall be printed annually in the Calendar, and posted at the University from time to time.
- 18-7-93 5.—Each Professor and Lecturer shall keep a daily record or class roll of the lectures delivered by him, showing the number and names of the students present at each lecture. These class rolls shall be laid on the table at the end of each Term.
- 27-9-92
  6.—Any undergraduate not holding a scholarship in the University, nor being a member of a college established under Pt. vi.
  Act 1900 the provisions of the Act 18 Victoria, No. 37, may be exempted from attendance upon any or all of the prescribed lectures, upon producing evidence which shall satisfy the Faculty to which he belongs that there are sufficient reasons for such exemption. Provided that no such exemption shall be granted for more than one year at any time.
- 27-9-92 7.—No such exemption shall be granted until the Examiners shall have specially certified to the Faculty that the abilities and attainments of the applicant are such as to enable him, in their opinion, to keep up with the usual course of study at the University without attendance upon lectures. Undergraduates admitted ad eundem statum, and who are not required to pass the Matriculation Examination, shall nevertheless be required to pass a special examination, to be certified by the Examiners as above, before obtaining exemption from attendance upon lectures.
- 1-10-88 8.—Notwithstanding the provisions of By-laws 6 and 7, matriculated students, who are students in a Training Institution for teachers organised under the Department of Public Instruction, may be admitted to the First Year Examination in the Faculty of Arts without having attended the University lectures, upon presenting a certificate from the Under Secretary for Public Instruction to the effect that they have attended the course of instruction in such training institution for one year after matriculating. Students of a Training Institution who have passed the First Year Examination may be admitted to the Second Year

Examination in the Faculty of Arts without having attended the University lectures of the second year, upon presenting a similar certificate to the effect that they have attended a second course of instruction in such Training Institution for one year after passing their First Year Examination. All such students having passed the Second Year Examination shall have the status of students commencing the third year in the Faculty of Arts.

## CHAPTER XIII.-YEARLY EXAMINATIONS.

- 1.—In the Faculties of Arts, Law and Science the yearly 24-1-05 B.A. and B.Sc. Examinations shall be held during the last week of Michaelmas Term, with the exception of the Examinations for Honours and Distinctions, which may be held at the beginning of Lent Term.
- 2.—No undergraduate not exempted under Section 6, Chap. 24-1-05 XII., from attendance upon lectures shall be admitted to these examinations who, without sufficient cause, shall have absented himself more than three times during any one term from any prescribed course of lectures. At every yearly examination students must pass the prescribed examinations in the subjects of lectures before they can proceed with their course.
- 3.—Students who fail to pass, or neglect to attend their 24-1-05 annual examinations in any subject or subjects, may be required by their respective Faculties, upon the report of the examiners, to attend again the lectures on such subject or subjects before again presenting themselves for examination.
- 4.—Every undergraduate exempted from attendance upon 24-1-05 lectures under Section 6, Chap. XII., shall, before being admitted to any yearly examination, pay to the Registrar a fee of two pounds.
- 5.—Undergraduates who have passed the yearly examina-24-1-05 tions may, at the discretion of the Dean, and upon application, receive certificates to that effect, signed by the Dean of the Faculty in which they are pursuing their studies, and by the Registrar.
- 6.—Students who show proficiency in the examinations at the 24-1-05 termination of individual courses shall be classified as having passed with High Distinction, Distinction, or Credit. The term Honours shall be reserved to indicate special proficiency at graduation, and shall not be used in connection with the examinations at the termination of individual courses.

- 24-1-05 7.—At each examination additional papers shall be set where necessary for Honours and Distinctions, and a list of the subjects prescribed for Honours and Distinctions shall be published annually in the Calendar.
- 24-1-05 8.—The names of those candidates who obtain Honours or Distinctions shall be arranged in order of merit.
- 9.—Examiners shall be appointed from time to time by the Senate to conduct the examinations provided for under these by-laws.

CHAPTER XIV. - SCHOLARSHIPS.

- 5-7-87 1.—Scholarships shall be awarded after examination as the Senate may from time to time appoint.
- 18-7-93 2.—No Scholarship shall be awarded except to such candidates as exhibit a degree of proficiency which shall be satisfactory to the Examiners. Scholars shall be required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.
- 5-7-87 3.—The examination for Scholarships shall be concurrent with the Matriculation and Yearly Examinations, additional papers and questions being set when required.
- 30-4-01, 4.—No student of the University shall be allowed to hold more than two Scholarships at one time.

#### CHAPTER XV.-FACULTY OF ARTS.

- 23-12-09 1.—The Faculty of Arts shall consist of the Professors of Classics, Mathematics, Modern Literature, History, and Logic and Mental Philosophy, together with the Assistant Professors and Assistant Lecturers in the same subjects, and the Professor or Lecturer in Education.
- 24-1-05 2.—The Faculty shall meet for the purpose of considering and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations, and degrees in Arts, and such questions as may be referred to it by the Senate, and shall have the general direction and superintendence over the teaching in Arts, subject to the By-laws, and to such resolutions as the Senate may pass in relation thereto.
- 24-1-05 3.—The Professors in the Faculty of Arts, together with such other persons as may from time to time be appointed by the Senate, shall form a Board of Examiners for conducting the examinations in the Faculty of Arts; and of this Board the Dean of the Faculty, or in his absence the Professor next in seniority, shall be Chairman.

4.—The Board of Examiners shall from time to time, and 24-1-05 in accordance with the provisions of the By-laws for the time being, frame rules and appoint times and places for the several Examinations in the Faculty of Arts.

5.—At the conclusion of each Examination the Board shall 24-1-05 transmit to the Senate a report of the result, signed by the

Chairman and by at least two other members.

6.—Candidates for the degree of Bachelor of Arts shall be 24-1-05 required at the commencement of their course to pass the Matriculation Examination for the Faculty of Arts prescribed in Chapter X., Sections 5 and 6.

7.—Candidates for the degree of Bachelor of Arts shall be 24-1-05 required to attend the courses of lectures, covering a period of three years, and to pass the examinations prescribed in the

following By-laws, subject to the following conditions:

\*(a) Every candidate shall be required to attend one full science course with practical work at some time during his curriculum, but the student may take such course in any of his years, and all other regulations notwithstanding, may, for this purpose, take a First Year course in his third year.

(b) Of the ten courses necessary for graduation, at least two continuous courses shall be taken in two subjects, provided that, for the purposes of this By-law, the courses in Law shall be held to be continuous with

those in History and Philosophy.

8.—Candidates for the degree of Bachelor of Arts shall, 23-12-07 during their First Year, attend four of the following University courses, provided—(a) That two at least be taken from list A; (b) that one of them be a Language; and (c) that one be Mathematics, unless the student has complied with one of the following conditions, viz.: (i.) Has passed in Higher Mathematics at the Matriculation Examination; (ii.) has gained a first-class in three Higher Language subjects. Students who claim exemption under (ii.) must attend two Language courses, and obtain Distinction in the subjects of these courses at the First Year Examination, otherwise they will be required to take Mathematics I. in their Second Year.

<sup>\*</sup>The time tables of lectures are so arranged as to make it most convenient for students to take their Science course in the First Year, and students are strongly recommended to do this. No exemptions can be granted in cases where the time tables for Second and Third Year courses in other subjects clash with the First Year Science courses. In selecting their subjects generally, students should see that there is no clash in the time tables.

#### List A.

I.	Latin I.
11.	Greek I.
IJ.	English I.
*IV.	French I.
	German I.
VI.	History I.
VII.	Philosophy I.

## List B.

VIII. Mathematics I.

IX. Chemistry I., including laboratory practice.

X. Physics I., ,, ,, ,, ,, XI. Geology I., ,, ,, ,, ,, ,, ,, XII. Biology I., ,, ,, ,, ,, XIII. Economics and Commerce I.

- 24-1-05 9. Students of the First Year shall be required to pass an examination in the subjects in which they have attended lectures under Section 8.
  - 10. Candidates for the degree of Bachelor of Arts shall, during their Second Year, attend three University courses from either of the following lists (A and B), provided—(a) That one be a Language; (b) that one at least be taken from list A; and (o) that any selected from list B have not already been taken.

## List A.

I. Latin II.
II. Greek II.
III. Mathematics II.
IV. English II.
V. French II.
VI. German II.
VII. History II.
VIII. Philosophy II.
IX. Chemistry II., in

IX. Chemistry II., including laboratory practice.

X. Physics II., ,, ,, ,, ,, ,, XI. Geology II., ,, ,, ,, ,, XII. Biology II., ,, ,, ,, ,, XIII. Physiology I., ,, ,, ,,

XIV. One of the following—(a) Roman Law, (b) Constitutional Law, (c) Jurisprudence and International Law.

For matriculants intending to join the French or German classes there will be a
 Dictation test. Those who fail to satisfy the Examiners are recommended not to
 proceed with these subjects.

- XV. Military History and Science.
- XVI. Economics and Commerce II.
- XVII. Education.

## List B.

The courses prescribed in Section 8 for the First Year.

- 11.—Students of the Second Year shall be required to pass 21-10-05 an examination in the subjects of the lectures which they have attended under Section 10.
- 12.—Candidates for the degree of Bachelor of Arts 23-12-07. shall, during their Third Year, attend three University courses from either of the following lists (A and B), provided—(a) That one of them be a Language, unless three Language courses have already been taken; (b) that one at least be taken from list A; and (c) that none of the three have already been taken.

# List A.

- I. Latin III.
- II. Greek III.
- III. Mathematics III.
- IV. English III.
  - V. French III.
- VI. German III.
- VII. History III.
- VIII. Philosophy III.
  - IX. Chemistry III., including laboratory practice.
  - X. Physics III., ,,
  - XI. Geology III.,
- XII. Biology III., A and B, ,, ,,
- XIII. Physiology II., ,, ,,
- XIV. Roman Law.
  - XV. Constitutional Law.
- XVI. Jurisprudence and International Law.
- XVII. Introductory Anatomy, Practical Histology, and Biology III., A.
- XVIII. Economics and Commerce III.

# List B.

The Courses in Section 10 prescribed in List A for the Second Year.

- 24-1-05 13.—Students of the Third Year shall be required to pass an examination in the subjects of the lectures which they have attended under Section 12.
- 1-10-07

  14.—The work of students attending lectures may be tested by means of written and oral class examinations, class exercises, or essays, and the results of such tests shall be reported to the Senate.
- 24-1-05 15.—In determining the results of the Annual Examinations, the Examiners shall take into account the results of the tests described in Section 14.
- 24-1-05

  16.—The fee for the degree of Bachelor of Arts shall be three pounds. No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him. For any re-examination for the same degree he shall pay a fee of two pounds.
- 24-1-05
  17.—The examination shall be conducted in the first instance by means of printed papers, and at the termination of such examination each candidate shall undergo a vivâ voce examination if the Examiners think fit.
- 24-1-05
  18.—The degree of Bachelor of Arts with Honours in any given subject shall be awarded only to candidates who have attended a course of not less than two years' study in that subject, who have obtained Credit or Distinction at the Annual Examinations, and have satisfied the examiners as to their general proficiency.
- 24-1-c5
  19.—Students proceeding to the Degree of Bachelor of Arts who have passed the Second Year Examination with Distinction either in Classics (Latin and Greek) or in Mathematics, may elect to attend lectures during their third year in that subject only in which they have so passed; and if they obtain First or Second Class Honours in that subject they shall be held to have passed their Third Year Examination.
- 1-10-07 20.—The candidate for Honours who shall have most distinguished himself at the B.A. Examination in Classics, Mathematics, Logic and Mental Philosophy, or French and German jointly, shall, if he possess sufficient merit, receive a bronze medal.

#### MASTER OF ARTS.

5-7-87 21.—There shall be a yearly examination for the Degree of M.A. during Lent Term, or at such other times as the Examiners, with the sanction of the Chancellor or Vice-Chancellor, may appoint.

- 22.—Every candidate for this Degree must have previously 5-7-87 obtained the Degree of B.A., and two years must have elapsed since the time of his examination for such Degree. He will also be required to furnish evidence of having completed his twenty-first year.
- 23.—The fee for the Degree of M.A. shall be five pounds. 18-4-06 No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him. For any re-examination for the same Degree he shall pay a fee of two pounds.
- 24.—Candidates for the Degree of M.A. shall elect to be 9-8-09 examined in one or more of the following branches of knowledge:—
  - I. Classical Philology and History.
  - II. Mathematics and Natural Philosophy.
  - III. Logic, Moral, Mental and Political Philosophy.
  - IV. Modern Literature and Language.
    - V. Modern History.

Provided that candidates for the Degree of Master of Arts, who have taken First Class Honours in Mathematics or in any other two subjects at the B.A. Examination, may be tested by thesis only.

The candidate most distinguished in each branch at the examination shall, if he possess sufficient merit, receive a bronze medal.

25.—The Senate may, at its discretion, admit to examination 5-7-87 for the Degree of Master of Arts any person who shall have obtained at least two years previously the Degree of Bachelor of Arts, or equivalent first Degree in Arts, in any other University approved by the Senate. Every candidate for admission under this By-law must make application in writing to the Registrar and supply satisfactory evidence of his qualification as aforesaid, and that he is a person of good fame and character; and upon the approval of his application shall pay to the Registrar a fee of two pounds for the entry of his name in the University books, in addition to the prescribed fee for his Degree. Every candidate before he is admitted to this Degree shall be required to furnish evidence of having completed his twenty-first year.

#### CHAPTER XVI .- EVENING LECTURES.

- 30-7-94 1.—Courses of Evening Lectures, embracing all the subjects necessary for the Degree of Bachelor of Arts, shall be given at such times and in such order as the Senate may from time to time direct.
- 30-7-94 2.—Any person desirous of attending a course of Evening Lectures may be allowed to do so upon payment of such fees as the Senate may from time to time direct.
- 24-1-05 3.—Students who desire to qualify themselves for graduation by attendance upon Evening Lectures shall be required to attend the courses of instruction and pass the examinations prescribed in Chapter XV. for candidates for the degree of Bachelor of Arts, subject to the following provisons:—
  - (a) Evening students shall be allowed to distribute the lectures and examinations prescribed for First and Second Year Students over a longer period, taking the individual courses of instruction and corresponding examinations in any order they please. Provided that course I. in any subject must be taken before course II., except with the permission of the Professor of such subject.
  - (b) The examinations in the whole of the subjects prescribed for students of the Third Year must be taken concurrently.
  - (c) Students must have completed the examinations prescribed for First and Second Year Students one Academic year before attending the Third Year Examination.
  - (d) An evening student may attend the courses prescribed for First Year Students with a view to graduation before he has completely passed the prescribed Matriculation Examination, but the attendance of such unmatriculated student on the courses in Latin, French or Mathematics shall not be allowed to count towards graduation unless he has previously passed the appropriate part of the matriculation or some equivalent examination.

(\*) No evening student shall be admitted to the courses prescribed for Second Year Students until he has matriculated, nor to the degree of Bachelor of Arts until he is a matriculated student of nine terms standing.

4.—In all cases not provided for in the preceding By-laws 30-7-94 of this Chapter, Evening Students shall be subject to the same By-laws, Rules and Regulations as other students.

# CHAPTER XVIA. - DIPLOMA IN EDUCATION.

The Diploma in Education may be awarded to candidates who have satisfied the provisions of the following by-laws—

- 1.—The diploma shall testify that the candidate has passed through a general professional training in the principles, art and practice of education. The courses shall be so arranged that they may be taken in preparation for either primary or secondary teaching.
- 2.—Candidates for the diploma in education shall, before admission to the curriculum, produce evidence of having graduated in Arts or Science.
- 3.—The diploma in education shall be conferred only uponthose candidates who have completed the course of lectures and of practice in teaching hereinafter prescribed in Section 4.
- 4.—Candidates for the diploma in education shall be required to attend the following courses of instruction:—
  - (1) The Mental and Physical Life of School Children.
  - (2) The Principles of Education.
  - (3) The History of Educational Theory and Practice.
  - (4) The Principles of Class Teaching and Management.

Before presenting himself for the examination for the diploma in education, a candidate shall produce evidence satisfactory to the Senate that he has pursued a course of practice in teaching, including—

- (a) Observation of Class Teaching.
- (b) Continuous Practice in the Class-room.
- (c) Observing and giving special lessons, and taking part in discussions upon them.
- 5.—The work of the diploma course shall be so arranged that it may be completed in one year in the case of those who can devote their whole time to the work of the course.
- 6.—The fee for the diploma in education shall be £3. No candidate shall be admitted to the examination unless he shall have previously paid this fee to the Registrar. For any re-examination for the same diploma he shall pay a fee of £2.

## CHAPTER XVII.-FACULTY OF LAW.

- 20-1-03

  1.—The Professor or Professors and Lecturers in the subjects of the curriculum in Law, together with such Fellows of the Senate as are members of the Legal Profession, shall constitute the Faculty of Law.
- 20-1-03 2.—The Faculty shall meet for the purpose of considering and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations, and degrees in Law, and such questions as may be referred to it by the Senate.
- 20-1-03 3.—The Dean of the Faculty of Law shall act as Chairman at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at such meetings shall have a vote, and in case of an equality of votes, a second or casting vote.
- 20-1-03

  4.—It shall be the duty of the Registrar to summon meetings of the Faculty at such times as may be required by the Dean; provided that upon a written requisition by three members of the Faculty, the Dean, or, in his absence, the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members.
- 20-1-03 5.—The Dean of the Faculty of Law shall exercise a general direction and superintendence over the teaching in law, subject to such resolutions in relation thereto as may be passed by the Senate or by the Faculty of Law.
- 20-1-03 6.—There shall be two degrees granted in the Faculty of Law, viz.:—Bachelor of Laws (LL.B.) and Doctor of Laws (LL.D.)
- 7.—Candidates for the degree of Bachelor of Laws (LL.B.) shall, before admission to the Law School, produce evidence either, (i.) of having graduated in Arts; or (ii.) of having completed two years in the Faculty of Arts and passed the Second Year Examination in Arts; or (iii.) of having completed the First Year in the Faculty of Arts in accordance with the provisions of Chapter X., Section 7; or (iv.) of having passed the Entrance Examination prescribed in Chapter X., Sections 5 and 6.
- 22-12-08
  8.—Thereafter candidates for the Degree of LL.B. shall attend such courses of instruction as may be prescribed by the Faculty in the following subjects, that is to say:—

## I. In the First Year—

Constitutional Law;

Roman Law; and

The Law relating to Contracts (including Mercantile Law), Torts, Crimes and Domestic Relations.†

# II. In the Second Year-

Jurisprudence, Legal History and the Elements of Political Science;

Public International Law;

The Law of Property and the Elements of Conveyancing, and

The Rules of Legal Interpretation.

# III. In the Third Year-

Procedure in Civil and Criminal Cases, both before the Supreme Court in its common law jurisdiction, and before courts of inferior jurisdiction; together with the Law of Evidence and Pleading;

Equity and Company Law; the Law relating to Bankruptcy, Probate and Divorce; together with procedure in those jurisdictions; and

Private International Law.

Provided that candidates who have already graduated in Arts shall be at liberty to take this course in two years, in which case the subjects shall be taken in such order as shall be approved by the Dean of the Faculty; whilst candidates who have not completed two years in Arts shall be required to extend this course over a period of not less than four years: Provided also that the order in which these courses of instruction are taken, may, in the case of any individual candidate, be varied with the written consent of the Dean of the Faculty.

9.—Candidates for the degree of Bachelor of Laws shall 22-12-(8 also be required to pass two examinations, which shall be called respectively "the Intermediate LL.B." and "the Final LL.B." Examinations, and which shall be held at the commencement of Lent Term in each year, or at such other times as may be prescribed by the Faculty. Candidates who have not acquitted

themselves satisfactorily in such class or term examinations, or

†In this and all other professional subjects the law referred to is the law in force in

New South Wales.

other exercises (including participation in moots and attendance in court) as may be prescribed by the Faculty, may be refused admission to these examinations.

10.—At the Intermediate LL.B. Examination candidates shall 22-12-08 be examined in:—(1) Constitutional Law; (2) Roman Law; (3) Jurisprudence, Legal History, and the Elements of Political Science; and (4) Public International Law. Provided that candidates shall be at liberty to take this examination in two sections, of which Section I. shall include the subjects numbered herein (1) and (2), and Section II. shall include the subjects numbered herein (3) and (4).

11.—At the Final LL.B. Examination candidates shall be 22-12-08 examined in:-(1) The Law relating to Contracts (including Mercantile Law), Torts, Crimes, and Domestic Relations; (2) the Law of Property, and the Elements of Conveyancing; (3) the Rules of Legal Interpretation; (4) Procedure in Civil and Criminal Cases, both before the Supreme Court in its common law jurisdiction and before courts of inferior jurisdiction, together with the Law of Evidence and Pleading; (5) Equity and Company Law, the Law relating to Bankruptcy, Probate and Divorce, together with procedure in those jurisdictions; and (6) Private International Law.

Provided that candidates shall be at liberty to take this examination in two Sections, of which Section I. shall include the subjects numbered herein (1), (2) and (3), and Section II. shall include the subjects numbered herein (4), (5) and (6).

12 —The names of candidates who pass in the Intermediate LL.B. Examination, or either section thereof, or who pass the Final LL.B. Examination, or either section thereof, shall be published in order of merit. But as regards candidates who have completed the Final LL.B. Examination, a separate list shall also be published stating (1) the names of candidates who have obtained First-class Honours; (2) the names of candidates who have obtained Second-class Honours; and (3) the names of candidates who have passed; and in determining the place of candidates in this list, the examiners may take into consideration the results of both the Intermediate and Final Examinations.

Provided (1) that a candidate who does not pass the Intermediate LL B. Examination within two years of his commencing his course in law shall not be eligible for any prize or scholarship awarded for proficiency in the subjects of that examination;

22-12 (8

- and (2) that a candidate who does not pass the Final LL.B. Examination within three years of passing the Intermediate LL.B. Examination, shall not be eligible for Honours or for any prize, medal, or scholarship, awarded for proficiency—in the subjects of that examination.
- 13.—Candidates shall be exempt from attending lectures and 22-12-08 passing examinations in any of the prescribed subjects which may have formed part of their course for the degree of Bachelor of Arts, or which in the event of any change in the curriculum may have formed part of their course for the degree of Bachelor of Laws.
- 14.—The degree of LL.D. shall not be conferred until after 20-1-03 the expiration of two years from the granting of the degree of LL.B.
- 15.—Candidates for the degree of Doctor of Laws shall be 20-1-03 required to pass one examination, which shall be called "the LL.D. Examination," and which shall be held in Trinity Term in each year.
- 16.—At the LL.D. Examination candidates shall be examined 20-1-0s in (1) Legal History; (2) Roman Law (including a special subject from the Digest to be indicated from time to time); (3) One of the following special subjects:—(a) Common Law, including Mercantile Law, Criminal Law, the Law of Evidence, and Procedure; (b) Equity and Company Law, the Law relating to Bankruptcy, Probate and Divorce, together with procedure in those jurisdictions; (c) the Law of Property, and the Practice of Conveyancing; or (d) Constitutional Law; and (4) International Law (Public and Private).
- 17.—The candidates who distinguish themselves most highly 20-1-03 at the Degree Examinations respectively shall, if of sufficient merit, receive a bronze medal.
- 18.—The fees for the Degrees of Bachelor of Laws and 18-4-06 Doctor of Laws shall be ten pounds respectively. These fees shall be paid to the Registrar before the examination, and shall not in any case be returned to the candidate.
- 19.—Candidates who fail to pass the examination for 18-4-08 either degree shall be required, upon presenting themselves for any further examination for the same degree, to pay a fee of five pounds.
- 20.—Students at Law and Articled Clerks and other persons 20-1-03 may be admitted to such lectures and examinations in Law as

they may desire, and in the event of their passing in the subjects of any course, they shall be entitled to receive certificates to that effect.

#### CHAPTER XVIII .- FACULTY OF MEDICINE.

- 20-1-03 1.—The Chancellor and Vice-Chancellor, the Fellows of the Senate who are legally qualified members of the Medical Profession, and the Professors and Lecturers in the subjects of the Medical Curriculum shall constitute the Faculty of Medicine.
- 20-1-03 2.—The Dean shall exercise a general superintendence over the administrative business connected with the Faculty, and it shall be the duty of the Registrar to summon meetings of the Faculty at such times as may be required by the Dean, provided that upon the written requisition of any three members of the Faculty, the Dean, or in his absence the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members. In the absence of the Chancellor and Vice-Chancellor the Dean shall act as Chairman at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from among themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings and to record the proceedings.
- 20-1-08 3.—The Faculty shall meet for the purpose of considerinn and reporting to the Senate upon such subjects as have relating to the studies, lectures, examinations and degrees in Medicine, and such questions as may be referred to it by the Senate.
- 4.—Class Examinations shall be held during each course of instruction in each term, unless such term immediately precedes the annual examination in the subject of the course. Students shall not absent themselves from these examinations except upon a medical certificate, and at the end of each course a report of the result, signed by the responsible teacher, shall be presented to the Senate by the Dean. The results of these examinations may be taken into account by the examiners at the annual examinations.
- 5.—There shall be three Degrees granted in the Faculty of Medicine, viz.: Doctor of Medicine (M.D.), Bachelor of Medicine (M.B.), and Master of Surgery (Ch.M.).

- 6.—Candidates for the degree of Bachelor of Medicine (M.B.) 24-1-05 shall, before admission to the Medical School, produce evidence either (i.) of having graduated in Arts or in Science; or (ii.) of having completed the First Year in the Faculty of Arts, in accordance with the provisions of Chapter X., Section 7; or (iii.) of having passed the Matriculation Examination for the Faculty of Medicine prescribed in Chapter X., Sections 5 and 6.
- 7.—Candidates for the Degrees of Bachelor of Medicine <sup>24-5-10</sup> and Master of Surgery shall attend the following courses of instruction:—

# I. In the First Year-

Biology and Practical Biology—Lent and Trinity Terms.

Inorganic and Organic Chemistry—Lent, Trinity and
Michaelmas Terms.

Practical Chemistry—Trinity Term.

Physics-Lent, Trinity and Michaelmas Terms.

Practical Physics.—One Term.

Introductory Human Anatomy. - Michaelmas Term.

# II. In the Second Year-

Descriptive Anatomy-Lent and Trinity Terms.

Dissections-Lent, Trinity and Michaelmas Terms.

Physiology-Trinity and Michaelmas Terms.

Practical Histology-Lent Term.

Experimental Physiology—Trinity Term.

Physiological Chemistry-Michaelmas Term.

# III. In the Third Year-

Physiology-Lent Term.

Experimental Pharmacology—Trinity Term.

Regional Anatomy—Lent and Trinity Terms.

Dissections-Lent and Trinity Terms.

Surgery-Michaelmas Term.

Pathology and Bacteriology—(including Laboratory Practice)—Michaelmas Term.

Tutorial Surgery—Michaelmas Term.

# IV. In the Fourth Year-

Pathology and Bacteriology—(including Laboratory Practice)—Lent and Trinity Terms.

Surgery-Lent Term.

Materia Medica and Therapeutics—Trinity Term.

Tutorial and Practical Pharmacy-One Term.

Clinical Surgery-Lent, Trinity and Michaelmas Terms.

Surgical Anatomy and Operative Surgery-Lent Term.

Medicine-Michaelmas Term.

Tutorial Medine-Michaelmas Term.

Midwifery-Michaelmas Term.

Three of the following elective courses -

- (i.) Diseases of Children.
- (ii.) Diseases of the Skin.
- (iii.) Diseases of the Ear, Nose and Throat.
- (iv.) Diseases of the Mind.
- (v.) Diseases of the Eye.

The courses in each of these five elective subjects shall consist of fifteen meetings of the class, including at least five cliniques.

V. In the Fifth Year-

Medicine-Lent Term.

Tutorial Medine-Lent Term.

Gynæcology-Lent Term (30 lectures).

Medical Jurisprudence - 20 lectures - Trinity Term.

Public Health—30 lectures—Trinity Term.

Clinical Medicine-Lent, Trinity and Michaelmas Terms.

- 24-5-10 8. For the Degrees of M.B. and Ch.M. the examinations shall be as follows:—
  - (i.) A First Degree Examination at the end of the First Year in Physics, Chemistry and Biology.

- (ii.) A Second Degree Examination at the end of Trinity Term of the Second Year in Anatomy and Physiology.
- (iii.) A Third Degree Examination at the end of Trinity Term of the Third Year in the entire subjects of Anatomy and Physiology. No candidate shall be admitted to this examination unless he has completed the dissection of every part of the body at least once.
- (iv.) A Fourth Degree Examination at the end of Trinity Term of the Fourth Year in Pathology, Surgical Anatomy and Operative Surgery, and Materia Medica and Therapeutics.
- (v.) A Fifth Degree Examination in Medical Jurisprudence and Public Health at the end of Trinity Term of the Fifth Year.
- (vi.) A Final Degree Examination at the beginning of Lent Term after the completion of the Fifth Year, in Medicine (including Clinical and Tutorial Medicine), in Surgery (including Clinical and Tutorial Surgery), in Midwifery and in Gynæcology. Provided that candidates who have not passed the examination in Medical Jurisprudence and Public Health as described in sub-section (v.) shall be required to take those subjects as a part of their Final Examination.
- 9. Before admission to the Final Examination, candidates 24-5-16, shall also be required to present the following certificates at least ten clear days before the date of the examination:—
  - (i.) Of Hospital Practice during Michaelmas Term of the Third Year, and during the Fourth and Fifth Years, and the long vacation at the completion of the Fifth Year, in accordance with a hospital time-table, approved by the Faculty.
  - (ii.) Of having been engaged during at least ten attendances. of two hours each in compounding and dispensing drugs in a Laboratory or Dispensary, or other place for compounding medicines, approved by the Faculty.
  - (iii.) Of having acted in a recognised hospital during not less than nine months as Dresser in the Surgical Wards, not less than twelve months as Clinical Clerk in the Medical Wards, and not less than three months in each of the

- following capacities, viz.: Clinical Clerk and Dresser in in the Gynæcological In-patients' Department, Student in attendance upon the Surgical Out-patients' Department, Student in attendance upon the Medical Out-patients' Department, Student in attendance upon the Gynæcological Out-patients' Department.
- (iv.) Of attendance at twenty-five Post-mortem Examinations and Demonstrations after passing the Second Degree Examination.
- (v.) Of attendance on at least twelve cases of child-birth after having attended the course of lectures upon Midwifery, and under such supervision as may be approved by the Faculty.
- (vi.) Of proficiency in Vaccination, signed by a legally qualified Medical Practitioner.
- (vii.) Of proficiency in the Administration of Anæsthetics from a recognised hospital.
- 20-1-03 10.—No candidate shall be admitted to the Final Examination until he shall have produced evidence of having completed his twenty-first year. Each candidate shall also furnish a certificate of good fame and character, signed by two competent persons.
- 20-1-03 11.—At each examination candidates shall be required to give proof of their knowledge by written answers to the questions set, to be followed by a practical or a *vivá voce* examination in all subjects whatsoever.
- 20-1-03 12.—Students who fail to pass, or neglect to attend their examinations in any subject or subjects, may be required by the Faculty, on the report of the Examiners, to attend again the Courses of Instruction or Hospital Practice in such subject or subjects before again presenting themselves for examination.
- 20-1-98 13.—Candidates who have passed all the examinations to the satisfaction of the Examiners shall be recommended to the Senate for admission to the Degree of Bachelor of Medicine, and to the Degree of Master of Surgery if they so elect.
- 20-1-03 14.—Honours at graduation shall depend upon the proficiency shown in the examinations, in accordance with regulations adopted by the Senate from time to time, and the candidate who shall have

been most distinguished shall receive a bronze medal, provided that he shall have obtained First Class Honours.

- 15. —Accredited certificates of attendance on courses of instruc-20-1-03 tion from other Universities and Schools of Medicine recognised. by the University of Sydney may, on the report of the Dean, be accepted by the Senate as proof of the attendance on courses of instruction pro tanto required by these By-laws. Provided always that no person shall be recommended to the Senate for admission to the Degrees of Bachelor of Medicine or of Master of Surgery by examination unless he shall present certificates of having attended within the University of Sydney, during each of at least nine Terms, not less than two courses of instruction in subjects included in the Medical Curriculum of the University. In all such cases a Degree in Arts or in Science, or some certificate of general education satisfactory to the Senate, will be Every candidate making application under this By-law must present a certificate of good fame and character, · signed by two competent persons.
- 16. —Bachelors of Medicine and Masters of Surgery of this <sup>20-1-03</sup> University shall not possess any right to assume the title of Doctor of Medicine.
- 17.—The Degree of Doctor of Medicine shall not be conferred 20-1-03 until after the expiration of two Academic years from the granting of the Degree of Bachelor of Medicine.
- 18.—Candidates for the Degree of Doctor of Medicine must 20-1-03 produce evidence that, after having obtained the Degree of Bachelor of Medicine, they have spent at least two years in Medical or Surgical practice, or that they have been engaged in a manner approved by the Faculty for a like period in the study of any subject or subjects included in the Medical Curriculum of the University of Sydney.
- 19.—Candidates for the Degree of Doctor of Medicine shall 20-1-03 be required to pass an examination conducted by means of set papers and by vivá voce interrogations in any one of the following departments of Medical Science and Practice, viz., (i.) Medicine, (ii.) Medical Jurisprudence and Public Health, (iii.) Surgery, (iv.) Midwifery and Gynæcology; or in any one of the scientific subjects included in the Medical Curriculum. They shall further be required to present, and if called upon to defend, to the satisfaction of the Examiners, a previously unpublished thesis on some subject included in the Medical Curriculum of the Uni-

- versity. Three printed or type written copies of the thesis on paper eight inches wide and ten inches deep must be transmitted to the Registrar at least two months before the date fixed for the examination.
- 20.—Bronze medals may be awarded for special excellence or originality of the theses presented.
- 20-1-03 21.—The Degree of Master of Surgery shall not be conferred on any person who has not already been admitted a Bachelor of Medicine.
- 20-1-03

  22.—The fees for the Degrees of Doctor of Medicine,
  Bachelor of Medicine, and Master of Surgery shall be ten
  pounds respectively. The fees shall be paid to the Registrar
  before the examination, and shall not in any case be returned to
  the candidate.
- 3-11-03 23.—Candidates who fail to pass the examination for any Degree shall be required upon presenting themselves for any further examination for the same Degree to pay a fee of five pounds.
  - 24.—Undergraduates in Medicine who have passed the First, Second and Third Degree Examinations in Medicine, and have in addition, attended an advanced course of and passed an advanced examination in accordance with the requirements of the Faculty of Science in one of the following divisions, viz.—(a) Chemistry, (b) Physics, (c) Biology, (d) Geology—may, on the report of the Dean of the Faculty of Science, be admitted by the Senate to the Degree of Bachelor of Science.

## CHAPTER XIX .- DIPLOMA IN PUBLIC HEALTH.

- 17-7-06
  1. A Diploma, entitled "Diploma in Public Health of the University of Sydney," may be awarded to candidates who have satisfied the provisions of the following by-laws. The Diploma shall testify to the candidate's proficiency in all the branches of study, scientific and practical, which are necessary for the proper performance of the duties of a Medical Officer of Health.
- 17-7-06 2. An examination in the branches of knowledge which specially relate to the functions of a Medical Officer of Health shall be held from time to time and at such times as the Senate shall appoint, and shall be called "The Examination for the Diploma in Public Health." The times appointed for holding the examination shall be published in the Calendar.

- 3. The Examination for the Diploma in Public Health shall 17-7-06 be in two parts, viz. —Part I., relating to the General Principles of Sanitary Science; and Part II., relating to State Medicine and to the Applications of Pathology and Sanitary Science to Public Health. Schedules of these subjects shall be prescribed from time to time by regulations made in accordance with these by-laws.
- 4. Application by a candidate for the Diploma in Public 17-7-06 Health for leave to present himself for examination shall be made to the Registrar not less than four weeks before the time appointed for the holding of the Examination.
- 5. Before presenting himself for Part I. of the Examination 17-7-06 for the Diploma in Public Health a candidate shall produce evidence satisfactory to the Senate—
  - (i.) That he is a qualified medical practitioner, registered by the New South Wales Medical Board;
  - (ii.) That a period of not less than twelve months has elapsed since he obtained registrable qualifications in Medicine, Surgery and Midwifery; and
  - (iii.) That since obtaining registrable qualifications in Medicine, Surgery and Midwifery,
    - (a) He has during a period of not less than six months attended Special Public Health courses in the University of Sydney of Practical Laboratory Instruction in Chemistry, in Physiological Chemistry, and in Bacteriology and Parasitology.
    - (b) He has attended elsewhere than in a laboratory a course of Practical Instruction, approved by the Senate, in those Diseases of Animals which are transmissible to man; and
    - (c) He has attended such other courses of instruction in Public Health as may from time to time be prescribed by regulations made in accordance with these by-laws.
- 6. Before presenting himself for Part II. of the Examina-11-7-06 tion for the Diploma in Public Health a candidate shall produce evidence satisfactory to the Senate, that, since obtaining registrable qualifications in Medicine, Surgery, and Midwifery,—

- (a) He has been, for a period of six months (of which at least three months shall be distinct and separate from the period of Instruction required in sub-clause (a) of clause (iii.) of section 5, diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration under the supervision of a Medical Officer of Health approved by the Senate.
- (b) He has, for a period of not less than three months, attended the practice of a "Hospital for Infectious Diseases," approved by the Senate, such Hospital being one at which opportunities are afforded for the study of methods of administration. "Methods of Administration" shall include the methods of dealing with patients at their admission and discharge, as well as in the wards, and the medical superintendence of the hospital generally; and
- (c) He has attended such other courses of instruction in Public Health as may from time to time be prescribed by regulations made in accordance with these by-laws.
- 7. A candidate may present himself for Part I. and for Part II. of the examination separately, or for Part I. and Part II. together; but in no case shall a candidate present himself for Part II. separately from Part I., unless he shall already have satisfied the examiners in Part I.
- 17-7-6 8. The examination for the Diploma in Public Health shall extend over not less than four days.

Both Part I. and Part II. of the examination shall be oral and practical, as well as in writing.

One day at least during the holding of Part I. shall be devoted to practical work in a laboratory; and one day at least during the holding of Part II. shall be devoted to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health.

- 17-7-08 9. The result of the examination for the Diploma in Public Health shall not, in the case of any candidate, be published until he has satisfied the examiners in both Part I. and Part II.
- 17-7-06
  10. The fee payable for the Diploma in Public Health shall be £10. This fee shall include the fees for the examination, and shall be paid to the Registrar at the date of application for

leave to present himself for examination, and shall not in any circumstances be returned. A candidate who has presented himself for Part I. of the examination, and has failed to satisfy the examiners, shall pay a further fee of £3 before presenting himself again for Part I. A candidate who has presented himself for Part II. of the examination, and has failed to satisfy the examiners, shall pay a further fee of £3 before presenting himself again for Part II.

## CHAPTER XX. - DEPARTMENT OF DENTAL STUDIES.

- 1.—The Chancellor and Vice-Chancellor, the Dean of the 9-8-10 Faculty of Medicine, the Medical Members of the Senate, the Professors and Lecturers in the subjects of the Dental Curriculum, a representative elected from among themselves by the Honorary Dental Officers of the United Dental Hospital of Sydney and the President of the Dental Board of New South Wales shall constitute the Board of Dental Studies.
- 2.—The Dean of the Faculty of Medicine shall exercise a 12-6-05 general superintendence over the administrative business connected with the Board, and it shall be the duty of the Registrar to summon meetings of the Board at such times as may be required by the Dean, provided that upon the written requisition of any three Members of the Board the Dean, or in his absence, the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Board unless there shall be present at least five members. In the absence of the Chancellor and Vice-Chancellor, the Dean of the Faculty shall preside at meetings of the Board, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes a second or casting vote. It shall be the duty of the Registrar to attend all meetings of the Board and to record its proceedings.
- 3.—The Board shall meet for the purpose of considering 12-6-05 and reporting to the Senate upon such subjects as have relation to the Studies, Lectures and Examinations in Dentistry, and upon such questions as may be referred to it by the Senate.
- $4.-{\rm The}$  Degree of Bachelor of Dental Surgery shall be  $^{12-6-05}$  granted after examination in the subjects of the Curriculum in Dentistry.
- 5.—Candidates for the Degree of Bachelor of Dental Surgery, 12-6-05 before commencing their studies, shall pass the Matriculation

Examination for the Faculty of Medicine, or shall produce satisfactory evidence of having passed an equivalent examination elsewhere.

- 50-4-07 6.—Candidates for the Degree of Bachelor of Dental Surgery shall, during the First Year, attend the following courses of instruction:—
  - 1. Physics and Practical Physics.
  - 2. Chemistry, Introductory and Metals.
  - 3. Practical Chemistry, and Metallurgy as applied to Dentistry.
  - Elementary Anatomy, including Special Anatomy of the Teeth.
  - 5. Dissections (two terms).
  - 6. Mechanical Dentistry.
- 50-4-07 7.—Candidates for the Degree of Bachelor of Dental Surgery shall, during the Second Year, attend the following courses of instruction:—
  - 1. Physiology (Trinity and Michaelmas, two terms).
  - 2. Physiology, Practical (Lent and Trinity, two terms).
  - 3. Surgical Dentistry.
  - 4. Mechanical Dentistry.
  - 5. Dissections (equivalent to two terms).
  - Practice in Surgical and Mechanical Dentistry at the Dental Hospital.
  - Regional Anatomy.
- 8.—Candidates for the Degree of Bachelor of Dental Surgery shall, during the Third Year, attend the following courses of instruction:—
  - 1. Physiology (one term, Lent).
  - 2. Surgical Dentistry.
  - 3. Mechanical Dentistry.
  - 4. Materia Medica and Therapeutics.
  - 5. General Pathology.
  - 6. Surgery.
  - Practice in Surgical and Mechanical Dentistry at the Dental Hospital.
- 9.—Candidates for the Degree of Bachelor of Dental Surgery shall, during the Fourth Year, attend the following courses of instruction:—

1. Special Dental Surgery.

2. Practical Pathology and Bacteriology.

3. Anæsthetics.

- 4. Practice in Surgical and Mechanical Dentistry at the Dental Hospital.
- 5. Special Clinical Courses.

(a) Medicine.

(b) Surgery.

- 10.—Candidates for the Degree of Bachelor of Dental 9-8-10 Surgery shall be required to pass the following examinations:—
  - At the end of the First Year, an examination in Physics and Chemistry.
  - At the end of Trinity Term of the Second Year, an examination in Anatomy.
  - At the end of the Second Year, an examination in Surgical and Mechanical Dentistry.
  - At the end of Trinity Term of the Third Year, an examination in *Physiology*.
  - At the end of the Third Year, an examination in Surgical Dentistry, Mechanical Dentistry, Materia Medica and Therapeutics.
  - At the end of Trinity Term of the Fourth Year, an examination in Pathology and Bacteriology.
  - At the end of the Fourth Year, an examination in Clinical, Surgical and Mechanical Dentistry, Surgery and Special Dental Surgery.
- 11.—The fee for the Degree of Bachelor of Dental Surgery <sup>12-6-05</sup> shall be ten pounds. This fee shall be paid to the Registrar before the final examination, and shall not, in any case, be returned to the Candidate. A Candidate who fails to pass the examination may be allowed to present himself for a further examination upon payment of the sum of five pounds.
- 12.—At each Degree Examination the Candidates shall be <sup>12-6-05</sup> required to give proof of their knowledge by written answers to the questions set, and also by a practical of *vivâ voce* examination in all the subjects.
- 13.—Before admission to the final Degree Examination, <sup>12-6-05</sup> each Candidate shall furnish evidence of having completed his twenty-first year, and also a certificate of good fame and character, to the satisfaction of the Senate.

- 12-6-05 14.—Candidates who have passed all the examinations to the satisfaction of the Board may be recommended to the Senate for the Degree of Bachelor in Dental Surgery.
- 15.—Accredited certificates of attendance on courses of instruction from other Universities or Schools of Medicine or of Dentistry may, on the report of the Dean, be accepted pro tanto by the Senate as proof of the attendance on courses of instruction required by these By-laws. Provided always that no person shall be recommended to the Senate for the Degree in Dental Surgery unless he shall have attended, within the University of Sydney, during each of at least six terms, not less than two courses of instruction in subjects included in the Dental Curriculum of the University. In all such cases some certificate of general education satisfactory to the Senate will be required. Any Student who has served or is serving an apprenticeship in Mechanical Dentistry with a registered dentist may, on the report of the Board of Dental Studies, be exempted from the whole or a part of the prescribed workshop practice in that subject.
- 12-6-05

  16.—A Graduate in Medicine of the University may be admitted to examination for the Degree in Dental Surgery on presenting satisfactory evidence that after graduation in Medicine he has devoted at least four terms to the study of Dentistry, and that he has attended the following courses of instruction prescribed for Students in Dentistry, viz.:—1. The Special Course of Lectures on the Anatomy of the Teeth. 2. Practical Metallurgy. 3. The Lectures in Surgical and Mechanical Dentistry. 4. Attendance during one year at a Dental Hospital, with Practical Instruction in Surgical and in Mechanical Dentistry. The examination in such cases shall be confined to the Anatomy of the Teeth, to Practical Metallurgy, and to Surgical and Mechanical Dentistry.
- 12-6-05 17.—Any person who has been admitted to the Licence in Dental Surgery of the University of Sydney may proceed to the Degree of Bachelor of Dental Surgery, after attending for one year such special courses and passing such examinations as may be prescribed by the Senate.

#### CHAPTER XXI.-FACULTY OF SCIENCE.

1.—The Faculty of Science shall consist of the Professors in the subjects required for the Degrees in Science, one representative for the Department of Mechanical and Electrical Engineering, one representative for the Department of Mining

Engineering and Metallurgy, and two representatives from each of the Boards of Studies in Engineering, Veterinary Science and Agriculture.

The representatives from the Boards of Studies shall be elected by their respective Boards for periods of two years, and shall be eligible for re-election. They shall, where possible, be independent lecturers on these Boards.

The Lecturer in Mechanical Engineering and the Lecturer in Electrical Engineering shall be the representatives of the Department of Mechanical and Electrical Engineering on the Faculty, holding office alternately for periods of two years.

The Lecturer in Mining and the Lecturer in Metallurgy shall be the representatives of the Department in Mining and Metallurgy on the Faculty, holding office alternately for periods of two years.

- 2.—The Dean shall exercise a general superintendence over <sup>24-1-05</sup> the administrative business connected with the Faculty, and it shall be the duty of the Registrar to summon meetings of the Faculty at such times as may be required by the Dean, provided that upon the written requisition of any three members of the Faculty, the Dean, or in his absence the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members. The Dean shall act as Chairman at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings and record the proceedings:
- 3.—The Faculty shall meet for the purpose of considerings 3-3-10 and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations and degrees in Science, and such other subjects as may be referred to it by the Senate; and the following Boards of Studies shall be constituted to report to the Faculty in each department of study:—
  - (a) Board of Studies in Pure Science.
  - (b) ,, ,, Engineering.
  - (c) ,, ,, Veterinary Science.
  - (d) ,, ,, Agriculture.

The Board of Studies in Pure Science shall consist of the Independent Lecturers, Assistant-Professors, and Assistant-Lecturers and Demonstrators in the subjects required for the Degree of Bachelor of Science (B.Sc.). Its chairman shall be the Senior Professor on the Board, but in his absence the members then present shall elect a chairman from amongst themselves.

The Board of Studies in Engineering shall consist of the Professors of Engineering, Mathematics, Physics, Geology and Chemistry, the Independent Lecturers in Engineering subjects, the Assistant-Lecturers and Demonstrators in Engineering Design and Assaving Its chairman shall be the Professor of Engineering, but in his absence the members then present shall elect a chairman from amongst themselves.

The Professors of Mathematics, Physics, Geology and Chemistry may at any time appoint as their deputies at a meeting of the Board of Studies, an Assistant-Professor, Lecturer, or Assistant-Lecturer and Demonstrator from their respective departments.

The Board of Studies in Veterinary Science shall consist of the Professors of Chemistry, Biology, Physics, Physiology and Pathology, and the Professors, Independent Lecturers, Assistant-Professors and Assistant-Lecturers and Demonstrators in the other subjects required for the Degree of Veterinary Science. Its chairman shall be the Professor of Veterinary Science, but in his absence the members then present shall elect a chairman from amongst themselves.

The Board of Studies in Agriculture shall consist of the Professors of Biology, Chemistry, Engineering, Geology, Physics, and the Professors, Independent Lecturers, Assistant-Professors and Assistant-Lecturers and Demonstrators in the other subjects required for the Degree of Bachelor of Science in Agriculture. Its chairman shall be the Professor of Agriculture, but in his absence the members then present shall elect a chairman from amongst themselves.

The Chancellor, Vice-Chancellor, and Dean of the Faculty of Science shall be ex officio members of these Boards of Studies.

4.—There shall be four degrees in Science, viz.: Bachelor of 24-1-05 Science (B.Sc.), Dector of Science (D.Sc.), Bachelor of Engineering (B.E.), and Master of Engineering (M.E.).

- 5.—Candidates for the degree of Bachelor of Science (B.Sc.) 24-1-05 shall, before admission to the curriculum in Science, produce evidence either (i.) of having graduated in Arts; or (ii.) of having completed the First Year in the Faculty of Arts in accordance with the provisions of Chapter X., Section 7; or (iii.) of having passed the Matriculation Examination for the Faculty of Science, prescribed in Chapter X., Sections 5 and 6.
- 6.—Candidates for the degree of Bachelor of Science shall, 24-1-05 during the First Year, attend the courses of instruction upon and pass the examinations in the following subjects:—
  - I. Chemistry I., including laboratory practice.
  - II. Physics I., including laboratory practice.
  - III. and IV. Two of the following:-

Biology I., including laboratory practice.

Geology I., ,, ,, ,, ,, ,, Mathematics I.

7.—Candidates for the degree of Bachelor of Science shall, <sup>24-1-05</sup> during the Second Year, attend the courses of instruction upon and pass the examinations in three of the following subjects:—

I. Biology II., including laboratory practice.

II. Chemistry II., ,, ,, ,,

III. Geology II., ", ",

IV. Mathematics II.

V. Physics II., including laboratory practice.

VI. Physiology I., ,, ,, ,,

8. Candidates for the degree of Bachelor of Science shall, 15-9-08 during the Third Year, attend the courses of instruction upon, and pass the examinations in two of the following subjects:—

I. Biology III., including laboratory practice.

II. Chemistry III,

III. Geology III., ,, ,, ,,

IV. Mathematics III.

V. Physics III., including laboratory practice.

VI. Physiology II., ,, ,, ,,

Can idates intending to compete for Honours in two or more subjects may be permitted, with a view to acquiring greater proficiency in practical work, to postpone the examination in one of the subjects requiring practical work until the end of the fourth year, during which they must devote their whole time to work in connection with the subject of the postponed examination to the satisfaction of the Faculty.

- 24-1-05 9. Honours at graduation in any subject of the Science, curriculum shall be awarded only to such students as have passed through courses I., II., and III. of such subject.
- 24-1-05 10.—The candidate for Honours who shall have most distinguished himself at the Bachelor of Science examination shall, if he possess sufficient merit, receive a bronze medal.
- 24-1-05 11.—The examination for the degree of Bachelor of Science shall take place once a year.
- 24-1-05 12.—No candidate shall be admitted to this examination unless he produce a certificate from the Dean of the Faculty of Science that he is of nine Terms' standing, and that he has passed all the examinations required since his admission to the University.
- 24-1-05
  13.—The fee for the degree of Bachelor of Science shall be three pounds. No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him. For any re-examination for the same degree he shall pay a fee of two pounds.
- 14.—The Annual Examinations shall be conducted in the 24-1-05 first instance by means of printed papers, practical exercises, and reference to specimens when necessary; and at the termination of such examinations each candidate shall undergo a vivâ voco examination if the Examiners think fit. At least one written Class Examination shall be held during each Term of the first two years except in the mathematical subjects. Students shall not absent themselves from these examinations except upon a medical certificate. Students who fail to pass the Class Examinations may, at the discretion of the Board of Examiners, be refused admission to the Annual Examinations.
- 24-1-05 15.—The Examination for the degree of Doctor of Science (D.Sc.) shall take place once a year.
- 24-1-05

  16.—Every candidate for the degree of Doctor of Science must have held the degree of Bachelor of Science for at least two years. He shall be required to pass an examination in one of the following branches of Science:—Botany, Chemistry, Geology, Mathematics, Palæontology, Physics, Physiology, Zoology.

He shall also be required to present, and if called upon, to defend, a thesis not previously published, embodying the results of an original investigation in the branch of science selected. Five printed or type-written copies of this thesis must be in the hands of the Registrar at least two months before the date fixed for the examination. The candidate may also present, for the consideration of the examiners, any original contribution or contributions to the branch of Science selected, which he may desire to submit in support of his candidature.

- 17.— Any candidate for this degree whose qualifications shall <sup>24-1-05</sup> be of sufficient merit shall receive a bronze medal.
- 18.—The fee for the degree of Doctor of Science shall be ten <sup>24-1-05</sup> pounds. No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him, but he shall be admissible to one further examination for the same degree without the payment of an additional fee. For each subsequent examination that may be required he shall pay the sum of five pounds.

## \*DEPARTMENT OF ENGINEERING.

- 19. The degree of Bachelor of Engineering shall be given in 24-1-05 the three branches of (i.) Civil Engineering, (ii.) Mining and Metallurgy, (iii.) Mechanical and Electrical Engineering.
- 20.—Candidates for the degree of Bachelor of Engineering 21-1-05 shall, before admission to the curriculum in Engineering, produce evidence either (i.) of having graduated in Arts or in Science; or (ii.) of having completed the first year in the Faculty of Arts in accordance with the provisions of Chapter X, Section 7, or (iii.) of having passed the Matriculation Examination for the Department of Engineering prescribed in Chapter X, Sections 5 and 6.

#### CIVIL ENGINEERING.

21. Candidates for the degree of Bachelor of Engineering 28-12-09 in Civil Engineering shall, during the First Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

<sup>\*</sup>Second year students between 18 and 25 years of age who have matriculated on or after 191°, or who have passed the Matriculation Examination (including Mechanics), are eligible for admission as students of the Institution of Civil Engineers, London, upon the recommendation of the Professor of Engineering, and upon their graduating in the "Department of Civil Engineering" or "Mechanical and Electrical Engineering." will be exempted from the associate membership examination when they apply for admission into the Institution.

- I. Chemistry I., including laboratory practice.
- II. Physics I., including laboratory practice.
- III. Mathematics I.
- IV. Descriptive Geometry.
  - V. Geology I., including laboratory practice.
- VI. Engineering Design and Drawing.

Students are recommended to attend the course of mechanical workshop practice prescribed for First Year Students in the Department of Mechanical and Electrical Engineering.

- 23-12-09
- 22. Candidates for the degree of Backelor of Engineering in Civil Engineering shall, during the Second Year, attend the courses of instruction upon, and pass the examination in, the following subjects:—
  - I. Mathematics II
  - II. Engineering Construction, including laboratory practice.
  - III. Mechanical Engineering I, including laboratory practice.
  - IV. Physics II., including laboratory practice.
    - V. Chemistry II. (for engineers).
  - VI. Engineering Design and Drawing.
- 28-12-09
  - 23. Candidates for the degree of Bachelor of Engineering in Civil Engineering shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
    - I. Mathematics III. (Spherical Trigonometry, one term).
    - II. Materials and Structures I., including laboratory practice.
    - III. Mechanical Engineering II. A, including laboratory practice.
    - IV. Electrical Engineering I., including laboratory practice.
      - V. Surveying I., including field work.
        VI. Architecture and Building Construction.
    - VII. Engineering Drawing and Design.

The annual examinations of Third Year students shall be held at the end of Trinity Term. Before entering upon his Fourth Year each student shall be required to present a certificate showing that he has had six months' practical work on approved engineering works or in approved offices or workshops.

- 24. Candidates for the degree of Bachelor of Engineering <sup>28-12-09</sup> in Civil Engineering shall, during the Fourth Year attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Materials and Structures II., including laboratory practice.
  - II. Civil Engineering A and B, including laboratory practice.
  - III. Surveying II.
  - IV. Engineering Design and Drawing.

Every candidate is required to prepare and submit to the Board of Examiners an original thesis or set of working drawings and specifications for machinery or works.

#### MINING AND METALLURGY.

- 25.—Candidates for the degree of Bachelor of Engineering 28-12-09 in Mining and Metallurgy shall, during the First Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Chemistry I., including laboratory practice.
  - II. Physics I., including laboratory practice.
  - III. Mathematics I.
  - IV. Descriptive Geometry.
    - V. Geology I., including laboratory practice.
  - VI. Engineering Design and Drawing.

Students are recommended to attend the course of mechanical workshop practice prescribed for First Year Students in the Department of Mechanical and Electrical Engineering.

- 26.—Candidates for the degree of Bachelor of Engineering 28-12-09 in Mining and Metallurgy shall, during the Second Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Engineering Construction, including laboratory practice.
  - II. Mechanical Engineering I.
  - III. Physics II. (two terms) ,, ,, ,,
  - IV. Engineering Design and Drawing.
    - V. Chemistry II. (for engineers).
  - VI. Geology II., including laboratory practice.
- VII. Chemistry, quantitative.

- 28 12-09 27.—Candidates for the degree of Bachelor of Engineering in Mining and Metallurgy shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Mineralogy, including laboratory practice.
  - II. Materials and Structures I., including laboratory practice.
  - III. Mechanical Engineering II. A, including laboratory practice.
  - IV. Electrical Engineering I., including laboratory practice.
    - V. Surveying I., including field work.
  - VI. Building Construction.
  - VII. Practical Metallurgy and Assaying I.
  - VIII. Engineering Design and Drawing.
    - IX. Mining (Michaelmas Term).

Before commencing the Fourth Year, students are recommended to spend at least two months on an approved mine.

- 28.—Candidates for the degree of Bachelor of Engineering in Mining and Metallurgy shall, during the Fourth Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Mining.
  - II. Metallurgy.
  - III. Practical Metallurgy and Assaying II.
  - IV. Engineering Design and Drawing.
    - V. Surveying III., with field work.

Every Candidate is require to prepare and submit to the Board of Examiners an original thesis, or set of working drawings and specifications for machinery or works.

# MECHANICAL AND ELECTRICAL ENGINEERING.

- 28-12-09 29.—Candidates for the degree of Bachelor of Engineering in Mechanical and Electrical Engineering shall during the First Year attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Chemistry I., including laboratory practice.
  - II. Physics I., including laboratory practice.
  - III. Mathematics I.
  - IV. Descriptive Geometry.

- V. Engineering Design and Drawing.
- VI. Mechanical Workshop Practice.
- 30.—Candidates for the degree of Bachelor of Engineering 28-12-09 in Mechanical and Electrical Engineering shall, during the Second Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Mathematics II.
  - II. Engineering Construction.
  - III. Mechanical Engineering I., including laboratory practice.
  - IV. Physics II., including laboratory practice.
    - V. Chemistry II. (for engineers).
  - VI. Engineering Design and Drawing.
- 31.—Candidates for the degree of Bachelor of Engineering 28-12 09 in Mechanical and Electrical Engineering shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Mathematics III. (Differential Equations, one term).
  - II. Mechanical Engineering II., including laboratory practices.
  - III. Electrical Engineering I., including laboratory practice.
  - IV. Materials and Structures I., including laboratory practice.
    - V. Surveying I., with field work.
  - VI. Engineering Design and Drawing.

The annual examination of third year students shall be held at the end of Trinity Term. Before entering upon his Fourth Year each student shall be required to present a certificate showing that he has had six months' practical workshop experience in some approved engineering works.

- 32.—Candidates for the degree of Bachelor of Engineering 28-12-09 in Mechanical and Electrical Engineering shall, during the Fourth Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—
  - I. Mechanical Engineering III., including laboratory practice.
  - II. Electrical Engineering II., including laboratory practice.
  - III. Engineering Design and Drawing.
  - IV. Civil Engineering.

Every candidate is required to prepare and submit to the Board of Examiners an original thesis or set of working drawings and specifications for machinery or works.

- 33.—A candidate shall not be admitted to the Degree of Bachelor of Engineering unless he shall produce a certificate from the Dean of the Faculty of Science that he is of twelve Terms' standing, that he has passed all the examinations, and has satisfactorily complied with all the other conditions required of him since his admission to the University.
- 14-1-08 34.—The candidate who shall have most distinguished himself at the Final Examination for the Degree of Bachelor of Engineering in any department shall, if he possess sufficient merit, receive a bronze medal.
- 8-10-89 35.—The examination for the Degree of Master of Engineering shall take place once a year. This degree shall not be conferred until after the expiration of three Academic years from the granting of the B.E. Degree.
- 9-2-92
  36.—Every candidate shall be required to produce to the Board of Examiners satisfactory certificates or other evidence of having been engaged during three years in the practice of one of the branches of Engineering specified in By-law 37, one year at least of which must have been spent in acquiring a practical knowledge of the branch or branches selected, under the direction of an Engineer or Architect practising the branch or branches in which he wishes to be examined.
- 13-12-92
  37.—Candidates for the Degree of Master of Engineering shall have taken Honours in the Professional subjects of the examination for the Degree of B.E.; or must attain the standard for Honours at some subsequent B.E. Examination, and shall be required to pass examinations in one of the following divisions or branches:—
  - I. Engineering Construction in Iron, Steel, Timber, Masonry and Concrete.
  - II. Hydraulic and Sanitary Engineering. .
  - III. Railway Engineering, including railway location, Permanent Way, Locomotives and Rolling Stock, and Railway Appliances.
  - IV. Architecture, Building Construction and Sanitation.

- V. Mechanical Engineering and Machine Construction.
  - VI. Mining and Metallurgy.
- VII. Electrical Engineering.

Candidates must give at least twelve months' notice of their intention to proceed to the Master's Degree.

Candidates shall be required to prepare a complete set of working drawings and specifications of such works or machinery as the Examiners may require in the particular division or branch of Engineering selected.

- 38.—The diplomas for the Degrees of Bachelor and Master 8-10-89 of Engineering shall specify the branch or branches of Engineering for which they are granted.
- 39.—The fees for the degrees of Bachelor and Master of 18-4-06 Engineering shall be ten pounds respectively. These fees shall be paid to the Registrar before the examination, and shall not in any case be returned to the candidate. Candidates who fail to pass the examination for either degree shall be required, upon presenting themselves for any further examination for the same degree, to pay a fee of five pounds.
- 40.—Graduates in Engineering in any branch may, upon 8-10-89 passing the Degree Examination in any other branch or branches, and producing satisfactory evidence of practical work therein, receive a certificate for such additional branch or branches.
- 41.—The fee for such additional examination for the Degrees 8-10-89 of Bachelor and of Master of Engineering shall be ten pounds.
- 42.—The candidate who shall most distinguish himself in 11-9-93 the examination for the Degree of Master of Engineering shall, if of sufficient merit, receive a bronze medal.
- 43.—Notwithstanding the provisions of sections 6, 7 and 8 18-4-06 of this chapter,—
  - Undergraduates who have completed two years of the course prescribed for students in the Department of Civil Engineering, and have passed the second year examination, may proceed to the degree of Bachelor of Science by attending the third year courses of instruction in Mathematics and Physics and passing the examinations in those subjects.

- 2. Undergraduates who have completed three years of the course prescribed for students in the Department of Mining and Metallurgy, and have passed the third year examination, may proceed to the degree of Bachelor of Science by attending the third year courses of instruction in Chemistry and Geology and passing the examinations in those subjects.
  - 3. Undergraduates who have completed two years of the course prescribed for students in Mechanical and Electrical Engineering, and have passed the second year examination, may proceed to the degree of Bachelor of Science by attending the third year courses of instruction in Mathematics and Physics and passing the examinations in those subjects.

Provided that no student who takes advantage of this section shall be at liberty during the period to which this section applies to take up any course except those prescribed by this section.

## CHAPTER XXII.-DEPARTMENT OF VETERINARY SCIENCE.

- s.s.os

  1.—The Chancellor and Vice-Chancellor, the Professors and Lecturers in the subjects of 'the Veterinary Science Curriculum, and three persons appointed from time to time by the Senate for periods of three years, shall constitute the Board of Veterinary Science.
- 2.—The Professor of Veterinary Science shall be the Director of the Department of Veterinary Science, and it shall be his duty to exercise a general supervision over its management and discipline.
- over the administrative business connected with the Board, and it shall be the duty of the Registrar to summon meetings of the Board at such times as may be required by the Director, provided that upon the written requisition of any three members of the Board, the Director, or in his absence the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Board unless there be present at least five members. In the absence of the Chancellor and Vice-Chancellor the Director shall act as Chairman at all meetings of the Board, but in his absence the members then present shall elect a Chairman from among themselves. The Chair-

man at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings and to record the proceedings.

- 4.—The Board shall meet for the purpose of considering 9-sec and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations, degrees and licenses in Veterinary Science, and such questions as may be referred to it by the Senate.
- 4.—Class Examinations shall be held during each course of 9-8-09 instruction in each term, unless such term immediately precedes the annual examination in the subject of the course. Students shall not absent themselves from these examinations except upon a medical certificate, and at the end of each course a report of the result, signed by the responsible teacher, shall be presented to the Board. The result of these examinations may be taken into account by the Board at the annual examinations.
- 6.—There shall be granted (a) a License in Veterinary 9-8-09 Science, viz., Licentiate in Veterinary Science (L.V.Sc.), and (b) a Degree in Veterinary Science, viz., Bachelor of Veterinary Science (B.V.Sc.).
- 7. Candidates may be admitted to the Department of 9-8-09 Veterinary Science on passing such entrance examination as the Senate may from time to time prescribe.
- 8.—Candidates for the License in Veterinary Science shall 9-8-09 attend the following courses of instruction, i.e.:—
  - I. In the First Year—

Biology.

Practical Biology.

Inorganic and Organic Chemistry.

Practical Chemistry.

Physics (Elementary).

Veterinary Anatomy, Junior (Osteology and Arthrology).

II. In the Second Year-

Physiology (with special course in Supplementary Veterinary Physiology).

Practical Physiology, including Histology and Physiological Chemistry.

Equine Anatomy and the comparative anatomy of the other domesticated animals.

Practical Veterinary Anatomy with Dissections, extending over three terms, and including not less than twenty demonstrations on the anatomy of the domesticated animals other than the horse.

## III. In the Third Year—

Veterinary Pathology and Bacteriology.

Pharmacology.

Agricultural Botany.

Veterinary Hygiene and Dietetics.

Veterinary Materia Medica, Therapeutics and Pharmacy.

Stable Management, Manipulation of Domesticated Animals, and Principles of Horse-shoeing.

Clinical Instruction.

And such further practical work as may from time to time be prescribed by the Board.

# IV. In the Fourth Year—

Veterinary Medicine.

Veterinary Surgery.

Veterinary Obstetrics.

Veterinary Parasitology.

Meat Inspection.

Examination of Horses for Unsoundness.

Clinical Instruction.

And such further practical work as may from time to time be prescribed by the Board.

- 9-8-09 9.—Candidates for the License in Veterinary Science shall be required to pass the following examinations:—
  - (i.) A First Annual Examination at the end of the first year in Biology, Inorganic and Organic Chemistry. Elementary Physics, and Junior Veterinary Anatomy,

- (ii.) A Second Annual Examination at the end of the second year in Physiology, Equine Anatomy and Comparative Anatomy of the Domesticated Animals. No candidate shall be admitted to this examination unless he has completed the dissection of every part of the body of the horse at least once, and has attended twenty demonstrations on the Anatomy of other domesticated animals.
- (iii.) A Third Annual Examination at the end of the third year in Veterinary Pathology and Bacteriology, Pharmacology, Agricultural Botany, Hygiene and Dietetics, Principles of Horseshoeing, Veterinary Materia Medica and Therapeutics.
- (iv.) A Fourth Annual Examination in Veterinary Medicine, Veterinary Surgery, Veterinary Obstetrics, Veterinary Parasitology, Meat Inspection, Examination of Horses for Unsoundness, and such further practical work as may from time to time be prescribed by the Board.
- 10.—At each examination candidates shall be required to 9-8-09 give proof of their knowledge by written answers to the questions set, and also by practical or viva voce examination, or by both.
- 11 —Students who fail to pass or neglect to attend their 9-8-09 examinations in any subject or subjects may be required by the Board to attend again the course or courses of instruction in any such subject or subjects before again presenting themselves for examination.
- 12.—No candidate shall be admitted to the Final Examina- 9-9-99 tion until he shall have produced evidence satisfactory to the Senate of having completed his twenty-first year and of being a person of good fame and character.
- 13.—Candidates who have passed all the above mentioned 9-8-09 examinations to the satisfaction of the Board, and have duly complied with these by-laws, may be recommended to the Senate for admission to the License in Veterinary Science.
- 14.—Accredited certificates of attendance on courses of in-9-8-09 struction from other Universities or Schools of Medicine or of Veterinary Science may, on the report of the Board of Veterinary Science, be accepted by the Senate as proof of

attendance on courses of instruction pro tanto required by these by-laws. Provided always that no person shall be recommended to the Senate for the License in Veterinary Science unless he shall have attended for at least three terms and passed examinations in the subjects of the fourth year's course, and have produced some certificate of general education satisfactory to the Senate.

9-8-09 15.—The fee for the License in Veterinary Science shall be five pounds. This fee shall be paid to the Registrar before the Final Examination and shall not in any case be returned to the candidate. A candidate who fails to pass the examination may be allowed to present himself for a further examination upon payment to the Registrar of a sum of three pounds for each subsequent examination.

## DEGREE OF BACHELOR OF VETERINARY SCIENCE.

- 9-8-09 16.—Candidates who have been admitted to the License in Veterinary Science may proceed to the Degree of Bachelor of Veterinary Science.
- 9-8-09 17.—Candidates for the Degree of Bachelor of Veterinary Science shall, after admission to the License, attend the prescribed courses of instruction, and pass written, oral and practical examinations in the following subjects:—

Advanced Practical Physiology—one term.

Advanced Veterinary Pathology and Bacteriology—three terms.

Advanced Veterinary Hygiene and Sanitary Science—two terms.

And such further laboratory and practical work as may from time to time be prescribed by the Board.

- 9-8-09
  18.—Students who fail to pass or neglect to attend their examinations in any subject or subjects may be required by the Board to attend again the course or courses of instruction in such subject or subjects before again presenting themselves for examination.
- 9-8-09 19.—Candidates who have passed examinations in all the prescribed subjects to the satisfaction of the Board, and have duly complied with these by-laws, may be recommended to the Senate for admission to the Degree of Bachelor of Veterinary Science.

- 20.—The fee for the Degree of Bachelor of Veterinary 98.09 Science shall be ten pounds. This fee shall be paid to the Registrar before examination for the Degree, and shall not in any case be returned to the candidate. A candidate who fails to pass the examination may be allowed to present himself for a further examination upon payment to the Registrar of the sum of five pounds for each subsequent examination.
- 21.-Notwithstanding anything to the contrary in any 9-8-09 by-law of this University, candidates who produce satisfactory evidence of having qualified at any Veterinary School teaching an approved curriculum of not less than three years, and having subsequently been residents in Australasia or New Zealand for a period of twelve months, may be admitted to such status in the course of the Degree of Bachelor of Veterinary Science as the Senate, on the recommendation of the Board of Veterinary Science, shall in each case determine; or if the Senate on the same recommendation so determines, candidates who members of the Royal College of Veterinary Surgeons may be admitted to the Degree of Bachelor of Veterinary Science on presenting and defending a Thesis to the satisfaction of the examiners on a subject approved by the Board of Veterinary Science, not less than three printed or typewritten copies of the Thesis being transmitted to the Registrar at least two months before the date fixed for the examination. This by-law shall not remain in force after the beginning of March, 1912.

## CHAPTER XXIIA. - DEPARTMENT OF AGRICULTURE.

- 1.—In the Department of Agriculture there shall be granted the Degree of Bachelor of Science in Agriculture.
- 2.—Candidates for the Degree of Bachelor of Science in Agriculture shall, before admission to the curriculum in Agriculture, produce evidence either—
  - I. of having graduated in Arts or in Science; or
  - II. of having completed the First Year in the Faculty of Arts in accordance with the provisions of Chapter X., Section 7; or
  - III. of having passed the Matriculation Examination for the Faculty of Science prescribed in Chapter X., Sections 5 and 6.

- 3.—Candidates for the Degree of Bachelor of Science in Agriculture shall, during the First Year, attend the courses of instruction upon and pass the examinations in the following subjects:—
  - I. Chemistry I., including laboratory practice.
  - II. Biology I. ", ",
  - III. Geology I. ", ",
  - IV. Physics I.
    - V. Mathematics I. (Trigonometry only).

Provided that any student who has passed in Higher Mathematics at Matriculation, or has presented some certificate of having passed an examination in Trigonometry at the Senior standard, shall be exempt from the lectures and annual examination in that subject.

- 4.—Candidates for the Degree of Bachelor of Science in Agriculture shall, during the Second Year, attend the courses of instruction upon and pass the examinations in the following subjects:—
  - I. Chemistry (Organic and Physical) with laboratory practice.
  - II. Botany (Systematic and Physiological) with laboratory practice.
  - III. Agricultural Geology, with laboratory practice.
  - IV. Principles of Agriculture I.
    - V. Economic Entomology.
- 5.—Candidates for the Degree of Bachelor of Science in Agriculture shall, during the Third Year, attend the courses of instruction upon and pass the examinations in the following subjects:—
  - I. Agricultural Chemistry, including laboratory practice.
  - II. Agricultural Botany
  - III. Plant Pathology ,, ,,
  - IV. Veterinary Hygiene and Dietetics
  - V. Stable Management, Manipulation of Domesticated Animals and Principles of Horse-shoeing.
  - VI. Veterinary Pathology.

and shall perform such further practical work as may be required.

- 6.—Candidates for the Degree of Bachelor of Science in Agriculture shall, during the Fourth Year, attend the courses of instruction upon and pass the examinations in the following subjects:—
  - I. Principles of Agriculture II,
  - II. Principles of Fruit Culture and Viticulture,
  - III. Economic Science applied to Agriculture,
  - IV. Principles of Forestry, with practical exercises,
  - V. Agricultural Engineering, with practical exercises,
  - VI. Veterinary Parasitology,
- VII. Agricultural Bacteriology, including laboratory practice, and shall perform such further practical work as may be required.
- 7.—Before admission to the Degree of Bachelor of Science in Agriculture, each candidate shall be required to produce evidence of having spent a period of not less than twelve months, which need not be continuous, at an Agricultural College or approved farm, where he has been engaged in practical field operations
- 8.—No candidate shall be admitted to the Degree of Bachelor of Science in Agriculture unless he shall produce a certificate from the Dean of the Faculty of Science that he is of twelve terms standing, and that he has passed all the examinations, and has satisfactorily complied with all the other conditions required of him since his admission to the University.
- 9.—The candidate who shall have most distinguished himself at the Annual Examinations throughout the course for the Degree of Bachelor of Science in Agriculture shall, if he possess sufficient merit, receive a bronze medal.
- 10.—The fee for the Degree of Bachelor of Science in Agriculture shall be three pounds. No candidate shall be admitted to the examination unless he shall have previously paid this fee to the Registrar. If a candidate fail to pass the examination, the fee shall not be returned to him. For any re-examination for the same Degree he shall pay a fee of two pounds.

## CHAPTER XXIII, -ADMISSION AD EUNDEM GRADUM.

1.—Admission ad eundem gradum in the University may, at the discretion of the Senate, be granted without examination to Graduates of the following approved Universities—that is to say, the Universities of Oxford, Cambridge, London and Durham, the Victoria University, the University of St. Andrew's, Edinburgh, Glasgow, Aberdeen and Dublin, the Queen's University of Ireland, and the Royal University of Ireland, lately established in its place; and the Universities of Melbourne. New Zealand and Adelaide; and may also be granted to Graduates of such other Universities as the Senate may from time to time determine; provided always that they shall give to the Registrar, to be submitted to the Senate, sufficient evidence of their alleged Degrees respectively, and of their good fame and character. Upon the approval of his application each candidate shall pay to the Registrar a fee of two pounds for the entry of his name on the University books, in addition to the prescribed fee for his Degree.

## CHAPTER XXIV.-REGISTER OF GRADUATES.

- 5-7-87 1.—A Register of Graduates of the University shall be kept by the Registrar in such manner as the Senate shall from time to time direct.
- 5-7-87 2.—A Register of the Members of Convocation shall be kept by the Registrar in such manner as the Senate shall from time to time direct, and such Register shall be conclusive evidence that any person whose name shall appear thereon at the time of his claiming a vote at a Convocation is so entitled to vote.

#### CHAPTER XXV.—SUBSTITUTES FOR OFFICERS.

5-7-87
1.—Any act required by the By-laws to be performed by any officer of the University may, during the absence or other incapacity of such officer, unless otherwise provided, be performed by a person appointed by the Senate to act in his place.

## CHAPTER XXVI.-ACADEMIC COSTUME.

2.9-92 1.—The Academic Costume shall be for—

The Chancellor and Vice-Chancellor—a robe and cap similar to those worn by the Chancellor of the University of Oxford. In undress, the silk gown worn by other members of the Senate, black velvet cap and gold tassel.

- A Member of the Senate—the habit of his Degree, or a black silk gown of the description worn by Graduates holding the Degree of Doctor, with tippet of scarlet cloth, edged with white fur, and lined with blue silk, black velvet trencher cap.
- Doctor of Laws, Medicine or Science—the gown worn by Graduates holding the Degree of Doctor in the Universities of Oxford or Cambridge, black cloth trencher cap.
- Doctor of Laws-hood of scarlet cloth, lined with blue silk.
- Doctor of Medicine—hood of scarlet cloth, lined with purple silk.
- Doctor of Science—hood of scarlet cloth, lined with amber-coloured satin.
- Master of Arts—the ordinary Master's gown of Oxford or Cambridge, of silk or bombazine with black silk hood lined with blue silk, black cloth trencher cap.
- Master of Surgery—the ordinary Master's gown of Oxford or Cambridge, of silk or bombazine, with hood of scarlet cloth lined with French grey, black cloth trencher cap.
- Master of Engineering—a Master of Arts gown, with black silk hood, lined with light maroon-coloured silk, black cloth trencher cap.
- Bachelor of Laws or Medicine—the black gown worn by civilians in Oxford or Cambridge holding Degrees, black cloth trencher cap.
- Bachelor of Laws-hood of black silk, edged with blue silk.
- Bachelor of Medicine—hood of black silk, edged with purple silk.
- Bachelor of Arts, Science or Engineering—a plain black stuff gown, black cloth trencher cap.
- Bachelor of Arts—hood similar to that worn by the B.A. at Cambridge.
- Bachelor of Science—hood of black stuff, edged with amber-coloured silk.

Bachelor of Engineering—hood of black stuff, edged with light maroon-coloured silk.

Bachelor of Dental Surgery—hood of black stuff, edged with purple and cream-coloured silk.

Bachelor of Veterinary Science—black gown similar to that worn by the Bachelors of Laws and Medicine, hood of black silk, edged with ambercoloured and purple silk.

An Officer not being a Graduate—a black silk gown of the description worn by civilians not holding Degrees, black cloth trencher cap.

Undergraduate—a plain black stuff gown, black cloth trencher cap.

Scholar—plain black stuff gown, with a velvet bar and shoulder strap, black cloth trencher cap.

- 5-7-87 2.—Members of the University shall on all public occasions, when convened for Academic purposes, appear in their Academic costume.
- 18-4-06
  3.—The Undergraduates shall appear in Academic costume when attending lectures, and on all public occasions in the University; and, whenever they meet the Fellows, Professors, or other Superior Officers of the University, shall respectfully salute them. Provided that students in any Faculty shall be permitted, if deemed expedient by the Faculty, to dispense with Academic dress at such courses of instruction as the Faculty may determine.

#### CHAPTER XXVII.-PUBLIC EXAMINATIONS.

- 5-7-87
  1.—Two public examinations shall be held every year, the one to be called the Junior Public Examination and the other to be called the Senior Public Examination, and shall be open to all candidates, male or female, who may present themselves.
- 5-7-67 2.—The Public Examinations shall be held at such times and at such places as the Senate may from time to time appoint.
- 5-7-67
  3.—The subjects of the Junior Public Examination shall be the English Language and Literature, History, Geography, the Latin, Greek, French and German Languages, Arithmetic, Algebra, Geometry, Natural Science, and such other branches of learning as the Senate may from time to time determine.

- 4.—The subjects of the Senior Public Examination shall be 5-7-87 those mentioned in the foregoing section, together with higher Mathematics, Drawing, Music, Natural Philosophy, and such other branches of learning as the Senate may from time to time determine.
- 5.—Every candidate who shall pass either of these exami-5-7-87 nations, or such portions of either of them as may be required by the Rules or Orders of the Senate in force for the time being, shall receive a certificate to that effect, specifying the subjects in which he shall have passed, signed by the Chairman of the Board and by the Registrar.
- 6.—No person shall be admitted to either of the Public 5-7-87 Examinations until he shall have paid such fees as may be required by the Rules or Orders of the Senate in force for the time being.
- 7.—The Professors and Assistant Professors not engaged in 18-7-93: tuition except publicly within the University, together with such other persons as the Senate may from time to time appoint, shall form a Board for conducting the Public Examinations; and of this Board the Chairman shall be elected at its first meeting in the year.
- 8.—At the conclusion of each examination the Board shall 27-9-92: publish the result and transmit to the Senate a copy of it, signed by the Chairman and at least one other member.
- 9.—Subject to these By-laws, the Public Examinations shall 5-7-87 be conducted according to such rules and orders as the Senate may from time to time establish.

#### CHAPTER XXVIII.-UNIVERSITY EXTENSION.

1.—There shall be a Board, consisting of not more than 12-6-05eighteen members, of whom four at least shall be members of
the Senate, and four at least shall be members of the Teaching
Staff, and not less than two shall be persons not being members
of the Senate or of the Teaching Staff. The Board shall be
appointed annually by the Senate, at its monthly meeting in
November, and shall be held to be duly constituted upon the
appointment of twelve persons to be members thereof, and the
Senate may fill vacancies and appoint additional members from
time to time if it shall think fit during the year, but so that the
total number of members of the Board shall not exceed eighteen.

- at any time. Membership of the Board shall continue from the time of appointment until the next annual appointment of the Board, when all memberships shall lapse, but all retiring members shall be eligible for re-election.
- 12-9-92 2.—The Board shall at its first meeting after its appointment in each year elect a Chairman for the year, and may recommend to the Senate the appointment of a Secretary, the tenure of whose office and the amount of whose salary (if any) shall be determined by the Senate. The Chairman shall convene meetings of the Board, and three members shall form a quorum.
- 12-9-92 3.—All action taken by the Board shall be subject to the By-laws, and to any directions which may be given by the Senate.
- 12-9-92 4.—The Board shall from time to time recommend to the Senate the names of certain persons to be authorised for employment as University Extension Lecturers, and the Senate shall at its discretion authorise the employment of such persons to deliver lectures under the direction of the Board.
- 12-9-92 5.—The Board may appoint any person whose employment as Lecturer has been authorised by the Senate to deliver such courses of lectures, and to hold such classes and examinations on such subjects, and at such times and places as the Board may see fit.
- 12-9-92 6.—The Board shall determine the tenure of office of the Lecturers, the duties to be performed by them, the fees and charges to be paid for the lectures, classes and examinations, and the mode and time of payment of the fees and charges.
- 12-9-92 7.—The payments to be made to the Lecturers shall be determined by the Board in accordance with regulations as to the rate of payment to be laid down by the Senate.
- 12-9-92 8.—The Board shall make all other arrangements requisite for the delivery of lectures and the holding of classes and examinations, and may award such certificates as it shall think fit.
- 18-4-06 9.—The fees received, together with any Government grant, donations, and such sums as may from time to time be assigned for the purpose by the Senate, shall be the fund for the payment of lecturers and other expenses.
- 18-4-06 10.—The Board shall, in the month of November in each year, lay before the Senate a report of its proceedings for that year.

#### CHAPTER XXIX.-TENURE OF OFFICE OF LECTURERS.

- 1.—All appointments of Public Teachers in the schools of 29-6-91 the University, other than Professors, shall be terminable by a notice of not less than six calendar months, which may be given by the Senate at any time, but which, if given by the Teacher, must expire on the 31st December. This By-law shall not apply to any case in which the Senate shall direct that the appointment shall be for a limited period.
- 2.—All independent Lecturers or Public Teachers other than 7-1-02 Professors and Assistant Lecturers and Demonstrators shall, unless specifically appointed for a shorter term, hold office for a period not exceeding seven years, which shall terminate on December 31st next preceding the expiration of seven years from the date of appointment. During such period the appointment shall be terminable at six months' notice, as provided in Section 1 of this chapter, and at the expiration of such period the appointment shall terminate; but the holder shall be eligible for reappointment.

#### CHAPTER XXX.-FINANCE.

- 1.—The general supervision of the financial affairs of the 11-9-93 University shall, subject to the direction and control of the Senate, be entrusted to a Finance Committee, consisting of the Chancellor, the Vice-Chancellor, and four elected Fellows of the Senate, of which number three shall constitute a quorum.
- 2.—The elected members of the Committee shall be chosen 7-8-92 annually by the Senate, and shall remain in office until their successors shall have been appointed. All casual vacancies shall be notified by the Registrar at the next meeting of the Senate, and shall be filled by the Senate as soon thereafter as conveniently may be.
- 3.—The Finance Committee shall meet once a month, and 7-6-92 at such other times as the Senate shall have directed, or when it shall be summoned by the Registrar under the direction of the Chancellor or Vice-Chancellor.
- 4.—The Registrar shall attend all meetings of the Committee, 7-6-62 and shall keep due records and minutes of their proceedings, and shall act generally as executive officer of the Committee. And the University Solicitor may be required by the Committee to attend any of its meetings with reference to the investments or other matters requiring legal advice or assistance.

- 5.—It shall be the duty of the Finance Committee to submit to the Senate, towards the end of each Academic year, an estimate of the expected revenue for the next ensuing year, together with a statement of the proposed expenditure as already authorised by the Senate or apprehended to be necessary, such estimates and expenditure to be arranged under as many heads as shall be convenient. And the Senate shall, as soon after as may be, consider such estimates and pass votes for expenditure during such coming year, which votes shall not be exceeded unless upon special grounds and on the report of the Finance Committee that sufficient funds are available for the expenditure.
- 7-8-92 6.—The Finance Committee shall, as soon as practicable after the close of each Academic year, submit to the Senate a report and a duly audited statement of the accounts and transactions during the past year.
- 7.6-92 7.—The Registrar and Accountant shall present to the Finance Committee in each month a statement showing, with such details and particulars as the Committee shall have required, the full state and condition of the University's financial affairs at that time, and the Registrar shall then inform the Committee of all financial matters proper to be considered at that meeting, and shall produce the Bank Pass Books of the University made up to the preceding day.
- 7-6-92
  8.—The Finance Committee shall once in each month present a report setting forth a pay sheet for the disbursements required for that or the next month, as occasion may arise, in accordance with the general estimates and votes for expenditure for the current year, or with any specific order previously made by the Senate, and also setting forth any other demands which the Committee shall, after enquiry and examination, see reason to submit for allowance and payment in that month.
- 7-8-92 9.—The Finance Committee shall also in each month present to the Senate a report showing the general state and condition of the University's financial affairs, and setting forth all receipts and disbursements since the last preceding report of like character, and shall therein distinguish all loans and repayment of loans from other disbursements and receipts, and the Committee shall, at such meeting and other meetings, promptly report any default in the payment of interest on any investment or in the payment of any principal money which may be due to the University.

- 10.—No expenditure of funds of the University, otherwise 7-6-92 than by way of investment on loan upon the authority of the Finance Committee, with the approval of the Chancellor or Vice-Chancellor, shall be made unless the same shall have been authorised by the Senate.
- 11.—All moneys received on behalf of the University shall 7-6-92 be forthwith paid by the Registrar to the credit of the University at its Bank of deposit, on General or Special Account, as the case may require.

12.—All disbursements of money belonging to the University, 20-9-98 whether the same shall be by way of payment or of investment, shall be by cheque on the University Bank, signed by two members of the Senate and countersigned by the Registrar.

13.—The investment of moneys shall be confined within the 20-9-98 following classes of securities:—

(a) Deposit with the Government of the State at interest, if allowed by the Government for the time being.

(b) Purchase of Debentures or Inscribed Stock, or Treasury Bills, or other form of security issued by the Government of any of the Australian States.

(c) Debentures or other Loan issues of Municipal or other public bodies within this State, having statutory powers to borrow moneys within limits then open, or of any incorporated body or society having such authority and within such limits.

(d) Mortgages of Land and Premises held in fee simple to the extent of two-thirds the estimated value, with sufficient insurance on destructible improvements or articles included in such estimates.

(e) Mortgages of Leasehold Lands and Premises held under leases which will not have less than thirty years to run at the date of expiration of such mortgages, to an extent not exceeding three-fifths of like approved estimates, and with like insurance on destructible improvements or articles.

(f) Deposits at interest in any Bank of the State.

(g) Purchase of Freehold or Leasehold Lands, with or without improvements, provided that no investment under this sub-section shall be made without the special authority after special notice of a meeting of the Senate.

# THE FISHER LIBRARY.

In 1885 the sum of £30,000, or thereabouts, was bequeathed to the University by Thomas Fisher, Esq., "to be applied and expended by the Senate for the time being of the University in establishing and maintaining a Library for the use of the University, for which purpose they may erect a building, and may purchase books, and do anything that may be thought desirable for effectuating the purposes aforesaid."

The Government of the State having decided in 1901 to defray the cost of the erection of a new building at the University, to be called the Fisher Library, the principal money of the Fisher Fund is, by direction of the Senate, to be kept as a perpetual endowment fund for keeping up and adding to the Library.

## REGULATIONS.

- 1. The Library Committee shall consist of the Chancellor, the Vice-Chancellor, the Professors, the Librarian, and such other members as may from time to time be appointed by the Senate. At its first meeting in any year a Chairman shall be elected for the year.
- 2. There shall be an Executive Committee, consisting of the Chairman, two members of the Library Committee elected annually by that Committee, and the Librarian. The Executive Committee shall meet at least once a month. The Chairman of the Library Committee shall be the Chairman of the Executive Committee.
- 3. The Librarian shall have the ordinary management of the Library, subject to the supervision of the Library Committee and the Executive Committee.
- 4. The Library shall be open for purposes of study and the issue and return of books from 9 a.m. till 4.30 p.m. on each week-day, except Saturday, when it shall close at noon. It shall also be open on each week-day during term, except Saturday, from 6 p.m. till 9 p.m., and also in vacation at such times in the evening as may be decided by the Executive Committee.

Provided that the Library shall be closed on Sundays and public holidays, and for the purpose of allowing the Librarian sufficient time to inspect the books, during the first fortnight in the month of January.

- 5. Silence must be observed in the reading-room. Any reader disturbed by a breach of this regulation should bring it to the notice of the Librarian. Readers are required to sit at the tables, and are not permitted to stand about in the reading-room.
- 6. No person shall use ink in the reading-room, except with a fountain pen, without the permission of the Librarian, and then only at the tables assigned for the purpose.
- 7. No person shall be allowed to use or borrow any book until it has been entered in the catalogue and stamped.
- 8. Except as hereinafter provided, no person shall be allowed to take books out of the Library but Fellows of the Senate, Professors and other public teachers in the University, members of the University administrative staff, Graduates and Undergraduates.
- 9. Scholars engaged in special inquiry or research, and other persons who make application and satisfy the Library Committee or the Executive Committee that they are able to use the Library with advantage, shall have the privilege, renewable monthly, of using the Library for purposes of reading and reference, and under exceptional circumstances may have the additional privilege of borrowing books.
- 10. No person shall be admitted to any of the privileges of the Library until he has signed an undertaking to observe and be bound by the regulations of the Library as authorized by the Senate.
- 11. No person, unless he be a Fellow of the Senate or an officer of the University, shall be allowed to borrow any book from the Library, until he has lodged with the University Accountant a deposit of one pound sterling (£1) in security for the due return of books and payment of any fines that may be incurred. The deposit, subject to deductions aforesaid, shall be returned when the borrower no longer wishes to use the Library
- 12. A reading or borrowing voucher for each book must be filled in, legibly and in ink, and deposited with the Librarian. No book may under any circumstances, be taken out of the

Library until a borrowing voucher has been given for it. Any infringement of this regulation shall render the borrower liable to a fine of not less than ten shillings.

- 13. Everyone who borrows any book from the Library shall return it whensoever he is required to do so by the Librarian, and without formal notification must return all books in his possession on or before the last day of Lent and Michaelmas Terms respectively, under penalty of two shillings for every volume, payment of such penalty to become due upon the first day on which the Library is open after the date specified. Each penalty shall be repeated every fortnight till it amounts to twice the value of the book, or till the book be returned, or another of the same edition and equal value be placed in its room.
- 14. No borrower, unless he be a professor or other public teacher in the University, shall be allowed to have in his possession more than three volumes belonging to the Library, except with permission of the Executive Committee.
- 15. Readers or borrowers of books shall be held responsible for any injury, mutilation, or disfigurement by writing or other marks, and shall be required to pay the full value of new copies of such books, and may also be fined or suspended from the privileges of the Library at the discretion of the Library Committee or the Executive Committee. Any defect in, or injury to, a printed book should be pointed out to the Librarian; and readers and borrowers should report at once the loss or injury sustained by any book while in their possession.
- 16. So long as a fine remains unpaid, and so long as any person remains in possession of a book which he is not entitled to retain, the right of the defaulter to the use of the Library shall be suspended and remain in abeyance.
- 17. No book belonging to the Library shall be issued on loan by any person but the Librarian or his accredited representative.
- 18. Rare books, books difficult of replacement, books not sufficiently protected by the binding. unbound parts of works (except periodicals), works of general reference, M.SS., and such other books as the Committee may determine, shall not be lent out of the Library.

- 19. Periodicals shall be issued from the Library only to Public Teachers in the University. Other accredited readers may consult them in the Library. Within one month of the completion of any volume unbound parts must be returned to the Librarian for binding.
- 20. It shall be in the power of the Librarian at any time to withdraw any work from circulation.
- 21. Besides the Library staff, none but Fellows of the Senate, Professors, Lecturers, Assistant-Professors and Assistant-Lecturers shall have the right to enter the book-stack or the periodical room. No person shall enter the stack except in the company of an officer of the Library.
- 22. The Librarian shall be authorised to exclude temporarily any person infringing the regulations of the Library.

## NICHOLSON MUSEUM OF ANTIQUITIES.

Committee of Management—Professor Butler, B.A.; Professor Wood, M.A.; Professor Woodhouse, M.A.; Josiah Mullens, Esq.

Honorary Curator-Professor Woodhouse, M.A.

## REGULATIONS.

- 1.—The Bedell shall have charge of that portion of the building devoted to the Museum, and during the absence of the Curator shall be responsible for the due care of the collection.
- 2.—The Museum shall be open for the admission of visitors every Saturday from the 1st May to the 31st October, from two to five p.m.: and from the 1st November to the 30th April, from two to six p.m. Visitors may also be admitted at any other convenient time when accompanied by a Member of the Senate, or by any Professor or Superior Officer of the University, or by the Curator or the Bedell in charge of the Museum.
- 3.—All visitors to the Museum shall be required to give their names and addresses, which shall be entered in a book to be kept for that purpose.
- 4.—Children under 15 years of age shall not be admitted unless accompanied by older friends.

## MACLEAY MUSEUM.

Committee of Management—The Challis Professor of Biology, the Professor of Geology and Physical Geography.

Curator-G. MASTERS.

In the year 1874 the Hon. Sir W. Macleay, M.L.C., undertook to present to the University of Sydney his collection of Natural History, together with an endowment for the stipend of a Curator, as soon as a suitable building should have been provided for its reception. The conditions attached to this donation were—

1. That the present Curator should be continued in office;

 That the endowment of £6,000 for the salary of a Curator should be used for this and no other purpose; and

3. That the Museum should be made easily accessible to students of Natural History and members of the Linnean Society of New South Wales.

Under these conditions the Senate gratefully accepted Mr. Macleay's gift; and the Parliament having made liberal provision for the buildings required, the collection is now in the University.

# MUSEUM OF NORMAL AND MORBID ANATOMY.

Committee of Management—The Dean of the Faculty of Medicine, The Challis Professor of Anatomy, The Professor of Pathology. Honorary Curator—Professor D. A. Welsh, M.A., B.Sc., M.D.

#### REGULATIONS.

- 1.—The Museum shall be called the Museum of Normal and Morbid Anatomy, and shall be established for the benefit of all the Medical Departments of the University.
- 2.—The Museum shall be under the control of a Committee of Management, to be appointed by the Senate at its first meeting in Lent Term.
- 3.—The Committee shall consist of the Dean of the Faculty of Medicine for the time being, together with two members of the Medical Teaching Staff to be chosen by the Senate.
- 4.—The working Curator shall be under the control of the Committee of Management; and in the second Thurday of each Term he shall transmit to the Dean, for the Senate, a report, to be written in a separate book kept for that purpose, of all the work he has done since the last report.

5.—Requisitions for the expenditure of money in connection with the Museum shall be submitted by the Committee of Management to the Finance Committee of the Senate for its approval.

## UNIVERSITY EXTENSION LECTURES.

SEE ALSO BY-LAWS, CHAP. XXVIII. (PAGE 81).

UNIVERSITY EXTENSION BOARD, 1911.—Members of the Senate: The Chancellor, the Vice-Chancellor, Judge Backhouse, M.A.; Mr. H. C. L. Anderson, M.A.; and Mr. R. Teece, F.I.A. Members of the Teaching Staff: Professors M. W. MacCallum, M.A., I.L.D.: G. Arnold Wood, M.A.; F. Anderson, M.A.; T. W. David, C.M.G., B.A., F.R.S.; W. J. Woodhouse, M.A.; and Mr. F. A. Todd, B.A., Ph.D. Unofficial Members: Rev. A. Harper, M.A., D.D.; Messrs. E. B. Taylor; J. M. Taylor, M.A., LL.B.; R. F. Irvine, M.A.; J. P. Cochrane; H. Y. Braddon; E. S. Edwards, M.A. Secretary: Mr. E. R. Holme, M.A.

DIRECTIONS AND REGULATIONS REFERRING TO LECTURE COURSES.

1.—The Board is prepared to receive and consider applications for courses of University Extension Lectures to be delivered in Sydney, or in any suburb of Sydney or country town.

Applications may be made either by a public institution such as a School of Arts, or by a Home Reading Circle, or by a Committee specially formed for the purpose. They should be addressed to the Secretary of the University Extension Board, the University, Sydney, who will forward a list of available Lecturers and subjects, and give any other information that may be desired. The Board will, as far as possible, consult the wishes of the applicants in the selection of Lecturer and subject, and in fixing the dates of the lectures and the intervals between them.

The courses may be longer or shorter, may be miscellaneous or continuous, and may be delivered by one lecturer or more. In country centres, especially those at a distance from Sydney, courses by a singular lecturer will generally involve smaller travelling expenses. As a rule it will be practicable to supply such centres only with short courses of three or four lectures.

2.—Applicants must undertake to become responsible for the local management and local expenses of the lectures, and for the payment of the charges made by the Board.

The local management undertaken by the applicants will include securing a suitable lecture room, with provision, if possible, of desks or tables for the convenience of such of the audience as may desire to take notes; advertising the lectures;

printing tickets of admission, and arranging for their sale; and providing a room with suitable appliances and supervision for the concluding examination, if such be held.

The local committee will also be responsible for putting up the Lecturer during his stay, either at an hotel or by means of private hospitality.

The charge payable to the Board has been fixed at the rate of £3 per lecture; but if the lectures are delivered in country towns it will be reduced to £2 per lecture. The arrangements for the sale of tickets for the course (including the fixing of their price) will be left in the hands of the Local Committee, which may use the proceeds to defray all the expenses which have been incurred. It is left to the option of the local centre to raise the requisite amount by sale of tickets, by subscription, or by a combination of these methods; but the amount payable, or a satisfactory guarantee for its payment, must be lodged with the Secretary of the Board before the course begins.

- 3.—Every person who attends the course will be supplied with a syllabus containing an analysis of each lecture. The Board will pay for the printing of the syllabus, and will issue copies to the Local Secretary. Each lecture will be of at least an hour's length, and at the close the Lecturer will invite and answer questions and explain difficulties.
- 4. The Local Secretary should make arrangements to obtain accurate statistics of the attendance at each lecture, and immediately after the last lecture the Lecturer should send these statistics to the Secretary of the Board.

Systematic courses of ten lectures and upwards may conclude with an examination, which will be conducted, in consultation with the Lecturer, by an Examiner appointed by the Board, and certificates may be awarded on the results. If an examination is held, the local centre must bear the expense.

# MATRICULATION EXAMINATION.

By-Laws, Chapter X., Sections 5 and 6.

- 5.—All candidates for Matriculation shall be required to pass an examination in the following subjects:—
  - 1. English.
  - 2. Mathematics.
  - 3. Latin, Greek, French or German.
  - 4. One or more of the following, in accordance with the regulations prescribed hereinafter for admission to the several Faculties or Departments:—
    - (a) One or more of the foregoing languages not already taken.
    - (b) Mechanics.
    - (c) History. (i.) English History, (ii.) Modern History.
    - (d) One of the following Science subjects:—(i.) Botany, (ii.) Chemistry (Inorganic), (iii.) Geology, (iv.) Physics, Part I., (v.) Physiology, and (vi.) Zoology.

In all subjects, except Science and Mechanics, there shall be a higher and a lower standard. A pass at the lower standard shall be deemed sufficient except in the cases where the provisions for admission to the several Faculties or Departments, as described in Section 6, expressly state that the higher standard is required. The lower standard in each subject corresponds to the pass standard of the Junior Public Examination. In History, English History is held to be the lower standard subject, and Modern History the higher standard subject. The Examinations in Mechanics and the Science subjects are at the higher standard only.

Candidates must pass in all the subjects of the examination at one and the same examination.

Provided (a) that a candidate who has passed the Junior Public Examination or the Senior Public Examination will be permitted to complete his qualification at the Matriculation Examination in November or March, on the condition that he passes in all the prescribed subjects at not more than two examinations; and

(b) That any person who has passed both the Junior Public Examination and the Senior Public Examination, and who presents one Junior certificate and one Senior certificate showing that he has passed in the whole of the subjects prescribed for matriculation at the required standards in any Faculty or Department may be admitted to matriculation in that Faculty or Department without further examination.

Any person who has passed the Senior Public Examination at one and the same examination in all the subjects prescribed for matriculation in any Faculty or Department may be admitted to matriculation in that Faculty or Department without further examination.

But any candidate who has obtained Honours in one or more subjects of the November Matriculation Examination, without passing the Senior Public Examination, shall be permitted to complete his qualification at the Matriculation Examination in March.

- 6. Candidates for matriculation in one of the several Faculties or Departments, besides passing at either the lower or higher standard in the other compulsory subject or subjects must pass at the *higher* standard in the following subjects according to the Faculty or Department to which they seek admission.
  - (a) Faculty of Arts— Latin, and one other subject.
  - (b) Faculty of Law— Latin, and two other subjects. Candidates must pass in Greek or French or German at the higher or lower standard.
  - (c) Faculty of Medicine and the Department of Dentistry—
    Three subjects, one of which must be Latin, Greek,
    French or German. If Latin be not selected at the
    higher standard it must be taken at the lower
    standard. Candidates must pass Greek or French
    or German at the higher or the lower standard.

- (d) Faculty of Science and the Department of Agriculture—
  Three subjects, one of which must be Latin, Greek,
  French or German.
- (e) Department of Engineering-
  - Mathematics, Mechanics, and one of the following languages:—Latin, Greek, French or German. They shall also be required to pass in a general paper in English, comprising questions in English and Geography.
- (f) Department of Veterinary Science— Two subjects, one of which must be Latin, Greek, French or German.

## REGULATIONS.

An examination for matriculation is held in the beginning of Lent Term (March) in accordance with Chap. x., Sec. 8, of the by-laws.

No candidate will be admitted to this examination unless he make a declaration that, if successful in passing, he intends to pursue his studies in one of the Faculties or Departments.

There shall be an examination at the higher standard in the month of November concurrently with the Senior Public Examination.

## DETAILS OF SUBJECTS.

The details of subjects are as follows:-

## LOWER STANDARD.

- English—Questions on the language generally and on the set book. For students in Engineering, a general paper comprising questions in English and Geography.
  - \*Subjects for March, 1912—(a) For special study, Laureata (Arnold); (b) For general reading, Dickens' Old Curiosity Shop (any unabridged edition). Subjects for composition will be set with reference to (b).
  - \*Subjects for March, 1913—(a) For special study, Ballads, Ancient and Modern (ed. Smeaton, Dent); "Kinmont Willie," "Sir Patrick Spens," "Chevy Chace," "Rosabelle," and then from "The Battle of Agin-

Candidates may present subject (a) or subject (b) of the Higher Standard, instead
of the books set at the Lower Standard.

- court" to the end, also Coleridge "Ancient Mariner" (ed. McWilliam, Dent). (b) For general reading, Scott, "Legend of Montrose" (any unabridged edition). Subjects for composition will be set with reference to (b).
- 2. Latin—Translation from specified books, with questions on language and subject matter. Easy passages will also be given for translation at sight from Latin into English and from English into Latin.
  - \*Subject for March, 1912—Cæsar, Gallie War, Book VII. (Peskett, Pitt Press.), or Compton (Bell).
  - \*Subjects for March, 1913—Cicero pro Archia (Reid, Cambridge), and pro lege Manilia (Wilkins, Macmillan).
  - 3. Mathematics—The examination will consist of two papers comprising questions in Arithmetic, Algebra and Geometry as described below. The examiners may reject a candidate who shows exceptional weakness in any one of the three sections of these papers.
    - (a) Arithmetic.—With respect to the English Tables of Weights and Measures, only those parts which are in general use will be required.
    - (b) Algebra.—Up to quadratic equations with two unknown quantities, ratio, proportion, surds, and simple questions in fractional and negative indices. Questions may be set involving the use of squared paper in simple equations and simple simultaneous equations.
    - (c) Geometry.—For the regulations as to the Geometry paper see Appendix to the Manual of Public Examinations for the year 1911 at page xci. et seq.
  - 4. (a) Greek.—An examination similar to that in Latin.
    - \*Subject for March, 1912—Lucian, Vera Historia (R. E. Yates, G. Bell & Sons).
    - \*Subject for March, 1913—Plato, Apology (ed. J. Adam, Pitt Press).
    - (b) French.—The examination will comprise questions on accidence and syntax, and translation at sight from French into English and from English into French.

Candidates may present one of the authors prescribed at the Higher Standard instead
of this subject.

Candidates will also be required to write a short letter or theme in French on some simple subject of which they may be all expected to have some knowledge.

Candidates are recommended to read about 250 pages of modern French prose. No special books are prescribed, but some such as appear in the following list will be found suitable:— De Maistre, Voyage autour de ma chambre: Souvestre, Le Serf; Desnoyers, Les Mésaventures de J.-P. Choppart; Perrault, Contes de Fées; Erckmann-Chatrian, Le vieux Tailleur; Töpffer, Le Col d'Anterne; Vigny, La canne de jone; George Sand, La petite Fadette; Mérinée, L'Enlèvement de la Redoute.

(c) German.—An Examination similar to that in French, including free composition in German.

Candidates are recommended to read about 200 pages of modern German prose. No special books are prescribed, but some such as appear in the following list will be found suitable:—Grimm, Fairy Tales: Hauff, Das Wirthshaus im Spessart; Goebel, Rübezahl; Storm, In St. Jürgen; Baumbach, Waldnovellen; Arnold. Aprilwetter; Hoffmann, Heute mir, Morgen dir; Campe, Robinson der jüngere; Seidel, Die Geschichte des jungen Herrn Anton; Zoschke, Der Zerbrochene Krug.

(d) English History.—The History of the British Empire-The paper will be divided into two parts, A. and B.

A.—Outline of the History of the British Empire from 1485 to the present time.

B.—A special subject.

Subject for March, 1912—The Expansion of the British Empire.

BOOKS RECOMMENDED.—Woodward's Outline History of the British Empire (Cambridge Press), 1/6; or Woodward's Expansion of the British Empire (Cambridge Press), 4/-; or Jose's Growth of the Empire, 4/6.

Subject for March, 1913—The History of Australia. Books Recommended.—Jose's History of Australia, 2/6.

## HIGHER STANDARD.

 Higher Latin.—Translation from specified books, with questions on language and subject matter. Translation at sight from Latin into English, and from English into Latin.

- Subjects for November, 1911, and March, 1912—Sallust, Jugurtha to the end of Chapter 86 (Summers, Cambridge, or Capes, Oxford); Cicero, pro Archia (Reid, Cambridge); Virgil, Æneid, Book II. (Sidgwick, Pitt Press, or Page, Macmillan).
- Subjects for November, 1912, and March, 1913—Cicero, The Fourth Verrine, to the end of Chapter 55 (Hall, Macmillan), Horace, Odes, Book I. (Page, Macmillan)
- Higher English.—Questions on the structure and origin
  of the language; on the derivation and the meaning
  of words; on idioms and usages. Composition.
  Questions on a set subject.
  - Subjects for November, 1911, and March, 1912—(a) Shakespeare, King Lear (Warwick Edition); (b) English Odes (Ed. Marsh, Bell).
  - Subjects for November, 1912, and March, 1913—(a) Shakespeare, Macbeth (Warwick Edition); (b) Representative English Poems (ed. Brett, Macmillan) from Johnson to Browning, inclusive, omitting "Rabbi ben Ezra."
- 3. Higher Mathematics.—The examination will consist of two papers comprising questions in Algebra, Geometry and Trigonometry as described below. The examiners may reject a candidate who shows exceptional weakness in any one of the three sections of the papers.
  - (a) Algebra, including the three progressions, the binomial theorem for a positive index, and the properties and use of logarithms.
  - (b) Geometry, including Mensuration. The regulations for this subject are the same as those for the Geometry Paper in the Senior Public Examination, omitting Schedules C and D.
  - (c) Plane Trigonometry up to solution of triangles.
- 4. Higher Greek.—An examination similar to that in Higher Latin.
  - Subjects for November, 1911, and March, 1912—Thucydides, Book IV., Chaps. 1-81 (Ed. Graves, Macmillan); Euripides, Andromache (Ed. G. Norwood, Murray).

- Subjects for November, 1912, and March, 1913—Herodotus, Book V (ed. Shuckburgh, Pitt Press); Euripides, Alcestis (ed. Hadley, Pitt Press).
- Higher French.—An examination similar to that in Higher Latin; along with free composition in French.
  - Subjects for November, 1911, and March, 1912—(a) Feuillet, Le Roman d'un Jeune Homme Pauvre (Clarendon Press); (b) Du Pontet, Poèmes Choisis (Arnold).
  - Subjects for November, 1912, and March, 1913—(a) Balzac, César Birotteau (Clarendon Press); (b) La Fontaine, One hundred fables (Ginn & Co.).
- 6. Higher German.—An examination similar to that in Higher Latin, along with free composition in German.
  - Subjects for November, 1911, and March, 1912—(a) Freytag, Soll und Haben (abridged edition, Files, Heath's Modern Language Series); (b) Goethe, Hermann und Dorothea (Blackie's Little German Classics); Sudermann, Teja (Heath's Modern Language Series).
  - Subjects for November, 1912, and March, 1913—(a) Frenssen, Gravelotte (ed. Heller, Ginn & Co.); Goethe, The Road to Italy (Blackie's Little German Classics); (b) Ballads, illustrating German History (ed. Wagner, Cambridge, University Press).
- 7. Mechanics.—The elements of Statics and Dynamics.

The course of study for this paper is the same as that for the corresponding subject in the Senior Public Examination.

8. One of the following Science subjects-

# A-BOTANY.†

- 1. The general structure and physiology of plants.
- 2. The characteristic features of the following classes:—Fungi, Algæ, Muscineæ, Filicineæ, Gymnospermeæ, Angiospermeæ.
- 3. The leading characteristics of the following orders of flowering plants:—Ranunculaceæ, Cruciferæ, Rutaceæ, Malvaceæ, Leguminosæ, Labiatæ, Epacrideæ, Casuarineæ, Myrtaceæ, Umbelliferæ, Proteaceæ, Compositæ, Liliaceæ, Orchidaceæ, Graminaceæ. Candidates may be required to distinguish examples of these orders

<sup>†</sup> All candidates taking Science subjects must produce note-books certified to on each page by their science teacher, and in the last page by their head teacher, or by some person approved by the Senate, as evidence of having performed a satisfactory course of practical work.

- 4. Candidates will be required to submit note-books with each page duly attested by their science teacher, and with a voucher for the whole on the last page by their head teacher or some person approved by the Senate, showing:—
  - (a) That they have practically studied the structure of the flower and the fruit in one example at least of each of the orders enumerated above.
  - (b) That they have themselves performed or had demonstrated to them the experiments described under Section XV. (b) of the Junior Public Examination.
  - (c) That they have studied under the microscope (i.) Mucor (see Dendy & Lucas, pp. 33-38); (ii.) Pteris (rhizome, frond and sporangia), Dendy & Lucas, pp. 57-67, pp. 68, 69 and pp. 72, 73; (iii.) Vicia (stem and leaf), Dendy & Lucas, pp. 95-100 and 101.
  - BOOKS RECOMMENDER.—J. W. Oliver's Elementary Botany (Blackie and Son); and Dendy & Lucas's Introduction to the Study of Botany (Melville & Mullen). For the practical instructions teachers are recommended to consult Bower and Gwynne-Vaughan's Practical Botany for Beginners (Macmillan).
- B.†—INORGANIC CHEMISTRY.—The more important elements and their principal compounds.

The periodic arrangement of the elements should be used as a basis for the detailed study of the elements and their ompounds.

With regard to the metals, candidates should have a know-ledge of the most important naturally-occurring compounds. A knowledge of the methods by which the metal (if the metal itself is of importance) and its chief compounds are made from the naturally-occurring compounds is necessary, but details of metallurgical processes will not be required. The chief states of oxidation of each metal, corresponding to the different salts, should be known, and the properties of important salts.

## · Practical Work.

QUANTITATIVE ANALYSIS.—Preparation and use of decinormal solutions of acids and alkalies; preparation and use of

<sup>†</sup> All candidates taking Science subjects must produce note-books certified to on each page by their science teacher, and in the last page by their head teacher, or by some person approved by the Senate, as evidence of having performed a satisfactory course of practical work.

deci-normal solution of potassium permanganate and similar volumetric estimations. Estimation by gravimetric analysis of one or more of the following:—Copper in copper sulphate, silver in silver nitrate, chromium in potassium bi-chromate, calcium in calcium chloride, mercury in mercuric chloride, and barium in barium chloride.

QUALITATIVE ANALYSIS.—Analysis (using both dry and wet reactions) of simple salts containing the following metals and acids:—Lead, silver, mercury, copper, bismuth, cadmium, arsenic, antimony, tin, iron, aluminium, chromium, zinc, manganese, cobalt, nickel, barium, strontium, calcium, magnesium, potassium, ammonium and sodium; sulphuric, hydrochloric, nitric, carbonic, phosphoric, sulphurous, boric, hydrobromic and hydriodic acids. Special stress should be laid on the reasons for each step in the analytical process.

Text Books Recommended.—Newth's Inorganic Chemistry (Long-mans), or similar book; Newth's Chemical Analysis, or similar book.

BOOKS RECOMMENDED TO TEACHERS.—Ostwald's Principles of Inorganic Chemistry (Macmillan); Alexander Smith's Inorganic Chemistry (by Bell & Sons).

C.†—Geology.—Candidates will be expected to show a knowledge of the same divisions of this subject as those required for the Junior Examination but at a higher standard. Stratigraphy and Palæontology, however, should be studied in greater detail than for the Junior, and knowledge of a few characteristic fossils of the different Geological systems will be required. Candidates will be asked to name and classify the specimens placed before them of common rocks, rock-forming minerals and fossils. Candidates should also be taught elementary field mapping.

All candidates must submit note books certified to on each page by their science teacher, and on the last page by the head teacher, or some person approved by the Senate, containing the results of original observations in the field and laboratory.

These books should contain matter similar to that required from Junior candidates (Manual, p. cv), with the addition of:—

Description of fossils, and of recent organisms of types which occur as fossils, when such fossil types cannot be obtained.

<sup>+</sup>See note on page 100.

Geological sketch maps, or traverses, and geological sections, of at least one area studied in the field.

Work already submitted for a Junior Examination may be re-submitted for the Senior, but must not make up more than fifty per cent. of the work sent in.

- BOOKS RECOMMENDED.—Elementary Physical Geography, Professor Davis; Geology for Beginners, W. W. Watts (or Students' Elements of Geology, by Lyell, Second Edition, by Judd, 1896. This is somewhat more comprehensive than Watts); Volcances, Professor Judd.
- FOR REFERENCE.—Chamberlin & Salisbury, Geology, in 1 vol.; or Geikie, A Text.book of Geology, 2 vols. These books are not essential, as they are too expensive for most students. Teachers will obtain much help from them. A fine book, at a much more moderate price, is Geikie, J., Structural and Field Geology.
- D—Physics (Part I.)†.—Elementary Mechanics††, the Properties of Matter, Sound, Heat, Light, and the Elements of Electricity and Magnetism.††
  - Elementary Mechanics†† and Properties of Matter.— Kinematics, simple harmonic motion, elements of statics, including hydrostatics and pneumatics, dynamics, including elasticity and hydraulics, surface tension.
  - Sound.—Waves and wave motion, resonance, production and propagation of sound, reflection, interference, pitch, quality, musical scale and musical instruments.
  - Heat.—Thermometry, calorimetry, transfer of heat, expansion, change of molecular state, nature of heat, elements of kinetic theory of gases.
  - Light.—Propagation, speed, reflection, refraction, dispersion, interference, diffraction, double refraction and polarisation, optical instruments.
  - Electricity and Magnetism.††Magnets, the earth's magnetic field, magnetic induction charge, potential capacity, production of currents, elementary measurements, chemical, heating and magnetic effects of currents.
  - BOOK RECOMMENDED.—Crew's General Physics (The Macmillan Co.), or Watson's Text-book of Physics.
  - BOOKS RECOMMENDED TO TEACHERS.—Poynting and Thomson's Text Books.

Note.—Each candidate will be required to produce a laboratory note book, or note books, containing his original records and reductions of practical work. For candidates who have passed the Junior Examination in Physics, since 1909, the laboratory work must include at least twenty-five independent quantitative experiments distributed over the sections of the syllabus of the theoretical examination, and must be of a more advanced character than that required for the Junior Examination. In the case of all other candidates the practical work must include, in addition, twenty experiments as required for a Junior Examination.

Each page of the notebooks must bear the initials of the science teacher, and the last page the signature of the head teacher, or some person approved by the Senate, as evidence that the practical work has been performed by the candidate.

E-Physiology.†—The Elements of Animal Physiology.

Book recommended.\*—Manual of Human Physiology, Leonard
Hill, M.B. (Edward Arnold).

F-Zoology.†-

1. The general structure and life-history of animals.

2. The characteristic features of the following phyla and classes:—Phylum Protozoa (classes Rhizopoda and Infusoria); Phylum Cœlenterata (classes Hydrozoa and Actinozoa); Phylum Platodes (classes Trematoda and Cestoda); Phylum Echinodermata (classes Asteroidea and Echinoidea); Phylum Annulata (class Chætopoda); Phylum Arthropoda (classes Crustacea and Insecta); Phylum Mollusca (classes Pelecypoda, Gastropoda and Cephalopoda); Phylum Chordata (classes Pisces, Amphibia, Reptilia, Aves, Mammalia.)

3. Candidates will be required to submit note-books with each page duly attested by their science teacher, and with a voucher for the whole on the last page by their head teacher or some person approved by the Senate, showing that they have studied practically the structure of the following animals:—Paramœcium or Vorticella; the Liver Fluke; the Fresh-water Crayfish (Astacopsis) or Sea Lobster (Palinurus),

the Snail or the Fresh-water Mussel, the Frog.

BOOK RECOMMENDED\*—Parker and Haswell's Manual of Zoology (Macmillan), with the omission of Section I., (ii. and iv.), Section III., Section IV. (ii. and iv.), Section V. (ii. and iv.), Section VI., Section VIII., Section VIII., Section IX. (ii.), Section X. (ii., iv. and v.), Section XI. (ii.)

<sup>\*†</sup>See note on page 100.

Section XII. (pages 310-326). For practical directions teachers are recommended to consult Marshall and Hurst's Practical Zoology (Smith, Elder & Co.), or Huxley and Martin's Elementary Practical Biology (Macmillan), or Parker and Parker's Practical Zoology (Macmillan).

# 9. Modern History.—

Subject for November, 1911, and March, 1912—The History of Western Europe from the German invasions and the break-up of the Roman Empire.

BOOKS RECOMMENDED.—Robinson's History of Western Europe (Ginn & Co.); Robinson's Readings from European History, abridged edition (Ginn & Co.), 8/6.

Subject for November, 1912, and March, 1913—The History of Modern Europe from 1643 to the present time.

BOOKS RECOMMENDED.—Robinson and Beard's Development of Modern Europe (Ginn & Co.); Robinson and Beard's Readings in Modern European History (Ginn & Co.).

# HONOURS AT MATRICULATION.

The Examination for Matriculation Scholarships and Honours, for candidates intending to enter the University in March, takes place in the previous November, concurrently with the Senior Public Examination. All candidates for the Senior Public Examination may compete for Matriculation Scholarships and Honours upon giving due notice of their desire to do so. Those who wish to compete for Scholarships and Honours in special subjects, without entering for the Senior Public Examination, may do so upon payment of the Matriculation fee of two pounds; and if they have not already passed an examination which qualifies for Matriculation, they may attend the Pass Matriculation Examination in the following March, without paying an additional fee. Candidates who gain Honours in any subject in November are exempt from taking the corresponding pass paper in the following March. Honours are awarded in Latin, Greek, English, French, German, and Mathematics.

## SCHOLARSHIP FOR GENERAL PROFICIENCY.

The Scholarship for General Proficiency will be awarded to the candidate who shows the greatest proficiency in not more than ten of the following twelve subjects:—(i.) English, (ii.) Latin, (iii.) Greek, (iv.) French, (v.) German, (vi.) Algebra, (vii.) Geometry and Mensuration, (viii.) Trigonometry, (ix.) (a) Mechanics or (b) Conic Sections, (x.) Ancient History, (xi.) Modern History, (xii.) One Science subject.

#### LANGUAGES.

The specified books will be the same as those set for the Matriculation Examination subjects at the higher standard.

LATIN.—Translation from specified books, with questions on language and subject matter. Translation at sight from Latin into English, and from English into Latin. The Examination will include questions on Roman History; and questions may be asked on any subject included under the study of the Latin language and literature.

History of Rome, from the Tribunate of Tiberius Gracchus to the Battle of Actium (B.C. 133 to 31).

GREEK.—An Examination similar to that in Latin.

History of Greece, from the Archonship of Solon to the end of the Peloponnesian War (B.C. 594 to 404).

- English. Examination on specified books; also a paper containing questions on English Literature generally, with special reference to its great movements and chief representations. The best outline of the subject will be found in Stopford Brook's "Primer of English Literature." Fuller details are supplied in books like Gosse's "Modern English Literature." But candidates are recommended to read illustrative extracts for themselves. A good selection is contained in Stobart's Epochs of English Literature (Arnold.)
- French and German.—Translation from specified books, with questions on language and subject matter. Translation at sight from French and German into English, and from English into French and German; also a paper including questions on Grammar, Philology, Literature, Phonetics and other subjects connected with the study of Modern Languages.

#### MATHEMATICS.

The Honour papers in Mathematics will be the papers in Algebra, Geometry, Trigonometry, Mechanics or Conic Sections of the Senior Public Examination.

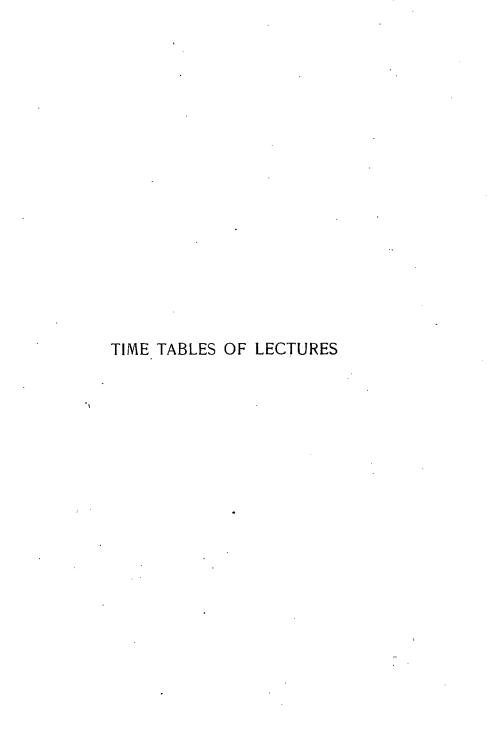
Candidates will be provided with Barraclough's Four Figure Trigonometrical Tables (Angus & Robertson, 6d.) for use in the Algebra and Trigonometry papers.

# PRELIMINARY EXAMINATION FOR ARTICLED CLERKS.

Preliminary Examinations for Articled Clerks are held at the University in the months of April and November, commencing on the first Monday in April, and the second Monday in November. The notice for this examination, accompanied with the fee, £5 10s. 6d., should be sent to the Secretary of the Solicitors' Admission Board, at the Supreme Court, Sydney. Such notice must contain the full name and address of the candidate, and also his place of education or teacher's name. Every candidate should also state which of the optional subjects (Greek, French or German) he proposes to take.

The subjects of examination are—(1) English; (2) Latin; (3) Mathematics (three papers, Arithmetic, Algebra and Geometry); (4) Greek or French or German, as prescribed for the Lower Standard of the Matriculation Examination.

The stated subjects of the Examinations to be held in November, 1911, and April, 1912, will be the same as those prescribed for the Matriculation Examination of March, 1912, and so on in future years.



# FACULTY TIME TABLE

Laboratory practice is

Reference Number	Subject.					L	ENT TER	М.	
SYNOPSES.					Mon.	Tu.	w.	Th.	Fri.
37	Chemistry I				11,2-5		11,2-5		11,2-5
36	§Physics I.	:.		• • •		12, <b>2–5</b>		12, 2-5	· · · .
50	Biology I	• •		٠. ٠	9, 2-4	9	9, 2-4	9	9, 2-4
38, 44	**Geology I	:-		<u></u>	<u></u>	_11		11	
1	§§Latin I				9		9		9
3	††Mathematics I.			٠.	10	10	10	10	10
1	‡Greek I.	• •	•	• •	11		11		11
2	‡English I	• •			12		12	•:	12
2	‡French I.	••		٠.	1	9		9	10
2	‡†German I.	• •		٠.	11	· :	11	· · ·	11
6 4	History I Philosophy I	• •		• •		$\frac{3}{2}$	• • • • • • • • • • • • • • • • • • • •	3	$\frac{3}{2}$
1	‡‡Latin II. and III.	• •		٠.	10	10	10	10	10
1	Greek II. and III.		4	٠.	9	9	9	ō	9
3	Mathematics II.	• •		• •	9	9	9	9	9
2	English II. and III.	• •		• •	11	::	11	11	::
$\begin{array}{c} 2 \\ 2 \end{array}$	French II. and III.	• •		• •	12	11	• •	12	11
6	the transfer of the transfer o	• •		• •	• • •	9	9	٠.	9
4	History II. and III.	• •		٠	••	2	::	2	2
5	Philosophy II. and III. Education			• •	2	12 12	12	2	12
37	Chemistry II	• •		• •		12, <b>2-5</b>	• • •	12, <b>2</b> -5	٠٠.
36	Physics II	• •		•	2-5	12,2-0	• •	10	2-5
39, 45	GeologyIL	• •		• •	12	9	12	9	2-0
50	Biology II	• •	•	•		11,2-5		11,2-5	• • •
17	Physiology I				2–5	(1, 0		2–5	
9	†Roman Law				12-20		• • •	12-20	(
10	†Constitutional Law				• • •	12-20	••	•••	12-20
8	†Jurisprudence					¶11-20	11-30		
11	†International Law					¶11-20			
3	Mathematics III.				11	11	11	11	11
50	Biology IIIA				2-5	1 r	2-5	11	2-5
50	Biology III.—B								
16	Introductory Anatomy				[				••

<sup>†</sup> Or at other times to be arranged 
† Honour classes will be arranged at other times.

¶ Alternate weeks. † The Practical work in Physics will be held in three divisions, A 2-5 on Tausdays, B 2-5 on Thursdays Lent and Michaelmas Terms, C 2-5 Tuesdays and Thursdays Trinity Term. \*\* Practical two hours a week for two terms at times to be arranged. †† Classes A and B meet also at 10 on Friday. †† Honours Class, Monday, 2 to 3 p.m. †† Latin III., Honours Class, 12 noon to 1 p.m. Wednesdays.

OF ARTS. OF LECTURES.

indicated by block type.

Reference Number		Tri	міту Те	rм.			Місн	ARLMAS	TERM.	
Synopses.	Mon.	Tues.	Wed.	Thur.	Fri.	Mon.	Tues.	Wed.	Thur.	Fri.
37 36 50 38, 44	11  9	12, <b>2-5</b>	11  9	12, <b>2</b> -5	11  9	11 2-4	12, <b>2</b> -5	11  	12, 2-5	11 2-4
1 3 1 2 2 2 2 6 4	9 10 11 12 1 11 	10  9  3 2	9 10 11 12  11 3	10	9  11 12 10 11 3	9 10 11 12 1 11	10  9  3 2	9 10 11 12  11 3	10	9 11 12 10 11 3 2
1 1 3 2 2 2 2 6 4 5 37 36 39, 45 50 17 9 10 8 11 3 50 50 16	10 9 9 11 12  12 2-5 12-20  11 2-5	10 9 9 11 9 12 12 12, 2-5 10 9 11, 2-5 12  12-20 ¶11-20 ¶11-20 ¶11-20 11		10 9 9 11 12  2 12, 2-5 10 9 11, 2-5 12 2-5 12-20	10 9 9 11 9 2 12  12 2 12  12–20 	10 9 9 11 12  2-5 12 2-5 12-20  11	10 9 9 11 9 2 12 12, 2-5 10 9 11, 2-5 12  12-20 ¶11-20 ¶11-20 11 		10 9 9 11 12  2 12, 2–5 10 9 11, 2–5 12–20  11	10 9 9 11 12 12 2-5  12-20  11 2-5 9

Science Courses III. as in Science Time Table.

# FACULTY TIME TABLE

ENCE SR 10		LENT TERM.							
REFERENCE NUMBER 10 SYNOPSES.	Зивјест.	М.	Tu. W. Th.  4-5 4-5 5-5	F.					
10 9 12	* FIRST YEAR. Constitutional Law Roman Law Status, Contracts, Torts and Crimes	4-5 5-5		•••		  55			
8 11 13	SECOND YEAR. Jurisprudence Public International Law The Law of Property, Conveyancing and Interpretation.	9			•••	4-5  9			
11 14 15	THIRD YEAR. Private International Law Procedure, Pleading & Evidence Equity and Company Law, Bank- ruptcy. Probate and Divorce	4-5 5-5		 4-5 5-5	•••	4-5 5-5			

<sup>\*</sup> The first two years of the course are the same as in the Faculty of Arts. † In alternate weeks.

Note.—This time table is subject to revision.

OF LAW. OF LECTURES.

Reference Number		TR	іліту Т	ern.		Michaelmas Term.					
TO Synopses.	М.	Tu,	w.	Th.	F.	М.	Tu.	w.	Th.	F.	
10 9	 4-5	4–5 	••	45 5-5		 4-5	4-5	•••	4-5 5-5	` 	
12	5-5	<u>···</u> _	5-5		5-5	5-5		5-5	<u></u>	5-5	
. 8		 5–5	†4-5 †4-5		4–5		5-5	†4-5 †4-5	• •	4-5	
13	9	<u></u>	9		9	9		9		9	
. 11	 4–5		 4–5	9	 4–5	 4-5	••	 4–5	9	 4–5	
<b>1</b> 5	5-5		5–5		5-5	5-5		5~5		5-5	

# FACULTY OF

### TIME TABLE

Laboratory Practice is

ENCE SR TO PSES.			L	ENT TEE	ам.	
REFERENCE NUMBER TO SYNOPSES.	Subject.	М.	Tu.	w.	Th.	F.
	FIRST YEAR.					
50	Biology I	9	9	9	9	9
37	Chemistry I	11	1	11		11
36	Physics I	10	12		12	10
50	Physics I	2-4	10-12	2-4	10-12	2-4
37	Practical Chemistry*Practical Physics (A and B)					•••
36	*Practical Physics (A and B)		2-5		2-5	
16	Human Anatomy (Introductory)	• •		• •	••	••
	SECOND YEAR.					
16	Descriptive Anatomy	9	9	9	9	9
17	*Experimental Physiology (A and B)					
17	Physiology					
17	Physiology *Physiological Chemistry (A and B)					
16	Dissections-daily		1		١	
17	Dissections—daily * Practical Histology (A and B)	2-5	2-5	• •	2-5	2-5
	THIRD YEAR.					
17	Physiology	10	10	10	10	10 .
16	Regional Anatomy	11	11	11	11	11
17	*Pharmacology (A and B)					
16	Dissections—daily during Lent and			i	İ	
	Trinity Terms					۱
18	Pathology and Bacteriology					۱
19	Surgery					
22	*Hospital with Tutorial Surgery		1 1		۱	l

<sup>\*</sup> Divided into two sections, A and B, which meet alternately

MEDICINE.

## OF LECTURES.

indicated by block type.

Reference Number		Tri	NITY TE	RM.			Місня	AELMAS (	Генм.	
TO Synopses.	М.	Tu.	W.	Th.	F.	М.	Tu.	w	Th.	F.
50 37 36 50 37 36 16	9 †11 10  †2-5	12 <b>2-4</b> 	9 11  2-5	 12 <b>2-4</b> 	9 11 10  2-5	11 10	 12  <b>2-5</b> 9		 12  <b>2-5</b> 9	11 10 
16 17 17 17 16 17	9 <b>2-5</b> 10 	9 <b>2-5</b> 10 	9 10	9 2-5 10 	9 <b>2-5</b> 10 	10 2-5	10 2-5	 10 	 10 <b>2-5</b> 	10 2-5
17 16 17	12 9-12	12 9-12	12 	12 9-12	12 9-12	••		••		••
16 18 19 22						9-12.45 1.45	9-12.45 1.45	9-12.45 1.45	9-12.45 1.45	9-12.45 1.45

For Fourth and Fifth Years see next page.

 $\dagger$  A section of these classes in Triuity Term may meet at another time to be arranged in Lent Term.

FACULTY OF TIME TABLE

REFERENCE NUMBER TO SYNOPSES.			L	ent Ter	м.	
REFE NCMB Syno	SOBJECT.	rial and Practical Pharmacy hology and Bacteriology 11-12.30 ial Pathology 11-12.30 ery 1.30 2.30 2.30 2.30 2.30 2.30 2.30 2.30 2	Tu.	w.	Th.	F.
30	Materia Medica and Therapeutics					••
18		11-12 30	11-12.30	11-12.30	11-12.30	11-12.30
18	Special Puthalows	l	,,			
19			1.30	1.30	1.30	1.30
20	Surgical Anatomy & Operative Surgery.		2.30	2.30		2.30
21	Hospital, with Clinical Surgery, etc.		\$8.30- 10.30	\$8.30- 10.30	‡8,30- 10.30	\$8.30- 10.30
23	Medicine					
26						• • •
25	Out Potionts					
23			9.30	9.30	9.30	9.30
27		8.30	8.30	8.30	8.30	8.30
28				•••	•••	•••
29	1 2 2 2			••	• • •	• • •
$\frac{31}{32}$	Dia (4) - D		•••	••		• • •
65	# 1 To		· · ·		٠٠.	• • •
33	Diseases of Uniden Diseases of the Ear, Nose, and Throat	• • •	•	٠٠.		• • • • • • • • • • • • • • • • • • • •
34	Diseases of the Skin	l ::	· ::	::	· ::	
24	†Hospital, with Tutorial and Clinical		::	::	::	::
	Medicine	11-5	11–5	11-5	11-5	11-5

¶ To commence after the course in Public Health. †Continued throughout the long vacation until the Final Degree Examination in March.

MEDICINE.

## OF LECTURES.

REFERENCE NUMBRR TO SYNOPHES.		TR	INITY TE	RM.		Michaelmas Term.					
REFEI NUMB SYNO	М.	Tu.	w.	Th.	F.	М.	Tu.	w.	Th.	F.	
30	12.30	12.30	12.30	12.30	12.30	10.30§	10.30ş	10.30§	10.30§	10.30§	
18										••	
	‡8.30- 10.30	‡8.30- 10.30	‡ 8.30- 10.30	‡8.30- 10.30	‡8.30- 10.30		••				
23 26	•••		••			9.30 8.30	9.30 8.30	9.30 8.30	9.30 8.30	9.30 8.30 <u>2</u>	
25				<u></u>		11-5	11-5	11-5	11-5	11-5	
28 29	8.30 8.30	8.30 8.30 	8.30 8.30 	8.30 8.30 	8.30 8.30 		::				
24	10-5	10-5	10-5	10-5	10-5	9-5	9-5	9-5	9-5	9-5	

<sup>¿</sup>Two hours one day a week for each student. ‡ And afternoon.

<sup>\*</sup>In Long Vacation of 4th Year.

## DEPARTMENT TIME TABLE

REFERENCE NUMBER TO STNOPHER.	SUBJECT.			L	ENT TE	RM.	
NUMB Syno	SUBVECT.		М.	Tu.	w.	Th.	F.
	FIRST YEAR.	_		J			
16	Elementary Anatomy		• •		• •		
16	Anatomy of Teeth	• • •	::		• •		::
36	Physics and Practical Physics		10	1			10
37	Chemistry and Practical Chemistry	-{	11-1	12.15	12.15	12.15 10-12	11-1
37	Practical Metallurgy			1			
16	Dissections (2 terms)			1		::	i ::
35	Mechanical Laboratory		2-5		2-5		2-5
		··	(- <u>-</u>	{- <del></del>		·{	_ <del></del> -
30	Materia Medica					į	
17	T011.	٠, .			• • •	}	• • •
17	Thurston   Title 4-1	• •	• • •	2-5	• •		2-5
17	Experimental Physiology	• • •	• •	1	• •		
35		• • •		1	5		٠٠.
35	Mechanical Dentistry	• •	5	1		5	• • •
16	1 10 1	• •	9-11	9-1	9_11	9-1	9-11
16	The second of th	• • •	11		11	1 :	11
10	Danidal III amidal	• •	2~5	1 ::	2-5	2-5	
	/	—·ˈi					<u> </u> -
17	THIRD YEAR. Physiology		10	10	10	10	10
17 <b>3</b> 5	Control of The Abstract	• • •	8.30	1 - 1	10	8.30	
	lae a la l	• •	i		8.30	1	• •
35 18	Mechanical Dentistry Practical Pathology and Bacterio		• • •		0.30	•••	• •
19	/-14						
19	1 0	• • •	• • •	} }	••		• •
19	T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• • •	2-5	2-5	2-5	2-5	2-5
	·	'		-2-0			<u> </u>
••	FOURTH YEAR.	- 1	1 00	1 200	1 00	1 00	1 00
19	Surgery	•••	1.30	1.30	1.30	1.30	1.30
	Anæsthetics	• • •	• • •	) ·· )	• •		• •
	Special Clinical Courses—	ł		,		1	
	(a) Medicine	• •	• •	3	• •	3	٠.
	(b) Surgery	•••	10.5	10.10	10.4		10.5
10.	Dental Hospital		10-5	10-12	10-4	10-12	10-5 11
18	Pathology Special Dental Clinics	}	11	11	11	11	-
	Special Dental Clinics	•••	··	<u> </u>	4	<u> </u>	<u>:-</u> _
				TIM	E TA	BLE	FOR
30	Materia Medica	- 1		1	_		
37	Practical Chemistry		10-1	10-12	• • •	10-12	10-1
37	O):(T			12.15	12.15	12.15	10-1
50 l	Datama		• •	14.10	14.10		• •
37	Chemistry (Organic)		• •		••		••
01	Onomiser (Organic)						• •

Pharmary students are required to take the Chemistry course in two stages, in the following Organic Chemistry and Practical Organic Preparations. Both stages may be taken in one

OF DENTISTRY. OF LECTURES.

Or 1	INOT O	ILEIS.								
ENCE KR TO 'SER.		TR	іміту Теі	RM.			Місп	ARLMAS	TERM.	
REFERENCE NUMBER TO SYNOPERS.	М.	Tu.	w.	Th.	F.	М.	Tu.	w.	Th.	F.
16 16	10		10		10	11		11		11
36		12, 2-5	• •	12, 2-5		iò	iż	1	12	10
37 37	} 11	٠٠,	11		11		2		2	<b></b>
37	,				l	<u> </u>	3-5		3-5	l
16	2-5	9-12	2-5	9-12 2-5	2-5	9-11 2-5	9–11	9-11 2 5	9-11	9-11
35_	<u> </u>			2-3	<u> </u>	2-0		2 3		2-5
30 17	10	10	10	10	10	9 10	10	9 10	10	9 10
17		2-5	••		2-5	•••		• • •		
$\frac{17}{35}$	••	2-5	5	::		.:	::	5		::
35	5			5	 9-12	5		• • • •	5	
16 16	9-12	9-12	9–12	9–12	9-12	::	::-	• • •	i ::	
	2-5		2-5	2-5		2-5	2-5	2-5	2-5	2-5
17				j						
35	8.30		• •	8.30	::	8 30	••	• • • • • • • • • • • • • • • • • • • •	8.30	
35			8.30			.		8.30		
18 18						11	11	11	11	11
19						1.30	1.30	1.30	1.30	1.30
!	10-5	10-5	10-5	10-5	10-5	2-5	2-5	2-5	2-5	2-5
19	'						1			
		• •	• •	• •			•••	٠		
		3				·	3			
		ا ۱۰۰۰ ا		3		10.5		1	3	
18	10-5 11	10-12 11	10-4 11	10-12 11	10-5 11	10-5	10-12	10-4	10-12	10-5
			4	٠	<u> </u>			4		<u> </u>
PHAI	RMAC	Y STU	DENT	'S.			•			
30						10	9	10	10	10
37		10-1		10-1			10-1			• •
37 50	11 9		11 9		11 9	.:	••			• •
37						ii		ii	::	11

order: — Inorganic Chemistry and Practical Chemistry, including Volumetric Analyses; year. The whole Chemistry Examination must be taken at one time.

FACULTY
TIME TABLE
Laboratory practice

REFERENCE NUMBER TO	Subject.			I	ent Ter	м.	
Synopses.			М.	Tu.	W.	Th.	F.
37 3 50 36 38, 44	Chemistry I Mathematics I Biology I Physics I. Geology I		11 10 9, 2-4	10 9 12 11	11 10 9, 2-4	10 9 12 11	11 10 9, <b>2-4</b>
37 36 50 39, 45	Chemistry II Mathematics II Physics II Biology II. Geology II Physiology I	••	9 <b>2–5</b>  12 <b>2–5</b>	12, <b>2</b> –5 9 10 11, <b>2</b> –5 9	9	12, 2–5 9 10 11, 2–5 9 2–5	9 2–5 
3 43, 49 50 37 36 17	Mathematics III Geology III. Biology III. Chemistry III. Physics III. † Physiology II.		11 9, 11 2–5 12, 2–5 12	11  11 2-5  12	11 9, 11 2-5 2-5  12	11 11 2-5  12	11 2-5 12, 2-5 12

<sup>†</sup> Practical work as arranged.

OF SCIENCE.

## OF LECTURES.

is indicated by block type.

Reference Number to Synopses.		TR	іміту Те	RM.		MICHABLMAS TERM.					
STNOPSES.	М.	Tu.	w.	Th.	.F.	М.	Tu.	w.	Th.	F.	
37 3 50 36 38,44	11, 2–5 10 9  12	10 12, <b>2–5</b> 11	11, 2-5 10 9  12	10 12, <b>2–5</b> 11	11, <b>2-5</b> 10 9 	11 10 <b>2-4</b> 	10 12 11	11 10 	10 12 11	11 10 <b>2-4</b> 	
37 36 50 39, 45	9  12 12 2–5	12, <b>2–5</b> 9 10 11, <b>2-5</b> 9	9	12, <b>2–5</b> 9 10 11, <b>2–5</b> 9. 12 2–5	9	9 2-5  12 12 2-5	12. <b>2-5</b> 9 10 11, <b>2-5</b> 9	 9  12 12	12, <b>2-5</b> 9 10 11, <b>2-5</b> 9 12 <b>2-5</b>	9 <b>2–5</b>	
3 43, 49 50 37 36 17	9, 11 2-5 12, 2-5	11 11 2–5	11 9, 11 2–5 2 –5	11  11 <b>2–5</b> 	11 2-5 12, 2-5	11 9, 11 2–5 12, 2-5	11 12, <b>2</b> –5	11 9, <b>11</b> <b>2–5</b> <b>2–5</b>	11  11 12, <b>2-5</b> 	11 2–5 12,2–8	

## DEPARTMENT OF CIVIL EN TIME TABLE

Laboratory Practice is

REFERENCE NUMBER TO SYNOPEES.	Subject.	LENT TERM.							
REFE NUMB SYNO	SUBJECT.	М.	Tu.	w.	Th.	F.			
37 36 3 51 58 38,44	FIRST YEAR.  Chemistry I	11, 2-5 10 9 12	12 10 <b>9, 2–5</b>  11	11, <b>2</b> -5 10 9 12	12 10 <b>9</b> <b>2-5</b> 11	11, 2–5  10 9 			
36 55 53 52, 58 3	SECOND YEAR. Physics II Engineering Construction Mechanical Engineering I. Engineer. Design & Drawing II. Mathematics II Chemistry	2-5 12 10 11 9	10  †§ <b>3-5</b> 9	12 10 11-1 9	10  †§ <b>3-5</b> 9	2-5  10-1  9			
3 53 56 54 59	THIRD YEAR.  Mathematics III. (Spherical Trig.)  Mechanical Engineering II. A  Materials and Structures A  Electrical Engineering I. {	 2–5 11	 12 10 	  11, <b>2-5</b>	 12, <b>2-5</b> 10 				
60, 55 52, 58 56	Building Construction and Architecture	9	2-5 11, 9-11		11,9-11	2-5			
57 59 52, 58	Civil Engineering A. and B Surveying II		12 2–5	9-12	12  2–5	9-12			

Practical Surveying on Saturday mornings. Drawings to be sent in by December 1st.

# ENGINEERING.

GINEERING.

OF LECTURES.

indicated by block type.

	<u> </u>	<del></del>									
Reference Number to		TR	INITY TE	RM.			Місп	ABLMAS	TERM.		
Synopses.	M.	Tu.	w.	Th	F.	М.	Tu.	w.	Th.	F.	
37 36 3 51 58 38, 44	11  10  2–5	12, 2-5	11 10  2-5	12, <b>2</b> -5	11  10  9	10	2 12 10  3-5	10 	2 12 10  3–5	10 9, 11-1	
					2-5	2–5				2-5	
36 55 { 53 52, 58	12 10 11	10  2-5 11-1	12	10  2-5	12, 10–12 	2–5  11	10 12 2-5		10 12 2-5	2-5 10-1	
37	9	9	9	9			9	9	9	9	
3 ,		11		11						· · ·	
56		10		10, <b>3-5</b>					::		
54 {	11		11, 2-5		12						
59 { 60, 55	••	9		9							
52, 58	2-5	12, 2	9, 10	12, 2	2-5			::	 		
56 57 59 52, 58	10-1 9 2-5	12 2-5	10_1 9	12 2_5	 9 10-5	12 2-5	10-5	12 	10-5	12 2-5	

¶Or other practical work.

## DEPARTMENT OF MINING AND TIME TABLE

Laboratory Practice is

REFERENCE NUMBER TO SYNOPSES.	Subject.	L'ENT TERM.						
REFE Num SYNC		М.	Tu.	<b>w</b> .	Th.	F.		
37 36 3 51	Physics I	11, 2-5 10 9	12 10 <b>9, 2</b> –5	11, <b>2–5</b> . 10	12 10 9	11, <b>2–5</b>  10 <b>9</b>		
58 38,44	Engineering Design and Drawing I Geology I. Mechanical Workshop Practice (optional)	12	i <b>i</b>	9 12	2-5 11	N		
36	SECOND YEAR. Physics II.—A	2-5	10		10	2-5		
55	Engineering Construction	12		12				
53 52, 58 40, 46 37 37	Mechanical Engineering I Engineering Design and Drawing II Mineralogy and Economic Geology I	10 11 9 2-5	3-5 2	10 11-1 9	 9 <b>3-5</b> 2	10–1  9 2-5		
53 56	THIRD YEAR.  Mechanical Engineering II  Materials and Structures—A	2_5	12 10		12 10			
54	Electrical Engineering I	- 11		11, 2-5		11		
59	*Surveying I		9		9			
60 41, 47 37 52, 58	Building Construction  Mineralogy and Economic Geology II.  Practical Metallurgy and Assaying  Engineering Design and Drawing III.		  2–5	  9		  2-5		
61	Mining				• • •			
	FOURTH YEAR.							
61	Mining	9	9	9	9	9		
59 62	Surveying III	10		10	• •	io		
37		11-5	10-4	11 12-1	10-4	11-5		

<sup>\*</sup> Practical Surveying on Saturday mornings. Drawings to be sent in by December 1st.

## ENGINEERING.

METALLURGY.

OF LECTURES.

indicated by black type.

Reperence Number to		Тві	NITY TE	RM.			Місн	ARLMAS T	erm.	
SYNOPSES.	М.	Tu.	w.	Th.	F.	М.	Tu.	w.	Th.	F.
37 36 3 51 58	11 10 2-5	12, <b>2-5</b> 10	11 10 2-5	12, <b>2–5</b> 10	11 5 10  9	 10 	`2 12 10  <b>3–5</b>	 10 	2 12 10  <b>3-5</b>	 10 9, <b>11-1</b>
38, 44		ii 		ii 	2-5	12 2-5	11	12 	11	2-5
36 55 {	<b>2–5</b> 12	10  <b>2-5</b>	12 10	, 10 	2–5 12, 10–12		 12		 12	 10-1
52, 58 40, 46 37 37	11 9 	11-1	9	2–5 9 	9	11 ‡ <b>2-5</b> 9	2-5 9	9 10–1	2-5 9	2–5 9
53 56 54 {		10	  11 <b>,2-5</b>	10, <b>3</b> -5	  12					
59		9		9			¶ 10-1		∮; 10–1	
60 41, 47 37 52, 58 61	9-11	12, 2 12  3-5	9-11 	12, 2	9-11 2-5	9-11 11-5	2-5 9	10 11-1	2-5 9	9-11 11-5
61 59 62 37 52,58	9 10 11-5	9  10-4	9 10 12–1	9	9 10 11-5	9 11 10 <b>10–4</b>	 2, <b>10–4</b>	9 11 10 	2, 10- <b>4</b>	9 10 10-4

<sup>¶</sup> Or other practical work.

## DEPARTMENT OF MECHANICAL AND TIME TABLE OF

Laboratory practice is

BNCB IR TO PRES.		LENT TERM.						
REFERENCE NUMBER TO SYNOPSES.	Вивјест.	Mon.	Tues.	Wed.	Thur.	Fri.		
37 36 3 51 58	Chemistry I. Physics I. Mathematics I. Descriptive Geometry Engineering Design and Drawing I. Mechanical Workshop Practice	11, 2–5 . 10 . 9 	12 10 9, 2–5	11,2-5 10  9	12 10 9 2-5	11, 2-5 10 9		
36 55	SECOND YEAR. Physics II	<b>2</b> -5	10		10	2-5		
53 52, 58 3 37	Mechanical Engineering I.  Engineering Design and Drawing II.  Mathematics II.  Chemistry	10 11 9	3-5 9 2	10 11-1 9	3-5 9 2	10-1		
	THIRD YEAR.				,			
53	Mechanical Engineering II.—A & B	12	12	12	12	12, <b>2-5</b>		
56	Materials and Structures A	2_5	10		10			
54	Electrical Engineering I	11		11,2-5		11		
59	*Surveying I		9		9			
52, 58	Engineering Design and Drawing III	9	2-5	9	2-5			
53 54 52, 58 57	FOURTH YEAR.  Mechanical Engineering III	11-1 10, 2-5	10 <b>2–5</b> 11 12	11-5 10 	10 11, <b>2</b> –5 12	10 2–5		

Practical Surveying on Saturday mornings. Drawings to be sent in by December 1st.
 || Saturday mornings additional.

## ENGINEERING.

ELECTRICAL.

LECTURES.

indicated by block type.

Reperence		Тп	игтч Те	RM.		Michaelmas Term.					
NUMBER. OF SYNOPSES.	Mon.	Tu.	Wed.	Th.	Fri.	Mon.	Tu.	Wed.	Th.	Fri.	
37 36 3 51 58	11  10  <b>2–5</b>	12, <b>2-5</b> 10 9	11 10 <b>2-5</b> 9	12, <b>2–5</b> 10 9	11 10 9 2-5	10  2–5	2 12 10  3–5	 10 	12 10  3-5	9, 11-1 2-5	
36 55 { 53 52,58 3 37	12 10 11 9	10  2-5 11-1 9	12 10  9	10  2–5 9	12, 10–12  9	2-5  11 9	10 12  <b>2–5</b> 	9	10 12  2–5 9	2-5 10-1  9	
56 54 { 59 { 52,58	12, <b>2–5</b> 11 <b>9-11</b>	12, <b>2–5</b> 10  9	11, 2-5  9, 10	12 10, <b>3–5</b>  9	12 10-12  2-5						
53 54 52, 58 57	10, 2-5	10 2-5 11	11-5 10 	10 11, <b>2</b> _5	10 <b>2</b> –5	10, <b>2</b> –5 11–1	2-5	10	12-5	10 11-5	

NOr other practical work.

# DEPARTMENT OF TIME TABLE

Laboratory practice in

REPERENCE NUMBER TO SYNOPSES.		LENT TERM.							
REPER NUMB SYNO	Surject	· .			Mcn.	Tues.	Wed.	Thur.	Fri.
	FIRST YE	AR .			ļ				
65	Anatomy—Junior				10		10		
63	Practical Biology		٠.			10-12		10-12	11-1
37	Chemistry					12	12	12	
63	Biology		٠.	]	9	9	9	9	9
3 <b>6</b>	Physics—Elementary		٠.	• • •	· · .		••-	٧	10
. 37	Practical Chemistry	··	••		2-5		2-5	اـــــا	2-5
	SECOND Y	EAR		1					
65	Anatomy—Senior		٠.			11.30		11.30	11.30
55	Dissections					2–5	2-5	2–5	2–5
66	Physiology				10	10	10	10	10
66	Practical Histology		٠.		2-5				
66	Physiological Chemist	ry	••	:		:			
	THIRD YE	EAR							
69	Hygiene and Dietetics				9		9		
71	Materia Medica, Ti		ntics	and	,		_		
	Pharmacy			!		9		9	
68	Agricultural Botany	and M	vcolos	2v					
	1 0 1							l !	
72	Stable Management,	Manie	nılatio	on of				}	
	Domestic Animals	and P	rincip	les of				i '	
	Horse-shoeing								9-11
	Clinical Instruction		٠.		10-12	10-12	10-12	10-12	11-12
67	Pathology and Bacter	iology			12_	12	12	12	12
	FOURTH Y			_					
74, 75	Surgery and Obstetric				9		9	9	9 🛴
76	1 m		••	• •		9	"	3	J.,
10	Parasitology   .     Clinical Instruction		• •	• • •	10-12		10-12	10-12	11-12
73	Medicine		•:	• •	12	12		12	12
77	Meat Inspection	• •		• •			2		
+									
	FIFTH YI		~		{		1	_	
70	Advanced Hygiene &					9		9	٠: ١
67	Advanced Pathology				9		9	••	9
66	Advanced Practical P						2-5	• • •	••
	Hospital Practice—D	aily				١		·	<u> </u>

# VETERINARY SCIENCE.

## OF LECTURES.

indicated in block type.

Reference Number	ļ	TRI	т чтік	ERM.		MICHARLMAS TERM.					
OF Synopses	Mon	Tu.	Wed.	Th.	Fri.	Mon.	Tu.	Wed.	Th.	Fri.	
65		11 30		11.30		10		10	10	10	
63	1	9-11		9-11	١			١			
37	11		11		11		2		2		
63	9	١	9	)	9				1		
36			ļ		10	٠.				٠.	
37	- - <del></del>		- <del>··</del> -	<u></u> -	<u></u>	<u></u>	<u> </u>	<u> </u> -			
65	11.30		11.30		11.30		11.30		11.30		
55	2-5	2-5	2-5	2-5	2-5	2-5		2-5	2-5	2-5	
66	10	10	10	10	10	10	10	10	10	10	
	1							٠.		٠.	
66	<u></u>		<u>-:</u>				2-5	<u></u>	<u></u>	<u>:-</u>	
69	9		9								
71			٠. ا	9		::	9		9	9	
68		0.10				9		. 9			
72		9-12		::	9-12				••	• • •	
	10-12	10-19	10-12	10.19	10-19	10 19	10-19	10-19	10-19	10 10	
67	12		12	12		2-4		2-4		2-4	
7 <b>4</b> , 75	9		9	. 9	9	9		9	9	9	
76		9	"	- 1	5	,					
••	10-12		10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-19	
73	12	12		12		12	12		12		
77	<u>  </u>		2						<u> </u>		
70		9		9		• •		٠. ا		٠,	
67	9		9	• •	9	9	••	9		9	
66	1 !		2-5			ı I		1	1		

# FACULTY OF ARTS.—EVENING LECTURES.

#### TIME TABLE.

REFERENCE NUMBER TO SYNOPERS.	Subject.`	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
36 38, 44 37	Physics I. (1911)		6 •• 6		6 6	6,7-10† 6,7-10† 6,7-10*
7 1 3 2 2 2 5	¶Economics and Commerce I. Latin I Mathematics I. English I. §French I. Education	7 9  8 5	6-9 7 8 9	 7 8 9 5	6-9 7  8 9 5	
7 6 4 1 3 2 2 2 3	TEconomics and Commerce II. & III. History	6  8 6 7 & 9	6-9 9 7 8 9 6	 6 8  9 7	6-9 6 7 8 6 9	6 7

Practical—Three terms.
 § A fourth hour to be arranged
 Details according to arrangement.

# REGULATIONS.

REGULATIONS PASSED BY THE PROFESSORIAL BOARD. It shall be the duty of the Chairman of the Professorial Board to exercise a general supervision over the discipline of the University.

Every fine shall be paid to the Registrar within forty-eight hours from the time of its imposition. If not so paid, the fine shall be doubled; and if the double fine be not paid within one week from the time when the original fine was imposed, the Registrar shall report the fact to the Professorial Board, in order that suitable means may be taken against the offender for his contumacy.

The Dean of each Faculty shall call upon every student in his Faculty who shall have absented himself for more than ten per cent of any prescribed course of lectures in any one term to show sufficient cause for such absence. The Dean shall at his discretion either decide that the cause shown is sufficient, or submit the matter to the Professorial Board for decision. Such students as fail to show sufficient cause for such absence, are under Section 2 of Chapter XIII, of the By-laws, excluded from admission to the Yearly Examinations.

No excuse for absence from lectures shall be received from any undergraduate unless tendered in writing to the Registrar within one week after he resumes attendance. Every written excuse for absence from lectures in any Faculty shall be submitted to the Dean of that Faculty, who may at once decide that such excuse shall be accepted, or in cases of doubt, may call a meeting of the Professorial Board to adjudicate thereon.

Matriculated students who have lost their places in their own proper year, either by non-attendance at the prescribed course of lectures or by failing to pass the required examinations, are not allowed to compete for honours, scholarships, or prizes at subsequent Yearly, Professional, or Degree Examinations unless by express permission of the Professorial Board.

No verbal information regarding the result of an examination shall be given by any Professor, Lecturer, or other officer of the University. Answers to enquiries of such a nature shall be put in writing, and forwarded to the Registrar, who shall advise the student accordingly.

#### REGULATIONS OF THE FACULTY OF MEDICINE.

1. No student in the Faculty of Medicine, who has not been specially exempted, shall receive a certificate of attendance upon any course of instruction who shall not have been present at sixty per cent., at least, of the meetings of the class.

### 2. A .- First Degree Examination.

Candidates for the First Degree Examination in Medicine may be permitted to take the examination in two of the three prescribed subjects, Chemistry, Physics and Biology in December, and to present themselves for the third subject in March. Students taking advantage of this privilege who fail in one subject or in both subjects in December shall be required to take the examination in all three subjects in March. Students taking the whole examination in December and failing in two subjects must present themselves for the whole examination in March, but students who fail in one subject only may present themselves in March in the subject in which they fail.

- All examinations for Distinctions and Scholarships shall be in December. No student shall be entitled to obtain a Distinction or Scholarship unless he pass the whole examination in December.
- B.—Second Degree Examination in Anatomy and Physiology at the end of Trinity Term, Second Year.
  - Students who fail in this examination may be allowed to present themselves for re-examination in the following March.
- C.—Fourth Degree Examination in Pathology, Surgical Anatomy and Operative Surgery, and Materia Medica and Therapeutics at the end of Trinity Term of the Fourth Year.
  - Students who fail in this examination may be allowed to present themselves for re-examination in the following December.

#### D .- Final Examination.

Students who fail in the Final Examination at the beginning of Lent Term after the completion of the Fifth Year may be allowed to present themselves for re-examination at the end of Trinity Term following.

- E.—Students who have failed to pass any of the prescribed examinations shall before again presenting themselves for examination, attend again the courses of instruction in which they have failed unless they receive exemption at the discretion of the Boards of Examiners. For such reattendance half-fees shall be charged.
- 3. That the following Boards of Studies be established:-
  - (a) A Board of Studies in Medicine, to include the Lecturers in Medicine and Clinical Medicine, one Hon. Physician nominated by the Medical Board of each Hospital, and the Tutor in Medicine.
  - (b) A Board of Studies in Surgery, to include the Lecturers in Surgery and Clinical Surgery, one Hon. Surgeon nominated by the Medical Board of each Hospital, and the Tutor in Surgery.
  - (c) A Board of Studies in Midwifery and Gynæcology, to include the Lecturers in Midwifery and Gynæcology, one Hon. Gynæcological Surgeon nominated by the Medical Board of each Hospital, and the Tutor in Midwifery.

These Boards of Studies shall meet once in each term to discuss all matters relating to instruction in their several subjects and generally to co-ordinate the teaching. The Tutors in the several subjects shall act as secretaries of the Boards and shall be responsible for summoning the meetings of the Boards.

#### REGULATIONS FOR DIPLOMA IN PUBLIC HEALTH.

1. Part I of the Examination having reference to the General Principles of Sanitary Science will comprise the subjects set forth in the following schedule, viz.:—The elements of chemistry and physics: methods of chemical analysis, and in particular the analysis of air and water. The laws of heat and the elements of pneumatics, hydrostatics, and hydraulics, in their application to warming, ventilation, water-supply and drainage. The geological and other conditions determining the healthiness of sites for dwellings. Sources, storage, and purification of water-supply. The elements of meteorology in relation to health. Principles of building-construction in their application to

dwellings, hospitals, and schools. The disposal of sewage and refuse, and the general principles of sanitary engineering. Disinfectants, their chemistry and use. The chemical and microscopical examination of foods, and the detection of the commoner forms of contamination. The methods of bacteriological investigation and analysis. The chemistry and bacteriology of air, water, food and soil. The general pathology of infection and of the diseases of animals that are transmissible to man

- 2. Part II. of the Examination having reference to STATE MEDICINE AND THE APPLICATIONS OF PATHOLOGY AND SANITARY Science to Public Health will comprise the subjects set forth in the following schedule, viz :- The law and statutes of New South Wales\* relating to public health, and the by-laws and regulations made thereunder. The model by-laws of the Board of Health of New South Wales\*. Sanitation of dwellings, schools, factories and workshops, and of villages and towns. Inspection of premises liable to inspection under statute. Inspection of meat and other articles of food. General epidemiology, with special reference to the origin, pathology, symptoms, propagation, geographical distribution, and prevention of the epidemic, endemic, and other infective diseases. The methods applicable to the investigation of epidemics. Effects on health of overcrowding, vitiated air, impure water, polluted soils, and bad or insufficient Unwholesome trades and occupations, and the diseases to which they give rise. Nuisances injurious or dangerous to health. The effects on health of season and climate. principles and methods of vital statistics in relation to public health.
- 3. The foregoing schedules are not to be understood as limiting the scope of the Examination, which may include every branch of Sanitary Science, including Tropical Hygiene. No candidate will be approved by the Examiners who does not show a distinctly high proficiency in all the branches of study, scientific and practical, which bear upon the duties of a Medical Officer of Health.

Regulations about diseases of animals transmissible to man-

<sup>\*</sup>In the case of candidates from the United Kingdom, other States of the Commonwealth, or New Zealand, a knowledge of the corresponding statutes, by-laws, and regulations may be substituted, if the candidate so request at the time of making application for leave to present himself for examination.

#### REGULATIONS FOR DIPLOMA IN EDUCATION.

#### A.—Lecture and Demonstration Courses—

Course 1.—Outlines of Psychology, with special reference to the mental life of children. (Education I. A, and I. B. at Teachers' College, or Philosophy I. at the University),

Course 2.—(a) The Principles of Education.

(b) History of Education.

(c) Organisation and Administration of Education.

Course 3.—Principles of Teaching—

(a) General Method.

(b) Special Method.

Course 4.—The Physical Life of School Children.

#### B.—Practice in Teaching.

- 1. Continuous Practice.—In order to gain experience in ordinary school work, each student will be required to teach for a continuous period or periods in an ordinary school. The amount of time will vary according to the previous experience of the student, but will not, except in special circumstances, be less than 180 hours. For this work the student will be attached to an approved school, the principal of which will forward periodical reports on the work of the student. The student's work will also be under the supervision and direction of the Professor of Education.
- 2. Observation, Demonstration and Criticism Lessons.—This course will occupy 180 hours during one year, and will embrace the following:—(a) Courses of weekly lessons throughout three terms; (b) a course of demonstration lessons and discussions of two hours per week for three terms.

# REGULATIONS FOR ADVANCED STUDENTS IN ARTS AND SCIENCE.

1. The Faculties of Arts and Science may admit as Advanced Students persons of the age of 21 years or upwards not graduates of this or of another University who give such evidence of general education and special qualification for advanced study and research as may be approved by the Faculty with which their proposed course of study and research is most nearly connected.

The evidence of general education shall include a satisfactory record of a full three years' course of study, either as a matriculated or unmatriculated student, at a University.

2. The Faculty of Science may also admit graduates in Arts as Advanced Students in Science, provided they give such evidence of special qualification for advanced study and research

as may be approved by that Faculty.

3. An Advanced Student who has been admitted to a course of advanced study and research shall pursue that course under the direction and supervision of one or more of the Professors of the University, and under such other conditions as may, on the recommendation of the Professorial Board, be approved by the Senate.\*

- 4. Application for admission as Advanced Students shall, in general, be submitted not later than the first day of November in the year previous to that in which the applicant proposes to begin his course. The application shall not be granted unless it shall appear that the course or courses of advanced study and research can be conveniently pursued within the University.
- 5. An Advanced Student may in the sixth or any subsequent term after his admission submit to his Faculty a dissertation containing an account of and embodying the results of his research or researches. The dissertation shall be referred to one or more persons appointed by the Faculty who shall have power to examine the student orally or otherwise upon the subject thereof, and upon the courses of study which he has pursued, and shall report thereon to the Faculty.

The Faculty shall have power to take into consideration, together with the dissertation, any published memoir or record of work done by the student which he may desire to submit to

them.

6. If the Faculty, after hearing the report of the referees, be of opinion that the work submitted by the student is of distinction as an original contribution to learning, or as a record of original research; they shall draw up a statement to this effect, indicating therein the subject or subjects of the student's research, and the degree B.A. or B.Sc. for which his work shall be a qualification, subject to the regulations which follow.

7. The statement drawn up by the Faculty shall be embodied by the Registrar in a certificate of research in a form approved

by the Professorial Board.

<sup>\*</sup> For the regulations for Research Students in the Scientific Departments, see page 135 of the Calendar.

Each candidate before receiving a certificate of research shall deposit in the University Library two printed copies of his dissertation in a form approved by the Professorial Board, but if the dissertation has been accepted for publication in some scientific journal, the Librarian may accept a typewritten copy to be replaced by a printed copy or its publication in that journal.

8. A student who has obtained a certificate of research, and has completed six terms as an Advanced Student, may be admitted, on payment of the usual degree fee of £3 for the degree of B.A. or B.Sc. indicated in his certificate, and thereafter under the usual conditions to other degrees in the University.

9. An Advanced Student shall not be admissible as a candidate for any University Prize or Scholarship which is

only open to Undergraduates.

# REGULATIONS FOR RESEARCH STUDENTS IN THE SCIENTIFIC LABORATORIES.

1. Research students may be admitted to the University laboratories from year to year on the recommendation of the

head of the department in which they propose to work.

2. A research student in any University laboratory shall be under the control of the head of the department as regards the use of the laboratory apparatus and materials. The Professor, as director of the laboratory, shall have the right to make himself acquainted with the character and progress of the work done by any research student working in his laboratory.

3. Research students may work in the University laboratories during laboratory hours in Term time, and at such other times as

may be arranged by the Professor in charge.

4. Each research student shall pay to the University a fee of five guineas per Term for the expense of material, etc.; such fee to be paid to the credit of the maintenance vote of the department. All expensive apparatus or material required for special investigations shall be purchased by the research student.

The Professor in charge shall be the sole judge of what apparatus and material should be provided by the University or purchased by the student.

The University should be provided with printed copies of all scientific papers published by research students.

#### REGULATIONS FOR THE USE OF MICROSCOPES.

In the Practical Courses of Biology, Physiology, Pathology, and Bacteriology, students may use the microscopes provided by the University, for the use of which a charge is made. But they are strongly recommended to purchase for themselves microscopes of an approved pattern, and to use them throughout their course. A microscope suitable for bacteriological work, and for the proper clinical examination of the blood, and which must also include an oil immersion-lens, is now an essential part of the equipment of every medical man. It is, moreover, a great advantage for the student to use his own microscope during his undergraduate course, as he thus becomes familiar with its working, and is in a better position to profit by its use in after years. With the exercise of a little care the efficiency of a good microscope will not thereby be impaired.

Excellent microscopes are supplied by the English firms, Beck, Ross, Swift, and Watson; by the American firm, Bausch and Lomb; and by the Continental firms, Zeiss, Reichert, and Leitz. The student is particularly warned against the purchase of an inferior type of microscope which will not be approved by the Professors, and it is hardly necessary to point out that not every microscope made by the above-named firms is of a type that can be approved. Students are, therefore, invited to consult

the Professors before making any purchase.

The following types of microscope, procurable in Sydney from agents of the manufacturers, are recommended as adequate, and at the same time moderate in price. With the accessories given they are adapted for the Practical Biology and the Practical Physiology courses:—

W. Watson & Sons' Edinburgh Student's Microscope, Stand "B," with  $\frac{2}{3}$  and  $\frac{1}{6}$  inch objectives, Nos. 2 and 4 eye-pieces, double nose-piece, and illuminating apparatus. Price, £10 12s. 6d.

Or W. Watson & Sons' Stand "C," similar to "B," but with compound rackwork substage and better illuminating apparatus, etc. £12 17s. 6d.

Bausch & Lomb's Microscope BB6, with Abbé condenser and iris diaphragm, double nose-piece, two eye-pieces, two objectives  $\frac{2}{3}$  in. and  $\frac{1}{6}$  in (N.A. 0 66) etc., £11 12s.

Leitz Microscope, Stand IIa, with Abbé condenser and iris diaphragm, double nose-piece, two eyepieces, III. and IV., two objectives 3 and 6, etc., £10 10s.

Reichert's "New Sydney University" Stand, with Abbé condenser and iris diaphragm, double nose-piece, two eyepieces, III. and IV., two objectives, 3 and 6, of best quality, etc., £11.

For Practical Pathology and Bacteriology, a  $\frac{1}{12}$ -inch oil-immersion objective is also required, and costs about £5 5s.

The microscope and its accessories should be selected, not only with a view to the immediate requirements of the student, but also with regard to his future work. Since for practitioners of Medicine microscopic work consists mainly in the examination of bacteria and of the blood, students will find it advantageous to purchase from the beginning a triple instead of a double nose-piece, and to see that the ordinary high power objective is adapted for the counting of blood cells in a Thoma-Zeiss chamber.

#### DEPARTMENT OF GEOLOGY AND MINERALOGY.

Students may use their own microscopes in the demonstrations on Petrology, provided they are of an approved pattern. Students who wish to obtain a microscope suitable for both Biology and Geology should purchase a petrological, and not simply a biological, stand. Advice will always be willingly given to any students desiring to purchase a microscope. The microscopes in use for demonstrations are the following:—

- (1) Student's Petrological Microscope, with centering stage or nose-piece, revolving double nose-piece, and two objectives, both of highest numerical aperture. The latter should be 1 inch and \(\frac{1}{6}\) inch, or  $1\frac{1}{2}$  inch and \(\frac{1}{4}\) inch. The best combination is of three or triple nose-piece,  $1\frac{1}{2}$  inch, \(\frac{1}{2}\) inch, and \(\frac{1}{6}\) inch. Price in Loudon, about £15, including two objectives.
- (2) The Dick Petrological Microscope, with revolving nosepiece and objectives as in (1). Price in London, about £23, including two objectives.

The above microscopes are made by Messrs. James Swift and Son, 81 Tottenham Court Road, London, W., and can be obtained in Sydney at a very slight advance upon London prices.

# LECTURE SUBJECTS FOR 1911-12.

#### LECTURES.

THE following regulations have been passed by the Senate:—
NON-MATRICULATED STUDENTS.

It shall be open to any non-matriculated student, who has attended the full courses of lectures upon any subject, to compete for Honours or Pass in the regular examinations upon his subject, and to have his name published and recorded in the regular class lists, with a distinguishing mark; but he shall be incapable of holding any scholarship or receiving any prize of those already established for students proceeding to a Degree.

Each such student shall be entitled to receive a certificate of attendance upon the lectures or laboratory practice in the subjects which he has selected, and proficiency therein, as ascertained by the regular and ordinary examinations within the University.

The above regulations do not apply to the lectures and examinations in the Faculty of Medicine.

The following regulation has been adopted by the Faculty of Science:—"There shall be only one standard for Honours in Scientific subjects, viz., that adopted in the Faculty of Science."

N.B.—The numbers refer to the Time Tables of Lectures on pages 108-128.

#### FACULTY OF ARTS.-B.A. DEGREE.

1.—CLASSICS—LATIN AND GREEK.

Professor Butler, Professor Woodhouse, Dr. F. A. Todd. Subjects selected for Lectures and Examinations:—

#### LATIN-1911.

First Year, Pass.—Livy, Book IX.; Virgil, Æneid, Books II., III.

Distinction.—Cicero, de Oratore, Book I.; Virgil, Æneid, Books I., IV., V., VI. Roman History to the Tribunate of Ti. Gracchus.

Second Year, Pass.—Sallust, Jugurtha; Pliny, Selected Letters (Merrill); Horace, Satires (Selections).

Distinction.—Plautus, Captivi and Trinummus; Cicero, Philippies I., II., III., V., VII.; Tacitus, Agricola.

Pass and Distinction.—Roman History from the Tribunate of Ti. Gracchus to the battle of Actium.

Third Year, Pass.—As Second Year, Pass, with Plautus, Captivi and Trinumnus. Roman History from the battle of Actium to the death of Marcus Aurelius.

Honours.—Martial (Selections); Tacitus, Histories I., II., III. Roman Literature.

#### LATIN-1912.

First Year, Pass.—Cicero in Verrem, Book V.; Virgil, Æneid, V., VI.

Distinction.—Livy XXII.; Æneid VII., VIII., IX., X.; Roman History to the Tribunate of Ti. Gracchus.

Second Year, Pass.—Cicero's Letters (Watson), Parts IV. and V.; Martial Select Epigrams (Stephenson), Books I. to XII; Horace, Odes, Books I. and II.

Distinction — Terence, Andria; Catullus (selections); Sallust, Jugurtha; Cicero de Provinciis Consularibus.

Pass and Distinction.—Roman History from the Tribunate of Ti, Gracchus to the battle of Actium.

Third Year, Pass.—As Second Year, with Terence, Andria; and Catullus (selections). Roman History from the Battle of Actium to the Death of Marcus Aurelius.

Honours.—Tacitus, Annals, I., III., III.; Lucretius (selections); Roman Literature.

#### GREEK-1911.

First Year, Pass.—Homer, Odyssey, XIV., XIX., XXII.; Xenophon, Hellenica, Books I. and II.; Unseen Translation; Outlines of Greek History to the Death of Demosthenes.

Additional for Distinction.—Thucydides, Book V.; Aristophanes, Peace. Greek Prose Composition.

Second Year, Pass.—Sophocles, Electra; Euripides, Electra; Herodotus, Book V.; Demosthenes, De Corona, with the history of the period 360-338 B.C. Unseen Translation.

Additional for Distinction.—Aeschylus, Eumenides. Greek Prose Composition. A course of lectures on the historical development of Greek Sculpture (with reference to both literary and monumental sources); or an equivalent course on some selected subject.

For Third Year, Pass.—Same subjects as for Second Year Pass.

Third Year, Honours.—Same subjects as for Second Year Distinction (with the exception of Greek Prose Composition), also General Paper; Advanced Unseen Translation; Homer, Odyssey, XIV., XVII., XIX., XXII., XXIV.

#### GREEK-1912.

First Year, Pass.—Herodotus, Book VIII.; Euripides, Iphigenia in Tauris; Outlines of Greek History to the Death of Demosthenes; Unseen Translation.

Additional for Distinction.—Aristophanes, Wasps; Demosthenes, Private Orations (Sandys and Paley, Select Private Orations, Part I.) with Lectures on Attic Legal Antiquities Greek Prose Composition. Unseen Translation.

Second Year, Pass.—Sophocles, Aias; Homer, Odyssey I.—VIII.; Aristotle, Politics I.—III. Unseen Translation.

Additional for Distinction — Special subject (to be arranged); Theocritus (selections). Greek Prose Composition Unseen Translation.

Third Year, Pass.—Same subjects as for Second Year, Pass.

Third Year, Honours.—Same subjects as for Second Year, Distinction (with the exception of Greek Prose Composition). General Paper. Advanced Unseen Translation. Aristotle, Politics (the whole).

#### CLASSICS.

BOOKS RECOMMENDED\*—

Lewis and Short's Latin Dictionary (Clarendon Press)

Roby's Latin Grammar (Macmillan).

Gildersleeve and Lodge's Latin Grammar.

Liddell and Scott's Greek Lexicon.

Goodwin's or Hadley and Allen's Greek Grammar.

Comparative Grammar of Greek and Latin, by Victor Henry, translated by R. T. Elliott; or, Giles' Manual of Comparative Philology for Classical Students (Macmillan).

Rutherford's First Greek Grammar.

Thompson, Syntax of Attic Greek.

Goodwin, Greek Moods and Tenses.

Companion to Latin Studies, Sandys (Cambridge). .

#### ANCIENT HISTORY-

Mommsen's History of Rome, translated by Dickson (Bentley).

Mommsen, The Provinces under the Roman Empire.

Greenidge's Roman Public Life.

<sup>•</sup> Students are strongly recommended to order as early as possible all books that will be needed in the course of the year.

Greenidge's History of Rome (Methuen).

T. M. Taylor, Constitutional and Political History of Rome.

Pelham's Outlines of Roman History.

Bury's Student's Roman Empire (Murray).

Strachan-Davidson, Cicero. Warde Fowler, Julius Cæsar.

Grote's History of Greece.

Greenidge, A. H. J., Handbook of Greek Constitutional History (Macmillan).

Bury's History of Greece (Macmillan).

G. L. Dickinson, The Greek View of Life (Methuen).

A Holm's History of Greece, trans. in 4 vols. (Macmillan).

Friedlaender, Roman Life and Manners, trans. in 3 vols. (Routledge).

G. Ferrero, Greatness and Decline of Rome, 5 vols. (Heinemann). Warde Fowler, Social Life at Rome in the age of Cicero (Macmillan). Dill, Roman Society from Nero to Marcus Aurelius (Macmillan).

#### ANCIENT ATLAS-

Atlas Antiquus, Kiepert (Berlin).

Murray's Small Classical Atlas, ed. Grundy.

Murray's Handy Classical Maps, ed. Grundy (each separate, and distinct from the maps in the Atlas).

#### GREEK AND ROMAN LITERATURE-

Teuffel's History of Roman Literature, translated by Warre (Bell).

History of Roman Literature, Cruttwell.

Roman Poets of the Republic, Sellar.

Roman Poets of the Augustan Age, Sellar.

Virgil, Sellar.

Mackail's Latin Literature.

History of Ancient Greek Literature, Mahaffy.

Bury, Lectures on the Greek Historians.

Butler, Post-Augustan Poetry from Seneca to Juvenal.

## Editions of Latin Authors.

#### FOR PASS STUDENTS:

Cicero, 2nd Philippic, J. E. B. Mayor (Macmillan), or Peskett (Cambridge); pro Milone, Reid (Cambridge), or Colson (Macmillan); pro Sestio, Holden (Macmillan); pro Murena, Heitland (Cambridge); in Catillinan, Wilkins (Macmillan); pro Lege Manilia, Wilkins (Macmillan); Select Letters (Text, only), Watson (Oxford); pro Archia, Reid (Cambridge); Philippics I., II., V., King (Oxford); de Provinciis Consularibus (Baiter and Kayser), in Verrem, Book V., Laming (Rivington).

Horace, Odes, Wickham (Oxford), or Page (Macmillan); Satires, Palmer (Macmillan); Epistles, Wilkins (Macmillan).

Juvenal, Duff (Cambridge).

Livy (text, in 8 parts, sold separately) Madvig; Book II., Stephenson (Macmillan); Books XXI., XXII. (text and notes), Capes (Macmillan); Book XXI. (Bell); Book XXVI., Nicholis

(Angus & Robertson, Sydney); Book V., Whibley (Pitt Press); Book IX., Stephenson (Pitt Press), or Woodhouse (Clive).

Lucretius, Book I.-III., Lee (Macmillan).

Lucretius, Book V., Duff (Cambridge).

Pliny, Selected Letters, Merrill (Macmillan).

Sallust, Jugurtha, Summers; Catiline, Summers (Pitt Press); Catilina, Cook (Macmillan).

Martial, Select Epigrams, Stephenson (Macmillan).

Tacitus, Annals, Books I. to IV., Furneaux's abridged edition; Histories, Books I., II., and Books III., IV., V., Godley (Macmillan), Book I., Duvis (Cambridge), Book III. (Summers) Cambridge.

Virgil, Sidgwick (each book sold separately, Cambridge), or Georgics.

Page (Macmillan) and Æneid, Page (Macmillan).

FOR STUDENTS READING FOR HONOURS-

Cicero, de Finibus (Critical edition, Latin Notes), Madvig; Letters (select), Watson (Oxford); Letters, Tyrrell (Longmans); Philippics, King (Oxford); de Oratore, Wilkins (Oxford); Brutus (text and German Notes), Jahn or Piderit; or Kellogg (Ginn & Co.); Orator, Sandys (Cambridge).

Catullus, Ellis (Oxford), or Simpson (Macmillan).

Horace, Odes, Satires and Epistles, Wickham (Oxford); or Satires, Palmer (Macmillan); Epistles, Wilkins (Macmillan).

Juvenal, Mayor (Macmillan).

Lucan, Haskins (Bell). Lucretius, Munro (Bell).

Plautus, Captivi, Lindsay (Methuen) or Hallidie (Macmillan); Trinummus, Gray (Cambridge).

Quintilian, Book X., Peterson (Clarendon Press).

Tacitus, Annals, I.-VI., Furneaux, larger edition (Oxford); Histories, Spooner (Macmillan); Germania and Agricola, Furneaux (Oxford); Dialogus de Oratoribus, Gudeman (Ginn & Co.), or Peterson (Oxford).

Terence, Wagner (Bell); Phormio, Bond & Walpole (Macmillan); Andria, Freeman & Sloman (Oxford)

Virgil, Conington (Bell).

## Editions of Greek Authors.

Æschylus, Eumenides, ed. A. W. Verrall (Macmillan), 10/-.

Aristophanes, Clouds, Birds, Acharnians, Frogs, Knights, Peace, Merry (Oxford); Knights, ed. Neil, cheap ed. 5/- (Cam. Pitt); Wasps, Starkie (Macm.)

Aristotle, Ethics, Books I. to IV., ed. Moore; the whole, ed. Grant, 2 vols. Demosthenes, Orations against Philip, Abbott & Matheson (Oxford); (Vol. I. contains Phil. I. and Olynth. I. to III. Vol. II, contains De Pace, Phil. III., De Chers., and Phil. III.) or Sandys, the same (Macmillan); De Corona, Goodwin.

Herodotus, translation by Rawlinson, with abridged notes, ed. Grant, 2 vols. (Murray): Book VII., ed. Butler (Macmillan); Book VI., text and notes, ed. Strachan (Macmillan); Book V. and VIII., ed. Shuckburgh (Pitt Press); Books IV.-IX., 5 vols., ed. Macan. (Macm.)

Homer, Iliad, Leuf (Macmillan), 2 vols., 2nd ed., or Leaf & Bayfield (Macmillan); Odyssey, Merry (Oxford); larger edition, Books I.-XII., Merry and Riddell; Books XIII.-XXIV., ed. Monro. Introduction to Homer, Jebb (Maclehose, Glasgow); Homer and the Epic, A. Lang (Longmans); Rise of the Greek Epic, by G. Murray, 6/- (Clar.); Companion to the Iliad, Leaf (Macmillan); H. Browne, Handbook of Homeric Study; Homeric Grammar, Monro (Oxford); Odyssey, trans. Butcher & Lang, (Macmillan).

Euripides, Medea ed. Williamson (Blackie); Electra, ed Keene (Bell); Paley ed. of Euripides in 2 vols.; Text in G. Murray's ed. (Oxford Classical Texts) in vol. ii., 3/6.

Sophocles, in single plays, large edition 12/-, Jebb (Rivington).

Thucydides, Book I., Forbes (Oxford); II., Marchant (Macmillan), or Shilleto (Bell); III., Spratt (Cambridge); IV. and V., Graves (Macmillan); VI., VII., Marchant (Macmillan); VIII., Tucker (Macmillan). (Translation and Notes), Jowett (Oxford).

· Xenophon, Hellenica I., II., ed. Underhill (Clar.)

Greek Historical Inscriptions, 2nd edition 12/6, ed. Hicks & Hill (Clar.). Historical Greek Coins, ed. Hill.

Sources of Greek History, ed. Hill, 2nd edition 10/- (Clar.).

History of Greek Sculpture, by E. A. Gardner, in two parts or in one vol. 10/- (Macm.)

## 2 —MODERN LITERATURE.

Professor MacCallum, Assistant-Professor Holme, Mr. G. G. Nicholson, Mr. C. J. Brennan.

#### FRENCH-1911.

Course I., Pass.—Composition: Trechmann, Passages for Translation (Angus & Robertson). Phonetics and Dictation. Lectures dealing with the authors treated. Prescribed Books: Augier et Sandeau, Le Gendre de M. Poirier (Heath); Rostand, Les Romanesques (Ginn); Balzac, Le Père Goriot (Heath); Pascal, La Rochefoucauld, Vauvenargues (ed. Baker, Macmillan); Théophile Gautier, España and Emaux et Camées (Clarendon Press).

Add. for Distinction.—Darmesteter, Historical Grammar (Macmillan); Extraits des Auteurs Français der XVII<sup>me</sup> Siecle (ed. Mansion, McDougall); Sainte-Beuve, Trois Portraits Littéraires (ed. Savory, Clarendon Press).

Course II., Pass.—Composition: Trechmann, Passages for Translation (Angus & Robertson). Lectures (in French) on the Literature of the Seventeenth Century. Prescribed Books: Corneille, Polyeucte (Heath); Rotrou, Saint Genest (Ginn); Boileau L'Art Poétique (Hachette); Choix de Lettres du XVIIº Siècle (ed. Lanson, Hachette); Molière, Le Misanthrope (Hachette); Sainte-Beuve, Trois Portraits Littéraires (ed. Savory, Clarendon Press).

Add. for Distinction.—Lectures on the Literature of the Middle Ages. Prescribed Books: Chanson de Roland, Extraits (ed. G. Paris, Hachette). Joinville, Extraits (Garnier); Paris, Récits du Moyen Age. (Hachette).

Course III., Pass.—Course II., Pass, along with La Bruyère, Caractères (Hachette).

Additional for Honours.—Course II., Distinction, along with Extraits des Chroniqueurs (ed. Paris & Jeunroy, Hachette). Candidates must satisfy a conversational test.

## FRENCH-1912.

Course I., Pass.—Composition: Nicholson and Brennan, Passages for Translation. Phonetics and Dictation. Lectures dealing with the authors treated. Prescribed Books: Bazin, Les Oberlé (Calmann-Lévy, Bibliothèque contemp.); Vigny, Chatterton (Clarendon Press); Coppée, Poésies Choisies (Clarendon Press); Pailleron, Le Monde où l'on s'ennuie (Calmann-Lévy); Montesquieu, Lettres persaues (Siepmann's Series, Macmillan).

Additional for Distinction.—Lectures on Historical Grammar. Prescribed Books: Darmesteter, Historical Grammar (Macmillan); Oxford Book of French Verse (Clarendon Press);

Gautier, Trois Grotesques (Clarendon Press).

Course II., Pass.—Composition: Nicholson and Brennan, Passages for Translation. Lectures (in French) on the Literature of the Eighteenth Century. Prescribed Books: Fontenelle, Dialogues des Morts et Jugement de Pluton (Bibliothèque Nationale); Lesage, Pages Choisies (Colin); Regnard, Le Joueur (Hachette); Marivaux, Le Jeu de l'Amour et du Hasard (Macmillan); Montesquieu, Lettres persanes (Macmillan); Buffon, Discours sur le style (Hachette); Rousseau, Lettre à d'Alembert (ed. Fontaine, Garnier); Paul Albert, Littérature française au XVIIIe siècle (Hachette).

Additional for Distinction.—Lectures on the Literatures of the Sixteenth Century. Prescribed Book: Montaigne, Extraits (ed. Petit de Julieville, Delagrave).

Course III., Pass.—Course II., Pass, along with Beaumarchais, Barbier de Séville (Clarendon Press), and Voltaire, Siècle de

Louis XIV (Any edition).

Additional for Honours.—Course II., Distinction, along with Hatzfeld et Darmesteter, Morceaux choisis des écrivains du XVI° siècle (Delagrave). Candidates must satisfy a conversational test.

#### GERMAN-1911.

Course, I., Pass.—Composition: Trechmann, Passages for Translation (Angus & Robertson). Phonetics and Dictation. Lectures dealing with the authors treated. Prescribed Books: Spielhagen, Auf der Düne (Stackmann, Leipzig); Schwäbischer Dichterkreis (ed. Müller, Freytag, Leipzig); Grillparzer, Der Traum ein Leben (ed. Matthias, Freytag, Leipzig); Benedix, Das Lügen (Vebungs-Bibliothek, Dresden); Heine, Die Harzreise (Heath).

Add. for Distinction.—Historical Grammar (Behaghel, adapted Trechmann). Prescribed Books: Goethe, Torquato Tasso (Ginn); Uhland, Ludwig der Bayer (ed. Böhme, Freytag, Leipzig); Schiller.

Ballads (Heath).

Course II., Pass.—Composition: Trechmann, Passages for Translation (Angus & Robertson). History of the Classical Period in Literature (lectures in German). Prescribed Books: Kotzebue, Deutsche Kleinstädter (Reclam, Leipzig); Lessing, Emilia Galotti (Ginn); Herder, Ideen zu einer Geschichte der Philosophie der Menschheit (ed. Naumann, Freytag, Leipzig); Goethe, Faust, Part I. (ed. Turner & Morshead, Longmans); Schiller, Gedichte, Auswahl (ed. Bachmann, Freytag, Leipzig).

Add. for Distinction.—Lectures on the Literature of the Middle Ages. Prescribed Books: Wright's Middle German Primer (Clarendon Press); Extracts from Das Niebelungenlied

(ed. Zarncke, Wigand, Leipzig).

Course III, Pass.—Course II., Pass, along with Wieland,

Oberon (Spemann).

Add. for Honours.—Course II., Distinction, along with the remainder of the Niebelungenlied. Candidates must satisfy a conversational test.

#### GERMAN-1912.

Course I., Pass.—Composition: Nicholson and Brennan, Passages for Translation. Phonetics and Dictation. Lec-

tures dealing with the authors treated. Prescribed Books: Hauff, Phantasien im Bremer Ratskeller (Meyer's Volksbücher); Shielhagen, Röschen von Hofe (Stackmann, Leipzig); Heinrich, Lyrische & epische Gedichte des XIX<sup>ten</sup> Jahrhunderts (Freytag, Leipzig); Grillparzer, Ottokars Glück & Ende (Freytag); Kleist, Der zerbrochene Krug (Meyer's Volksbücher).

Add. for Distinction.—Historical Grammar (Behaghel, adapted Trechmann). Prescribed Books: Goethe, Gedankenlyrik (ed. Matthias, Freytag); Wagner, German Dactylic Poetry (Cambridge University Press); Eichendorff, Aus dem Leben eines Tauge-

nichts (Amelang, Leipzig).

Course II., Pass.—Composition: Nicholson and Brennan, Passages for Translation. History of the Romantic Movement in Literature (lectures in German). Prescribed Books: Walzel, Deutsche Romantik (Teubner, Leipzig); Extracts from Novalis, in Novalis & Fouqué (Meyer's Klassiker Ausgaben); Tieck (Deutsche Nationalliteratur, Bd. 144, Theil 1); F. Schlegel, Fragmente und Ideen ed. Derbel (Piper & Co., Munich); Achim von Arnim, Isabella von Ægypten (Insel-Verlag, Leipzig); Hoffmann, Der Goldene Topf (Reclam).

Add. for Distinction.—Lectures on the Literature of the Reformation and Transition Periods. Prescribed Books: Luther, Murner, &c. (Sammlung Göschen, Nr 7); Hans Sachs (Sammlung Göschen, Nr 24); Grimmelshausen, Simplicus Simplicissimus

(Sammlung Göschen, Nr 138).

Course III., Pass.—Course II., Pass, along with Hölderlin,

Gedichte (any edition).

Additional for Honours.—Course II., Distinction, along with Brant, Hutten, &c. (Sammlung Göschen, Nr 36), and Das Deutsche Volkslied (Sammlung Göschen, Nr 25). Candidates must satisfya conversational test.

### ENGLISH-1911.

Course I., Pass.—Lectures on notable English writers. Prescribed Books: Gosse, English Literature; Chaucer, Selected Passages (Globe Chaucer); Shakespeare, Midsummer Night's Dream, Merchant of Venice, Twelfth Night, Tempest (Globe Shakespeare); English Narrative Poems (Blackie).

Add. for Distinction.—Lectures on English Phonetics; Sweet, Anglo-Saxon Primer (Clarendon Press); Skeat, Specimens of

English Literature (Clarendon Press).

11. Course II., Pass.—Lectures on the History and Principles of Literary Criticism; Lectures on the Literature of the Romantic

Revival; Lectures on Shakepeare's Comedies. Prescribed Books: Shakespeare (Globe Edition); English Narrative Poems (Blackie); Coleridge, Principles of Criticism (ed. George, Harrap); Wordsworth, Prefaces and Essays (ed. George, Harrap); Shelley, Prometheus Unbound (any edition); Scott, Guy Mannering (any edition); Jane Austen, Persuasion (any edition); Landor, Imaginary Conversations, Selections (Scott).

Add. for Distinction. - Beowulf (Ginn).

Course III., Pass.—Course II., Pass, along with Ward's English Poets, vol. iv. (Macmillan).

Add. for Honours.—Course II.. Distinction, along with Morris-

& Skeat's Specimens of English (Clarendon Press).

## ENGLISH-1912.

Course 1., Pass.—Lectures on notable English writers. Prescribed Books: Gosse, English Literature; Chaucer, selected passages (Globe Chaucer); Shakespeare, Romeo and Juliet, Hamlet, Lear, Macbeth (Globe Shakespeare); English Narrative Poems (Blackie).

Additional for Distinction.—Lectures on English Phonetics.. Prescribed Books: Cook, First Book of Old English (Ginn & Co.);

Pollard, Miracle Plays (Clarendon Press).

Course II., Pass.—Lectures on Foreign Influences on English Literature. Lectures on the Chief Writers of the Victorian period. Lectures on Shakespeare's Tragedies. Prescribed Books: Shakespeare (Globe Edition); Carlyle, Sartor Resartus; Tennyson, Holy Grail; Browning, Men and Women; M. Arnold, Select Poems, (George & Leigh, Oxford Press); Ruskin, Crown of Wild Olives.

Additional for Distinction.—Andreas (Ginn & Co., Albion

Series); Elene (Ginn & Co.).

Course III., Pass.—Course II., Pass, along with Browning, The Ring and the Book; Tennyson, Idylls of the King.

Additional for Honours.—Course II., Distinction, along with Maclean, Old and Middle English Reader.

## 3.—MATHEMATICS.

 ${\bf Professor~Carslaw,~Assistant\text{-}Professor~Newham,~Assistant\text{-}Professor~Moors.}$ 

## FACULTY OF ARTS.

#### MATHEMATICS I.

Students taking Mathematics I. (Arts) must attend one of the three courses specified below. Class A is for students who Here reading for Honours in Mathematics, but part of the Honours work is also covered by Class B. For the Yearly (Pass) Examinations the work of Class C only is required, and those who pass well in the examination for Class B will be held to have obtained "Credit" in the yearly examination.

### CLASS A.

Mondays, Tuesdays, Wednesdays and Fridays, throughout the year, at 10 a.m., as follows:—

LENT TERM.—Geometry and Geometrical Conics (Tu., F.);

Algebra (M., W.).
TRINITY TERM.—Elementary Differential and Integral Calculus (M., W.);

Analytical Geometry (Tu., F.).

MICHAELMAS TERM.—Statics and Dynamics (M., W.);

Trigonometry (Tu., F.).

## CLASS B.

Tuesdays, Thursdays and Fridays throughout the year, at 10 a.m., as follows:—.

LENT TERM.—Elementary Analytical Geometry, and Elementary Differential and Integral Calculus.

TRINITY TERM.—Same (continued).

MICHAELMAS TERM. - Statics and Dynamics.

In the Trinity Term there is also an introductory course in Statics and Dynamics at 9 a.m. on Mondays and Wednesdays, which should be taken if possible.

#### Class C.

Mondays, Wednesdays and Thursdays throughout the year, at 10 a.m., as follows:—

LENT TERM.—Geometry.
TRINITY TERM.—Algebra.

MICHAELMAS TERM.—Trigonometry.

In Michaelmas Term there will be a course of eight lectures on Elementary Astronomy, at 10 a.m. on Tuesdays, which students of all the sections of the class are expected to attend unless prevented by other classes meeting at that hour.

#### MATHEMATICS II.

Students taking Mathematics II. (Arts) must attend either of the courses specified below. Class A is for students who are reading for Honours in Mathematics, but part of the Honours work is also covered by Class B, and those who pass well in the examinations for Class B, will be held to have

obtained "Credit" in the yearly examination. For the Yearly (Pass) Examinations the work of Class B or Class C only is required, but those who have taken Mathematics I (Class A or B) cannot take Mathematics II (Class C) as another course.

### Class A.

At 9 a.m. throughout the year, as follows:--

LENT TERM.—Differential and Integral Calculus (M., W., F.);

Elementary Spherical Trigonometry and Astronomy (Tu., Th.).

TRINITY TERM. - Differential and Integral Calculus (continued) (M., W.,

Analytical Statics (Tu., Th.).

MICHAELMAS TERM.—Dynamics (M., W., F.):

Differential Equations (Tu., Th.).

#### Class B.

At 9 a.m. throughout the year, as follows:—

LENT TERM.—Differential and Integral Calculus (M., W., F.).

TRINITY TERM.—Same (continued) (M., W., F.)

MICHAELMAS TERM.—Statics and Dynamics (M., W., F.).

There is a Tutorial Class at the same hour on Tuesdays and Thursdays. In addition to the other subjects dealt with in the lectures, this class will read the Elements of Differential Equations and Spherical Trigonometry.

## Class C.

At 9 a.m. on Mondays, Wednesdays, and Fridays, as follows :--

LENT AND TRINITY TERMS .- Elementary Differential and Integral Calculus.

MICHAELMAS TERM.—Elementary Statics and Dynamics.

## MATHEMATICS III.

Students taking Mathematics III. must attend one of the following courses:

#### CLASS A.

At 11 a.m. throughout the year, as follows:—

LENT TERM.—Solid Geometry (M., W., F.);

Higher Infinitesimal Calculus (continued) (Tu., Th.).

TRINITY TERM.—Rigid Dynamics (M., W., F.);

Higher Astronomy (Tu., Th.).

Michaelmas Term—(i.) A course of lectures will be given on the Mathematical Theory of one of the following subjects: Electricity and Magnetism; Sound; Hydrostatics and Hydrodynamics; Heat; Elasticity (M., W., F.)\*

(ii.) Projective Geometry (Tu., Th.).

<sup>\*</sup> In 1912 this course will be upon the Mathematical Theory of Sound.

CLASS B.

The courses prescribed for Mathematics II. (Class A). This class meets at 9 a.m. as above.

Pass Students need only take Class B, but Students who have attended this class in their Second Year are not permitted to take Class B as their qualifying course for their Third Year.

## FACULTY OF SCIENCE.

### FIRST YEAR IN SCIENCE AND ENGINEERING.

MATHEMATICS I. (SCIENCE AND ENGINEERING).

This class meets at 10 a.m. on Tuesdays, Thursdays and Fridays throughout the year, and at 9 a.m. on Mondays and Wednesdays in Trinity Term. The course of study is the same as that of Mathematics I. (Arts), Class B. Students who desire to do so may with the permission of the Professor take Mathematics I. (Arts) Class A instead of the regular course for the First Year in Science and Engineering. The Honours Examinations are upon the work of Class A, but those who pass well in the examination for Class B will be held to have obtained "Credit" in the yearly examination.

# SECOND YEAR IN SCIENCE AND ENGINEERING.

MATHEMATICS II. (SCIENCE AND ENGINEERING).

This class meets at 9 a.m. throughout the year. The course of study is the same as that of Mathematics II. (Arts), Class B. Students, who desire to do so, may with the permission of the Professor take Mathematics II. (Arts) Class A instead of the regular course for the Second Year in Science and Engineering. The Honours Examinations are upon the work of Class A, but those who pass well in the examination for Class B will be held to have obtained "Credit" in the yearly examination.

# MATHEMATICS III. (SCIENCE).

The course of study is the same as that for Mathematics III. (Arts) Class A. To obtain a Pass it is not necessary to take all the subjects of that division.

BOOKS RECOMMENDED FOR THE USE OF STUDENTS.

Matriculation (November, 1910) Honours.

Any of the text-books in common use for the corresponding papers of the Senior Public Examination.

Matriculation (March, 1910) Pass

Division A-Lower Mathematics.

Any of the text-books in common use for the papers in Arithmetic, Algebra, and Geometry of the Junior Public Examination. Division B-Higher Mathematics.

Geometry.—Any of the text-books in common use for the Geometry paper of the Senior Public Examination. This examination will not include Schedules C and D of the regulations for the Geometry paper in the Senior Examination. Otherwise the regulations for the papers in the two examinations are the same.

Algebra. - Any of the ordinary text-books on Algebra.

Trigonometry .- Any of the ordinary text-books on Trigonometry. Four Figure Tables to be used.

#### Mathematics I. (Arts).

#### Class A -

Richardson and Ramsey's Modern Plane Geometry, or Godfrey and Siddons' Modern Geometry.

Jackson's Elementary Solid Geometry, or Godfrey and Siddons' Solid Geometry.

Caunt and Jessop's Geometrical Conics, or Hamblin Smith's Geometrical Conic Sections.

C. Smith's Conic Sections.

C. Smith's Treatise on Algebra, or Chrystal's Algebra.

Carslaw's Introduction to the Calculus.

Carslaw's or Hobson's Trigonometry.

Hicks' Elementary Dynamics.

#### Class B--

Carslaw's Introduction to the Calculus. Loney's Mechanics, or Morley's Mechanics for Engineers.

#### Class C-

Hall and Stevens' School Geometry. Any ordinary text-book on Algebra. Carslaw's Trigonometry, Part I.

#### Mathematics II. (Arts).

Class A-In addition to those for the First Year-Osgood's Differential and Integral Calculus. Barlow & Bryan's Elementary Astronomy. Routh's Statics, Vol. I. Forsyth's or Murray's Differential Equations.

Loney's Dynamics of a Particle.

And the following, though not necessary, will be referred to-Lamb's Infinitesimal Calculus.

Gibson's Elementary Treatise on the Calculus.

Todhunter's & Leathem's Spherical Trigonometry.

Love's Theoretical Mechanics. Jeans' Theoretical Mechanics.

Class B-In addition to those for the First Year-Osgood's Differential and Integral Calculus. Loney's Dynamics of a Particle.

Barlow & Bryan's Elementary Astronomy.

Class C-Same as Mathematics I. (Class B).

## Mathematics III, (Arts.)

Class A-In addition to those for the Second Year-

C. Smith's Solid Geometry,

· Ball's Spherical Astronomy.

Lamb's Dynamical Theory of Sound.

Filon's Projective Geometry.

Love's Theoretical Mechanics, or Jeans' Theoretical Mechanics.

And the following, though not necessary, will be referred to-

Frost's Solid Geometry.

Salmon's Solid Geometry.

Goursat's Course in Mathematical Analysis (translated by Hedrick), Vol. I. and II.

Gray's Treatise on Physics, Part I.

Carslaw's Fourier's Series and the Mathematical Theory of the Conduction of Heat.

Routh's Rigid Dynamics, Vols. I. and II.

Bromwich's Infinite Series.

Gibson's Treatise on the Calculus.

Hardy's Course in Pure Mathematics.

Moulton's Celestial Mechanics.

Class B-Same as Mathematics II. (Class A).

First Year Science and Engineering.

Same as Mathematics I. (Arts), Class B.

Second Year Science and Engineering.

Same as Mathematics II. (Arts). Class B.

Third Year Science.

Same as Mathematics III. (Arts). Class A.

#### 4.-LOGIC AND MENTAL PHILOSOPHY.

Professor Anderson, Dr. H. T. Lovell.

Courses of lectures on the following subjects will be delivered during 1911.

#### FACULTY OF ARTS.

Philosophy I.—This course may be taken during either the first or second year in the Faculty of Arts.

- (a) Logic.--Analysis of the methods of reasoning in ordinary life, and in the various departments of knowledge. Fundamental types of explanation--Class, Law, Cause, End. The nature and limits of scientific explanation. Classification of the sciences Relation of philosophy to science, with an account of the main problems of philosophy.
- (b) Psychology. The nature of psychology as a positive science. The various methods of psychology and their limitations. Analysis of psychic processes, with a genetic treatment o special problems. The relation of psychology to normative

sciences such as logic and ethics. The value of psychology as a means of explanation will be illustrated by reference to practical problems of education and sociology.

PHILOSOPHY II. AND III.—This course may be taken during the second or third year in the Faculty of Arts. The subjects of study will be arranged so that the same students may take this course during two successive years. The following will be the subjects of study during 1911:-

- (a) ETHICAL AND SOCIAL PHILOSOPHY.—The sociological basis of ethics. Nature and influence of custom. The family in ancient, medieval, and modern times. The formation of classes. The nature of class morality. The development of the State. The social ideal of order, freedom, justice. Analysis of the conceptions underlying different theories of society. Modern Socialism and the State.
- (b) HISTORY OF MODERN PHILOSOPHY.—The course will be historical and critical, but will not consist of a resumé of theories, for which references will be given to text-books and original authorities. The main thinkers and systems of modern philosophy will be discussed in their historical and logical connection. with special emphasis on the relation of philosophic thought to the science and life of the various epochs.

#### LIST OF BOOKS RECOMMENDED.

FOR PREPARATORY STUDY, before joining the Philosophical Classes .-Baldwin's Story of the Mind; Primers on Philosophy, Logic, and Psychology, in Murray's series.

PHILOSOPHY I.—Pass.—Welton, Logical Bases of Education (Macmillan); Mellone, Textbook of Logic (Blackwood); Stout, Groundwork of Psychology

(Clive); James' Textbook of Psychology (Macmillan).

Additional for Honours.—Bosanquet's Essentials of Logic (Macmillan); Mills' Logic (Longmans ; Stout, Manual of Psychology (Clive); M'Dougall, Social Psychology (Methuen).

PHILOSOPHY II. AND III.—Pass.—Mackenzie, Manual of Ethics (Clive) Rogers' Students' History of Philosophy (Macmillan): McDougall, Socia Psychology (Methuen); Spinoza, Berkeley & Mill, in Everyman's Library.

Additional for Honours. - Royce, Spirit of Modern Philosophy (Houghton, Mifflin & Co.); Taylor, Elements of Metaphysics (Methuen); Green, Principles of Political Obligation (Longman).

#### 5.—EDUCATION.

#### Professor Mackie.

The course in Education may be taken as a Second or Third Year subject for the Arts Degree.

Before taking the course in Education, students are strongly recommended to take either Philosophy I, or the First Year course in Education at the Teachers' College.

HONOURS IN EDUCATION AND PHILOSOPHY.

Students wishing to graduate with Honours in Education may qualify by taking one course in Education and one in Philosophy.

Course for 1911.

1. History of Education.—The history of educational thought will be treated in outline, and an attempt will be made to show the relation of educational theory and practice to dominant philosophical tendencies. Special attention will be given to the history of English education.

2. Theory of Education.—Definition, scope and method of a theory of education. Relation to philosophical and social sciences. Various statements of the aim of education. The school in relation to other ethical institutions. Function of the

school in the democratic state.

The organisation and administration of education. Conception of an educational system. The parts of the system, and their relation to each other and to the community. Current

problems in educational organisation.

The process of education. Analysis of its elements, and their relation to the end. Limits of education. Education and Eugenics. Heredity and environment as conditioning development. General nature of intellectual, æsthetic and volitional training.

Theory of the curriculum. Classification of subjects of instruction. General principles of selection. Relation of school studies to one another. Herbartian and other theories of the

curriculum. Formal discipline.

Psychology of mental development. Child study—its scope and method. Results of statistical and experimental study of the child mind. The nature and stages of mental development. The motives of mental activity in relation to age. Reproductive and productive mental activity in relation to lesson types. Significance of the conception of apperception in educational theory. Growth of conceptions of self and world. Development of moral character. Classification of impulses and instinctive emotional reactions. Growth of formed habits of action, thought, will. Significance of play and imitation. Acquisition of language and of manual skill.

A more detailed study will be made of (1) The measurement of intelligence, and (2) Retardation.

Principles of general method. Intellectual, moral and æsthetic training. The form of instruction in relation to the nature of knowledge, and modes of acquisition. The Herbartian theory. Lesson types. Class management and organisation in relation to the principles of social psychology.

#### BOOKS REQUIRED.

Pass.—Bagley: Educative Process. Macdougall: Social Psychology. Monroe: History of Education. Miller: Psychology of Thinking. Binet : Les Idées modernes sur les enfants.

Honours, in addition to above. - Norwood and Hope: Higher Education of Boys in England. Burstall: High Schools for Girls. Burstall: Public Schools for Girls.

## 6.-HISTORY, 1911. COURSE I.

First Year Day Students, and those Second Year Day Students who have not studied History in their First Year.

Pass.—English History, 449-1558.

Books to be bought.—Green's Short History; Wakeman's Church of England; Gibbins' Industry in England; "English History from Original Sources," B.C. 54-A.D. 1154 (Blackie); "English History from Original Sources," 1216-1485, 3 vols. (Black)

The following additional Books will be very useful.—Freeman's English Constitution; Freeman's William I.; Mrs. Green's Henry II.;

Tout's Edward I.; Bridgett's Sir T. More.

Essays will be written in the course of the year; and an examination will be held in December.

Honour Students will do the work described above, and will be expected to give evidence of knowledge and ability of a higher degree.

Honour Students will also be examined in March on The History of Europe, 800 to 1250.

Books to be bought.—Bryce's Holy Roman Empire; Tout's The Empire and the Papacy; Kingsford and Archer's Crusades.

Additional Books to be read .- Milman's Latin Christianity (Books 7 to

Honour Students will also present in March an Essay on St. Francis of Assisi.

Books to be read. - Sabatier's St. Francis; Oliphant's St Francis; The Mirror of Perfection; The Legend of the Three Companions; Lives of St. Francis, by Thomas of Celano; The Little Flowers of St. Francis.

#### COURSE II.

Second and Third Year Day Students, and First, Second and Third Year Evening Students.

The History of the British Empire, and especially of England, from 1685-1845.

Books to be bought.—Morley's Walpole; Harrison's Chatham; Morley's Burke; Rosebery's Pitt; Gibbins' Industry in England; Carlyle's Past and Present; Burke's Thoughts on the Present Discontents, and Speeches on America; Wakeman's Fox.

Additional Books, which will be very useful.—Lecky's History of England in 18th Century; S. Walpole's History of England from 1815; Hunt's Political History of England, 1760-1801; Trevelyan's Early Life of C. J. Fox; Trevelyan's American Revolution; Hammond's Fox; Toynbee's Industrial Revolution; Morley's Cobden.

Essays will be written in the course of the year; and an Examination will be held in December.

Honour Students will be examined in December on the work described above, and will be expected to give evidence of knowledge and ability in a higher degree.

Third Year Honour Students will not be required to write the essays prescribed for Pass Students. But they will be required to do the following additional work:—

## (1) An Essay on-

The Teaching of Adam Smith.

Books to be bought.—A. Smith's Wealth of Nations; Hirst's A. Smith. Books useful for reference.—Cunningham, Toynbee, Ingram.

# (2) An Essay on-

The aims and methods of English Trade Unions at the present time.

Book to be bought-Webb's Industrial Democracy.

Books useful for reference.—Webb's History of Trade Unionism; Schulze-Gaevernit's Social Peace.

# (3) An Essay on—

Lord Durham's Report.

Books to be bought.—Lord Durham's Report; Bradshaw's Self-Government in Canada; Reid's Lord Durham (second-hand about 6/-).

# (4) A paper in March on-

Canadian History, 1763-1851.

Books to be bought.—Lucas's Historical Geography of the British Colonies; Part II., written by Egerton; Bradley's The Making of Canada.

First Year Honour Students (Evening) will be required—

(1) To write the Pass essays

(2) To write the essay on Lord Durham's report.

(3) To take the paper on Canadian History.

Second Year Honour Students will do the work prescribed for Third Year Honour Students. Those Second Year Honour Students, however, who have not studied History in their First Year, may, if they choose, do the work prescribed for First Year Honour Students.

## 7.—DEPARTMENT OF ECONOMICS AND COMMERCE.

Messrs. R. F. Irvine, H. Dunstan Vane, H. Y. Braddon, Dr. Woolnough, Messrs. F. A. A. Russell, F. B. Guthrie, G. M. Allard, A. M. Eedy.

THE Department of Economics and Commerce provides instruction and practical training in Economics; Accountancy; Business Methods, Organisation, and Enterprise; Technology of Commercial Products; Banking; Insurance; Commercial Law; and other subjects of importance in the industrial life of the community.

The course of instruction will be spread over three years, in accordance with the appended scheme, and will be entitled Economics and Commerce I., Economics and Commerce III, and Economics and Commerce III. The subject is included in the list of alternative subjects that may be taken by candidates proceeding to the degree of B.A.

Unmatriculated students who take a complete course in Economics and Commerce (I., II. and III.), and perform the required class exercises, and pass the annual examinations, will be entitled to receive a Diploma in Economics and Commerce.

The fees are £2 2s. per term, or £1 ls. for each single course.

Lectures will be delivered during the evening, at the Law School, Selborne Chambers, Phillip Street.

## ECONOMICS AND COMMERCE I.

- A.—Economics—Introductory: One lecture per week throughout the academic year.
- B.—Accountancy—One lecture per week throughout the academic year.
- C.—Business Principles and Practice—One lecture per week, Trinity and Michaelmas Terms.

D.—COMMERCIAL GEOGRAPHY—One lecture per week, Lent Term.

BOOKS RECOMMENDED FOR READING :-

ECONOMICS—Gide—Principles of Political Economy; McVey—Modern Industrialism; Marshall—Economics of Industry.

### ECONOMICS AND COMMERCE II.

- A Economics Second Course (throughout the year).
  - Economics of Trade and Finance (Exchange, Markets Value and Price. Monopoly Price. Money. Credit. Banking. Monetary Functions of Securities. Speculation. Commercial Crises. International Trade. Foreign Exchanges. Free Trade. Protection. Preferential Trade. History of Trade Policy).
- B.—Accountancy—Second Course: One lecture per week, Lent and Michaelmas Terms.
- C.—Commercial Law—One lecture per week, Trinity Term.
- D.—HISTORY AND ELEMENTARY TECHNOLOGY OF COMMERCIAL PRODUCTS—Lent Term.

### BOOKS RECOMMENDED FOR READING :-

Economics—Gide—Principles of Political Economy; Hadley—Economics; Marshall—Principles of Economics; McVey—Modern Industrialism; Nicholson—Principles (Volume II.); Hobson—Modern Capitalism; Sykes—Banking and Currency; Withers—The Meaning of Money; Easton—Money, Exchange, and Banking; Walker—Money, Trade and Industry; Ashley—The Tariff Problem; Fuchs—The Trade Policy of Great Britain; Bastable—Theory of International Trade; Pigou—Protection and Preferential Import Duties.

## ECONOMICS AND COMMERCE III.

- A.—Economics—Third Course (throughout the year).
  - Modern Theories of Distribution. The Labour Movement. Co-operation. Socialism. (2) Combinations and Monopolies—their growth and control. (3) Public Finance. Revenue and Expenditure. Taxation. Public Credit and National Debts. (4) Commercial and Industrial History in the XIXth Century.
- B.—One of the following (Michaelmas Term):—
  - (1) Statistical Method. (2) Insurance. (3) Banking Practice and Accounts. (4) Local Government.
- C.—Accountancy—Third Course, Lent and Michaelmas Terms.
- D. -- COMMERCIAL LAW-Second Course, Trinity Term.

#### BOOKS RECOMMENDED FOR READING :-

Economics—Hobson—Economics of Distribution; The Industrial System; Carver—Distribution of Wealth; Smart—Distribution of Income; Kirkup—History of Socialism; Webb—Trade Unionism; Plebn—Public Finance; Jenks—The Trust Problem; Gibbins—Industry in England; Webster—General History of Commerce; Day—History of Commerce.

Students may enter for any one of the separate courses of lectures.

For Science subjects, see Faculty of Science.

## EXAMINATION FOR THE DEGREE OF M.A.

(See By-laws, Chap. XV., Sec. 24.\*)

Candidates for the Degree of Master of Arts who have taken First-class Honours in Mathematics, or in any other two subjects at the B.A. Examination, may be tested by thesis only.

School of Classical Philology and Ancient History.

Candidates may offer themselves for examination in one or more of the following subjects:—

- 1. The History of Greece, to the death of Demosthenes. In addition to a general knowledge of the subject, special knowledge of one of the following periods will be required:—
  - (a) Down to 404 B.C., with Herodotus, Thucydides, and Xenophon (Hellenics I., II.).
  - (b) From 431 s.c. to the death of Demosthenes, with Thucydides, Xenophon (Hellenics) and Demosthenes (Phil. I., Olynth. I.-III., De Pace, Phil. III., De Chers., Phil. III., De Corona).
- The History of Rome, to the death of Marcus Aurelius.
   Special knowledge of Cicero's Letters and Tacitus' Annals will be required.
- 3 Greek Literature, to the death of Demosthenes. In addition to a general knowledge of the whole subject, special knowledge of one of the following groups will be required:—
  - (a) Lyric: Fragments as in Smyth's Greek Melic Poets, or Farnell's Greek Lyric Poetry; Recent Discoveries.

<sup>\*</sup>Candidates may be admitted to Examination for the Degree of M.A. one year after obtaining the Degree of B.A. The Degree of M.A. cannot be conferred until the time has elapsed which is required by the By-laws.

(b) Rhetorical: Specimens of the Attic Orators, such as those given by Jebb; together with Æschines, Against Ctesiphon; Demosthenes, On the Crown; Isocrates, Panegyricus.

Candidates taking this subject are also recommended to read Longinus, On the Sublime (Rhys Roberts). They will be required to show a general knowledge of, and to translate passages from, Greek authors other than those specified.

 The Homeric Poems; a critical study of the structure of the Iliad, based on such books as Jebb's Introduction to Homer; H. Browne's Handbook to Homeric Study; Leaf's

edition of The Iliad.

5. The Greek Drama. Candidates will be expected to be familiar with the history of Greek dramatic art in all its branches, both from the literary and from the practical or purely theatrical point of view. Haigh's Attic Theatre, and Haigh's Tragic Drama of the Greeks would form the introduction to such study. Candidates would also be expected to offer as subjects of more minute literary study at least six plays of Æschylus, Sophocles, Euripides, and Aristophanes (all four authors being represented in the candidate's selection). Candidates are recommended to consult the Professor with reference to the course of study in this and other subjects.

6. Roman Literature, to the death of Tacitus. Special knowledge will be required of Virgil and Horace; and candidates will be required to show a general knowledge of, and to translate passages from, other Latin authors.

7. Greek Constitutional History. In addition to a general knowledge of the subject, to be gained from such a book as Greenidge's Handbook to Greek Const. History, special knowledge will be required of Plato, Republic, Books VIII.-IX.; Aristotle, Politics, and Athenaion Politeia; Xenophon, Respubl. Laced. and Respubl. Ath. Reference also should be made to Freeman's History of Federal Government in Greece and Italy.

8. Comparative Philology, with special application to the Greek and Latin languages. Books especially recommended: King and Cookson's Sounds and Inflections in Greek and Latin; Monro's Homeric Grammar; Wordsworth's Specimens of Early Latin; Lindsay's The Latin

Language; Giles' Manual of Comparative Philology.

Candidates for Honours are required to offer not less than two of the above subjects; but Honours will not be awarded unless a sufficiently high standard is attained in each of the subjects selected.

The Greek and Latin books especially prescribed must be . read in the original language. Books which have in whole or in part been included in the caudidate's course for the B.A. Degree may be offered only subject to the approval of the Professor; but other books may, subject to the approval of the Professor, be substituted for those here specified.

School of Mathematics and Natural Philosophy.

Candidates will be examined in the following subjects:-Analytical Geometry of Two and Three Dimensions.

The Application of the Calculus to the Theory of Plane Curves.

Statics and Dynamics, including the simpler parts of the Theory of Attraction and Rigid Dynamics...

The Elementary Mathematical Theory of one of the subjects prescribed for the course in Mathematical Physics of the Third Year in Arts.

Candidates for Honours may offer themselves for examination in any Mathematical subjects distinctly in advance of those prescribed for the B.A. Course, the subjects to be chosen from both the Departments of Pure and Applied Mathematics, and to be approved by the Professor of Mathematics.

The examiners will be at liberty to declare that candidates, though they may not have deserved Honours, have acquitted themselves so as to deserve the ordinary Degree, and such candidates shall be held to have passed the examination for that degree.

School of Logic, Mental, Moral and Political Philosophy.

Candidates may offer themselves for examination in one or more of the following subjects:-

1. Logic.

7. Politics. 4. Metaphysics. 5. Education.

8. Sociology.

2. Psychology. 3. Ethics.

6. Economics.

\*Candidates for Honours are required to offer not less than two of these subjects. All candidates will be required to submit themselves to examination—

<sup>\*</sup> Candidates for the M.A. with Honours may now offer Education alone.

- (a) On the general history and literature of the subject or subjects chosen.
- (b) On a special branch of, or period in the history of, the subject or subjects chosen. The branch or period to be chosen by the candidate, subject to the approval of the Professor.

In addition, all candidates will be required to present a thesis on some subject connected with the branch of study selected. The choice of the subject must be approved by the Professor. The thesis must give evidence of critical and constructive philosophical ability on the part of the author.

Candidates must have previously attended classes in the department of Philosophy for a period of at least two years.

No books are prescribed, and considerable freedom will be allowed in the choice of subjects, but candidates are recommended to consult the Professor when arranging their courses of study.

Candidates for the M.A. with Honours in the School of Logic, Mental, Moral and Political Philosophy may now offer the subject of Education alone.

Pass candidates are required to select two of the undermentioned branches. Honour candidates must select four.

 Principles of Education.
 History of Educational Theory and Practice.
 The present organisation and administration of Education throughout the world.
 The methods of teaching the various subjects of the primary and secondary schools.
 Educational Psychology.
 Mental Pathology and the treatment of abnormal children.

## SCHOOL OF MODERN LITERATURE

Candidates may offer themselves for examination in one or more of the following subjects:—

- English Philology, English Literature before Chaucer, Special knowledge of Beowulf, the Chronicle, and Sir Gawayne and the Grene Knight will be required.
- 2. English Literature from Chaucer to the present day. Special knowledge will be required of three of the following authors:—Chaucer, Shakespeare, Burke, Tennyson.

3. German Philology. German Literature before Klopstock. Special knowledge of the Niebelungen Lied, Walter von der Vogelweide, Hans Sachs (Dichtungen, Goedeke and Tittman).

 German Language and Literature from Klopstock to the present day. Special knowledge will be required of Goethe's Novels and Dramas, of Schiller's Plays and Poems, and of Lessing's chief Dramas and Prose Works.

5. French Philology. French Literature till 1600. Special knowledge will be required of the Chanson de Roland, of the Romances and Pastorals (Romanzen and Pastorellen; ed. Bartsch), and of Montaigne.

 French Language and Literature from 1600 to the present day. Special knowledge will be required of Molière, of Voltaire's Historical Works, of Sainte-Beuve's Port Royal, and Hugo's Dramas.

Subject to the approval of the Professor of Modern Literature, candidates may offer other books and authors of similar nature and extent in place of those specified.

In all these subjects there may be vivâ voce examination in addition to the examination in writing.

Candidates will be required to present an essay on some subject connected with the period, and written in the language they have selected. The choice of the subject will be left to themselves, but must be approved by the Professor.

Candidates for Honours are required to offer (a) not less than two of the preceding subjects, or (b) one of the six subjects mentioned, along with one of the subjects prescribed for Classics, Philosophy or History. In the latter case the approval of both Professors concerned must be obtained.

## SCHOOL OF HISTORY.

Candidates must have passed the examinations in History in at least two years of their course of study for the Degree of B.A., or must show evidence of having done equivalent historical work. Candidates for Honours must have obtained Honours in History at the examination for the Degree of B.A., or must show evidence of having done equivalent historical work.

Candidates are required to undertake the study of some historical subject in the original sources of information, and to present an essay dealing with some part of this subject.

## FACULTY OF LAW.

The following Regulations have been passed by the Senate:—

1. A Class Examination shall be held at the end of each term by each member of the Teaching Staff in the subject matter of his lectures for the Term, and a report of the results of each examination shall be forwarded to the Registrar to be laid before the Faculty.

2. Every candidate for the Final Examination, or, if he takes that examination in sections, for Section II. of that examination, shall, unless exempted by the Dean, be required to produce a certificate that he has acquitted himself satisfactorily in such practical exercises, including notes and attendances in court as may be from time to time prescribed by the Teaching Staff.

3. A candidate who fails to pass in the Final Examination, or, if he takes that examination in sections, in Section II. of that examination, shall, if the examiners are of opinion that he has shown sufficient merit, be entitled to a deferred examination in the subjects in which he has failed, such deferred examination being held at such times as the Faculty may prescribe.

LECTURE AND EXAMINATION SUBJECTS FOR THE DEGREE OF LL.B. Professor Peden, Messrs. D. G. Ferguson, E. M. Mitchell, Dr. Waddell, Mr. F. R. Jordan.

# 8.—JURISPRUDENCE, LEGAL HISTORY, AND THE ELEMENTS OF POLITICAL SCIENCE.

This subject will include: — (1) An enquiry into the nature and relation of certain fundamental legal conceptions, together with a sketch of their historical development; (2) The outlines of English legal history; and (3) The elements of

political science.

Students are recommended to read—Holland, "Elements of Jurisprudence"; Austin, "Jurisprudence" (Student's edition), Introduction and Part I., ch. 1, 5, 6, and 11; Maine, "Ancient Law," with Notes by Pollock; Carter, "History of English Legal Institutions"; and Sidgwick. "Elements of Politics." Reference may also be made to the following works, and especially to such parts thereof as may be indicated in the lectures:—Austin. "Jurisprudence" (Student's edition), Parts II. and III.; Pollock, "First Book of Jurisprudence"; Maine, "Early Institutions," "Early Law and Custom," and "Village Communities"; Jenks, "History of Politics;" Bryce, "Studies in History and Jurisprudence"; Bentham, "Theory of Legislation" (by Dumont); Farrer, "The State in relation to Trade"; and Jevons, "The State in relation to Labour"; and Dicey, "Relation between Law and Public Opinion in England during the 19th Century."

### 9.—ROMAN LAW.

This subject will include:—(1) The history of the sources of Roman Law, together with an account of the administrative and judicial organisation of the Empire under Constantine, and a sketch of the subsequent history and influence of Roman Law; (2) The text of the Institutes of Justinian (omitting iii... 1 to 12, and iv. 6 to end); and (3) The general principles of Roman Law, so far as these are treated of in the Institutes of Justinian.

Students are recommended to read—Hunter, "Introduction to Roman Law"; and Moyle, "The Institutes of Justinian" and commentary. Reference may also be made to Hunter, "Roman Law in the order of a Code"; and Sohm, "The Institutes of Roman Law" (translated by J. C. Ledley).

## 10.—CONSTITUTIONAL LAW.

This subject will include:—(1) An account of the general features of the British Constitution, and especially those which are essential to a proper understanding of the imperial factors in Australian government; (2) A more particular account of the constitution and government of the Commonwealth; and (3) An account of the constitution and government of the State of New South Wales.

Students are recommended to read the following text-books and statutes; —Dicey, "Introduction to the study of the Law of the Constitution"; Anson, "The Law and Custom of the Constitution," 3rd ed. (Vol. II., ch. 1, 2, 3, 4, 5, 6, 8 and 10, except S. 4); Thomas, "Leading Cases in Constitutional Law"; Webb. "Imperial Law" (ch. 3); Jenks, "History of the Australian Colonies," Commonwealth of Australia Constitution Act, 1900, together with other Acts and Instruments relating to the Government of the Commonwealth; The Constitution Statute (18 and 19 Vict. c. 54) and "The Constitution Act, 1902"; together with other Acts and Instruments relating to the Government of New South-Wales. Reference should also be made to the following works:—Anson, "Law and Custom of the Constitution" (Vol. I.); Ridge "Constitutional Law of England"; Quick and Garran, "Commentaries on the Commonwealth of Australia Constitution Act"; Moore, "The Constitution of the Commonwealth of Australia" (2nd edn.); Keith, "Responsible Government in the Dominions"; and to such statutes and cases as may be indicated in the lectures.

# 11 (a).—PUBLIC INTERNATIONAL LAW,

This subject will include:—(1) An account of the nature, history and sources of Public International Law; and (2) An account of the rules generally accepted as determining the conduct of States in their normal relations, in the relation of war, and in the relation of neutrality.

Students are recommended to read:—Hall, "Treatise on International Law"; Cobbett, "Leading Cases and Opinions on International Law, Part I.," Peace (3rd edn.). Reference should also be made to Westlake, "International Law, vols. i. and ii.;" and Oppenheim, "International Law;" and to such other works and such statutes and cases as may be indicated in the lectures.

## 11 (b).—PRIVATE INTERNATIONAL LAW (CONFLICT OF LAWS).

The subject will embrace a study of the principles which determine questions of jurisdiction, and questions as to the selection of the appropriate law, in cases coming before the courts of this State that involve some "foreign" element.

Students are recommended to read:—Dicey, "Conflict of Laws." Reference should also be made to Foote, "Private International Law," the Service and Execution of Process Act (Federal), and to such other statutes as may be indicated in the lectures.\*

# 12.—THE LAW (in force in New South Wales) RELATING TO CONTRACTS, MERCANTILE LAW, TORTS, CRIMES AND DOMESTIC RELATIONS.

The lectures on this subject will comprise:—An account of the law in force in New South Wales with respect to (1) Contracts generally; (2) Mercantile Law (including Negotiable Instruments, Partnership, Insurance, Carriage and Mercantile Agency); (3) Torts, and obligations arising from civil wrongs at common law; (4) Crimes, including offences punishable summarily; and (5) Domestic Relations and Lunacy.

Text-books and Statutes:—Anson, "Law of Contract"; Stevens, "Elements of Mercantile Law" Part II., together with the cases of Lickbarrow v. Mason and Miller v. Race (with notes), from Smith's "Leading Cases at Common Law"; Pollock, "Law of Torts"; Kenny, "Outlines of Criminal Law"; Kenny, "Selection of Cases illustrative of Criminal Law"; Stephen, "Commentaries," Book III. Reference should also be made to statutes (see appended list) and decisions relating to these subjects, and especially to such statutes and decisions as may be indicated in the lectures.

# 13.—THE LAW OF PROPERTY AND PRINCIPLES OF CONVEY-ANCING (as in force in New South Wales).

The lectures on this subject will comprise:—(1) An introductory course dealing with the general principles of the Law of Property, as regards the nature, creation, transfer and devolution of estates and interests that may be held in real and personal property in New South Wales; and (2) A more advanced course on the system of Conveyancing in vogue in New South Wales,

<sup>\*</sup> The lectures on the subject will for the future be delivered in the third year of the course.

with respect both to interests in land (whether held under a Common Law Title or under the Real Property Act) and interests in personalty.

Text-books and Statutes:—Williams, "Principles of the Law of Real Property"; Williams, "Principles of the Law of Personal Property"; Millard, "Law of Real Property in N.S.W."; Millard, "Law of Personal Property in N.S.W.": Elphinstone, "Introduction to Conveyancing"; "Conveyancing and Property Law in N.S.W." (being a new edition of "Hints on Conveyancing in N.S.W.", by J. E. Hogg. 1909); together with the following statutes (with commentaries where indicated)-Conveyancing and Law of Property Act, 1898; Conveyancing and Law of Property (Supplemental) Act, 1901; Dower Abo'ition Act, 1906; Wills, Probate and Administration Act, 1898; Administration (Validating) Act, 1900; Administration Amending Act, 1906; Landlord and Tenant Act, 1899: Apportionment Act, 1905; Forfeiture of Leases Act, 1901; Forfeiture and Validation of Leases Act, 1905; Registration of Deeds Act, 1897; Real Property Act, 1900 (Canaway); Married Women's Property Act, 1901; Inheritance Act, 1901; and Limitation of Actions Act 3 and 4, Will. IV., c. 27 (adopted by 8 Will. IV. No. 3); Dedication by User Limitation Act, 1902; 5 Vict. No. 9, sections 39, 40, 41; Trust Property Act of 1862, section 36; Ancient Lights Declaratory Act, 1904; Bills of Sale Act, 1898; Bills of Sale (Amendment) Act, 1903; Lien on Crops and Wool and Stock Mortgages Act, 1898; Trade Marks Act, 1905 (Federal); Patents Act, 1903-1909 (Federal); and Copyright Act, 1905 (Federal). Reference should also be made to Jenks, "Modern Land Law"; Hogg, "Conveyancing Precedents and Forms"; Prideaux, "Dissertations on the Law and Practice of Conveyancing," and to such other statutes (see appended list) and decisions relating to these subjects as may be indicated in the lectures.

14.—PROCEDURE IN CIVIL AND CRIMINAL CASES (both before the Supreme Court in its Common Law Jurisdiction and also before Courts of Inferior Jurisdiction); together with the LAW OF EVIDENCE AND PLEADING; AND THE CARDINAL RULES OF LEGAL INTERPRETATION (as in force in New South Wales).

The lectures on this subject will comprise:—An account of (1) The system of procedure in Civil and Criminal Cases at Common Law before the Supreme Court and Courts of inferior jurisdiction; (2) The principles of the Law of Evidence; (3) The principles of Pleading; and (4) The more important rules relating to Legal Interpretation.

Text-books and Statutes: - Smith, "Action at Law"; Stephen, "Digest of the Law of Evidence"; Stephen, "The Principles of Pleading in Civil Actions"; Beal, "Cardinal Rules of Legal Interpretation"; the Duchess of Kingston's Case, with notes, from Smith's "Leading Cases"; together with the following statutes (with commentaries where indicated):—Evidence Act, 1898; Common Law Procedure Act, 1899 (Rolin and Innes); Attachment of Wages Limitation Act, 1900; Crimes Act, 1900, Parts XI., XII., XIII., XIV. (caps 1 and 4), XV. and XVI. (Hamilton and Addison); Poor

Prisoners Defence Act, 1907; Supreme Court Procedure Act, 1900; Supreme Court and Circuit Courts Act, 1900; District Courts Act, 1901 (Foster and Bonthorne), and District Courts Act, 1905; Judgment Creditors Remedies Act, 1901; Interstate Debts Recovery Act, 1901; Jury Act, 1901, Parts VII., IX., X., XI., XII. and XIII.; Interpleader Act, 1901; Prohibition and Mandamus Act, 1901; Arrest on Mesne Process Act, 1902; Justices Act, 1902; Justices Act, 1902; Justices Amendment Act, 1909; Police Offences (Amendment) Act, 1908, Part VIII.; General Legal Procedure Act, 1902; Commercial Causes Act, 1903; Legal Process Facilitation Act, 1904: Small Debts Recovery Act, 1899; Small Debts Recovery (Amending) Act, 1905; State Laws and Records Recognition Act, 1901 (Federal); Service and Execution of Process Acts, 1901-1905 (Federal); Judiciary Act, 1903-7 (Federal); High Court Procedure Act, 1903 (Federal); High Court Procedure Amendment Act, 1903 (Federal); and Evidence Act, 1905 (Federal). Reference should also be made to such other statutes (see appended list) and decisions relating to these subjects as may be indicated in the lectures.

15.—EQUITY AND COMPANY LAW; THE LAW RELATING TO BANKRUPTCY, PROBATE AND DIVORCE (as in force in New South Wales); TOGETHER WITH PROCEDURE IN THOSE JURISDICTIONS.

The lectures on these subjects will comprise:—(1) An account of the general principles of Equity and Company Law, together with Equity Practice; and (2) A series of shorter courses on each of the following—(a) the Law and Practice in Bankruptcy, (b) the Law and Practice in Probate, and (c) the Law and Practice in Divorce.

Text-books and Statutes:—"Principles of Equity" (Snell), together with the cases of Russel v. Russel, Bassett v. Nosworthy and Penn v. Baltimore, with notes, from White and Tudor's Leading Cases in Equity, Williams, "Personal Property," Part II., ch. 4 (Bankruptcy), and ch. 6 (Companies) (a short summary of the local law on these two subjects will be found in Millard, "Personal Property," pp. 127-166 and 192-218); Walker and Elgood, "Executors and Administrators"; Dixon, "Law of Divorce" (omitting parts relating to practice); together with the following statutes (with commentaries where indicated)—Equity Act, 1901 (Rich, Newham and Harvey); Companies Act, 1899; Companies Act Amendment Acts, 1900, 1906 and 1907 (in default of a more recent commentary students are advised to refer to the notes contained in Rolin and Rich on the corresponding provisions of the Acts of 1874 and 1888, and the No Liability Mining Companies Act, 1896); Bankruptcy Act, 1898 (Salusbury); Wills Probate and Administration Act, 1898, Part II. (Kemp); Practice in Divorce, N.S.W., 1907 (Whitfeld); Trustee Act, 1898; Trustee Act Amendment Act, 1902; and Partnership Act, 1892. Reference should also be made to such other statutes (see appended list) and decisions relating to these subjects as may be indicated in the lectures.

#### APPENDED LIST OF STATUTES.

Ancient Lights Declaratory Act, 1901; Conveyancing and Law of Property Act, 1898; Conveyancing and Law of Property (Supplemental) Act,

1901; Dower Abolition Act, 1906; Infants' Custody and Settlements Act, 1899; Children's Protection Act, 1902; Landlord and Tenant Act, 1899; Partition Act, 1900; Registration of Deeds Act, 1897; Wills Probate and Administration Act, 1898; Administration (Validating) Act, 1900; Administration Amending Act, 1906: Real Property Act, 1900; Real Property and Conveyancing (Amendment) Act, 1901; Apportionment Act, 1905; Stamp-Duties Act, 1898; Probate Duties (Amendment) Act, 1899; Companies (Death Duties) Act, 1901; Stamp Duties (Amendment) Act, 1904; Stamp Duties (Deductions) Act, 1904; Bills of Sale Act, 1898; Bills of Sale (Amendment Act), 1903; Money Lenders and Infants Loans Act. 1905; Liens on Crops and Wool and Stock Mortgages Act, 1898; Limitation of Actions Act, 3 and 4 Will. IV., c. 27 (adopted by 8 Will. IV., No. 3), and 5 Vict., No. 9, s. 39, 40 and 41 (or Acts consolidating or superseding the same); Married Women's Property Act, 1901; Trade Marks Act, 1905; Trade Marks Act, 1905 (Federal); Patents Act, 1899; Patents Act, 1903-1909 (Federal); Copyright Act, 1879; Copyright Act, 1905 (Federal); Inheritance Act, 1901; Equity Act, 1901; Trustee Act, 1898; Trustee Amendment Act, 1902; Companies Act, 1899; Companies Act Amendment Acts, 1900, 1906, and 1907; Partnership Act, 1892; Claims against the Government and Crown Suits Act, 1897; Claims against the Government and Crown Suits Amendment Act, 1904; Employers Liability Act, 1897; Seamen's Compensation Act, 1909 (Federal); Workmen's Compensation Act, 1910; Factors Act, 1899; Compensation to Relatives Act, 1897; Bills of Exchange Act, 1909 (Federal); Negotiable Instruments Procedure Act, 1901; Forfeiture of Leases Act, 1901; Forfeiture and Validation of Leases Act, 1905; Common Carriers Act, 1902; Defamation Act, 1901; Defamation Amendment Act, 1909; Life, Fire and Marine Insurance Act, 1902; Life Assurance Companies Act, 1905 (Federal); Marine Insurance Act, 1909 (Federal); Innkeepers Liability Act, 1902; Crimes Act, 1900; Witnesses Examination Act, 1900; Supreme Court and Circuit Courts Act, 1900; Supreme Court Procedure Act, 1900; Judgment Creditors Remedies Act, 1901; Interpretation Act, 1897; Acts Interpretation Act, 1901 (Federal); Acts Interpretation Act, 1904 (Federal); Bankruptcy Act, 1898; Matrimonial Causes Act, 1899; Contractors Debts Act, 1897; Coroners Act, 1898; Masters and Servants Act, 1902; Deserted Wives and Children Act, 1901; Infant Protection Act, 1904; Neglected Children and Juvenile Offenders Act, 1905; Police Offences Act, 1901. Parts I. and II.; Police Offences (Amendment) Act. 1908; Service and Execution of Process Acts, 1901-1905 (Federal); Marriage Act, 1899; Legitimation Act, 1902; Pawnbrokers Act, 1902; Games, Wagers and Betting Houses Act, 1901; Gaming and Betting Act, 1906; Gaming and Betting Amendment Act, 1906; Usury, Bills of Lading and Written Memoranda Act, 1902; Sea Carriage of Goods Act, 1904 (Federal); Arbitration Act, 1902; Lunacy Act of 1898; Secret Commissions Act, 1905 (Federal); Australian Industries Preservation Acts, 1906-1907-1909 (Federal); Commerce (Trade Description) Act, 1905 (Federal).

#### ADMISSION OF BARRISTERS.

Certain privileges are conceded to Graduates and Third Year Students of the University in respect to the conditions necessary for admission to the Bar. As to these, candidates are advised either to refer to the Rules for the admission of Barristers (see Law Almanae), or to apply for information to the Secretary of the Barristers' Admission Board, Supreme Court.

#### ADMISSION OF ATTORNEYS.

The following are extracts from the Rules of the Supreme Court for the admission of Attorneys, which refer to Examinations held at the University:—

The degree of Bachelor of Laws of the University of Sydney obtained by an Articled Clerk who has attended the law lectures appointed by the said University shall exempt him from passing the Intermediate Law Examination and sections 1, 2 and 3 of the Final Examination: Provided, however, that he shall be required to pass section 4 of the Final Examination, and to give all notices and pay all fees as required by the existing Rules in the case of an Articled Clerk proceeding to Final Examination.

Every person desirous of entering into Articles of Clerkship who shall not have taken a Degree in the University of Sydney, or in some other University recognised by it, shall, before approval of such Articles, produce to the Prothonotary a Certificate of his having passed a Matriculation Examination in the said University, or in some other University recognised by it; or a Certificate from the Registrar of the University of Sydney of his having passed some equivalent examination before Professors or Examiners appointed by the Senate thereof; or a Certificate of his having passed in England, Scotland or Ireland the Preliminary Examination which Articled Clerks may be there required to pass, and shall lodge with the said Prothonotary a copy of such Certificate.

Preliminary Examinations for Articled Clerks are held at the University in the months of April and November, commencing on the first Monday in April, and the second Monday in November. Fee, £5 10s. 6d., to be paid to the Prothonotary of the Supreme Court.

The subjects of the Examinations will be found in detail on page 106.

## EXAMINATION FOR THE DEGREE OF LL.D.

The Examination for the Degree of Doctor of Laws will include the following subjects:—

#### 1.—LEGAL HISTORY.

Candidates will be examined both in general and more especially in English legal history. In addition to the text-books and books of reference prescribed for corresponding parts of the LLB. Examination, candidates are recommended to read or refer to Pollock and Maitland, "History of English Law"; Holmes, "The Common Law"; Lee, "Historical Jurisprudence"; and Stephen, "History of the Criminal Law of England."

#### II.—ROMAN LAW.

The Examination in this subject will have reference to a special subject from the Digest, to be selected from time to time, and to be studied in connection with the corresponding branch of English Law. Until further notice the special subject will be "The Roman Law of Sale," as set forth in the following Titles of the Digest: XVIII., 1, 5, 6, and XIX., 1. These portions of the Digest should be studied in connection with Moyle's treatise, "The Contract of Sale inthe Civil Law."

## III .- ENGLISH LAW (AS IN FORCE IN NEW SOUTH WALES).

One of the following special subjects:-

# (1.) The Common Law (including Mercantile Law, Criminal Law, and the Law of Evidence and Procedure).

Candidates, in addition to the books and statutes prescribed for the corresponding portions of the LL.B. Examination, are recommended to make a special study of the leading cases, and especially of those contained in Smith, "Leading Cases," and Tudor, "Leading Cases on Mercantile Law and Maritime Law."

# (2.) Equity (including Bankruptcy, Probate, Company Law, and Procedure).

Candidates, in addition to the books and statutes prescribed for the corresponding portions of the LL.B. Examination, are recommended to make a special study of the leading cases, and especially those contained in White and Tudor, "Leading Cases in Equity."

# (3.) The Law of Property and Conveyancing.

In addition to the books and statutes prescribed for the corresponding portion of LL.B. Examination, candidates are recommended to make a special study of the leading cases, and especially of those contained in Tudor's "Leading Cases on Real Property and Conveyancing, &c." Candidates will also be expected to show a competent knowledge of the practice of conveyancing.

# (4.) Constitutional Law.

In addition to the books and statutes, &c., prescribed for the corresponding portion of the LL.B. Examination, candidates are recommended to read or refer to the following works:—Quick and Garran, "Commentaries on the Commonwealth of Australian Constitution Act"; Clark, "Australian Constitutional Law"; Moore, "The Constitution of the Commonwealth of Australia"; Todd, "Parliamentary Government of the British Colonies"; Forsyth, "Cases and Opinions in Constitutional Law"; and Ilbert, "Legislative Methods and Forms."

## IV .- INTERNATIONAL LAW (PUBLIC AND PRIVATE).

In addition to the books prescribed for the corresponding portion of the LL.B. Examination, candidates are recommended to read Westlake, "Private International Law"; and Dicey, "Conflict of Laws."

Notice.—Candidates are at liberty, on giving six months' prior notice, and with the approval of the Dean of the Faculty, to offer other books in lien of those recommended. Candidates are also advised that a thorough knowledge and apt treatment of a fair proportion only of the subjects touched on in any paper will be regarded as sufficient evidence of proficiency, as regards that particular branch of the Examination.

## FACULTY OF MEDICINE.

For Chemistry, Physics and Zoology see under Faculty of Science.

16.-HUMAN ANATOMY.

Professor Wilson, Mr. S. A. Smith, Mr. H. R. G. Poate, and two Junior Demonstrators.

#### DESCRIPTIVE ANATOMY.

A .- For Medical Students of First Year.

Daily during Michaelmas Term.

Introduction. Various aspects of anatomical study. Methods of study. Nomenclature and Terminology. General characteristics of bodily structure. Preliminary account of human ontogeny. Establishment of rudiments of various bodily systems and organs.

Text Book.—Either McMurrich's Development of the Human Body, or Bryce in Vol. I. of Quain's Anatomy, 11th Ed.

B .- For Medical Students of Second Year.

Daily during Lent and Trinity Terms.

Lectures and Demonstrations on Systematic Anatomy.

The lectures are illustrated by anatomical preparations, both naked-eye and microscopical, and by dissections, lantern-slides and diagrams.

Text Books.—Text Book of Anatomy, edited by D. J. Cuuningham, or Morris' Human Anatomy, edited by McMurrich. If a special atlas of illustrations be desired, the Hand Atlas of Human Anatomy, W. Spalteholz, translated by L. F. Barker, or Toldt's Atlas, will be found most suitable.

# REGIONAL ANATOMY DEMONSTRATIONS.

A .- For Medical Students of Third Year.

Daily during Lent and Trinity Terms.

The course includes regional demonstrations on the Cadaver, a series of lectures and demonstrations in Neurology, special demonstrations on Surface Anatomy in the living subject, and demonstrations on Macroscopic Sectional Anatomy.

## B.-For other than Medical Students.

A Junior course of demonstrations in Regional Anatomy will be held twice weekly during Trinity Term.

# ELEMENTARY DESCRIPTIVE ANATOMY.

For other than Medical Students.

Thrice weekly during Lent and Trinity Terms. During Lent Term the Anatomy of the bones, joints and muscles will be dealt with; whilst, in Trinity Term, that of the vascular and nervous organs, and of the viscera, will form the subjects of study. The lectures will be illustrated by demonstration from preparations, lantern slides, etc.

### SPECIAL COURSES.

During Trinity Term.

A.—Special Topographical and Surface Anatomy for Students of Massage.—A course of ten lectures, supplementary to the general course of Elementary Descriptive Anatomy. Here various facts and features of importance from the point of view of training in massage will receive special consideration.

During Michaelmas Term.

B.—Dental Anatomy.—A course of ten lectures upon the Anatomy of the teeth, including their structure and development, will be given to First Year students in Dentistry.

Text Book recommended for consultation.—Tomes' Dental Anatomy.

C.—Special Artistic Anatomy.—A course of ten lectures, supplementary to the general course of Elementary Descriptive Anatomy, and dealing with points of special importance from the point of view of artistic representation, such as bodily proportion; form, in repose and in movement (including attitude and expression).

This course will only be delivered when desired by students who have already taken either one or both terms of the general course of Elementary Descriptive Anatomy.

# 16 (a).—Practical Anatomy or Dissections.

The dissecting rooms are open daily, to members of the Practical Class only, during all the three terms, from 9 a.m. to 5 p.m., under the supervision of the Professor and Demonstrators. Parts for dissection will be allotted by the Senior Demonstrator. During each of the terms in which attendance on Practical Anatomy is obligatory in accordance with the University By-laws, every student must be actually engaged in dissection, so far as the allotment of parts renders this at any time possible.

Not less than three hours should be devoted daily to actual work in the dissecting room, where alone a practical familiarity with the macroscopical details of human structure can be acquired.

Special tutorial classes will be organized in connection with the dissection of the various parts. Credit for having dissected a part will be given only where diligence and attention to the work, and a fair degree of proficiency in actual dissection, have been exhibited. It is necessary for students of medicine to have dissected each "part," at least once, before admission to the Degree Examination. Prosectors for the Anatomy Classes are selected from among the best dissectors.

Text Books for Regional and for Practical Anatomy.—Cunningham's Manual of Practical Anatomy. Berry's Surface Anatomy.

#### ANATOMICAL LABORATORY.

The Professor will give all possible assistance to any advanced student or other competent person who may desire to pursue some special study or enter upon some original investigation in Anatomy; provided that, if not a member of the University, the applicant shall make special arrangements with the Registrar.

#### 17.—PHYSIOLOGY—JUNIOR AND SENIOR.

Professor Anderson Stuart, Dr. H. G. Chapman, Dr. F. Howson, two Junior Demonstrators.

These classes include a description of the microscopical anatomy of the tissues and organs of the body, a special account of the Physics and Chemistry of the body, and of the functions of all its various parts.

The course is fully illustrated by experiments, diagrams, models, &c., &c.

### PRACTICAL PHYSIOLOGY.

Conducted conjointly by the Professor and his Assistants. The work of this class includes:—

- I. Practical Histology.\*-In which each student prepares, examines, and preserves for himself specimens of the tissues and organs of the body. The student is shown all the more important processes in histological work, and, where practicable, performs them himself.
- II. Experimental Physiology.—In this division each student performs for himself, and obtains graphic records of, the simpler experiments dealing with the physiology of muscle and nerve, the circulation and respiration. He also obtains practical training in the

<sup>\*</sup>See Regulation in reference to Microscopes, page 136

use of those physiological instruments employed in clinical work, e.g., ophthalmoscope, laryngoscope, perimeter, sphygmograph, &c.

- III. Practical Chemical Physiology.—Each student makes an examination of the principal proteins, carbohydrates and fats contained in animals and plants. He then examines chemically blood, muscle, milk, bile, saliva, and gastric and pancreatic juices, and performs experiments in artificial digestion with the three latter. After this he proceeds with the qualitative and quantitative (gravimetric and volumetric) analysis of normal and abnormal urine. Special attention is drawn to the clinical bearing of the work.
- IV. Pharmacology.—Here each student will examine the chemical characters of the principal groups of active substances in plants, will perform the tests for the chief alkaloids and drugs, and will carry out the main methods of separation for the common poisons, etc. The student will then proceed to the examination of the effect of the principal drugs on secretion, muscle, nerve, heart, respiratory apparatus, &c., and the properties of some of the more important therapeutic agents will be investigated in detail. The different parts of the practical work will be introduced by the necessary didactic instruction, and demonstrations of experiments not readily performed by the student will be freely shown.

Special Courses on Physiology for Arts, Science, Dental and Massage Students.

These Special Courses of Instruction will be held at times to be arranged. Demonstrations in Elementary Physiological Anatomy will be included.

The courses will be illustrated by means of dissections models, diagrams, microscopical preparations, &c., &c., &c.

Text Books for Physiology.—Schäfer's Text Book of Physiology; Howell's Text Book; Halliburton's Handbook of Physiology; G. N. Stewart's Mannal of Physiology; Starling's Elements of Human Physiology; Halliburton's Essentials of Chemical Physiology; Aders Plimmer's Practical Physiological Chemistry; Brodie's Essentials of Experimental Physiology; Quain's Anatomy, or Schäfer's Essentials of Histology and Directions for Class Work in Practical Physiology; Dixon's Manual of Pharmacology.

COURSES ON PHYSIOLOGY FOR STUDENTS IN VETERINARY SCIENCE.

A Special Course of Lectures on Introductory General Physiology for Students in Veterinary Science will be held in Lent Term. In Trinity and Michaelmas they will take the course of lectures ordinarily attended by the Medical and Science Students.

A Supplementary Course of Lectures on Special Veterinary

Physiology will be given in Michaelmas.

Additional instruction adapted to the requirements of Students in Veterinary Science will be given during the Courses of Practical Physiology and of Practical Chemical Physiology.

Text-book for Veterinary Physiology.—Noel Paton's Essentials of Physi-

ology for Veterinary Students.

#### THE PHYSIOLOGICAL LABORATORY.

The Physiological Laboratory (including the special laboratories for Histology, Experimental Physiology, Physiological Chemistry, and the Workshop) is open daily from 10 a.m. to

5 p.m.; Saturdays, 10 a.m. to 1 p.m.

Junior students are admitted at stated times, and receive instruction from the Demonstrators. Senior students can use the laboratory at any time during Term, and most vacations, by arrangement with the Professor, and are encouraged in the prosecution of original investigations under his direction, and that of the Demonstrators.

Anyone, whether or not members of the University, wishing to undertake original research in the laboratory, can do so

by application to, and arrangement with, the Professor.

## 18.—PATHOLOGY.

Professor Welsh, Dr. Barling, and two Junior Demonstrators.

For the study of Pathology the following courses are provided:—

I. A course of Lectures and Demonstrations (one term) in GENERAL PATHOLOGY, or the study of the general ætiology of disease and of morbid processes in general, including—

 Retrograde tissue changes (Atrophy, Degeneration, Necrosis).
 Progressive tissue reactions and formative processes (Inflammation, Repair, Hypertrophy).
 Tumour-growth (Neoplasia).
 General circulatory derangements (Arterial and Venous Hyperæmia, Dropsy, Embolism, Thrombosis). Invasion by Animal Parasites; (a) Protozoa; (b) 6. Infection, Intoxication, Immunity, including a systematic account of the more important Pathogenic Bacteria.

II. A course of Lectures and Demonstrations (one term) on Special Pathology, or a systematic study of the more important Diseases, with special reference to the organs and tissues affected, including the Blood and certain correlated tissues (Bone Marrow, Lymphoid Tissue, etc.), various Glandular Organs, and the structures of the Lymphatic, Circulatory, Respiratory, Alimentary, Urinary, Nervous, and Osseous Systems.

III. A course of Practical Pathology, including Bac-TERIOLOGY, PROTOZOOLOGY and Hæmatology (two terms).—The

work of the Practical Class consists of—

1. Practical training in some elementary histological methods.

2. A systematic study under the microscope and with the naked eye of selected pathological lesions illustrative of typical morbid processes and conditions described

under General and Special Pathology.

3. Laboratory instruction and demonstrations in general bacteriological technique, including methods of sterilisation, preparation of culture media, methods of isolation and of cultivation, methods of staining, separation of bacterial products, inoculation, etc.

4. The systematic examination of the more important bacteria concerned in disease, including their distinctive characters under the microscope and in cultivation, their localisation in the tissues, their mode of action, etc., with special reference to clinical diagnosis. Some of the non-pathogenic bacteria may also be examined.

5. Practical instruction and demonstration in phenomena of immunity, with special reference tothe clinical applications of hæmolysins, opsonins, agglutinins and precipitins.

6. The practical study of the more important forms of

Protozoa, and of Metazoa, parasitic in man.

7. Practical instruction in methods of preparation, fixation, staining, and examination of blood films with special reference to clinical work.

<sup>\*</sup> See Regulation in reference to Microscopes on page 136.

N.B.—Microscopes for practical work in Bacteriology, Protozoology and Hæmatology require a suitable condenser, and a 12-inch homogeneous immersion objective. A triple dust-proof nose-piece will be found a great convenience. (See regulations in reference to microscopes on page 136.)

IV. TROPICAL DISEASES.—Special attention is devoted, both in the lecture and in the practical courses, to the pathology of the more important forms of tropical disease under the above headings. Since 1902 more than one-fourth of the entire course

has been devoted to this aspect of Pathology.

V. CLINICAL PATHOLOGY AND POST-MORTEM EXAMINATIONS.—Students are urgently recommended to avail themselves of every opportunity that may be given in the pathological laboratories of the Royal Prince Alfred and Sydney Hospitals for the study of morbid anatomy, and the relation of clinical phenomena to morbid processes.

VI. Post-Graduate Courses.—Special post-graduate courses

will, from time to time, be announced.

ORIGINAL RESEARCH.—Original research in any branch of Pathology and Bacteriology is encouraged so far as the equipment and accommodation in the Laboratory will permit.

Text Books.—Muir and Ritchie's "Manual of Bacteriology." Beattie and Diekson's "Text-books of Pathology." Allbutt and Rolleston's "System of Medicine," vol ii., part ii., on 'Tropical Diseases." Osler's "Principles and Practice of Medicine." Adami's "Principles of Pathology."

## FOR STUDENTS OF DENTISTRY.

Students of Dentistry are required to attend the following courses:—

1. General Pathology (including Bacteriology) as pre-

scribed for students of medicine.

 Practical Pathology, as prescribed for students of medicine, in so far as it is illustrative of General Pathology, with, in addition, a short course on the special pathology and bacteriology of the mouth and teeth.

## 19.—PRINCIPLES AND PRACTICE OF SURGERY.

Dr. A. MacCormick.

Introduction—Principles and Practice.

(a) Inflammation.
 (b) Traumatism.
 (c) Surgical Diseases.
 (d) Regional Surgery,—injuries and diseases peculiar to parts of the body.

## 20.—OPERATIVE SURGERY.

#### Dr. A. MacCormick.

In this class the principal operations are described and their uses explained, and after ascertaining that the student has a thorough knowledge of the anatomy of the part, he performs the operations on the cadaver under the supervision of the lecturer and his assistant.

Text Books Recommended.—Walsham's Surgery; Rose and Carless' • Manual; Cheyne and Burchard's Manual; Jacobson's Operations of Surgery; Thomson and Miles' Surgery; Treves' Operations: Waring's Manual of Operative Surgery.

## 21.—CLINICAL SURGERY.

## Mr. H. V. Critchley Hinder, M.B., Ch.M.

The Lecturer will deal more particularly with the clinical aspect, the diagnosis and treatment of surgical cases which may from time to time present themselves in the wards.

## 22.—TUTORIAL SURGERY.

## Dr. R. B. Wade.

The Surgical Tutor acts under the instructions of the Lecturers in Surgery and Clinical Surgery, to whose courses of instruction that of the Tutor is preparatory in its character. The times fixed for the course are suitable on the one hand to the convenience of the students and to the arrangements of thehospital on the other. At least two meetings of the class, each of at least one hour's duration, are held in each week during Term, and, if need be owing to the number of students in attendance, the class is subdivided so that the students may have as much individual attention as possible. A class examination is held at the end of each Term, and the results are communicated to the Registrar. The course is conducted on a definite and systematic plan as directed from time to time by the Senate, and is of an entirely practical nature. The Tutor seeks to make each student thoroughly acquainted with all the signs of Surgical Diseases and Injuries, with the methods and means of Surgical Diagnosis, and with the nature, use, and application of surgical instruments and appliances. The following is a moredetailed statement of the work of the class:-

Case taking. 2. Knots, Bandages, Dressings. 3. Antiseptics and Sterilisation. 4. Fomentations, Poultices, &c. 5. Sutures and Sponges. Their preparation.
 Splints and the Treatment of Fractures. 7. Surgical Emergencies in General. 8. Restoration of the

Apparently Drowned. 9. Local Anæsthesia. 10. Preparation of Patients for Operation. Treatment immediately after Operation. 11. Artificial Limbs and Mechanical Apparatus generally. 12. Instruments. 13. Surface Anatomy. 14. Outline of Radiography.

## 23.—PRINCIPLES AND PRACTICE OF MEDICINE.

Mr. A. E. Mills, M.B., Ch.M.

Maintenance of the body in health-

Means by which this is secured:-

(i.) Nutrition. Food. Oxygen. Water. Cellular Nutrition. (ii.) Protection against injury. Preventive Medicine. Response of body to invasion by micro-organisms and toxic substances. (iii.) Exercise of normal function of organs of body. (iv.) Psychical factors.

Disease.—All factors leading to diseased conditions are those which interfere with one or more of the means by which the body is maintained in health.

E.g. (i.) Interference with nutrition:—(a) Interference with digestive action. (b) Interference with absorption into body. (c) Interference with absorption into cells. (d) Interference with utilisation of food. (e) Interference with destruction of waste products. (f) Interference with secretion of waste products. (ii.) Injury to living cells by—(a) Toxic substance. (b) Micro-organisms. (c) Mechanical injury. (d) Heat and cold. (iii.) Alteration of function—(a) Excessive function. (b) Diminished function.

Symptomatology and Diagnosis.—Therapeutics.—In disease the same mechanism is operative, although changes adapted to the altered conditions, but dependent upon the same general mechanism of the body, are observed.

Treatment of disease in general consists in—Adaptation of nutriment to the requirements of the cell. Adaptation of nutrition to altered metabolism of the cell. Regulation of chemical and psychical processes constituting the metabolism of the cell. Making provision for destruction and elimination of products of cellular activity. Protection of the cell from the effects of altered environment. Stimulation of the resisting powers of the cell and body

fluids. Modification of the functional activities of the cells, tissues and organs of the body. Influencing the

psychical factors in bodily activities.

Means adopted to help those processes of the body which lead to restoration to health, and make those processes more efficient—(1) Rest: bodily, mental. (2) Diet.

(3) Removal of products, result of excessive function.

- (4) Use of antipyretic agents—Hydrotherapeutics. (5) Application of stimulants to organs capable of vicarious functions. (6) Change of environment.
- (7) Massage. Electricity. Physical Exercises. (8) Removal of nervous and mental irritants. (9) Removal of conditions by which curative agents of disease gain admission to body. (10) Specific stimuli to immunising mechanism. (11) Isolation. (12) Drugs, including organo-therapy.

General processes of Disease—Fever. Pain. Malnutrition. Disorder and Incoordination of function. Tissue des-

truction.

## Classification of Disease.

General Diseases—Specific Infectious Diseases. Intoxications. Diseases due to parasites. Diseases due to disturbance of nutrition and metabolism.

Diseases of Special Organs—Circulatory (heart vessels and blood). Respiratory (lungs and bronchi). Digestive (stomach and intestine, liver, pancreas). Secretory (thyroid, pituitary adrenals). Secretory (kidneys, skin). Nervous System, etc.

# 24.-CLINICAL MEDICINE. R. Scot-Skirving, M.B., Ch.M,

- A. Bedside Instructions in the Wards of the Royal Prince Alfred Hospital.—The methodical examination of patients, their symptoms and physical signs of disease. Discussion on the diagnosis and treatment of each case.
- B. CLINICAL LECTURES on special cases, or on special subjects not otherwise dealt with or demonstrated at the bedside.

## 25.—TUTORIAL MEDICINE.

Dr. Sinclair Gillies.

The Medical Tutor acts as an assistant to the Lecturers on Clinical Medicine, to whose courses of instruction the work of

the Tutor is preparatory and supplementary. The meetings of the class are held at times suitable to the convenience of the students on the one hand, and to the arrangements of the hospital on the other hand. The class meets at least twice weekly during Term, and each meeting is of not less than one hour's duration. If need be, owing to the number of students in attendance, the class is subdivided so that each student may have as much individual attention as possible. A Class Examination is held at the end of each Term, and the results are communicated to the Regis-The course is conducted on a definite and systematic plan, as directed from time to time by the Senate, and it is of an entirely The Tutor seeks to make each student practical nature. thoroughly acquainted with the signs of medical diseases, always. comparing the abnormal with the normal, with the methods and means of medical diagnosis, and with the nature, use, and application of such instruments as are used in medical diagnosis and treatment. The Tutor also exercises a general superintendence over the work of the Clinical Clerks in the medical wards, and he gives them such assistance as they may require for properly recording the medical cases.

The outlines of the work of the class are somewhat as follows:—

Special attention is paid to the proper way of taking the history of a medical case. Signs and symptoms, the difference, their significance.

METHODS OF EXAMINATION.—Inspection, palpation, percussion, auscultation, (a) the practice of these methods on the healthy, (b) the practice of the same methods on patients the subjects of disease, (c) the signs revealed by these methods in diseased conditions contrasted with the signs which obtain in health.

DIGESTIVE SYSTEM.—Examination of mouth and pharynx; inspection, palpation, and percussion of abdomen in health and in disease; examination of gastric contents, chemically; examination of material vomited, microscopically and chemically; examination of fæces.

CIRCULATORY SYSTEM.—The pulse; its characters; the condition of the arteries; estimation of blood pressure; taking of sphygmograms and their interpretation. Venous pulse; its significance; examination of normal hearts; examination of diseased hearts; signs of dilatation and hypertrophy; normal

heart sounds; abnormal heart sounds and their significance. The blood; estimation of corpuseles; estimation of hæmo-globin; the making of blood films.

RESPIRATORY SYSTEM.—Examination of normal chests by inspection, palpation, percussion and auscultation; types of breath sounds in healthy persons, and in patients subject of disease; characters of respiratory accompaniments.

URINARY SYSTEM.—Palpation of kidneys; examination of urine chemically, with special reference to urea, albumen, blood, bile and sugar; microscopical examination of urinary sediment.

Nervous System.—The mental condition of the patient; examination of the cranial nerves, with reference to their functions; examination of motor functions with regard to paralysis, incoordination, abnormal movements; examination of sensory functions as to touch, temperature, pain, and muscle sense; examination of reflex functions; electric reactions of muscles and nerves.

#### 26.—MIDWIFERY.

## Sir James Graham, M.D.

Anatomy and Physiology of the several organs and structures connected with Ovulation, Gestation, Parturition, &c.

Gestation, its Signs, Symptoms, Duration and Abnormalities.

The Phenomena of Natural and Complicated Labour.

The Induction of Premature Labour and Obstetric Operations. The Management of the Puerperal State.

Text Books.—Whitridge Williams' Obstetrics; Tweedy & Wrench's Practical Midwifery; Fothergill's Manual of Midwifery; Herman's Difficult Labour.

#### 27.—GYNÆCOLOGY.

## Mr. Joseph Foreman, M.R.C.S.

Introductory. Anatomy of the Female Pelvic Organs. Diseases of the Vagina. Diseases of the Uterus and Fallopian Tubes. Diseases of the Ovaries. Pelvic Tumours.

BOOKS RECOMMENDED.—Galabin's Students' Guide to Diseases of Women; McNaughton-Jones' Manual of Gynæcology (6th edition), Hart and Barbour.

## 28.—MEDICAL JURISPRUDENCE.

## Dr. R. H. Todd.

Legal criminal procedure. Medical evidence. Identification in the living and dead. Death in its medico-legal relations. The examination of the dead body. The signs of death. Forms of death.—(1) Drowning, (2) Suffocation, (3) Hanging, Strangu-

lation and Throttling, (4) Lightning and Electricity, (5) Burns and Scalds, (6) Neglect and Starvation, (7) Cold and Exposure, (8) Heat Apoplexy, (9) Mortal Wounds. Differential diagnosis of states of insensibility. Wounds in their medicolegal relations. Examination of blood and other stains. Legal relations of sexual incidents. Signs of pregnancy and delivery. Abortion. Infanticide. Lunacy in relation with the law. Toxicology.

#### 29.—PUBLIC HEALTH.

Mr. W. G. Armstrong, B.A., M.B., Ch.M.

Public Health.—Meteorology—Temperature, winds, humidity, rainfall, atmospheric pressure, climate. Air—Composition, impurities, ventilation, amount required, natural and artificial ventilation, examination of air. Soil—Ground water, ground air, organic matter in soil, classification of soils. Water—Quantity and supply, quality, impurities, purification, examination of water supplies. Food—Classification of foods, dietaries, preservation of foods, unsound food, diseases caused by food. Sanitary engineering—Dwellings, sanitary defects, disposal of refuse, wet and dry methods, sewers, sewage disposal. Disease—Infectious diseases, history of epidemics, means of prophylaxis, occupational diseases. Vital statistics. The law of publichealth—Notification, preventive measures, nuisances, insanitary habitations, protection of food supplies.

#### 30.—MATERIA MEDICA AND THERAPEUTICS.

Mr. T. Storie Dixson, M.B., Ch.M.

(1) For Medical Students.

A course of lectures on Materia Medica and Therapeutics will be delivered daily to Students in their Fourth Year during Trinity Term.

The subjects considered will include—

- (a) The chief conditions which influence the action of drugs.
- (b) The nature, mode of action, uses, chief methods of administration of the more important official and unofficial drugs, and of their preparations.

The course will be illustrated by diagrams, macroscopical and microscopical preparations, and by such other means as may be available. (2) For Dental Students.

A course of 20 lectures on the Materia Medica and Therapeutics of the more important substances employed by Dentists and adapted to the special requirements of the latter, will be given during Lent Term.

Text Books.—Materia Medica for Dentists, Gabell and Austin, or Dental Materia Medica and Therapeutics, Hermeren Prinz.

(3) For Pharmaceutical Students.

A course of lectures on Pharmaceutical Chemistry and Pharmaceutical Botany, treating primarily of the substances officinal, and secondarily of the more important substances not officinal in the British Pharmacopæia, will be given to Pharmaceutical students. This course will consist of 50 lectures, and will be illustrated by diagrams, macroscopical and microscopical specimens, and such other means as may prove feasible.

Text Book.—Materia Medica, Greenish; British Pharmacopæia with

addendum.

For Reference.—Pharmacographia, Flückiger and Hanbury; Extra Pharmacopedia, Martindale and Westcott; Pharmacopedia, White and Humphrey; Squires' Companion, 1908.

## 31.—PSYCHOLOGICAL MEDICINE.

Dr. Flashman and Dr. Davidson.

This course comprises:—

- I. An account of the Nature, Causes, Classification, Social and Medico-Legal Relations of Insanity.
- II. An account of the various forms of Mental Disease or Disorder; their Clinical History, Diagnosis, Prognosis and Treatment.
- III. Practical demonstrations, at the Hospital for the Insane, of the various types of Mental Disease or Disorder.

#### 32.—OPHTHALMOLOGY.

Mr F. Antill Pockley, M.B., Ch.M.

Diseases and Injuries of the Conjunctiva, Cornea, Sclerotic, Iris and Ciliary Body, and Crystalline lens. Glaucoma. Refraction and Accommodation—Emmetropia, Ametropia, Hypermetropia, Myopia, Astigmatism: Asthenopia. Examination of the Eye, Ophthalmoscopy. Affections of the Vitreous Humour, of Optic Nerve, Retina, and Choroid. Affections of Sight unaccompanied by any definite intraocular signs:—Amblyopia and Amaurosis, Colour Blindness, &c. Perimetry:—Defects in

Visual Field, Hemianopsia, &c. Affections of the Ocular Diseases of the Eyelids and Muscles: Paralysis, Strabismus, &c. Lachrymal Apparatus. Operations.

BOOKS RECOMMENDED.—Text Books—Handbook of Diseases of the Eye, Swanzy and Werner; Diseases of the Eye, Berry; Ophthalmic Surgery and Medicine, (Jessop).

For Reference. -- System of Diseases of the Eye, Norris and Oliver.

## 33.—DISEASES OF THE EAR, NOSE AND THROAT. Mr. H. Russell Nolan, M.B., Ch.M.

EAR—The clinical examination of the ear and the estimation of the hearing power. Diseases of the external ear and the external auditory canal. Acute diseases of the middle ear. Chronic suppurative disease of the middle ear. Complications and sequelæ of suppurative diseases of the middle ear. non-suppurative diseases of the middle ear. Diseases of the internal ear. Deaf mutism.

Nose-Methods of examination. Acute and chronic rhinitis. Neuroses of the nose. Diseases of the nasal accessory sinuses. Adenoid growths in the naso-pharynx.

THROAT—Methods of examination. Acute inflammations of the larnyx. Chronic inflammations of the larynx. infective diseases. Neoplasms and neuroses of the larynx.

#### 34.—DISEASES OF THE SKIN. Dr. F. A. Bennet.

A short theoretical course of lectures in Dermatology. embracing all the chief diseases of the skin and their treatment, is delivered to the students once a year, whilst at the outdoor Dermatological Department clinical teaching is given throughout the whole year.

#### DEPARTMENT OF DENTISTRY.

(See also under Faculties of Medicine and of Science.) 35.—SURGICAL AND MECHANICAL DENTISTRY.

Messrs. R. Fairfax Reading, F. Marshall, P. A. Ash, Donald Smith, H. G. Moxham.

## (a) Special Diseases of the Teeth. Part I.

1. Surgical Anatomy of the Teeth, Temporary and Permanent. 2. Extraction—Instruments, etc. 3. Accidents during and after extraction. 4. Extraction under anæsthetics. 5. Pyorrhœa Alveolaris. 6. Tumours of the Jaws. 7. Reflex Disorders of Dental Origin. 8. Injuries—Fracture of Alveolus. Dislocation. Accidental Extraction. Infection of Wound. Fractured Teeth. 9. Replantation. Transplantation. Implantation. 10. Fracture of Jaw—Complications. Splints. 11. Cleft Palate. 12. Deformities—Restorative appliances.

## PART II.

1. Condition of Teeth and Jaws at Birth. 2. Temporary Dentition and its Complications. 3. Permanent Dentition. 4. Abnormalities of Teeth. 5. Caries. 6. Diseases of the Pulp. 7. Abscess. 8. Diseases of the Pericimentum. 9. General hygiene of the Mouth. 10. Root canals, treatment and filling.

## (b) CLINICAL DENTAL SURGERY.

1. The Teeth—Definition, nomenclature, structure, form, surfaces, arrangement. 2. Sterilisation—Mouth, hands, instruments, &c. 3. Examination of the Teeth-Appliances, methods, removal of deposits, separating, records, &c. 4. Stages of Caries—Superficial, moderate, deep. 5. Exclusion of Moisture— Appliances, methods. 6. Preparation of Cavities-Opening. removing decay, shaping, sterilising. 7. Classification of Cavities -(a) Simple cavities on exposed surfaces, (b) Simple approximal cavities, (c) Compound cavities. 8. Filling Materials—Gold, tin, amalgam, cement, gutta percha. 9. Cavity Linings-Indications for, materials. 10. Filling Cavities with gold and with tin. 11. Filling Cavities with plastic materials. 12. Combination fillings. 13. Matrices -Forms, uses, dangers. 14. Inlays, porcelain and gold. 15. Bleaching of discoloured teeth. 16. Care and treatment of deciduous teeth.

#### ORTHODONTIA.

Etiology. Classification of cases. Movements to be produced. Materials, appliances and methods. Simple cases and methods of correction. Complicated cases and methods of correction.

## (c) Crown and Bridge Work.

1. History, definition and application. 2. Materials and instruments required. 3. Selection of cases for crown work. 4. Treatment and preparation of roots for reception of the various forms of pivot crown. 5. Construction and mounting of porcelain and facing crowns. 6. Preparation of teeth for the adjustment of hollow metal crowns. 7. The hollow metal crown. 8. Porce-

lain faced hollow metal crown. 9. Seamless crowns. 10. Principles involved in the selection of cases for bridge work. 11. Construction and fitting of the various forms of fixed bridges. 12. Application to special cases. 13. Removable bridges. Application and construction. 14. Material and various methods employed in setting crown and bridge work. 15. Porcelain as applied to crown and bridge work. 16. General principles. 17. The various kinds of porcelain bodies, their composition and fusing points. 18. Manipulation of the body. 19. The construction of porcelain crowns.

## (d) MECHANICAL DENTISTRY.

1. Preparation of the mouth. 2. Impressions and their treatment. 3. Models—Preparation for metal and vulcanite. 4. Moulding—Dies and counter-dies. 5. Swaging of the various forms of metal plates. 6. Attachment—Clasps, air chambers, etc. 7. Combination dentures. 8. The selection of teeth. 9. Articulation. 10. Vulcanisable rubber—Description and application. 11. Vulcanising and finishing. 12. Treatment of various abnormalities.

Text Books Recommended.—Essig's and Kirk's American Text Books; Tomes; Turner's Mechanical Dentistry; Kingsley's Oral Deformities; Evans' Crown and Bridge Work; Guilford's Orthodontia; Farrar's Irregularities; Deutal Metallurgy, E. A. Smith (Churchill & Co.); Angle's Malocclusion of the Teeth; Goslee's Crown and Bridge Work; Smale and Colyer, Diseases and Injuries of the Teeth; Johnson's Methods of Filling Teeth.

## MINIMUM PRACTICAL. REQUIREMENTS.

#### FIRST YEAR.

Section cutting and printing. Drawing from specimen teeth, and modelling in plasticine. Three partial upper and three partial lower vulcanite plates without teeth. Repairs of vulcanite cases. One full upper and lower vulcanite denture (teeth removed after flasking).

#### SECOND YEAR.

Preparation of 20 cavities in extracted teeth, of which, 10 to be filled with non-cohesive tin, 3 with G.P., 2 with ZnO and cloves, and 5 with amalgam.

Two partial upper and lower plates in German silver, without teeth.

Eight partial practical vulcanite dentures.

Practical cases—Four full upper and lower aluminium base dentures.

These

the mouth.

Two full upper and lower all vulcanite dentures. These cases to have anatomical articulation.

Preparation and filling of the roots of 5 extracted molar teeth. Examination for proficiency in adjusting rubber dam and accessories on a dummy.

#### THIRD YEAR.

Forty amalgam and cement fillings (20 to be preceded by root treatment).

Twenty gold fillings; ten inlays (five porcelain, five metal).

Construction of one complete set of Angle's orthodontia appliances.

Practical orthodontia cases to be undertaken; plaster impressions of these to be taken, casts accurately and anatomically trimmed according to Angle, and presented to the Dental

Swaged caps for anterior and posterior teeth. Inclined plane.

Three full upper and lower gum section cases (practical).

One partial upper and partial lower metal plate, four or more tube teeth on each plate, and at least two teeth backed and soldered on each.

Eighteen practical vulcanite dentures, ten of which must be full cases (upper and lower).

Preparation of roots for, and construction on an articulator of three hollow metal molar crowns; two incisor crowns (one banded, one half-banded, soldered).

Two porcelain faced bicuspid crowns; one all porcelain bicuspid crown, using full-band and porcelain facing; three Davis crowns, cast bases; four telescoping crowns (two molar, two incisor) with tube and split pin.

#### FOURTH YEAR.

Thirty gold fillings (fifteen to be approximal cavities in anterior teeth).

Fifty amalgam and cement fillings (twenty-five to succeed root treatment).

Two regulation cases; ten inlays (in the mouth).

Two hollow metal crowns; three incisor crowns One deep-banded porcelain faced bicuspid crown / to be done One all-porcelain banded bicuspid crown

One Davis crown, cast base.

Preparation of cavities for, and construction of, three metal inlay attachments for removable bridges.

One Gunning splint; one Kingsley splint; one Hammond splint. One cleft palate case complete, both soft velum and obturator to be made.

Examination for certificate of proficiency in extraction.

Four removable bridges, each with two or more dummies.

1, to be made in the mouth.

2, to be the constructed skeleton for an all-porcelain bridge.

3 and 4, to be ordinary cases selected by the lecturer.

Addition to Books Recommended.—Operative Dentistry (Black).

## PHARMACY.

The course of instruction attended by Pharmacy students consists of-

- (a) Chemistry, inorganic and organic, with practical work, seee No. 38.
- (b) Materia Medica, see No. 30.
- (c) Botany, see No. 48.

## FACULTY OF SCIENCE.

## 36.—PHYSICS.

Professor Pollock, Messrs. O. U. Vonwiller, I. G. Mackay, and one Junior Demonstrator.

#### LECTURES. ·

#### Physics I.

An introductory course of about sixty lectures on the Elementary Principles of Mechanics, Properties of Matter, Sound, Heat and Light, and Electricity and Magnetism

Text Book.—Crew's General Physics (Macmillan).

#### Physics II.

A course of sixty lectures on the Properties of Matter, Heat, and Electricity and Magnetism.

## PHYSICS III.

A course of sixty lectures on Physical Optics, Acoustics, and Electricity and Magnetism.

For Honours the examination will include the subjects of Physics II.

#### PHYSICAL LABORATORY.

The Physical Laboratory was designed by Richard Threlfall, M.A., F.R.S., Hon. Fellow of Caius College, Cambridge, then Professor of Physics in the University, and was built under his

PHYSICS.

supervision. The building was commenced in 1886, and completed early in 1888. Considerable additional laboratory accommodation was provided in 1901 by an extension of one side of the building.

The Laboratory was founded for the encouragement of the study of Physical Science, and its object is not only to afford facilities for imparting instruction but also for aiding research.

## PRACTICAL PHYSICS.

#### FIRST YEAR.

The course consists of quantitative experiments in the following:—

Measurement of Length. Estimation of Mass. Determination of Density. Determination of Atmospheric Pressure. Pressure of Water Vapour. Hygrometry. Thermometry. Vibratory Motion. Moment of Inertia. Elasticity of Solids. Surface Tension. Calorimetry. Determination of Musical Pitch. Measurement of Velocity of Sound in Air and Solids. Reflection and Refraction of Light. Elementary Spectroscopy. Polarisation of Light. Saccharimetry. Measurement of Resistance. Electromotive Force and Current. Electro-magnetic Induction.

All students attending the Physical Laboratory are required to keep a record of their practical work in special note-books, to be obtained from W. E. Smith, Bridge Street. These note-books form the basis on which marks are allotted for Practical Physics at the annual examination.

Students presenting themselves for examination in Physics at the end of any Academic Year during which they have not attended the Laboratory must also present themselves for examination in Practical Physics.

Text Book .- Practical Physics, Pollock and Vonwiller.

#### SECOND YEAR.

The course consists of quantitative experiments in the following: —

Measurement of Time. Pendulums. Elasticity of Solids. Viscosity. Expansion of Solids, Liquids and Gases. Heat Conductivity. Calorimetry. Magnetic Measurement. Determination of Magnetic Elements. Magnetic Properties of Metals. Accurate Comparison of Resistances. Electrolytic Measurement of Current. Accurate Comparison of Electromotive Forces.

The Potentiometer. Electrical Thermometry. The Ballistic Galvanometer. Measurement of Capacity. Determination of Self and Mutual Induction, &c.

Text Book .- Text Book of Practical Physics, Watson.

#### THIRD YEAR.

Advanced Physical Measurements.

Text Books.—Physical Measurements, Kohlrausch (translated by Waller and Procter, Churchill, London). Threlfall's Laboratory Arts.

## BOOKS RECOMMENDED. For First Year Students.

Crew's General Physics.

For Second and Third Year Students.

General Physics.—Maxwell's Matter and Motion. Everett's C.G.S. System of Units. Worthington's Dynamics of Rotation. Poynting and Thomson's Properties of Matter. Tait's Properties of Matter. Lord Kelvin's Article on Elasticity in the Encyclopædia Britannica. Todhunter's History of Elasticity. Thomson and Tait's Natural Philosophy. J. J. Thomson's Application of Dynamics to Physics and Chemistry. Whetham's Solution. Jevons' Principles of Science. Ostwald's Physico-Chemical Measurements.

o Heat.—Poynting and Thomson's Heat. Preston's Theory of Heat.

Maxwell's Theory of Heat. Tait's Heat. Balfour Stewart's Treatise on Heat. Ewing's Steam Engine and other Heat Engines. Clausius' Mechanical Theory of Heat. Meyer's Kinetic Theory of Gases. Jeans' Dynamical Theory of Gases.

Light. — Wood's Physical Optics. Schuster's Theory of Optics. Preston's Theory of Light. Verdet's Optique. Mascart's Optique. Drude's Optics.

Sound.—Poynting and Thomson's Sound. Barton's Sound. Lord Rayleigh's Sound. Helmholtz's Sensations of Tone.

Electricity and Magnetism.—Maxwell's Electricity and Magnetism. J. J. Thomson's Elements of the Mathematical Theory of Electricity and Magnetism. Rec nt Researches in Electricity and Magnetism, Conduction of Electricity through Gases, Electricity and Matter, and Corpuscular Theory of Matter. Jeans' Mathematical Theory of Electricity and Magnetism. Campbell's Modern Electrical 'Theory. Rutherford's Radio-activity, and Radio-active Transformations. Ewing's Magnetic Induction in Iron and other Metals. Fleming's Alternate Current Transformer, and Principles of Electric Wave Telegraphy. Steinmetz Alternating Current Phenomena. Whittaker, History of the Theory of the Æther.

#### 37.—CHEMISTRY.

Professor Fawsitt, Assistant-Professor Schofield, Messrs. F. A. Eastaugh, E. Le G. Brereton, and five Junior Demonstrators.

#### I .- INORGANIC CHEMISTRY.

A.—A course of about sixty lectures upon general Inorganic Chemistry for First Year Students, delivered in Lent and Trinity Terms.

Text Book .- Newth's Inorganic Chemistry.

B.—A course of twenty lectures upon Advanced Inorganic and General Chemistry for Second Year students.

## II. -- ORGANIC CHEMISTRY.

A.—A course of thirty lectures upon Organic Chemistry for First Year students, delivered in Michaelmas Term.

Text Book.—Cohen's Organic Chemistry.

Arts students intending to take Chemistry II. in a subsequent year are required to take this course.

B.—A course of twenty lectures on Organic Chemistry for Veterinary Science students and Engineering students.

Text Book.—Cohen's Organic Chemistry.

C.—A course of twenty lectures upon Advanced Organic Chemistry for Second Year students.

[Veterinary Science.—The course in Chemistry is similar to that of the medical students for the first two terms; in the third term they attend a separate course in Organic Chemistry.]

## III. - PHYSICAL CHEMISTRY.

A.—A course of twenty lectures upon Physical Chemistry for Second Year and Third Year students.

B.—Another course given in alternate years with IIIA.

Text Book. - Senter's Outlines of Physical Chemistry.

IV .- CHEMISTRY II. FOR ENGINEERS.

A.-A course of twenty meetings.

Subjects. - Properties of Metals and Alloys, Pyrometry, Water Supply, Cements, Lubricants, Explosives.

#### V .- THEORY OF ASSAYING.

A.—A course of twenty meetings designed for Fourth Year Mining students.

#### VI. - RESEARCH.

Meetings will be held throughout the year for the discussion of research work in chemical subjects. It is expected that Third Year students will attend these meetings.

#### VII.—PRACTICAL CHEMISTRY.

THE CMEMICAL AND METALLURGICAL LABORATORIES.

The Chemical Laboratory was built in 1889. The building is a plain rectangular structure, about 170 feet long by 76 feet wide. There is also an Assay Laboratory, 55 by 44 feet, and a Milling and Leaching Room, 35 by 100 feet. There are also open and covered yards for out-door operations.

Special efforts have been made to give students the benefits of modern improvements and appliances, and particularly those which tend to save time; draught cupboards, filter pumps, exhaust pipes, and similar conveniences are fitted to each bench. A number of hoods and draught cupboards for combustions, sulphuretted hydrogen gas, water baths, and ovens are also provided.

The Metallurgical Laboratories contain 44 fusion and muffle assay furnaces, and an experimental reverberatory furnace with

a bed 6 feet by 4 feet.

The plant for the concentration and treatment of metaliferous ores includes a challenge ore feeder, set of stamps, rock crusher, Gates' rock breaker, Rogers' crushing rolls, Chilian and Hungarian mills, Carter's disintegrator; Krupp ball mill; elevator; trommels, samplers, amalgamating plates and pans, spitz-kasten; a Frue vanner, Wilfley concentrator, plunger jigs, settling tanks, magnetic concentrator, etc. Also vats and necessary appliances for the extraction of gold and silver ores by chlorine, cyanide, hyposulphite, and other similar leaching processes.

#### PRACTICAL COURSES.

# A.—Introductory Course for Junior Students in all Faculties.

This course consists of thirty meetings of three hours each.

- 1. Glass working.—Rounding the ends of tubes and rods, drawing, bending and joining tubes, blowing bulbs, mending test tubes.
- 2. The structure of flame; flame reactions; use of blow-pipe; reduction of metals on charcoal; incrustations; flame and film tests; borax and microcosmic salt beads.
  - 3. Use of the Spectroscope.
  - 4. Reactions of Salts.

5. Qualitative Analysis by wet and dry processes.

6. Reactions and processes for the detection of the alkaloids, sugars, starch, glycerol, alcohol, carbolic acid and similar common substances.

Text Book.—Qualitative Analysis, Perkin.

B.—Advanced Course for Pharmacy Students.

Quantitative Analysis. Testing balance and weights. Testing calibration of Burette, Pipette and Flask. Preparation of litmus solution. Preparation and use of standard acid and alkali

solutions. Use of indicators—methyl orange and phenolphthalëin. Volumetric estimation of iron. Gravimetric estimation of one or more of the following:—Iron, antimony, phosphoric acid and silver. Use of the nitrometer, etc.

Text Books.—Newth's Qualitative and Quantitative Analysis; Fawsitt's Tables for Students of Quantitative Chemical Analysis.

## C.—Advanced Courses for B.Sc. Degree.

Students in their second and third years will have to work through a general course of Quantitative Analysis (including Organic Analysis), the preparation of a considerable number of organic compounds, and some physico-chemical measurements.

Text Books.—Clowes & Coleman's Quantitative Analysis; Cohen's Practical Organic Chemistry; Fawsitt's Tables of Quantitative Chemical Analysis.

# D.—Advanced Course for B.E. Degree in Mining and Metallurgy.

A course of general Quantitative Analysis. Examination of oils, cements, furnace gases.

## E.—Assaying and Metallurgical Course.

Candidates for the B.E. Degree in Mining and Metallurgy are required to take the following course:—

Technical examination of Fuels, Fireclays, and Refractory materials.

Dry assay of Gold, Silver, Lead, Tin and Mercury Ores.

Assay of Silver (wet and dry) and Gold Bullion.

Volumetric methods for Copper, Zinc, Lead, Manganese, Iron and Nickel.

Electrolytic and Colorimetric methods for Copper. Examination of the Cornish dry process.

Complete analysis of Slags.

Complex Gold and Silver Ores.

Iron and Steel Analysis.

Analysis of Furnace Gases.

Metallography: The preparation and microscopic examination of sections of metals.

The treatment of bulk samples of ores, viz.: crushing, grinding, roasting, sampling, concentrating (including vanning), and leaching.

Note.—Students are required to preserve and label their metallurgical preparations, alloys, slags, and metallic buttons or the inspection of the Examiners at the end of the course.

BOOKS RECOMMENDED.—Beringer's Text Book of Assaying; or one of the following:—Guide Pratique du Chimiste, Métallurgiste et de l'Essayeur par L. Campredon (Baudry et Cie. Editeurs). Furman's Manual of Practical Assaying. Microscopic Analysis of Metals, by Osmond and Stead. For reference—Arnold's Steel Work Analysis; Heunpel's Gas Analysis; Rhead and Sexton's Assaying. Notes on Assaying by Lodge. The Analysis of Steel Works Materials (Brearley and Ibbotson).

F.—Course of Practical Metallurgy for Dentists.

A course of sixty hours upon Elementary Practical Metallurgy is given in Michaelmas Term.

Each student is required to make experiments on the

following:--

Physical and Chemical properties of metals.
 Effects of impurities upon these properties.

- 3. Preparation of certain alloys and amalgams, to illustrate the various changes brought about by alloying metals with each other.
  - 4. Recovery of Gold, Platinum and Silver from scrap.

5. Purification of Gold and Silver.

BOOKS RECOMMENDED.—Dental Metallurgy, E. A. Smith (Churchill), Chemistry for Dental Students. by H. Carlton Smith (Wiley and Sons). For reference—Dental Metallurgy by Essig (S. S. White). Mixed Metals, Hiorns (McM. & Co.)

APPARATUS.—Students will require the apparatus which they use for practical chemistry, and certain small articles a list of which can be obtained in the Laboratory.

# REGULATIONS FOR THE CHEMICAL AND METALLURGICAL LABORATORIES.

The Chemical and Metallurgical Laboratories are open daily

(except Saturdays) during Term time.

Students engaged in special investigations will have to provide themselves with any materials they may require which are not included among the ordinary reagents, also with the common chemicals when they are employed in large quantities.

All preparations made from materials belonging to the

Laboratory become the property of the Laboratory.

No experiment of a dangerous character may be performed without the express sanction of the Professor or Assistants.

Each student is required to keep full notes of each day's work for the use of the Examiners.

The Laboratory hours are from 10 a.m. to 5 p.m.

Every student not working with a class is required to enter the time of his arrival and departure in the attendance book. Each student is required to provide himself with the apparatus necessary for the course in Practical Chemistry.

Apparatus left by a student and not removed within three months is liable to be forfeited.

The larger and more expensive pieces of apparatus may be provided, for the use of students, by the University, on the condition that all breakages have to be made good.

## GEOLOGY AND MINERALOGY.

Professor David, Dr. Woolnough, Mr. L. A. Cotton, two Junior Demonstrators.

#### LECTURE COURSES.

For First Year Students in Arts, Science, Mining Engineering, and Civil Engineering.

#### 38.—Geology I.

This course of sixty lectures\* is evenly divided into three parts, given respectively in Lent, Trinity and Michaelmas Terms.

Part I. deals with History of Geology, Material Geology, including Elementary Petrology and Mineralogy, and the first principles of Geological Collecting and Field Work.

Part II. treats chiefly of Dynamical Geology, including the Composition, Movements and Work of the Atmosphere and of the Ocean; of Evaporation and Rainfall; of Lakes, Rivers, Springs and Artesian Wells; of various Glacial Phenomena; of the Movements of the Earth's Crust; and of Earthquakes and Volcanoes.

Part III. will refer chiefly to (a) Structural Geology and the Evolution of Earth Forms, and (b) to Elementary Stratigraphical Geology and Palæontology.

The lectures in many cases will be illustrated by means of an electric lantern and projection-microscope.

Text Books.—Physical Geography, by Professor W. M. Davis; Petrology for Students, by Harker; Minerals in Rock Sections, Luquer.

For Reference and Further Study.—Aids in Practical Geology, by Professor Cole; Physical Geology, by Professor A. H. Green; Meteorology, by Hann; Volcanoes, by Professor Bonney; Australia. from a Physiographic and Economic point of view, by T. Griffith Taylor, B. A., B.E., B.Sc.

<sup>\*</sup>A minimum of forty hours' practical work in the Laboratory at times to be arranged is also required. This does not include the individual work of examining rock and mineral collections, preparation of thin sections for the microscope, etc.

## For Second Year Students. 39.—GEOLOGY II.

For Arts, Science, and, in part, for Civil Engineering Students.

This course will consist of sixty lectures, with a minimum of sixty hours' practical work in the Laboratory. Students in Civil Engineering are required to attend only during Lent Term.

Part I. in Lent Term will be devoted chiefly to a study of Dynamic Geology and Petrology. Part II. in Trinity Term will deal chiefly with Geological Structures and Methods of Field Mapping, including a review of the chief Geological features of Australasia and Oceania. Part III. in Michaelmas Term will be devoted to the study of Stratigraphical Geology and Palæontology, with special reference to Australia.

Text Books.—(1) Structural and Field Geology, by Professor James Geikie; (2) Petrology for Students, by Harker; (3) Minerals in Rock Sections, by Luquer; (4) Mineralogy, Crystallography and Blowpipe Analysis, by Moses and Parsons (or, in place of (2), (3) and (4), Cole's Aids in Practical Geology, but it would be preferable for students to get (2), (3) and (4); (5) Palæontology,

For Reference and Further Study.—Elements of Geology, by Le Conte and Fairchild; The Student's Handbook of Physical Geology, by A. J. Jukes-Browne; Reports of Australasian Scientific Societies and Geological Surveys.

For Second Year Mining Engineering Students. 40.—MINERALOGY AND ECONOMIC GEOLOGY I.

A course of sixty lectures, with practical work, will be given on Descriptive Mineralogy and Economic Geology. These will include Elements of Crystallography, Physical Properties of Minerals, Mode of Origin, Occurrence and Classification of Minerals. The following economic products will be considered:—Coal, Rock Oil and Various Hydrocarbons, their Mode of Occurrence and Distribution; Phosphatic Deposits, and other Natural Fertilizers, Bauxites and Alumstone; Rock Salt, Gypsum, Boracic, Potassic and Sodic Deposits; Mica; Asbestos; Building Stones; Clays; Limestones; Portland Cement Stones; Abrasives; Gem Stones; Fluxes. Exercises will be given in methods of estimating quantities and values of mineral deposits of economic value.

Text Books.—Mineralogy, Crystallography and Blowpipe Analysis, by Moses and Parsons; Mineral Resources of New South Wales, by E. F. Pittman.

For Third Year Mining Engineering Students.
41.—MINERALOGY AND ECONOMIC GEOLOGY II.

A course of twenty lectures, with practical work, will be given on the Origin of Ore Deposits, with descriptions of typical Australasian Mining Fields.

For Second Year Agricultural Students.
42.—Geology in its bearing on Agriculture.

A course of forty lectures, with practical work, will be given on the chemical relations of different rock types; processes and effects of rock weathering and soil formation; origin, composition and circulation of underground water. Physiography will also be studied in its relation to climate and plant distribution.

For Third Year Students in Arts, Science, etc.

## 43.—Geology III.

## A-Principles and Problems of Geology.

This course will consist of about fifty lectures, delivered during Lent and Trinity Terms, dealing with the principles and problems of Dynamic, Tectonic and Stratigraphical Geology, as applied to the general plan of the earth, its past history, and the chief forces by which they are determined.

For Reference.—Geology of Queensland, Jack and Etheridge; Physical Geography and Geology of Victoria, R. A. F. Murray; Geography of Victoria, by Professor Gregory; Praktische Geologie, Keilhack; Suess, Face of the Earth, Vols. I., II., III., IV., translated by H. R. Sollas; Leçons de Géographie Physique, De Lapparent; Elements of Geology, Le Conte, new edition by Fairchild; Geology, Chamberlin and Salisbury, Vols. I., II. and III.

#### B—Palæontology.

This course will consist of sixty lectures, to be delivered during the Lent, Trinity and Michaelmas Terms. The principal classes of the *Invertebrata* found in the fossil state will be considered, the lectures being illustrated with numerous specimens and diagrams. Special reference will be made throughout to the Palæozoology of Australia, and incidentally to its Palæophytology.

Text Books.—Text Book of Paleontology, Zittel (translation by Eastman);

Fossil Plants, by Seward.

For Reference.—Memoirs and Records of the Geological Survey of New South Wales and of the Australian Museums. References to other works will be supplied during the course.

## C.—MINERALOGY AND PETROLOGY.

The course consists of about 60 lectures divided as follows:—About 20 lectures on Crystallography, in which will be discussed—Angular distribution of crystal faces, symmetry, the various systems of notation, the relations of zones, methods of projection and crystal drawing, apparatus for goniometry, details of the systems, theories of crystal structure, etc.

Text Book .- Crystallography, Lewis.

For Reference. — Crystallography, Story-Maskelyne; Physikalische Krystallographie, Groth.

About 20 lectures on Optical, Physical and Chemical Mineralogy, including preliminary optics, transmission of light in crystals, refractive indices, double refraction, optic axes, dispersion, optical indicatrix, relation between physical properties and crystalline form, classification of minerals, synthesis of minerals, etc.

Text Books.—Rosenbusch-Iddings, Microscopical Physiography of Rockmaking Minerals, Wiley & Sons, or Iddings Rock Minerals, Wiley & Sons; Dana, E. S., Text Book of Mineralogy, Wiley & Sons.

About 20 lectures during Michaelmas Term on Petrology. Composition, habit, origin and classification of igneous rocks; mechanics of igneous intrusion; synthesis of rocks; petrology of sedimentary rocks; metamorphism; relation of rocks to ore deposits.

Text Book.—Optical Indicatrix, by Fletcher; Text Book of Rock Analysis, by H. S. Washington; Manual of Qualitative Blowpipe Analysis, by Endlich.

For Reference. -Harker, Natural History of Igneous Rocks; Iddings, Igneous Rocks.

For Honours additional lectures may be delivered, and special examinations may be set in one or more divisions of the subject.

Students must read the current Geological and Mineralogical

Magazines

Books for Reference.—The Microscope, Carpenter, edited by Dallinger, 1901; The Microscope, Naegeli and Schwendener, translated by Crisp and Mayall; Light, Lewis Wright; Theory of Light, Preston; Crystallographie Physique, Soret; Elemente der Gesteinslehre, Rosenbusch; Mikroskopische Physiographie der Mineralien und Gesteine, Vols. I. and II., Rosenbusch; Lehrbuch der Petrographie, Zirkel; Quantitative Classification of Igneous Rocks, Cross, Iddings, Pirrson and Washington; British Petrography, Teall.

Students in their Third Year Geology Courses must take either A and B of 44, or A and C of 44. They are recommended not to attempt A, B and C during the same year.

#### PRACTICAL COURSES.

The times set down for practical work refer only to the hours of demonstrations. In addition, students must spend a certain amount of time in individual practice and in examining the collections of rocks, minerals and fossils. For this purpose the laboratories are open daily during term.

## 44.—GEOLOGY I.

A minimum of forty hours' demonstration work in the Laboratory, devoted chiefly to Petrology, Physical Properties of Minerals and Rocks, and Preparation of Geological Maps and Sections.

Petrology. — Elementary Crystallography and Optics, Petrological Microscope, Optical Properties of chief rock-forming minerals, Textures and Structures of eruptive rocks, Types of eruptive rocks. Each student prepares sections of rocks for the microscope.

Cost of apparatus, etc.: Microscope fee £1, other apparatus 2s.

MAPS AND SECTIONS.—Cost of apparatus about 2s.

FIELD WORK.—Students must produce evidence of having spent a minimum of four days (or the equivalent) during the year in geological work in the field. Excursions will be arranged on Saturdays during term to places of geological interest near Sydney.

## 45.—Geology II.

LENT TERM.—(a) Four lectures and demonstrations on Elementary Crystallography; (b) twenty demonstrations on Microscopical Petrology, including study of the sedimentary and metamorphic rocks.

TRINITY TERM.—(c) Twenty demonstrations on Blowpipe Analysis and Determinative Mineralogy.

MICHAELMAS TERM.—(d) Twenty demonstrations on Invertebrate Palæontology.

The cost of apparatus is approximately as follows for the different courses:—(e), 15s.; (b), a fee of £1 for use of petrological microscopes, unless students provide their own microscopes of a suitable pattern.

FIELD WORK.—Students must produce evidence of having spent a minimum of six days during the year in geological work in the field. If possible, a camp or camps will be arranged during one of the vacations to enable students to carry out this work under supervision.

## 46.—Economic Geology I.

Mining Engineering Students' Second Year.

LENT TERM.—Twenty demonstrations on crystallography, physical properties of minerals, and introductory blow-pipe analysis.

TRINITY TERM.—Twenty demonstrations on blow-pipe

analysis

MICHAELMAS TERM —Twenty demonstrations on construction of geological maps and sections, with special reference to mining work.

FIELD WORK.—As under Course No. 45. Excursions to

works, etc, will be taken as opportunity offers.

## 47.—Economic Geology II.

Mining Engineering Students' Third Year.

TRINITY TERM.—Sixty hours' demonstration in practical determinative mineralogy, including advanced blow-pipe analysis, micro-chemical tests, and microscopic examination of ore deposits and associated country rocks.

MICHALMAS TERM.—Forty hours' individual work in deter-

mination of minerals in hand specimens.

## 48.—AGRICULTURAL GEOLOGY.

Agricultural Students' Second Year.

LENT TERM —Twenty demonstrations in determination of minerals by physical and chemical tests.

TRINITY TERM.—Twenty demonstrations in microscopical examination of rocks, with practical reference to soil formation.

MICHAELMAS TERM.—Twenty demonstrations in construction and reading of geological maps and sections.

FIELD WORK.—As under Course 45.

#### 49.—Geology III.

For Third Year Students in Geology.

GEOLOGY III. A.

Twenty demonstrations on the Construction and Interpretation of Geological Maps and Sectious will be given during the Lent Term, and outdoor exercises in field mapping will be given during August-September vacation, and at such other times as are available.

## PALÆONTOLOGY III. B.

A course of demonstrations in illustration of the lectures on Palæontology will be given during the Lent, Trinity, and Michaelmas Terms. Time—Four hours per week.

## MINERALOGY AND PETROLOGY III. C.

Students must spend at least six hours a week in practical work in the Geological laboratory, for Honours at least twelve hours a week.

BIOLOGY 203

Physical Mineralogy.—Preparation of quarter wave plate, gypsum plates, quartz wedge and oriented sections and prisms of minerals. Optical and physical measurement of crystals; refractive index; double refraction; optic orientation; optic axial angle, dispersion, hardness, electrical and magnetic properties.

Petrology.—A systematic course on practical Petrology.

CRYSTALLOGRAPHY.—Measurement of models and crystals, with contact goniometer; measurement of crystals, with various types of one-circle and two-circle reflecting goniometer; stereographic and gnomonic projection; drawing of crystals; determination of crystal elements.

Each student must make at least one complete analysis of a rock or mineral during the year.

FIELD WORK —Students for a pass must produce evidence of having spent a minimum of ten days during the year in geological work in the field.

## 50. -BIOLOGY.◆

Professor Haswell, Mr. S. J. Johnston, and two Junior Demonstrators.
BIOLOGY I.

## A.—Zoology.

A course of fifty lectures, illustrated by specimens and diagrams, and supplemented by occasional demonstrations.

I. Introduction to Biology. Main divisions of the science.

II. General structure and physiology of animals. Amaba. The cell: its structure and multiplication. The ovum and the sperm. Maturation and impregnation. Segmentation. Histology of animals. The various systems of organs, and their principal functions. Reproduction, asexual and sexual. Symmetry.

III. General account of the following phyla with descriptions of representative examples: Protozoa, Porifera, Cœlentera, Platodes, Nemathelminthes, Echinoderma, Annulata, Arthropoda, Mollusca, Chordata.

B.—PRACTICAL ZOOLOGY—ELEMENTARY COURSE.

An elementary course for Medical and Science students of the First Year.

The following animals are studied:—Paramacium, Vorticella, Obelia, Distomum, Nereis, Asterina, Helix, Palinurus, Trygonoptera, Hyla, Columba, Lepus.

<sup>\*</sup> See Regulation in reference to Microscopes, page 136.

## C.—BOTANY.

A course of about thirty lectures.

I. General structure and physiology of plants. Unicellular and multicellular plants. The vegetable cell and its principal modifications. Systems of tissues. Histology of plants. Organs of plants.

II. General account of the following phyla of plants with descriptions of illustrative examples: Thallophyta, Bryophyta,

Pteridophyta, Spermaphyta.

III. Physiology of higher plants. Nutrition. Sources and transformations of energy. Reproduction.

## D.—PRACTICAL BOTANY.

A course of practical work on the Morphology of Plants.

The following are studied: - Protococcus, Saccharomyces, Spirogyra, Penicillium, Aspergillus or Mucor, Agaricus, Bacterium, Desmids, Diatoms, Edogonium, Vaucheria, Hormoseira, Marchantia or Polutrichum, Pteris, Pinus, Tilia, Zea, the flowers of various Augiosperms.

## BIOLOGY II. AND III.

## ZOOLOGY AND COMPARATIVE ANATOMY. ADVANCED COURSES.

Two advanced courses, one on the Morphology and Embryology of the Invertebrata, with laboratory work\*; the other on the Morphology and Embryology of the Vertebrata, with laboratory work.

BOTANY-COURSE FOR SECOND YEAR STUDENTS IN SCIENCE AND AGRICULTURE.

A short course on the Physiology of Plants, with practical work, for Science students of the Second Year. Together with a laboratory course on Systematic Botany.

BOOKS RECOMMENDED:

For First Year Students.

Zoology.—Thompson's "Outlines of Zoology" or Parker and Haswell's
"Manual of Zoology." Reference should also be made to the larger works recommended below for the use of Second and Third Year students. For some parts of the Practical Zoology it will be useful to refer to Marshall and Hurst's "Practical Zoology" and T. J. and W. N. Parker's "Practical

BOTANY.—Vines' "Elementary Botany," or Mudge's "Botany." For reference, Strasburger's "Text-book of Botany" (3rd ed.), or Campbell's "University Text-Book of Botany." For the Practical Botany, Bower's " Practical Botany for Beginners."

<sup>\*</sup> See Regulation in reference to Microscopes, page 136.

#### For Second Year Students.

ZOOLOGY.—Parker and Haswell's "Text-book of Zoology," Vol. I., or Sedgwick's "Text-book of Zoology," Vol. I. For reference, Korschelt and Heider's "Text-book of the Embryology of Invertebrates"; Ray Lankester's "Treatise on Zoology"; Wilson's "The Cell in Development and Inheritance" (2nd ed.).

BOTANY.—Vines' "Text-book of Botany." Darwin and Acton's "Practical Physiology of Plants" (2nd ed.).

For Third Year Students.

Parker and Haswell's Text-book, Vol. II. Marshall's Embryology. Wallace's "Darwinism." Lloyd Morgan's "Animal Life and Intelligence." Jordan's "Evolution and Animal Life" Kellogg's "Darwinism To-day."

BIOLOGICAL LABORATORIES AND MUSEUM.

The Laboratories, together with the Departmental Museum, are open to students of Biology daily from 9 a.m. to 5 p.m., excepting on Saturdays, when they are closed at 1 p.m., and Sundays and Public Bolidays, when they are not opened. The practical teaching is confined to certain stated times, but students are at liberty to work in the Laboratory or the Museum at any time within the limits specified. The accommodation for research work is at present limited, but, so far as practicable, every encouragement and assistance are given to graduates and others desiring to pursue lines of original investigation on biological subjects.

## DEPARTMENT OF ENGINEERING.

MECHANICAL ENGINEERING.

INCLUDING DESCRIPTIVE GEOMETRY AND THE DESIGN OF MACHINERY.

Assistant Professor Barraclough, Mr. McKeown, and one Junior Demonstrator.

## 51.—DESCRIPTIVE GEOMETRY.

The course consists of forty lectures on the elements of Descriptive Geometry during Lent and Trinity Terms for all students in Engineering of the First Year, and a short course of advanced lectures in Michaelmas Term, attendance at which is voluntary except for Honour students.

During Lent and Trinity Terms students are required to complete, under the Demonstrator's supervision, a series of practical exercises and problems to illustrate the work dealt with in the lectures:—

Scales. Constructions relating to straight lines, polygons, circles and circular arcs, conic sections, cycloidal curves, involutes and spirals.

Orthographic projection. Representation of points, lines and planes by their projections and traces. Problems on lines and planes. The determination of the projections of simple solids, under given conditions of position. Principles of isometric projection. The interpenetration of given solids. Tangent planes. The projection of shadows. Generation and classification of surfaces. Development of surfaces. Principles of perspective projection. Spherical projections. The elements of projective geometry.

A short course on "Graphics" is also included here for the present.

BOOKS RECOMMENDED FOR REFERENCE.—Descriptive Geometry, A. E. Church; Descriptive Geometry, J. Woolley; Practical Plane and Solid Geometry (Advanced), Harrison & Baxandall; Graphics, R. H. Smith; Vectors and Rotors, Henrici & Turner; Elements of Projective Geometry, Cremona; Projective Geometry and its application. Emch.

#### 52.—DESIGN OF MACHINERY.

The course in this subject consists in lectures and drawing office practice as indicated in the following syllabus:—

#### LECTURES.

Second Year.—Detailed design of steam engine; connecting rods; pistons; piston rods; cylinders; valve gears; reversing motions; framings.

THIRD YEAR.—Continuation of engine design; pumps and auxiliary fittings; Board of Trade and Lloyd's requirements with regard to boilers; riveting; staying; mountings; furnace fittings; the influence of methods of manufacture on design; estimates and specifications.

FOURTH YEAR.—This class is conducted as a Seminary in conjunction with Mechanical Engineering III. (see page 209) in which problems affecting the design of machinery and prime movers are brought forward and discussed.

In addition, a short course of lectures will be given on —

Heavy machine framings; gas engine design—with reference to details; design of machine tools.

TEXT BOOKS USED.—Machine Design, Spooner; Machine Design, Griffin; Marine Boiler Management and Construction, Stromeyer; Mechanical Engineers' Pocket Book (Kent).

Additional Books for Reference.—Machine Design, Smith and Marks; Machine Design, Jones; Marine Engines and Boilers, Bauer and Robertson Notes on the Design of a Steam Engine (Departmental).

## DRAWING OFFICE PRACTICE.

SECOND YEAR (TRINITY TERM).—The design of simple transmission machinery.

THIRD YEAR.—The design of a steam engine.

In this year the work done is largely individual in character. The students are supplied with a short specification of requirements to be met, and the design is carried out by means of preliminary sketches and lay-out, the details being worked up gradually from these. As far as possible the students' individuality and inventiveness are drawn on, and the application of first principles to the solution of the problems occurring in the design is insisted on.

FOURTH YEAR.—Design, specifications, etc., of such work as is indicated in the lecture courses.

This work is carried out as far as possible under conditions similar to those employed in commercial establishments. Where possible those students in the First Year showing good progress are set to make detailed drawings for the Fourth Year students, and also tracings of such details as are required.

#### 53.-MECHANICAL ENGINEERING.

The instruction in Mechanical Engineering is divided into three parts, of which I. is taken by all students of the Second Year, II. by Mechanical and Electrical Engineering students of the Third Year, and (in part) by Civil Engineering and Mining students of the Third Year, while III. is taken by Mechanical and Electrical Engineering students of the Fourth Year.

## MECHANICAL ENGINEERING I.

The course consists of 60 lectures and 20 demonstrations in the Second Year:—

(a) Engineering mechanics. The application of the principles of dynamics to various engineering problems. Equilibrium of machine parts. Work. Power. The indicator card. Friction. Efficiency and mechanical advantage of machines. Transmission and absorption dynamometers. Moments of inertia. Fly-wheel action. Reciprocating motion. Acceleration effects. Hydrostatic problems. Simple hydraulic machines.

(b) Kinematics of machines. The science of mechanism. Constrainment of plane motion. Virtual motion in mechanisms. Relative velocities in mechanisms. Diagrams of velocity and acceleration. Spur, wheel trains. Screw gears. Profiles for

wheel-teeth. Epicyclic gearing. Cam trains. Straight line motions. Inversion of mechanisms. Analysis of important mechanisms. Systems of classification. Applications to machine tools. "The art of invention."

(c) History of the development of heat motors, and the elements of thermo-dynamics. Sources of energy. Fuel. Combustion. Properties of steam. The operation of steam and gasengines. Simple valve gears. Reversed heat motors.

BOOKS RECOMMENDED FOR REFERENCE.—Applied Mechanics (Perry); Mechanics of Engineering (Church); Kinematics of Machines (Durley); Mechanism (Dunkerly); Mechanics of Machinery (Kennedy); History of the Steam Engine (Thurston); Steam Engine (Ewing); Tables of the Properties of Steam (Barraclough); Mechanical Engineering (Lineham).

## MECHANICAL ENGINEERING II.

100 lectures and 40 demonstrations during Lent and Trinity Terms of the Third Year:—

- (a) More advanced theory of heat engines. Conditions affecting economy. The cyclical flow of heat in the cylinder walls of heat engines. Detailed consideration of heat losses. Standard methods of conducting engine trials. Boilers. Economisers. Superheaters. Condensers. Cooling towers. Auxiliaries. Injectors. Refrigerating machines and processes. Use of compressed air. Steam turbines Modern gas engines. Use of cheap gas.
- (b) Theory of machines. Various machine problems. Friction of machines. Lubrication. Dynamics of the steam engine. Crank effort diagrams. Fly-wheels. Governors. Inertia of reciprocating parts. Balancing of machines. "Vibration" troubles.
- (c) Hydraulic machinery. Reciprocating pumps and pressure engines. Impulse and reaction turbines. Centrifugal pumps. Elevators. Winding machinery.

All students attending this course are required to write during the year a Mechanical Engineering essay on subjects to be selected by them in consultation with the lecturer.

ADDITIONAL BOOKS RECOMMENDED FOR REFERENCE.—The Entropy Diagram and its Applications (Boulvin); Steam Engine (Perry); Manual of the Steam Engine (Thurston); Steam Engineering (Pullen); Steam Engine Problem (Barraclough); Experimental Engineering (Carpenter); Balancing of Machines (Dalby); Hydraulies (Bowey); Hydraulie Motors (Bodmer).

## MECHANICAL ENGINEERING III.

#### MECHANICAL ENGINEERING SEMINARY.

Fifty sessions, with laboratory work, in the Fourth Year. This class is conducted as a Consulting Engineering Seminary, a few only of the sessions being devoted to formal lectures. Topics for discussion and investigation are assigned to each member of the class, and these are brought forward for consideration in turn; a review of the more important engineering journals is also maintained, and students are encouraged to keep systematic abstracts of the articles they read. The following syllabus indicates the nature of the work dealt with:—

Advanced problems in engineering mechanics. The gyroscope, and its applications. Torsional vibration of shafting. Torsion power-meters. Special problems in the design of gas engines and producers, centrifugal pumps, condensers and steam turbines. The flow of steam.

The testing of power plants. Reports on standard methods. Discussion of general problem of power production. Finance as a factor in engineering enterprises. Cost of power. Hydraulic power stations. Power-house design and equipment. Chimneys. Combustion and smoke prevention. Liquid fuels. Care of engines, boilers and machinery. Boiler inspection. Causes of boiler explosions.

Engineering literature. References to available sources of information.

Expert investigations and reports. Methods and examples, Additional Books Recommended for Reference.—The Steam Turbine (Stodola); Steam Turbines (Thomas); Development and Transmission of Power (Unwin); Steam Power Plants (Meyer); Central Electric Stations (Wordingham); Steam Tables and Diagrams (Marks & Davis; Hydraulics (Lea).

In connection with the above work, each student in Mechanical Engineering is required to present a graduation thesis which must represent a completed piece of original work carried out either in the Mechanical Engineering Laboratory, or in the Drawing Office.

#### MECHANICAL ENGINEERING LABORATORY.

The following syllabus indicates generally the experimental work which students attending the foregoing courses on Mechanical Engineering I., II. and III. are required to carry out in the laboratory:—

I. The use of various forms of slide rules and calculating instruments. Verniers, micrometer-calipers, wire gauges and standards. The planimeter. Working-up indicator cards. Measurement of friction coefficients. Efficiency and mechanical advantage of simple machines such as screw press, pulley block tackle, differential pulley and worm-wheel crab. Determination of velocity diagrams in quick return motions. Energy of flywheel. Moments of inertia. Measurements with rope brake, Prony brake, and fan brake. Transmission dynamometers. Prony brake, and fan brake. Transmission dynamometers indicators. The engine indicator. Preliminary tests of steam engine. Valve setting. Tests of Pulsometer.

II. Complete engine and boiler tests. Gas and oil engine tests. Investigation of heat losses. Tests of lubricants. Determination of friction in line shafting, etc. Refrigeration and icemaking plant. Calorific value of fuels. Flue gas analysis.

Tests of hydraulic motors.

III. In connection with the Consulting Engineering Seminary students are required to carry out definite experimental investigations either individually or in groups, and the results are from time to time brought before the class for discussion; also such opportunities as occur will be taken for conducting tests of outside power plants

Encouragement will be given to any senior students, and others with the necessary qualifications, who are desirous of

making original investigations in the laboratory.

OPERATION OF ENGINES AND MACHINERY.—Although it is not part of the regular work of the University to train students in the management of Engines, Boilers, and Machinery, yet during the four years they spend at the Engineering School it is possible to gain much valuable experience in this direction if all the available opportunities are taken advantage of. As an assistance in this matter, in addition to the regular Engineering Laboratory instruction, arrangements are made during vacations, for such students as desire it, to take charge of the running of the Engines and Machinery in the Laboratory, but only for continuous periods of not less than a week.

· MECHANICAL ENGINEERING LABORATORY.

The power equipment of the Laboratory includes the following:—

2 Babcock & Wilcox Water Tube Boilers, each of 50 h.p., connected with a separately fired Superheater. One

of the boilers is fitted with a mechanical chain grate stoker. Feed-water is supplied by means of a Weir Pump connected to the necessary weighing scales and tanks. A Belliss & Morcom compound high speed engine, direct coupled to a 30 kw. Mavor & Coulson generator. A compound jet-condensing experimental engine, manufactured by Ruston, Proctor & Co. A Hercules Ice Plant of 2 tons capacity, consisting of steam-driven compressor, cooling rooms and ice tanks. A Westinghouse Air Compressor and Brake Gear. The exhaust steam in all cases can be led either to the atmosphere or to a Contraflo Surface Condensing Plant (Willans & Robinson) as desired.

A 45 h.p. National Gas Co. Suction Gas Plant, the engine being direct-coupled to a 25 k.w. J. P. Hall & Co. Generator.

A 25 h.p. Crossley Gas Engine, supplied with town gas, driving an Elwell & Parker generator.

A 6 h.p. Victor Petrol Engine.

A Daimler Paraffin Motor.

These units are fitted with all the usual brakes, weighing tanks, ganges, thermometers and other gear for testing purposes.

The experimental equipment consists of a complete set of Steam and Gas Indicators, both direct and optical. Pyrometers for the measurement of high temperatures, including a Féry Pyrometer and Recorder, together with a large range of Thermometers, provided with Kew or Reichsanstalt certificates, Thompson and Mahler-Bomb Calorimeters, Junker's Gas and Oil Calorimeters, and Orsat Flue Gas Analysis apparatus. A large chronograph by Jules Richard, and a tachograph equipment by Dr. Horn, Leipzig.

There are several small rooms available for purposes of special investigations, and a Junior Laboratory for conducting: demonstrations in applied mechanics. The museum attached contains a very complete outfit of models for illustrating the lectures on Descriptive Geometry and the Kinematics of Machinery.

54.—ELECTRICAL ENGINEERING.

Dr. Madsen, One Junior Demonstrator.

ELECTRICAL ENGINEERING I.

Lectures during Lent and Trinity term only. Examination at end of Trinity term.

Electrical instruments. Switches and fuses. Switchboards. Electric illumination. Arc and incandescent lamps. Regulations for installation and use of electricity. Design and operation of dynamos and motors. Electric light, and power wiring. Distribution systems. Cable manufacture. Laying cables. Storage batteries and their operation. Motor driving and special systems of controls. Isolated electric installations. Special applications in mining work.

Text-Books.—Standard Handbook for Electrical Engineers, McGraw Publishing Co.; Dynamo-Electric Machinery, Vols. I. and II., Sheldon and Mason; Alternating Currents, Franklin & Williamson; Practical Testing of Dynamos and Motors, Practical Alternating Currents, F. Smith; or Experimental Electrical Engineering, Karapetoff (for students proceeding to the

fourth year.)

BOOKS OF REFERENCE.—Electric-Engineering Measuring Instruments, Parr; Modern Electric Practice, McClean; Storage-Battery Engineering, Lyndon.

ELECTRICAL ENGINEERING II.

Lectures during Lent, Trinity and Michaelmas term. Examination at end of Michaelmas term.

Design of electric generators for direct current. Alternating current generators, single and polyphase. Static transformers, single and polyphase. Motor generators. Rotary and motor converters. Induction motors. Single phase motors. The layout of electric power stations and substations. Long distance power transmission. Electric tramways. Overhead and conduit systems. Tramcar motors and controllers. The lay-out of overhead equipment and feeder systems. Electric railways. Third rail. Three phase. Single phase Electric welding. Electrolytic and furnace work. The drafting of specifications. Preparation of estimates.

Text-Books.—Alternating Currents, Franklin & Williamson. Alternating Currents, Russell; Electro-Dynamics of the Direct-Current Motor, Carus Wilson; Experimental Electrical Engineering, Karapetoff.

BOOKS OF REFERENCE.—Dynamo Electric Machinery, Vols. I. and II., S. P. Thompson. High-Speed Dynamo Electric Machinery, Hobart and Ellis. High-Tension Power Transmission Reports, Vols. I. and II, McGraw Publishing Co. Electric Railways, McGraw Publishing Co. Alternating Current Motors, McAllister. Electricity Control, Andrews. Standard Polyphase Apparatus and Systems, Oudin. &c. Electrical Journals and the Proceedings of the Institutes of English and American Electrical Engineers.

Students will follow a systematic course of numerical problems and examples illustrating the foregoing lectures, and instruction will be given in electrical design. All such work will be presented at the end of the course as part of the practical

work.

#### ELECTRICAL ENGINEERING LABORATORY.

Students in Electrical Engineering Course II. will attend a systematic series of demonstrations in laboratory work. The investigation of commercial electric measuring instruments, meters, incandescent and arc lamps, lightning arresters, insulators, etc. Tests of direct current, single, two, and three phase machines; single and three phase alternators, and induction motors. Separation of losses; characteristic curves; temperature rise at various loads; voltage drop. Efficiency tests and investigation of the performance of plants for the generation and utilisation of electric energy. Testing of transformers and work with high tension alternating currents. Synchronising, effects of capacity and self-induction, etc. Experiments will also be carried out with the oscillograph.

Visits will be made from time to time to various electrical

works of interest in and around Sydney.

As far as possible, arrangements will be made for Electrical Engineering students to spend their vacations in central stations

or with firms engaged in electrical work.

Students in Electrical Engineering Course I. will be given instruction in general installation work, also in the use of the various instruments and machines in the Electrical Engineering Laboratory.

The Electrical Engineering Laboratory contains:

1 pair of 240 volt 60 amp. D.C. Morris-Hawkins' machines on the same bed; each machine is provided with interpole and compound windings, also with slip-rings of single, two, and three phase, and arrangements are provided for coupling the machines at various angles.

1 Siemen's 12 k.w. D.C. dynamo, which can be used for driving the Morris-Hawkins set, or a 5 k.w. three-phase

Siemen's alternator, with exciter.

1 Siemen's 5 k.w. rotary converter for single or three-phase.

1 Siemen's 5 k.w. D.C. machine.

1 Westinghouse 5 k.w. Squirrel Cage induction motor.

1 Westinghouse 3 k.w. induction motor with wound rotor.

1 Heyland single phase motor.

1 Siemen's three-phase transformer, 200-2,000 volts.

3 Westinghouse single-phase transformers, 200-2.000 volts.

Several smaller voltage and current transformers.

1 Duddell Oscillograph, point to point wave tracers, and a range of ammeters, voltmeters, wattmeters, etc.

Power is supplied to the laboratory from a set 250 Tudor cells, giving a maximum current of 250 amperes. Portion of the battery is subdivided and is capable of giving 2000 amperes for ammeter and wattmeter testing, etc. The battery is charged by either the steam or gas driven set in the Mechanical Laboratory, and distributes to permanent switchboards in the Electrical Laboratory.

The Standards Laboratory contains Standard Wolff Potentiometer with Clark and Cadminn cells and low resistance, capable of carrying up to 1000 amperes; flicker and Lumner; Brodham photometer with Pentave standard; Kelvin balance; a range of galvanometers, secondary standards of current and E.M.F., etc., and a set of small storage cells capable of giving

000 volts.

# CIVIL ENGINEERING.

INCLUDING ENGINEERING CONSTRUCTION AND MATERIALS AND STRUCTURES.

Prof. Warren, Mr Roberts, and one Junior Demonstrator. 55.—ENGINEERING CONSTRUCTION.

The course of instruction and laboratory work in Engineering Construction applies to all Engineering Students of the Second Year, and consists of 70 lectures and 80 hours practical work in the laboratory.

MATERIALS AND STRUCTURES I .- FIRST YEAR.

Stress, Strain, Elasticity.—Tensile stress. Normal and tangential stress. Combination of stresses. Shearing stress. Fluid stress. Tensile and compressive strain. Limit of proportionality and coefficient of elasticity. Poisson's ratio. Stress-strain diagrams. Elastic resilience. Yield point. Elongation and reduction of area in ductile materials, such as structural steel. The behaviour of brittle and ductile materials when subjected to tension, compression and shearing stresses.

Vector Quantities.—Addition and subtraction and composition and resolution of forces. Force polygon. Funicular polygon. Reciprocal figures. Simple examples of the determination of stresses in braced structures by means of graphical and analytical methods.

Testing the Materials used in Engineering Construction.—Brief description of the methods employed in testing the more common materials used in engineering construction such as steel, timber, stone and concrete, with a view to ascertain and record their characteristic properties.

Transverse Stress.—The investigations of the equations of bending moments and shearing stresses in simple beams loaded in various ways. The moment of inertia of various cross-sections, and moments of resistance. Horizontal and vertical shearing stresses in the cross-sections of a beam.

Torsional Stress.—Coefficient of rigidity, twisting moment,

and moment of torsional resistance. Torsional resilience.

Design of Beams, Girders, and Simple Structures.—Simple examples of the design of beams, girders, timber and steel viaducts, trestles, and minor structures, occurring in ordinary building construction, railway and hydraulic engineering works. Standard tests and specifications for cast iron, structural steel, timber, cement, concrete, stone, and brick. Results of modern researches on the strength, elasticity, and other properties of the materials used in engineering and building construction. The safe working stresses in structures. The impact effect of moving loads.

Preliminary considerations in connection with the location of roads, railways, canals, and pipe lines, and the preparation of the necessary plans and sections. Course of procedure in railway construction, earthworks, cuttings, embankments, tunnels, timber work, grades, curves, culverts, bridges, and minor works.

The Permanent Way.—The locomotive in regard to its boiler power, cylinder power, and adhesion, train, grade, curve and acceleration resistances, hauling capacity of locomotives, effect of

brakes.

Rainfall, evaporation and percolation, and the flow of water in channels, pipes, culverts and streams. The location and construction of storage reservoirs, earthwork dams, tanks, wells, water-courses and conduits. The filtration of water and the construction of filter beds.

BOOKS RECOMMENDED.—Engineering Construction in Steel and Timber, by Prof. Warren. Published by Longmans.

Students are also required to study the notes of lectures supplied, and the current numbers of Engineering Journals.

# 56.—MATERIALS AND STRUCTURES.

The course of instruction in Materials and Structures extends over the Third and Fourth Years, and consists of lectures, laboratory, and drawing office work. Materials and Structures A applies to all Engineering Students in their Third Year, and consists of 40 lectures, and a minimum of 50 hours' laboratory work. The drawing office work in connection with this Course

is included under the heading Engineering Design and Drawing. Materials and Structures B consists of 30 lectures, and a minimum of 100 hours' practical work, and applies to Civil Engineering Students only, in their Fourth Year.

A.—The calculation of the stresses in bridge trusses for fixed and moving wheel loads. Cooper's standard loading. The design of bridges of timber and steel for railways and highways. The deflection of beams and trusses, continuous beams, long and short columns. Joints and connections in riveted structures, also in eye-bar and pin structures. Reinforced concrete structures, retaining walls, masonry dams, piers, abutments, wing walls, arches, &c.

Foundations.—Methods of construction of foundations for engineering structures.

B.—Testing of Materials used in Engineering ('onstruction.— A more detailed consideration of the methods of testing materials, and the determination of their characteristic properties. The various instruments, machines and apparatus used in tests of materials. Micro-photography as applied to iron, steel and timber. The iron-carbon alloys in regard to micro-structure and characteristic properties.

Bridge Design.—The determination of the stresses in swing bridges, cantilever bridges, arched and suspension bridges, and

the design of such structures.

BOOKS RECOMMENDED FOR REFERENCE.—Engineering Construction in Steel and Timber, by Professor Warren (Longmans); Rankine's Applied Mechanics and Civil Engineering; Unwin's Testing of Materials; Johnson's Materials of Construction; Ritter on Iron Bridges; Lanza's Applied Mechanics; The Strains in Framed Structures, by Dubois; R. H. Smith's Graphics; Clarke's Graphic Statics; Burr's Stresses in Bridges and Roof Trusses; Claxton Fidler's Practical Treatise on Bridge Construction; Report of the New South Wales Railway Bridges Inquiry Commission; Johnson's Theory and Practice of Modern Framed Structures; Baker's Masonry Construction; Patton's Foundations; Report of the Advisory Board for the Sydney Harbour Bridge.

#### MATERIALS TESTING LABORATORY.

This laboratory contains the following appliances:—

1 Universal Wickstead Machine of 100 tons capacity for lengths up to 15 feet, with automatic electrical drive and control.

1 Greenwood and Batley Machine of 100,000 pounds capacity.

1 Pohlmeyer Machine, 50 tons capacity.

These three machines are supplied from an accumulator with motor driven pump, and are controlled with delicate hydraulic valves.

1 Amsler Compression Machine of 1,000,000 pounds capacity for lengths to 12 feet, supplied with motor driven oil pump and pendulum load indicator and dials.

1 Torsion Testing Machine 100,000 inch pound capacity, for

lengths up to 10 feet.

The above described machines are all provided with autographic recorders, one of which is also provided with a chronograph for time tests.

1 Impact testing machine drop hammer, Marten's system

fitted with Amsler's autographic recorder.

1 Charpy pendulum machine, and 1 Guillery rotating machine.

Hardness apparatus, consisting of Brinell's ball and Amsler's cone pressure apparatus, also Marten's Schlerometer.

2 Alternating testing machines.

Various smaller testing machines for cement, wire, beams, a sand-blast apparatus, electric furnace, drying oven, Zeiss micro-photographic apparatus, various extensometers, including 4 sets of Marten's mirror apparatus, dials, sectors, cathetometers and other apparatus for measuring strains.

#### 57.—CIVIL ENGINEERING.

The instruction in Civil Engineering A and B consists of a Course of 70 lectures, and the practical work included in the Course of Instruction on Engineering Design, Specifications and Drawing extending over the three terms of the Fourth Year. Mechanical and Electrical Engineering Students are required to attend Civil Engineering A only, which consists of 30 lectures delivered in Lent Term of the Fourth Year.

A.—ROADS AND RAILWAYS.—The principles of railway and road location, and the design and construction of works.

Permanent way. Signals. Points and crossings. Interlocking systems.

Passenger and Goods Stations.

Locomotives. Rolling stock. Brakes. Couplings and other railway appliances.

The construction of roads and streets. Paving of carriage ways.

B. HYDRAULIC ENGINEERING.—The water supply of towns, and the design and construction of the various works required in connection therewith. Flow of water in pipes and channels. Weirs, &c.

Sanitary Engineering.—Various systems of sewerage, House drainage. Construction of Sewage Works. Sewage disposal: Destructors and desiccators.

HARBOUR ENGINEERING.—Description and classification of the principal harbours. The design and construction of breakwaters and harbour works, docks, &c.

RIVERS AND CANALS.—The design and construction of the various works in connection with river improvements. Ship canals, &c.

IRRIGATION. — Reservoirs for storing irrigation water. Masonry and timber dams with flood discharges and sluices. Inundation canals. Perennial canals. Headworks and weirs. Scouring effect of falling water. Water cushions. Irrigation works in Egypt and India. The various important works for storing, regulating and distribution of water. Various schemes for irrigation works in Australia.

Books and Papers Recommended for Reference.—Humber's Water Supply; the Manchester Waterworks, by Bateman; Spon's Dictionary, Waring's Sewerage and Land Drainage; Sewage Disposal, by W. Santo Crimp, Stevenson's Harbours and Docks; Stevenson's Rivers and Canals; Vernon Harcourt's Civil Engineering; Vernon Harcourt's Harbours and Docks; Vernon Harcourt's Rivers and Canals: Vernon Harcourt's Sanitary Engineering; Sanitary Engineering, Moore; the Proceedings of the Institution of Civil Engineers, and also of the American Society of Civil Engineers; the various reports of Sir John Coode; the various reports on the Sewerage of the principal towns of Australia; Roads and Streets, by D. K. Clark; Barry's Railway Appliances; Gribble's Preliminary Surveys and Estimates; Wilcocks' Egyptian Irrigation. Buckley's Irrigation Works in India; Irrigation Engineering, Wilson, p. Wiley and Sons. Students are expected to read the current numbers of the various Engineering Journals. Elements of Railroad Engineering, by W. G. Raymond.

# 58.—ENGINEERING DRAWING AND STRUCTURAL DESIGN.

The course in this subject consists of a preliminary year in the Elements of Machine Design, and lectures and drawing office practice, having special reference to Structural Engineering.

## LECTURES.

FIRST YEAR.—Fundamental principles; conventional methods with regard to sections and projections; nature and uses of materials for machine parts; the use of first principles in the design of details; bolts; studs; connection of parts by pins, keys, and cotters; pipes and flanges; shafts and couplings; bearings; brackets and hangers; pulleys; toothed wheels; belt driving.

SECOND YEAR.—Structural design; the application of graphical methods of solution of problems; details of connections, etc., for various classes of structures.

THIRD YEAR.—Structural design; main members and connections with regard to their grouping together in complete structures; the preparation of specifications and estimates, etc.

BOOKS OF REFERENCE.—Manual of Machine Drawing and Design (Low and Bevis); Machine Design (Griffin); Machine Design, Construction and Drawing (Spooner); Mechanical Engineering (Lineham); Engineering Construction in Steel and Timber (W. H. Warren); Theory and Practice of Modern Framed Structures (Johnson, Bryan & Turveaure); Steel Mill Buildings (Ketchum); Highway Bridges (Ketchum); Influence Lines for Bridges and Roofs (Barr & Falk); Design of Simple Wood Trusses in Wood and Steel (Howe); Principles of Reinforced Concrete Construction (Turveaure and Maurer).

DRAWING OFFICE PRACTICE.

FIRST YEAR.—Lettering and printing; drawing of details from working drawings; sketching machine parts; preparation of tracings.

The details that are given to the students as copies are made as varied as possible, and each student is expected to take notice of and understand the drawings completed by others.

SECOND YEAR.—Lent and Trinity Terms —Detailed design of simple structures to the requirements of short specifications supplied to the students.

THIRD YEAR.—Detailed design of a structure applicable to the course taken by the student; quantities, specification, and estimate for the same.

In this year also the designing is done to the conditions which are supplied to the students, these being varied for the same class of structure so that they may clearly see the effect of such conditions on the design. Students are at this stage allowed more latitude with regard to the use of formulæ and standard proportions, although the checking by means of first principles is still insisted on.

FOURTH YEAR.—Design, specifications, etc., of such work as is indicated in the lecture courses.

This work is carried out as far as possible under conditions similar to those employed in commercial establishments. Where possible those students in the First Year showing good progress are set to make detailed drawings for the Fourth Year students, and tracings of such details as are required.

## 59.—SURVEYING.

Messrs. J. H. Cardew and T. F. Furber.

The course consists of lectures and field demonstrations. Students are also required to make surveys for themselves, and to undertake the whole of the necessary computations, to prepare plans and drawings, etc., and to make and reduce astronomical observations for time, latitude, meridian, etc.

The lectures treat of the history and development of the art of land, engineering, mining, hydrographical, hydraulic, and geodetical surveying, and astronomical operations in connection

therewith, and discuss important modern methods.

Course I., for all students, treats specially of the aims, scope and general theory of different classes of land and engineering surveys; it embraces the description and practical manipulation of all kinds of instruments used in survey operations, together with their adjustments.

Demonstrations will be frequently made in the field, at which students will perform actual survey work under the direction of the Lecturer. Cartography will be treated in its general and special application to the different classes of surveys indicated

above.

COURSE II., for Civil Engineering students, treats specially of Telemetry and Tacheometry, Hypsometry, Astronomical Surveying, Hydrographical and Geodetical Surveys, Tunnel and

Shaft Alignment, and the Survey of Deep Bores.

COURSE III., for Mining Engineering students, treats specially of the general features of surface and underground surveys as applied to mining, the solution of typical problems met with in mining operations, the prevention and effects of subsidence in colliery workings, the survey of deep shafts and bore holes, and the special forms of cartography most suitable for the delineation of mine workings of various kinds.

BOOKS RECOMMENDED FOR REFERENCE.—Johnson's Theory and Practice of Surveying; A Treatise on Surveying, by Middleton and Chadwick; Wilson's Topographic Surveying; Ganguillet's and Kutter's Flow of Water in Rivers and Channels; Merriman's Hydraulics; Bovey's Hydraulics; Robinson's Marine Surveying; Hawkins' Astronomy (Elementary); Chauvenet's Spherical and Practical Astronomy (Advanced); Doolittle's Astronomy; Clarke's Geodesy; Gore's Elements of Geodesy; Merriman's Least Squares; Wright's Adjustment of Observations; Brough's Mine Surveying; Lupton's Mine Surveying.

# GEODESY AND ASTRONOMY.

Historical development of geodetic operations. Theory of Error and the adjustment of observations by the method of least squares. Measurement of base lines. Base apparatus. Comparison of standards of length. Determination of coefficients of expansion. Thermometry. Measurement of angles. Determination of instrumental errors. Trigonometrical levelling. Computation of triangulation. Figure adjustment. Adjustment between bases. Astronomical observation of time, latitude, longitude and azimuth. Reduction of star places. Theory of the figure of the earth. Connection between astronomically and geodetically determined positions. Determination of earth dimensions from meridian arcs and from a general triangulation. Deflections of the vertical.

#### 60.—ARCHITECTURE.

#### Mr. J. Sulman.

HISTORY OF ARCHITECTURE, illustrated by photographs and drawings; and BUILDING CONSTRUCTION, illustrated by diagrams and drawings, and samples of materials.

HISTORY OF ARCHITECTURE.—The historical evolution of design in buildings from the earliest times to the present day, embracing Egyptian, Assyrian, Grecian, Roman, Romanesque, Byzantine, Saracenic, Gothic, Renaissance and Modern work.

BOOKS RECOMMENDED.—History of Architecture, by Fergusson (4 vols.); A History of Architecture, by Banister Fletcher (1 vol.)

Building Construction.—Description of the nature and proper utilisation of building materials, and of the modes of construction adopted in the various building trades.

BOOKS RECOMMENDED.—Building Construction, Rivingtous (vols. 1, 2, 3); Building Construction, Elementary Course, by Chas. F. Mitchell; Building Construction, Advanced Course, by Chas. F. Mitchell; Practical Building Construction, by J P. Allen; Elementary Practical Building Construction, Stage 1, by Frank William Booker.

#### 61.—MINING.

#### Mr. F. Danvers Power.

1. Prospecting, or the search for minerals. 2. Boring, and the appliances used in connection therewith. 3. Laying out mines (shafts, winzes, raises, adits, drifts, cross-cuts). 4. Breaking ground. Hand tools, rock drills, air hand hammers, channelling machines, coal cutters, wire saws, steam shovels, dredges. Explosives and their use in blasting. Thawing.

5. Supporting excavations by timbering, masonry, concrete, and metallic supports. Pneumatic method. Freezing method. 6. Methods of extracting minerals. Quarrying, Filling. ground sluicing, hydraulic sluicing, dredging, extraction through bore holes, caving, stoping, longwall, bord and pillar, etc. 7. Haulage. Vehicles. Self-acting incline, engine plane, main and tail ropes, endless rope. Aërial ropeways. Transport by shoots, conveyers and pipes. 8. Hoisting. Windlass, whip, whim, engines, pit-head frame. Ropes, chains and attachments. Safety appliances. Buckets, skips and cages. Keps. Signalling. Travelling. Steps, ladders, man engines, buckets, cages, trucks. 10. Drainage. Dams, surface and underground. Various means of lifting water. 11. Ventilation. Gases met with in mines. Natural ventilation. Assisted natural ventilation. Artificial ventilation. Measuring and testing air. 12. Illumination of mines. Candles, lamps (oil and acetylene), electric lights. 13. Common causes of accidents. 14. Mine manage-Accidents. ment. Books to be kept. Employment of labour. Assay plans. Mine stores. Reports. 15. Mine examination. Points to be Sampling mines. Valuation of mines. considered. problems. 16. Legislation affecting mining. 17. Ore dressing. General. Desiccation. Reduction. Separation; sizing, classification. Concentration. Conveyers. Special methods. Sampling. Disposal of products. Weighing.

Text Books.—Ore and Stone Mining (Dr. C. Le Neve Foster); Colliery Manager's Hand-book (C. Pamely); Ore Dressing (R. H. Richards). The following books may also be consulted:—A Practical Treatise on Hydraulic Mining in California (A. J. Bowie); Mine Timbering (J. Storms); Mine Drainage, Pumps, etc. (H. Behr); A Text Book of Coal Mining (H. W. Hughes); T. C. Futer's The Mechanical Engineering of Collieries; Well Boring for Water Brine and Oil (C. S. Isler); Ore Sampling (T. Rickard and

others); Mine Accounts and Mining Bookkeeping (J. G. Lawn).

# 62.—METALLURGY. Mr. Basil W. Turner.

A course of seventy-five lectures will be given during Lent, Trinity and Michaelmas Terms for Fourth Year students in the Department of Mining and Metallurgy. Introduction: Fireresisting materials; coal manufacture of charcoal, coke and gaseous fuels; pyrometry; general metallurgical processes and agents; types of furnaces; fluxes, slags, etc. Detailed descriptions of the methods of extracting the following metals from their ores:—Gold, silver, lead, copper, tin, platinum, antimony, zinc, nickel, cobalt, bismuth, mercury, aluminium, and iron.

Students will be expected to make full notes at the lectures, and will be referred to the literature of the subject immediately under discussion.

All students are required to attend the excursions to Metallurgical Works.

Every student is required to prepare a written description of metallurgical works visited at the excursions.

BOOKS RECOMMENDED.—Roberts-Austen's Introduction to the Study of Metallurgy; Grüner's Traité de Metallurgie; Percy's Metallurgy; Egleston's Metallurgy in the United States; Schnabel's Handbook of Metallurgy, translated by H. Louis, M.A.; Rose's Gold; Rickards' Stamp Milling of Gold Ores; Scheidel's Cyanide Process; Hoffmann's Lead; Hixon's Lead and Copper Smelting; Peters' Modern Copper Smelting; Lang's Matte Smelting; Howe's Iron and Steel; Lowthian Bell's Chemical Phenomena of the Blast Furnace; Rowan and Mill's Fuel; Sexton's Fuel and Refractory Materials; Richards' Aluminium; Fulton's Coke; Collins' Lead; Collins' Silver; Julian Smart's Cyaniding of Gold and Silver Ores; Campbell's Manufacture—Properties of Structural Steel; and papers by various authors in the Trans. Am. Inst. Min. Engineers, Journal of the Iron and Steel Institute, Engineering and Mining Journal of New York, Trans. Inst. Min. and Met., The Mineral Industry, etc.

# DEPARTMENT OF VETERINARY SCIENCE.

Professor J. D. Stewart, B.V.Sc., M.R.C.V.S.: Sydney Dodd, D.V.Sc., F.R.C.V.S.; H. M. Baker, V.M.D.

Additional Lecturers and Demonstrators to be appointed.

63.—Biology.—A course of 80 lectures and 90 hours' practical instruction, as set out in Biology I., page 203.

Text-Books.—Parker and Haswell's "Manual of Zoology," Marshall and Hurst's "Practical Zoology," Vine's "Elementary Botany," or Mudge's "Botany."

64.—Chemistry.—Students attend for lectures and practical work in chemistry during the first year of their course. They have 80 lectures (60 inorganic and 20 organic) of one hour each, and 90 hours' practical work.

The lectures cover all the non-metals and metals and their compounds as are given in first year courses in the Universities of London and Edinburgh, and as are treated in an ordinary text-book like Newth's "Inorganic Chemistry."

The ground covered in organic chemistry is more considerable than usual. The hydro-carbons, alcohols, ethers, aldehydes. Acids in the fatty series are all taken up; also the urea and sugar groups; benzene, benzoic acid, nitro-benzene, aniline, phenol.

Text-Books.—Newth's "Inorganic Chemistry" Cohen's "Organic Chemistry," and Perkin's "Qualitative Analysis."

Physics. — Students attend a course of 20 lectures on Elementary Physics, including Mechanics and Heat.

Text-Book. - Balfour Stewart's "Physics."

65.— Veterinary Anatomy.—The course of instruction extends over two years, and embraces Equine Anatomy and the Comparative Anatomy of the other domesticated animals, including the ox, camel, sheep, pig, dog, cat, and fowl. Not less than 130 lectures, and 50 hours' practical instruction are given in the systematic study of the skeleton, individual bones, articulations, ligaments, vascular systems—blood and lymph, digestive system and accessory organs, respiratory system, ductless glands, reproductive organs -male and female, urinary system, nervous systems-cerebrospinal and sympathetic, organs of special sense, muscles, and of the skin and its appendages. The horse is taken as the type, and chief reference is made to the differences existent in the structure, position, and relation of the organs of the other domesticated animals. Instruction is also given in Embryology and in Topographical and Surface Anatomy. course each student must dissect, under the supervision of a demonstrator, the whole cadaver of the horse at least once, and attend no fewer than 20 demonstrations on the anatomy of the other domesticated animals.

Lectures and demonstrations are illustrated by anatomical preparations, dissections, models, lantern slides and diagrams. The museum of the Department contains the articulated skeletons of the domesticated animals, as well as many valuable anatomical models, while complete sets of disarticulated bones are at all times available to the student.

Text-Books.—M'Fadyean's "Comparative Anatomy of the Domesticated Animals," Part I.; Chauveau's "Comparative Anatomy;" M'Fadyean's "The Anatomy of the Horse."

66—Physiology.—Students in Veterinary Science will attend the ordinary lectures in Physiology (see page 174) in Trinity and Michaelmas Terms, but a special course of lectures in Introductory General Physiology will be given in Lent Term and a supplementary course of lectures will be given during Michaelmas Term on Special Veterinary Physiology. Additional instruction adapted to the requirements of students of Veterinary Science will be given during the courses in Practical Histology and in Practical Chemical Physiology (see page 176).

Text-Books.—Noel Paton's "Essentials of Physiology for Veterinary Students"; Shafer's "Essentials of Histology"; and Halliburton's "Essentials of Chemical Physiology" or Aders Plimmer's "Practical Physiological Chemistry."

67.—Veterinary Pathology and Bacteriology.—Not less than 80 lectures and 60 hours' practical instruction in the general ætiology of diseases of the domesticated animals, and the systematic study of their morbid processes and conditions; post-mortem examination; naked eye appearances, preparation of sections and microscopic examination of pathological lesions; general bacteriological technique, preparation of culture media; methods of cultivation, staining and identification of pathogenic (and some non-pathogenic) bacteria, with special references to clinical diagnosis; preparation of vaccines and anti-toxins; vaccination and immunisation, sterilisation, &c.

The advanced course includes more extended instruction in the pathology and bacteriology of topical and exotic diseases; the phenomena of immunity, with special reference to the clinical application of hæmolysins, opsonins, agglutinins and precipitins; the separation of bacterial products and other special laboratory work.

# Pharmacology.—(See page 175.)

- 68.—Veterinary Agricultural Botany.—Lectures, laboratory and field instruction in the classification and morphological characters of grasses, fodder plants and edible shrubs, noxious and poisonous plants and weeds, fungi affecting fodder, &c. The general outlines of economic botany are also dealt with.
- 69.—Veterinary Hygiene and Dietetics.—Not less than 40 lectures and demonstrations on air, water, general sanitation of stables, cow-sheds, kennels, abattoirs, dairies, sale-yards, dips, &c.; disinfecting; composition and nutritive value of food-stuffs; principles of feeding; adulteration of fodder; diseases due to improper feeding, &c.
- 70.—Advanced Veterinary Hygiene.—An extended course in the hygiene of abattoirs, meat preserving and canning works, freezing and cold storage depôts, preservation of meat, injurious and noxious conditions, the hygienic production of milk, herd and dairy farm sanitation, harmful contaminations of milk, adulterations of milk and their chemical detection, protection of milk during transit from cow to consumer; State and municipal sanitary laws.

- 71.—Veterinary Materia Medica, Therapeutics and Pharmacy.—Not less than 40 lectures and 20 hours' practical instruction in the classification of medicines; their derivation, preparation, methods of administration or application, actions and uses; incompatibles; impurities; poisons—nature, symptoms, antidotes and tests; prescription writing and reading.
- 72.—Stable Management, Manipulation of Domesticated Animals, and Principles of Horse-Shoeing.—Includes the management and control of the domesticated animals, methods of handling and restraint, grooming and dressing; the use and adjustment of harness; animal husbandry; breeds, conformation, &c.; principles of horse-shoeing, pathological shoeing, correction of vicious gaits, &c.
- 73.—Veterinary Medicine.—Not less than 100 lectures are given on the Theory and Practice of Veterinary Medicine, in which the nomenclature, classification, causes, symptoms, preventive and curative treatment of diseases of domesticated animals, are systematically taught. Practical instruction is also given at the Veterinary Hospital in the methodical examination of patients, the symptoms and physical signs of disease, diagnosis and treatment.
- 74.—Veterinary Surgery.—Not less than 80 lectures on the Principles and Practice of Veterinary Surgery, together with 150 hours' practical instruction in operative, tutorial and clinical surgery, veterinary dentistry, and ophthalmology. Each student performs, under tuition, operations upon dead subjects, and is placed in charge, under supervision, of surgical cases occurring in the Veterinary Hospital, and daily clinics The Fifth Year Students act in rotation as Assistant Resident Surgeons.
- 75 Veterinary Obstetrics.—Includes embryology, generative organs, mating, impregnation, development, gestation, symptoms and duration of pregnancy, management of pregnant animals, diseases of pregnancy, accidents and diseases following parturition, care of young animals, diseases of young animals, &c. Practical instruction is given in the aids to parturition and obstetrical operations.
- 76.—Veterinary Parasitology.—Parasites and parasitism; internal and external parasites; origin of parasites; change of host; influence of parasite on host; general account of Protozoan

and Metazoan parasites A systematic account of the anatomy, development and relationships of the flatworms (Tremateda and Cestoda), the round worms (Nemateda and Acanthocephala), and the Arthropodan parasites (ticks, mites, flies, &c.). A detailed examination of the chief genera affecting domesticated animals, with demonstrations on their naked-eye and microscopic structure.

77.—Meat Inspection.—Lectures and practical instruction in the laboratories and at the abattoirs, on the general principles governing inspection of meat, and on the physical and chemical properties of the meat of various animals used for food, the qualities of meat, noxious and injurious meat, the differential diagnosis of the various diseases which render meat unwholesome and unfit for food purposes, parasitic diseases communicable to man and other animals, systems of meat inspection—home and foreign.

# DEPARTMENT OF AGRICULTURE.

Prof. Watt.

FIRST YEAR.

CHEMISTRY I .- Prof. C. E. Fawsitt.

A course of about 60 lectures on Inorganic Chemistry and about 30 lectures on Organic Chemistry.

The Practical course consists of 30 exercises of three hours each, and includes the identification of the common metals and acids as well as organic substances like alkaloids, sugars, starch, alcohol, carbolic acid, etc.

# BIOLOGY I .- Prof. W. A. Haswell.

- (a) Zoology.—The course consists of 50 lectures illustrated by specimens and diagrams giving a general survey of the animal kingdom and dealing with the structure and physiology of animals, the various systems of organs and their principal functions, etc.
  - (b) Botany.—A course of 30 lectures giving a general survey of the vegetable kingdom and dealing with the structure and physiology of plants.

In the Practical Class typical animals and plants are dissected and studied by the student both with the naked eye and with the microscope.

GEOLOGY I.-Prof. T. W. Edgeworth David.

A course of 60 lectures with a minimum of 40 hours practical work in the Laboratory and a week to ten days of Field Work. The Lectures are divided into three parts, as follows:—

Part I. deals with the History of Geology, Material Geology, including Elementary Petrology and Mineralogy and the first principles of Geological Collecting and Field Work.

Part II. treats chiefly of Dynamical Geology, including the Composition, Movements and Work of the Atmosphere and the Ocean, of Evaporation and Rainfall, of Lakes, Rivers, Springs and Artesian Wells, of various Glacial Phenomena; of the Movements of the Earth's Crust, and of Earthquakes and Volcanoes.

Part III. refers chiefly to (a) Structural Geology and the Evolution of Earth Forms, and (b) Elementary Stratigraphical Geology and Palæontology.

Physics.-Prof. J. Arthur Pollock.

A course of about 20 lectures on the Principles of Mechanics, Properties of Matter, Heat and Light.

# SECOND YEAR.

CHEMISTRY.—A course of 20 lectures on Organic Chemistry with practical work on the preparation of typical Carbon Compounds. A course of 20 lectures on Physical Chemistry with Quantitative Practical Work.

BOTANY.—The course includes the practical study of the Physiology of Plants, and lectures and demonstrations on the important natural orders of Australian Flowering Plants with Field Excursions.

ACRICULTURAL GEOLOGY.—A course of about 40 lectures on the occurrence and distribution of Phosphatic Deposits and other Natural Fertilizers, Rock Salt, Gypsum, Potassic and Sodic Deposits, Limestones, and other deposits of Agricultural interest, together with a study of the formation of Soils and the relation of Soils to the Geological Formations

In the Practical course the identification of deposits of agricultural importance will be dealt with, and a closer study of Geological Maps and Sections will be made.

## PRINCIPLES OF AGRICULTURE I .- Prof. Watt.

The course will include a study of the Soil from an agricultural point of view, the meaning of Fertility, the suitability of various soils for the growth of different crops, Irrigation and Drainage, the Conservation of Soil Moisture, Methods of increasing Fertility, Green-manuring, Natural and Artificial Manures.

ECONOMIC ENTOMOLOGY .- Mr. W. W. Froggatt.

A course of about 40 lectures, illustrated by specimens, on the methods of identification, Life History, Damage caused by and Prevention and Remedies for the chief Insect Pests of Australia.

## THIRD YEAR.

AGRICULTURAL CHEMISTRY .- Prof. Watt and Dr. Chapman.

The course will include an account of the Chemistry of Soils, Manures, Feeding Stuffs, Milk and Dairy Products, Insecticides, Fungicides, etc., as well as the Chemical Changes taking place during Animal and Vegetable growth

The Practical course will include the Quantitative Aualysis of the various classes of substances mentioned above, as well as experiments in Soil Physics.

AGRICULTURAL BOTANY.—A course of about 40 lectures with Practical Work on the General Outlines of Economic Botany with special reference to the Identification and Life History of Agricultural Plants, Noxious and Poisonous Weeds, the Principles involved in Budding, Grafting, Pruning, Plant Breeding, etc.

PLANT PATHOLOGY.—A course of about 20 lectures on Plant Diseases caused by Fungi (rusts, mildews, smut, potato blight, etc.), the Life History of the Various Organisms, Prevention and Remedies.

In the Practical course of about 20 meetings a study of the various Fungi will be made by the students, both with the naked eye and the aid of the microscope.

VETERINARY HYGIENE AND DIETETICS.—A course of 40 lectures and demonstrations on Air, Water, general Sanitation of Stables, Cowsheds, Kennels, Dairies, Sale Yards, with an account of the principal Dips and Disinfectants; the composition and nutritive value of Foodstuffs; Principles of Feeding; Adulteration of Foodstuffs; Diseases due to improper feeding, etc.

C

STABLE MANAGEMENT, MANIPULATION OF DOMESTICATED ANIMALS AND PRINCIPLES OF HORSE SHOEING.—This course will be taught in a practical way.

VETERINARY PATHOLOGY.—A short course on the common Diseases of Stock, with description of Symptoms, Means of Infection, etc.

# FOURTH YEAR.

PRINCIPLES OF AGRICULTURE II .- Prof. Watt.

In this course an account will be given of the principal Farm Crops of Australia, their Method of Cultivation, Harvesting, etc., including estimated costs of the various operations; an account of the various Breeds of Domesticated Animals, their suitability for various purposes and for different districts, the principles of Dairying, etc.

Principles of Fruit Culture and Viticulture.—A short course on the chief fruits suitable to the varying conditions of Australian soils and climate; the principles of Vine growing for table grapes and wine-making.

Economic Science Applied to Agriculture.—A course of about 40 lectures on the general Principles of Economics with special reference to Agricultural Problems, together with the elements of Book-keeping.

Principles of Forestry.—An account of the principal Native and Exotic trees of economic importance suitable to Australian conditions. Identification of common trees, timbers, etc., and the suitability of various timbers for economic purposes, the conservation of Forests, Nursery Work, Planting Wind-breaks, Ornamental Trees, etc.

AGRICULTURAL ENGINEERING.—The course will include the elements of Surveying and Measuring Land, the Principles involved in Roadmaking, Irrigation, Drainage, etc., the Motive Powers of the farm—wind, water, steam, gas, oil, etc.

The Practical work will include the measuring and laying out of plots for experimental purposes, etc.

VETERINARY PARASITOLOGY.—An account of the Internal and External Parasites of Domestic Animals, with special reference to the various Diseases and Ailments produced by worms.

AGRICULTURAL BACTERIOLOGY.—A course of about 20 lectures (with Laboratory Practice) on the Bacteria occurring in soils, milk and its products, water, etc., with an account of the changes, beneficial and otherwise, brought about by the various organisms.

# DEPARTMENT OF MILITARY SCIENCE.

Colonel Foster, Assistant Professor Barraclough, Captain Brand, Major R. C-Simpson, Major V. Le Gay Brereton.

# 78.-MILITARY SCIENCE I.

STRATEGY—Ten Lectures.

Object of the establishment of a Chair of Military Science.

Desirability of knowledge of the subject for every educated man.

Importance of Military History as a study, emphasized by Napoleon and all modern great commanders.

What is to be learnt from great campaigns:-

First a political or national lesson, that for success in war previous action by governments in peace is necessary, namely:—

(a) Preparation of an efficient army by a good system of Organisation, Officering and Training, and the best assignment of Commands and Staff.

(b) The obtaining of information about the Theatre of War, the Enemy's situation, and his Strength in

every sense.

(c) When war imminent, decision of the Objective, the Theatre of war, and the locality of Strategic Deployment of the forces, with due consideration of their Base, Communications, and Lines of Operations.

Secondly, Military Lessons in the Science of Strategy, or the Conduct of Operations. Its general principles and

axioms.

Difficulty of their application in practice. High qualifica-

tions necessary for a successful commander.

The Art of War mainly dependent upon human nature, partly on its physical, but more especially on its moral, factors. The Science of Strategy is the technique of this art.

Analysis of Strategic Manœuvres, with examples from history. They essentially depend on Time and Distances.

MILITARY HISTORY—Ten Lectures.

The Campaign of Waterloo.

Campaigns in Virginia in the Civil War in the U.S.

# MILITARY SCIENCE II.

IMPERIAL DEFENCE—Ten Lectures.

The Empire, its geographical, statistical and commercial aspects.

Its strategic.aspect: Trade Routes; naval bases; coaling

stations; cables.

Command of the sea. Naval strategy the basis of defence of the communications of the Empire, and thus of its commerce and territories in every part of the world.

The British Navy, its strength compared with other navies. Naval Policy. Importance of unity of action, and con-

sequently of command.

Military action also necessary (a) for defence, (b) for furtherance of national policy in every quarter of the world. Illustrations from the history of the development of the Empire.

Possible wars in the future. The theatres of these wars in relation to Australia. Combined operations of sea and land forces. Local defence subordinate to offensive action by the whole forces of the Empire.

Organisation of the Empire for war.

The place of Australia in this organisation.

MILITARY HISTORY—Ten Lectures.

Campaigns in Europe: Prussia v. Austria, 1866. Germany v. France, 1870; Russia v. Turkey, 1877.

# MILITARY SCIENCE III.

Tactics—Ten Lectures.

Development of Tactics since 1740.

Most recent illustrations of Modern Tactics. South African War. Russo-Japanese War.

General Tactics of the present day.

Minor Operations of War:—Marches, Security, Information, Quarters in the field.

Staff Officers and Staff duties. Intelligence, Reconnaissance, Orders.

Telegraphs and Railways in war.

Discipline and Training.

MILITARY HISTORY-Ten Lectures.

Campaigns of 1904, Russia v. Japan.

The war in the Peninsula, 1808-14.

BOOKS RECOMMENDED FOR THE ABOVE THREE COURSES-

Strategy.—Elements of Strategy, by Tovey (Hugh Rees), 6s; Principle of Strategy, by Captain Nash, 1905 (Kegan Paul), 3s 6d; Reflexions on the Art of War, by Sir R. Hart, V.C. (Clowes), 7s 6d; Strategy, by Captain McQuoid (Cassell), 12s.; The Science of War, by Col. Henderson (Longmans), 14s; The Nation in Arms, by von d Golz (Hugh Rees), 6s.

Tactics.—Tactics for Beginners, De Gruyter (Gale & Polden), 6s; Field Service Regulations, Part I (Harrison), 1s.; The Evolution of Tactics, by Gilbert (Hugh Rees), 9s; A History of Tactics, by Johnstone (Hugh Rees),

15s. Development of Tactics, by Maguire (Hugh Rees), 5s.

Military History.—The Civil War in the United States, by Wood & Edmondes (Methuen), 10s; Stonewall Jackson, by Henderson (Longmans); Saarbruck to Paris, by Colonel Pratt, 1904 (Swan Sonenschein); The Russo-Turkish War, by Major Maurice, 1905 (Swan Sonenschein), 6s 6d; The Waterloo Campaign (Hugh Rees), 3s; The Campaigns in the Peninsula (Forster Groom), 7s; The Campaign in Bohemia, 1866 (Swan Sonenschein); Wellington's Campaigns, by Gen. Robinson (Hugh Rees).

Imperial Defence,—Imperial Defence, by Sir George Clarke, 5s; Imperial Defence, by Lieut.-Colonel May (Swan Sonenschein), 7s 6d; The Navy and the Nation, or Naval Warfare and Imperial Defence, by Sir George Clarke (Murray)

MILITARY TOPOGRAPHY.

The course consists of ten lectures, and seven working days (of eight hours each) for practical instruction during vacation. The instruction will include all the subjects required for the execution of a military "Field Sketch," as required of officers in the Imperial Forces.

The subjects of the lectures will be as follows:—

The object of Military Maps and Field Sketches. Conventional signs.

True, and magnetic, meridian. Scales.

The representation of hill features. Contours and form-lines.

Map-reading. Copying, reducing and enlarging maps.

The general principles of Field Sketching. Triangulation, Traversing and Resection.

Instruments used in Field Sketching.

Method of executing a Field Sketch with the Plane Table or Cavalry Sketching Board.

Prismatic Compass Šketching. Field Book. Plotting. Field Sketches without instruments. Landscape Sketching.

The practical instruction will include Field Sketching with the Plane Table, Prismatic Compass, and without instruments, and Landscape Sketching.

For the practical instruction the necessary instruments will be made available by the District Commandant of N.S. Wales.

. Text Book.—Manual of Map-reading and Field Sketching, 1906 (published by the General Staff, War Office, London).

# MILITARY ENGINEERING.

The Course consists of ten lectures and five whole days practical instruction in the construction of works required by troops in the field. The following outline indicates the scope of the lectures, which will be illustrated by lantern slides, diagrams and models:—

General account of the different divisions of Military Engineering.

Engineering.

The object of field fortification.

Various classes of projectiles in use, their trajectories and penetration.

Intrenching tools. Materials usually available in the field. General rules for working parties. The siting of field works. Improvement of existing cover, clearance of foreground, and defence of buildings.

Earthworks (trenches. artillery cover, and redoubts).

Obstacles.

The defence of posts and organization of large positions for defence.

Demolitions, with and without explosives.

General principles (without details) of temporary roads and bridges.

REFERENCE BOOKS RECOMMENDED.—Manual of Military Engineering (1905), Field Service Regulations (1909), The Royal Engineers' Journal.

## MILITARY ADMINISTRATION AND LAW.

# COURSE OF TEN LECTURES.

#### Administration—

The general principles of the administration of an army in peace and its development in war.

The organization of units in peace and in War.

'Commanders and Staff—Distinction between them and Regimental Officers; their duties.

Characteristics and duties of each arm.

Equipment, rations and clothing.

Supply and transport in war. Ammunition supply.

The organization of the Australian Defence Force as a whole, and its central administration.

# MILITARY LAW-

Military Law—The application of military law.

Offences and punishments; military and civil offences; civil courts

Arrest; investigation by the C.O.; summary punishment. Courts martial—powers and procedure.

The law of evidence.

Military law in relation to civilians; use of troops in aid of civil power.

War—Compulsory enlistment; requisitions for transport, etc.; military law on active service.

The Customs of War.

Text Books.—Manual of Military Law, War Office, 1807; The Defence Acts, 1903-4, 2/6; Regulations for the Military Forces of the Commonwealth, 1908, 2/-; to be obtained from the Government Printer, Melbourne, or Raukine and Dobbie, 64 Pitt Street, Sydney.

# LIST OF

# \*SCHOLARSHIPS, EXHIBITIONS, PRIZES, &c.

All students of the University who shall during their course have received Bursaries, Exhibitions, Scholarships or Fellowships, or Exemptions from Fees, are invited by the Senate to make returns to the University when their circumstances in life shall permit, for the purpose of conferring like benefits on future students. The names of all students making such return will be published in the University Calendar.

AWARDED AT THE MATRICULATION EXAMINATIONS.

- The Salting Exhibition—Awarded on the recommendation of the Trustees of the Sydney Grammar School to a student proceeding thence to the University. £25 for three years. (See page 272.) The last award was made in March, 1909.
- The BOWMAN-CAMERON Scholarship—Every third year, for General Proficiency. £35 for three years. (See page 261.) The last award was made in March, 1911.
- The COOPER Scholarship No. II.—Awarded to a student distinguished in Classics. £50 for one year. (See page 259).
- The Barker Scholarship No. II.—Awarded to a student distinguished in Mathematics. £50 for one year. (See page 258.)
- The Litheow Scholarship, No. I—Awarded to a student distinguished in Modern languages (French and German). £50 for one year. (See page 259.)
- The James Aitken Scholarship—For General Proficiency. £50 for one year. This Scholarship is not given in the year in which the Bowman-Cameron Scholarship is awarded. (See page 262.)
- The Freemasons Scholarship—For sons of Freemasons. Every third year. £50 for three years. (See page 261.) The last award was made in March, 1911.
- THE HORNER Exhibition—For proficiency in Mathematics. £8 for one year. (See page 273.)

Scholars are required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

- The Peter Nicol Russell Scholarship—For Mechanical Engineering. £75 for four years. (See page 250.)
- Bursaries of the annual value of £50 to £25 each are awarded from time to time. (See page 274.)

AWARDED AT THE FIRST YEAR EXAMINATIONS.

- The Cooper Scholarship No. III.—For Classics. £50 for one year. (See page 259.)
- The George Allen Scholarship—For Mathematics. £40 for one year. (See page 260.)
- The Litheow Scholarship, No. II—For Philosophy. £50 for one year. (See page 259.)
- The Levey Scholarship—Awarded in the Faculty of Arts or the Faculty of Science for Chemistry (theoretical and practical) and Physics (theoretical and practical). £40 for one year. (See page 258.)
- The Garton Scholarship No. I.—For French and German. £45 for one year. (See page 265.)
- The Belmore Scholarship.—Awarded at the First Year Examination in the Faculty of Science to a student proceeding in the Department of Agriculture. £18 for two years. (See page 269.)
- The SMITH Prize—For Physics. £4. (See page 281.)
- The SLADE Prizes—For Practical Chemistry and Practical Physics. £5 each. (See page 282.)
- The COLLE Prize—For Botany. £4. (See page 282.)
- The Struth Exhibition—For General Proficiency. Awarded at the First Year Examination in Arts to a student entering the Faculty of Medicine. £50 for five years. (See page 273.) The last award was made in March, 1907.
- The Henry Wair Bursary—For General Proficiency. Awarded at the First Year Examination in Arts to a student entering the Faculty of Medicine. £40 for five years. (See page 279.) The last award was made in March, 1911.

AWARDED AT THE SECOND YEAR EXAMINATIONS.

- The Coorer Scholarship No. I.—For Classics. £50 for one year. (See page 259.)
- The Barker Scholarship No. I.—For Mathematics. £50 for one year. (See page 257.)

- The Garron Scholarship No. II.—For French and German. £45 for one year. (See page 265.)
- The Norbert Quirk Prize—For Mathematics. £5. (See page 281.)
- The DEAS-Thomson Physics Scholarship—Awarded in the Faculty of Arts or that of Science for Physics. £50 for one year. (See page 258.)
- The Deas-Thomson Geology Scholarship Awarded in the Faculty of Science for Geology. £50 for one year. (See page 258.)
- The Caird Scholarship—Awarded in the Faculty of Science for Chemistry. £50 for one year. (See page 261.).

## AWARDED AT EACH DEGREE EXAMINATION.

Bronze Medals are awarded to the highest proficients in the various Degree Examinations.

## SCHOLARSHIPS TENABLE BY GRADUATES.

- The Frazer Scholarship—Awarded at the Third Year Examination upon the results of examinations, &c., in History. £70. (See page 264.)
- The WILLIAM and JANE GRAHAME Mechanical Engineering Scholarship—Awarded at the Fourth Year Examination in the Department of Engineering for Mechanical Engineering. £40 for one year. (See page 267.)
- The James King of Irrawang Scholarship—Awarded to a Graduate of not more than four years' standing. £150 for two years. To be awarded in March, 1912. (See page 262.)
- The Woolley Scholarship—Awarded to a Graduate in Arts of not more than four years' standing. £150 for two years. To be awarded in March, 1913. (See page 264.)
- The Cooper Graduate Scholarship—Awarded to a Graduate in Arts of not more than four years' standing. £150 for two years. To be awarded in March, 1912. (See page 268.)
- The Barker Graduate Scholarship—Awarded to a Graduate in Arts or in Science, including Engineering, of not more than four years' standing. £150 for two years. To be awarded in March, 1913. (See page 268.)

- The James Courts Scholarship—Awarded at the Third Year Examination in the Faculty of Arts for distinction in the study of the English Language and Literature. £50 for one year. (See page 267.)
- The John Courts Scholarship—Awarded for distinction in the Science course to a student graduating as Bachelor of Science with honours. £50 for one year. (See page 267.)
- The Deas-Thomson Mineralogy Scholarship—Awarded to a student graduating in Arts or in Science for Mineralogy. £50 for one year. (See page 258.)
- The Royal Commissioners of the Exhibition of 1851 award Scholarships to Graduates in Science of this University, upon the nomination of the Senate. £150 for two or three years. (See page 263.)
- The Maclear Fellowships—Awarded by the Linnean Society of New South Wales to graduates in Science. £400 per annum. (See page 254.)
- The Rhodes Scholarship—(See page 269.)

# AWARDED IN THE FACULTY OF LAW.

- The Wigram Allen Scholarship—Awarded for proficiency in the subjects of Section I. of the Intermediate LL.B. Examination. £50 for one year. (See page 260.)
- The George and Matilda Harris Scholarship—Awarded for proficiency in the subjects of Section II. of the Intermediate LL.B. Examination. £50 for one year. (See page 266.)
- The Pitt Cobbett Prize—Awarded for proficiency in the subject of Constitutional Law. £5. (See page 286.)

# AWARDED IN THE FACULTY OF MEDICINE.

- The Struth Exhibition—For proficiency in the subjects of the First Year Examination in Arts, to a student entering the Faculty of Medicine. £50 for five years. (See page 273.) The last award was made in March, 1907.
- The Henry Watt Bursary—For proficiency in the subjects of the First Year Examination in Arts to a student entering the Faculty of Medicine. £40 for five years. (See page 279.) The last award was made in March, 1911.

PRIZES.

- The Renwick Scholarship—For proficiency in the subjects of the First Year Examination in Medicine. £45 for one year. (See page 260.)
- The John Harris Scholarship—For proficiency in the subjects of Anatomy and Physiology in the Third Year Examination in Medicine. £40 for one year. (See page 263.)
- The Norton Manning Memorial Prize—For Psychological Medicine. £5. (See page 285.)
- The Parkinson Memorial Prize—For Pathology. £5. (See page 285.)
  \*PRIZE COMPOSITIONS.
- Wentworth Medal for Graduates—£10. Awarded annually for an English Essay. The competition for this Medal is confined to Bachelors of Arts of not more than three years' standing. (See page 280.)
  - Subject for March, 1912—"The Anti-Shakesperian Movement." (Shaw, Tolstoy, etc.).
- Wentworth Medal for Undergraduates £10. Awarded annually for an English Essay. (See page 280.)
  - Subject for March, 1912—"The Anti-Shakesperian Movement." (Shaw, Tolstoy, etc.).
- NICHOLSON Medal—£10. Awarded annually for Latin Verse (Hexameters). The competition for this Medal is open to all Undergraduates and to Bachelors of Arts of not more than two years' standing. (See page 280.)
  - Subject for March, 1912—"Carthago deleta."
- University Prize—£10. Awarded annually for English Verse (to be written in rhyme). The competition for this Medal is open to all Undergraduates and to Bachelors of Arts of not more than three years' standing. The composition must be at least one hundred lines in length.
  - Subject for March, 1912—"The British Empire."
- Professor Anderson's Medal—£10. Awarded annually for an Essay on some Philosophical subject. The competition for this Medal is open to all Bachelors of Arts of not more than two years' standing.

<sup>\*</sup>The exercises for these Prizes, which must not be in the handwriting of the author, must be sent to the Registrar on or before the first day of Lent Term. They must be contained in an envelope with a motto, and be accompanied by a sealed letter containing the name and motto of the author.

- Subject for March, 1912—"The principle of authority in religion."
- The Beauchamp Prize—£25. Awarded for an Essay upon some subject of literary or historical interest. The competition is open to all Undergraduates and Graduates of not more than twenty-five Terms' standing from Matriculation. (See page 283.)
  - Subject for March, 1912—"The closer union of the British Empire; is it desirable and practicable?"
- The FREDERICK LLOYD Memorial Prize—£8. Awarded every second year for a Latin Essay. Open to competition to second and third year students in the Faculty of Arts.
  - Subject for March, 1913.—"Num satis recte judicaverit Quintilianus, M. Tullium effinxisse vim Demosthenis copiam Platonis, jucunditatem Isocratis."

# TABLE OF FEES.

	£	8.	d.
MATRICULATION	2	0	0
Matriculation Examination (each division if taken separately)	2	0	0
LECTURE FEES for the prescribed courses for graduation,  per term—			
Department of Agriculture, I. Year II., IV. Years	7 6	7 6	0
Total cost of graduation B.Sc. in Agriculture, including Matriculation and Degree fee £83 15 0	·	v	Ĭ
*FACULTY OF ARTS, I. Year (including one science subject)	6	6	0
,, II. and III. Year (£1 ls. extra for each science subject).	5	5	0
FACULTY OF LAW	8	8	0
The fees payable in the Faculty of Law are £63; and, including two years in the Faculty of Arts, the cost of graduation, including Matriculation and Degree Fee, is			
FACULTY OF MEDICINE, I., IV. and V. Years	8	8	0
,, II. and III.	9	9	0
In addition, the following fees are payable to Hospitals—  Perpetual Attendance at the Royal Prince Alfred Hospital 10 10 0 Practical Midwifery 5 5 0 Practical Pharmacy 3 3 0  Total cost of graduation as M.B., including Matriculation and Degree Fees, and Fees payable to Hospitals 163 4 0	-		
FACULTY OF SCIENCE	7	7	0

<sup>\*</sup>Evening Students who are, under the By-laws, dividing the I. and II. Years into two parts, are required to pay the full Fees at the commencement of each Year so divided.

LECTURE FEES per term—continued.	£	. s.	d.
DEPARTMENT OF ENGINEERING			0.
Total cost of graduation as B.E. in Civil Engineering, or in Mining and Metal- lurgy, including Matriculation and De-	•		
gree Fees 125 8' Do. do. in Mechanical and			
Electrical Engineering 115 19.	.0		
DEPARTMENT OF DENTISTRY In addition, £10 10s. per annum is paid to the United Dental Hospital		8 - 8	()
Total cost of graduation as B.D.S., including  Matriculation and Degree Fees 154 16	0		
DEPARTMENT OF VETERINARY SCIENCE		6	0
For License L.V.S. the total cost will be 82 12 Total cost of graduation as B.V.S., including	0	, 0	U.
Matriculation and Degree Fees 106 10			
DEPARTMENT OF AGRICULTURE  Total cost of graduation as B.Sc. in Agriculture, including Matriculation and De-	. 7	7 <b>7</b>	0
gree Fees 93 4	0		
DEPARTMENT OF PHARMACY, per course-			
CHEMISTRY	10	10	0
MATERIA MEDICA	;	3	0
BOTANY	2	2 2	0
DIPLOMA OF PUBLIC HEALTH (2 terms of each),  per term—			
PRACTICAL CHEMISTRY	ź	5 0	0
Physiological Chemistry		2 2	0
BACTERIOLOGY AND PARASITOLOGY	3	3	0
Courses for Massage Students—			
First Year.—			
ELEMENTARY DESCRIPTIVE ANATOMY, AND			
SPECIAL TOPOGRAPHICAL AND SURFACE			
ANATOMY		4	0
Physiology	-	4	0
Practical Anatomy (including material) Second Year.—	•	6. 6	0
Anatomy Demonstrations	2	2 2	0
ANATOMY, SPECIAL COURSE	1	1	0
HISTOLOGY AND EXPERIMENTAL PHYSIOLOGY	4	4	0

LECTURE FEES per term—continued.	£	s.	d.
LECTURE FEES, for individual courses, per term-	•		
Anatomy, Dissections (including material)	3.	3	0
ов Терти	1	1	0
,, GENERAL AND DESCRIPTIVE	3	3	0
ETEMENTARY DESCRIPTIVE	3	3	0
RECIONAL AND STRUCTUAL	3	3	0
SPECIAL TOPOGRAPHICAL & SURFACE	1	1	0
•	1	1	0
,, SPECIAL ARTISTIC	1	_	0
,, DEMONSTRATIONS	2	2	-
Applied Mechanics	2	2	0
Architecture and Building Construction	2	2	0
Assaying (see Practical Chemistry)			
BACTERIOLOGY, SPECIAL	4	4	0
BIOLOGY	2	2	0
BIOLOGY, PRACTICAL	$\frac{2}{2}$	$\frac{2}{2}$	0
BOTANY	2	2	0
Building Construction (see Architecture)	0	ο.	
CHEMISTRY	2	2	: 0
CHEMISTRY, PRACTICAL*	$\frac{3}{2}$	$\frac{3}{2}$	0
CIVIL ENGINEERING		2	0
COMMERCE AND ECONOMICS	$\frac{2}{2}$	_	0
DENTISTRY, MECHANICAL WORKSHOP	2 2.	$\frac{2}{2}$	-
", MECHANICAL	2	2	0.1
", Surgical	1	1	0
DESCRIPTIVE GEOMETRY AND DRAWING	2	2	0
ECONOMICS AND COMMERCE	2	2	0
English	2	2	0
French	2	2	0
Geology	. 2	. 2	0
GEOLOGY, PRACTICAL	0	2	0
GERMAN	2	$\frac{2}{2}$	0
Greek	3	3	0
GYNÆCOLOGY	2	2	0
History	4	Z	U

<sup>£10</sup> £8 £6 £4 £2 ,, £2 10s. £2 £1 ,, ,, " ,,

LECTURE FEES per term—continued.		£	 8.	d.
Latin		2	2	0
Lawt			_	-
LOGIC AND MENTAL PHILOSOPHY	•	. 2	2.	0
Logic, Applied (for Medical Students)	• • •		1	0
Materia Medica and Therapeutics	• •	3	3	0
MATHEMATICS	• •	2	2	0
Mechanical Drawing	• •	$\tilde{2}$	2	0
Mechanical Engineering	• •	2	2	0
MEDICAL JURISPRUDENCE AND PUBLIC HEA		3	3	0
	LTH	3	ŝ	0
MEDICINE	• •	2	2	0
MEDICINE, CLINICAL		. 2 * 1	1	0.
MEDICINE, TUTORIAL	• :	2	2	0.
METALLURGY, PRACTICAL, FOR DENTISTS	• •	3	3	0
MIDWIFERY	• •	. 3	3	Õ
MILITARY HISTORY		$\overset{\circ}{2}$	2	Ŏ
MILITARY TOPOGRAPHY	• •	1	1	0
MILITARY ENGINEERING		2	2	0
MILITARY ADMINISTRATION AND LAW		1	l	0
MINERALOGY		2	2	0
MINERALOGY, PRACTICAL	٠	. 2	., 2	. 0
Mining		<b>2</b>	<b>2</b>	0
OPHTHALMIC MEDICINE AND SURGERY		.1.	1	0
PATHOLOGY	• •	3	3	0
PATHOLOGY, PRACTICAL	• •	. 3	3	0
PHARMACOLOGY	. • •	$\frac{3}{2}$	$\frac{3}{2}$	0
Physics Physics, Practical	• •	2	2	0
	• •	3	3	0
Physiology Physiology, Practical	• •	3	3	Ö
Posology, etc.		i	ĩ	0
Psychological Medicine	• • •	ī	ì	Ö
Public Health	• •	3	3	0
QUANTITATIVE ANALYSIS (see Practical Chem	ustry)	)		
Surgery	<i>,</i> ,	3	3	0
Surgery, Clinical	• •	2	2	0
SURGERY, OPERATIVE		4	4	. 0

<sup>†</sup> In the Faculty of Law a total of sixty guineas is payable for the courses of lectures for the LL.B. degree. The fee payable by Students not going through the regular course is two guineas per Term for each subject. \*For Year.

LECTURE FEES per term-contr	inued.			£	.8.	d.
SURGERY, TUTORIAL				* 1	1	0
Surveying				2	2	0
Zoology				2	2	0
DEGREE FEES—						
B.A				3	0	0
$\mathbf{M.A.}$				5	.0	0
${ m LL.B.}$				10	0	0
${ m LL.D.}$				10	0	0
М.В				10	0	0
<b>M</b> .D				10	0	0
· Ch.M				10	0	0
B.Sc.				3	.0	0
B.Sc. in Agriculture	:			3	0	0
D.Sc.				10	0	0
B.E.				10	0	0
M.E				10	0	0
B.D.S				10	0	0
B.V.S	• •			10	0	0
License in Veterinary Science				5	0	Ó
Diploma in Economics and C				1	0	0
,, Military Science				1	ō	Ö
., Public Health			•	10	Ò	ō
Fee for use of Microscope (pe				1	0	Ŏ
with	immers	ion lens		1	10	ŏ
"," ,, ,, with immersion lens . 1 10 0  Fee for entering name on books, to be paid by those						•
who are admitted ad en				2	0	-0
YEARLY EXAMINATION FEE	for stude	nts who l	hava	_	•	v
been exempted from at	tendance	unon lect	lires	2	0	0
Fee payable for a deferred			aros	$\tilde{2}$	ŏ	ő
(For fees for deferred	Decree.	Evemine	tion	_	v	v
see By-laws of F	omitice)	13Auminu	ш,			
P. N. Russell Scholarship		TION:		1	10	0
	TIXAMINA	TION .	• •	•	10	v
Public Examination Fees—					10	^
Senior Examinatio		• •	• •	1	10	0
JUNIOR ,,	 T	•••	• •	-	0	0
LATE FEE FOR ENTRIES FOR A			• •	U	10	0
PRELIMINARY EXAMINATION FOR ARTICLED CLERKS (payable to the Secretary of the Solicitors'						
	· .	rnė gonči	tors.		10	_
Admission Board)	• •	••	• •		10	6

# FOUNDATIONS.

# I.

# CHALLIS FUND..

In 1880, the late John Henry Challis, Esq., formerly of Sydney, bequeathed his residuary real and personal estate to the University, "to be applied for the benefit of that Institution in such manner as the governing body thereof shall direct." The bequest was subject to a tenure until death or re-marriage on the part of his widow, and to the payment of various annuities, and also to a period of five years' accumulation after such death or re-marriage. By the death of Mrs. Challis, in September, 1884, the University became entitled, in September, 1889, to the accumulated estate with the exception of certain portions which were retained by the Trustees as a capital sum to provide for annuities payable under the will. The last of these annuities having terminated in 1905, the whole capital of the Challis Fund, amounting to £276,856 8s. 8d., was then transferred by the Trustees to the University.

By a resolution of the Senate passed in 1885, it was determined that the Challis Fund should be applied as a permanent provision of income for educational uses.

From the income of the Fund a sum of £7,500 was applied for the payment of half the cost of the erection of a new Chemical Laboratory, and a further sum of £1,200 devoted to the erection of a marble statue of Mr. Challis, which has been placed in the Great Hall opposite to that of Mr. W. C. Wentworth.

The income arising from the Fund is now devoted to the maintenance of seven Challis Professorships in the following subjects, viz., Anatomy, Biology, Engineering, History, Law, Logic and Mental Philosophy, and Modern Literature; four Challis Lectureships in Law, and a Lectureship in Military Science.

# CHALLIS PROFESSORSHIPS.

Anatomy, 1890—James T. Wilson, M.B., Ch.M. (Edin.) Biology, 1890—William A. Haswell, M.A., D.Sc. (Edin.) Engineering, 1890—William H. Warren, M.Inst.C.E.

Law, 1890-1909—Pitt Cobbett, M.A., D. C.L. 1910—John Beverley Peden, B.A., LL.B.

Logic and Mental Philosophy, 1890—Francis Anderson, M.A. (Glasg.)

Modern Literature, 1890—Mungo W. MacCallum, M.A. (Glasg.) History, 1891—G. Arnold Wood, M.A. (Oxon.)

## CHALLIS LECTURESHIPS.

Equity, Probate, Bankruptey, and Company Law, 1890-1910— G. E. Rich, M.A.; 1911—F. R. Jordan, B.A., LL B.

The Law of Status, Civil Obligations and Crimes, 1890-1907— F. Loverrier, B.A., B.Sc.; 1907—E. M. Mitchell, B.A., LL.B.

Law of Procedure in Civil and Criminal Cases, Evidence and Pleading, 1890 - 1900— C. A. Coghlan, M.A., LL.D.; 1901—David Ferguson, B.A.

Law of Property, 1903-9-J. B. Peden, B.A., LL.B.

Roman Law and Equity Practice, 1910—G. W. Waddell, M.A., LL.D.

Director of Military Science, 1906—Colonel Hubert John Foster, R.E.

# II.

# THE PETER NICOL RUSSELL ENDOWMENT FOR THE DEPARTMENT OF ENGINEERING.

In 1896 the late Sir Peter Nicol Russell, of London (formerly of Sydney), presented to the University a sum of £50,000 for the endowment of the Department of Engineering. In 1904 he gave a second sum of £50,000, making £100,000 in all.

The second gift was made as an extension of the first endowment, with an additional obligation for the establishment of efficient teaching in electrical engineering, and for the foundation of additional Scholarships.

In making the second endowment, Sir Peter Russell stipulated that the Government of New South Wales should undertake to hand to the University, within three years, a sum of £25,000 to provide an extension of the buildings of the School of Engineering or to erect new buildings. This the Government agreed to do, and a new building has now been erected from designs prepared by the Government Architect.

The Deeds of Gift provide:

- 1. That the Department of Engineering at present existing in the University, together with such additions as may be made thereto, shall be called the Peter Nicol Russell School of Engineering.
- 2. That the University shall, out of the income to be derived from the endowments afford both practical and theoretical teaching in the following subjects, in so far as such subjects relate to the School of Engineering—viz., Mechanical Engineering, Electrical Engineering, Surveying, Mining, Metallurgy, Architecture, and such further instruction as the Senate of the University may deem necessary to give effect to the intention of Sir Peter Russell in connection with the P. N. Russell School of Engineering.
- 3. That the University shall apply the income of the Fund in the maintenance of the P. N. Russell School of Engineering, but shall not charge such income with any proportion of the cost of the existing buildings, nor with the expense or any proportion thereof of service by ordinary attendants, nor with the expense or any proportion thereof of the Professorships of Mathematics, Chemistry, Physics, Geology, or the Challis Chair of Engineering.
- 4. That Scholarships shall be established for the encouragement of higher education in Mechanical Engineering, to be called Peter Nicol Russell Scholarships.

Other conditions of the Deeds of Gift relate to the mode of investment of the principal sum, and provide that any unused surplus of income shall be added to the principal sum and invested as if it formed a part of the original donation.

The following offices have been established from the Peter Nicol Russell foundations:—

Lecturer in Mechanical Engineering, 1897-S. Henry Barraclough, B.E. (Sydney), M.M.E. (Cornell), Assoc. M. Inst. C.E.

Lecturer in Surveying, 1890-1906—George H. Knibbs, L.S., F.R.A.S.; 1906-J. Haydon Cardew, Assoc. M. Inst. C.E.

Lecturer in Geodesy and Astronomy, 1906-T. F. Furber.

Lecturer in Mining, 1892-1902 — E. F. Pittman, A.R.S.M.; 1903—F. Danvers Power, F.G.S.

Lecturer in Metallurgy, 1899-Basil W. Turner, A.R.S.M.

Lecturer in Architecture, 1887—John Sulman, F.R.I.B.A.

Lecturer in Electrical Engineering, 1906-8—Ernest Kilburn Scott, A.M. Inst. C. E., M. I. E. E. 1909—John P. V. Madsen B.E., D.Sc.

Demonstrator in Engineering and Drawing, 1903-1910—Alexander J. Gibson, A.M. Inst. C.E.

Assistant Lecturers and Demonstrators-Civil, 1911—H A. Roberts, B.E.; Mechanical, 1911—E. W. McKeown, B.E.

Junior Demonstrators in Engineering—Electrical—A. Burn, B.Sc., B.E.; Civil—T. Wilkins, B.E.; Mechanical—E. P. Norman, B.E.

Mechanical Instructor—Robert Hay.

# PETER NICOL RUSSELL SCHOLARSHIPS FOR MECHANICAL ENGINEERING.

UNDER the gift of Sir Peter Nicol. Russell, for the Endowment of the School of Engineering at the University, three Scholarships are offered annually, for the encouragement of higher education in Mechanical Engineering, under the following conditions:—

- 1. Every candidate must present evidence that he has satisfied one of the three following conditions:—
  - (A) That he has been engaged in an approved workshop for a period of at least one year, and has, in addition, obtained certificates of having attended the following courses in the Sydney Technical College, and passed the necessary Examinations in the same:— Applied Mechanics, First and Second Year Courses; Mechanical Drawing, First and Second Year Courses; Mechanical Workshops, a two years' Course; or,
  - (B) That he has been engaged, under approved conditions, in the study of practical Mechanical Engineering for at least two years, by apprenticeship or service in a mechanical workshop or drawing office, provided that one year at least shall have been spent in a workshop; or,
  - (o) That he has been in attendance upon the day classes of the Sydney Technical College in the Department of Mechanical Engineering or the Department of Elec-

trical Engineering for a period of three years, and has obtained the College diploma in one of those departments.

- 2.—The Scholarships will be awarded, after competitive Examination held in the month of March, and the holders will be styled "Peter Nicol Russell Scholars."
  - 3.—The subjects of Examination will be the following:—

(a) Applied Mechanics (200 marks).

(b) Mechanical Drawing (200 marks).

\*(c) Algebra, including Arithmetic (150 marks).

\*(d) Geometry, including Mensuration (150 marks).

\*(e) Plane Trigonometry (150 marks).

\*( $\hat{f}$ ) Mechanics (150 marks).

(g) Plane and Solid Geometrical Drawing and Perspective (200 marks).

Optional subjects (as in the Matriculation Examination, Division B), two may be taken—

(a) English (150 marks).

(b) Chemistry (150 marks).

(c) Physics, Part I., Properties of Matter, Sound, Heat and Light (150 marks).

(d) French (150 marks).

(e) German (150 marks).

(f) Latin (150 marks).

(g) Greek (150 marks).

Candidates must attain a certain standard in each of the compulsory subjects. They will be allowed to take two, but not more than two of the optional subjects, and in these they must also attain the prescribed standard.

Subject to this provision, the Scholarships will be awarded to the candidates who obtain the highest aggregate number of marks in this Examination, provided that they shall have shown sufficient merit to enable them, in the opinion of the Examiners, to profit by the award of a Scholarship.

4.—The scholar will be required to commence attendance forthwith upon the University First Year Classes in the Department of Mechanical and Electrical Engineering, and he can only continue to hold the Scholarship so long as he shall be of good conduct, and shall attend regularly the courses prescribed in the University for candidates for the Degree of Bachelor of

<sup>\*</sup> As defined in the regulations for the Matriculation Examination, Higher Standard.

Engineering in the Department of Mechanical and Electrical Engineering, and shall pass the yearly Examinations with

distinction in at least one subject.

5.—Each Scholarship will be of the value of £75 per annum, and will be tenable for not more than four years, under the conditions mentioned in the preceding paragraph. The Scholarship will be awarded in the first instance for a period of one year, and the scholar will be re-appointed from year to year for the maximum period of four years, provided that his work be considered satisfactory. The payments will be quarterly, commencing on the first of April after the student commences his University course.

6.—Those scholars who have, before entering upon their University course, qualified themselves for admission to the Department of Engineering by passing the Examination prescribed for that purpose, or who have in the Peter Nicol Russell Scholarship Examination passed in one of the four languages— Latin, Greek, French or German, and in English at the Higher or Lower Standard together with a general paper in English,\* will be entitled, after completing the course, to the Degree of Bachelor of Engineering in Mechanical and Electrical Engineering.

Those who have not so qualified themselves beforehand will be entitled, after completing the course, to certificates of their attendance and examination in individual subjects, and a certificate showing that they have held the Peter Nicol Russell Scholarship, under the prescribed conditions, for a period of

four years—but not to any Degree.

The candidates' names, together with an examination fee of one pound ten shillings (£1 10s.), and all the required certificates, must be in the hands of the Registrar on the day set down in the University Calendar as the last day for receiving entries for the University Examinations in March.

```
1901-Morris, L. C.
                                           1907—Hebblewhite, W. R.
1902-Bellemey, S. J.
                                                  Wilkins, T.
1903—Norman, J. L.
                                           1908—Taylor, E. P.
1904-Power, R.
                                                  Dennis, C.
      Swain, H. J.
                                           1909—Smith, R. G.
                                           1910-Pike, W. E.
1905—Carleton, G. B.
      Ada, W. L.
                                                  Mackinnon, J. Y.
                                           Dowling, B. S.
1911—Stafford, F. D. 
Thorne, H. H.
1905—Ranclaud, A. B. B.
1906—Norman, E. P.
      McKeown, E. W.
                                                  Tandy, P. E.
      Lloyd, A. S.
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See regulations for Matriculation Examination.

# THE PETER NICOL RUSSELL MEDAL.

THE PETER NICOL RUSSELL MEDAL (value £20) is open to competition amongst Graduates in Science or Engineering of not less than one nor more than four years' standing at the time of award. It is intended to encourage post graduate study in Engineering. Candidates are required to prepare and submit a thesis embodying the result of an original investigation in some Engineering subject.

The thesis must be in the hands of the Registrar not later than the first day of Lent Term.

1901—Madsen, J. P. V., B.Sc. 1903—Boyd, A., B.Sc., B.E.

1905—Weston, P. L., B.E., B.Sc.

# THE HUGH DIXSON COLLECTION OF MINERALS FROM BROKEN HILL.

In 1909 the sum of £7,050 was given by Hugh Dixson, Esq., of "Abergeldie," Summer Hill, to enable the University to purchase a collection of Minerals obtained from the Barrier District of New South Wales, made by Mr. Edward Aldridge.

The gift is an absolute one to the University, but it is the wish of the donor that the collection be divided into four parts.

Firstly.—A primary collection to be exhibited in the Museum of the Sydney University after having been made as complete as possible under the supervision of the Professor of Geology, by the addition of any specimens that may be obtained by exchange.

Secondly.--A second collection made for exhibition at the Technological Museum or the Australian Museum, or some other Sydney institution, conditionally on its being put on view within twelve months to the satisfaction of the University authorities, and designated as part of the Sydney University Hugh Dixson Collection of Minerals from Broken Hill.

Thirdly.—A third collection is to be handed to the care of the New South Wales Government, and joined to any exhibit it may have in London or other part of Great Britain, and to be designated as above.

Fourthly.—That specimens be set apart for exchange, analysis, and cabinet purposes, after the three above collections have been made.

## III.

# LECTURESHIPS.

1-WILLIAM HILTON HOVELL LECTURESHIP ON GEOLOGY AND PHYSICAL GEOGRAPHY.

In 1877, certain tenements and land situated in the city of Goulburn were bequeathed by the widow of the late William Hilton Hovell, Esq., of that district, for the endowment of a Professorship or Lectureship in Geology and Physical Geography, in honour of her late husband. The present estimated value of the property is £6000.

1877.—Archibald Liversidge (Christ's College, Cambridge).

1882.—William John Stephens, M.A. (Queen's College, Oxford).

1891.—T. W. Edgeworth David, B.A., F.R.S. (New College, Oxford).

# IV.

# FELLOWSHIPS.

# 1.-WENTWORTH TRAVELLING FELLOWSHIP.

In 1862, the sum of £445 was given by W. C. Wentworth, Esq., to be invested and allowed to accumulate until it should reach an amount which, in the opinion of the Senate, would be sufficient for the foundation of a Travelling Fellowship, to be awarded upon certain specified conditions. The fund in December, 1910, was £3255 9s. 1d.

### 2.—MACLEAY FELLOWSHIPS.

Founded in 1904 by a bequest of £35,000 from the Hon. Sir William Macleay to the Linnean Society of New South Wales.

The will provides for the foundation of four Fellowships, each of the annual value of £400 per annum. They are to be awarded by the Council of the Linnean Society of New South Wales to graduates in Science of the University of Sydney.

"The Fellowships are intended to encourage and advance research in Natural Science, by enabling those who wish to continue their studies at the University, or elsewhere, after having completed the regular curriculum and taken a Science Degree, to do so."

The following regulations, which have been framed by the Council of the Linnean Society of New South Wales, govern the award of the Fellowship:—

- Applications by qualified persons desiring to hold these Fellowships must be made in writing at such times as may be prescribed by the Council.
- Every Candidate for a Fellowship must be a Member of the Linneau Society of New South Wales; and must have taken the degree of Bachelor of Science or Doctor of Science in the University of Sydney.
- He must produce—
  - (a) Satisfactory evidence of his qualification for undertaking original investigation; and in his application he should indicate the course of his previous reading and study, and his general purposes with reference to future work.
  - (b) A satisfactory testimonial of character and conduct, and he should give the names of two persons from whom fuller information may be sought.
- 4. The salary of each Fellow will be at the rate of four hundred pounds (£400) per annum, payable in quarterly instalments.
- In case of resignation or other withdrawal from the Fellowship, payment will be made for the time during which the Fellowship may have been actually held.
- 6. Candidates for Fellowships are invited to apply for appointment in any one of the following eleven Branches:—(1) Animal and Vegetable Physiology and Pathology; (2) Anthropology; (3) Botany; (4) Comparative Anatomy and Embryology; (5) General Biology; (6) Geography; (7) Geology; (8) Meteorology; (9) Organic Chemistry as applied to Biology; (10) Palæoutology; (11) Zoology.
- 7. Every Fellow on his appointment shall be required to sign a paper undertaking to observe the regulations drawn up by the Council, in accordance with the terms of Sir William Macleay's will, for his guidance during his tenure of the Fellowship.
- 8. No Fellow shall be permitted to occupy any salaried position of undertake any employment for payment during his Fellowship, nor shall he, without the special sanction of the Council, take fees for teaching any pupil either publicly or privately.
- 9. The Fellow shall be required to devote his time to research in the branch of Natural Science which he shall have specified in his letter of application for the Fellowship.
- He shall be required to furnish a report on the progress of his investigations quarterly to the Council.
- 11. When he shall have completed for publication any paper embodying the results of his researches, he shall at once submit the same to the Council.
- 12. He shall not publish, nor permit to be published, any paper embodying the results of his research otherwise than under the authority of the said Council.
- 13. He may carry on his investigations in one of the Laboratories of the University of Sydney, or elsewhere, subject to the approval

of the Council. In the former case, he must undertake to conform to the Regulations for Research Students drawn up by the University.

- 14. Every Fellow must reside in New South Wales.
- The Society does not undertake to furnish any Fellow with working accommodation, material, or apparatus.
- 16. Every Fellow shall be allowed an annual vacation, the conditions and length of which shall be determined from time to time by the Council.
- 17. Each Fellowship is tenable for one year only; but a Fellow will be eligible for re-appointment from year to year, provided that the Council is satisfied with his work.
- 18. A Fellow, if he desire to be re-appointed, shall apply in writing to the Council at least three months before the termination of his year of tenure.
- 19. Should any dispute arise between a Fellow and the Council of the Linnean Society of New South Wales on the subject of his Fellowship, his employment, or his tenure of office, the decision of the Council shall be final and conclusive, without appeal.
- 20. Any holder of a Linnean Macleay Fellowship who shall endeavour to anticipate his income from the Fellowship, otherwise than by direct application to the Council, and with its concurrence, or who shall during his enjoyment of the Fellowship commit any act of bankruptcy, shall render himself liable to immediate dismissal from his appointment as Fellow without any notice whatever.

NOTE.—Women who are qualified in respect of Regulations Nos. 2 and 3 are eligible as Candidates, and accordingly the foregoing Regulations may be understood as equally applicable to Female Candidates or Fellows.

1906-7—Jensen, H. I., B.Sc. 1907—Petrie, J. M., D.Sc., F.I.C. | 1908-9—Goddard, E. J., B.A., B.Sc. | 1909-10—Cotton, L. A., B.Sc.

# V.

# CURATORSHIP OF MACLEAY MUSEUM.

In 1888, the sum of £6000 was given to the Senate by the Hon. Sir William Macleay, M.L.C., to provide for the services of a Curator for the collections in Natural History which he had presented to the University. The present Curator, nominated by Sir William Macleay, is

1888-George Masters.

### ÝΙ.

# \*SCHOLARSHIPS.

Awarded only when candidates exhibit a degree of proficiency satisfactory to the Examiners. No Undergraduate may hold

<sup>\*</sup>The names of holders of Scholarships before the year 1899 will be found in the University Calendar for 1900.

more than two Scholarships at one time. Scholars are required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

#### 1-LEVEY SCHOLARSHIP.

Founded by Solomon Levey, Esq., by a gift of £500 (with accumulations), as an endowment for the education of orphan boys in the Sydney College. In 1853 the fund was transferred to the University of Sydney as an endowment for a Scholarship. Up to 1878 this Scholarship was awarded for general proficiency at the Matriculation Examination.

It is now awarded at the First Year Examination for proficiency in Chemistry and Physics, both theoretical and practical, to a student in the Faculty of Arts or in the Faculty of Science. It shall not be awarded more than once to the same student. It is tenable for one year, and is of the annual value of £40.

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1902—Saunders, G. J.
1903—Weatherburn, C. E.
1904—Atkinson, J. | eq.
Sharp, L. H. | eq.
1905—White, C. J.
1906—Davidson, G. F.
Farrap-Ridge, C. | eq.
Farklige, C. | eq.
1907—Norman, E. P.
1908—Ross, A. C.
Holloway, R. A. | eq.
1909—McKern, J. G.
1910—Peirce, S. E.
1911—Gardner, R. A. | eq.
Pike, W. E. | eq.
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#### BARKER SCHOLARSHIPS.

Founded in 1853 by a gift of £1000 (with accumulations) from Thomas Barker, Esq., for the encouragement of Mathematical Science.

### 2-BARKER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination for proficiency in Mathematics. £50, tenable for one year.

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1902—Wellisch, E. M.
1903—Weatherburn, C. E.
1904—Tomlinson, G. L.
Skillman, Jessie
1905—Lyons, R. J.
1906—Watkins, H. L.
1907—Utz, H. S.
Cohen, Fanny, prox. acc.
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### 3-BARKER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination for proficiency in Mathematics. £50, tenable for one year.

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(a) 1902—Stephen, J. F.
                                      1907—Browne, W. R.
Blumer, R. C.
      Henderson, R. G.*
                                             Holloway, R. A.
      Mottershead, A.
                            æa.
                                            Brown, W. R.
      Paul, A.
                                      1908
      Tomlinson, G. L.
                                             Willis, H. H., prox. are.
1903—Lyons, R. J.
                                      1909-Stafford, F. D.+
1904—Dennis, S.
                                            Snow, L. L.t
      Watkins, H. L.
                                             Robson, A. J.
1905—Utz, H. S.
                                      1910-Fitz-Herbert, J. A.
1906—Campbell, A. L.
                                             Gregg, N. M.+
                                             Lesslie, Mary E.
                                      1911-Brown, Janet F. M.
```

DEAS-THOMSON SCHOLARSHIPS.

Founded in 1854 by a gift of £1000 (with accumulations) from the Honourable Sir Edward Deas-Thomson, C.B., K.C.M.G., for the encouragement of the study of Natural Science.

# 4-DEAS-THOMSON SCHOLARSHIP FOR PHYSICS.

Awarded at the Second Year Examination to a student in the Faculty of Arts or that of Science for proficiency in Physics. The scholar is required to attend the courses of instruction upon Physics during his tenure of the Scholarship. £50, tenable for one year.

```
1902—Close, J. C.

1903—Taylor, T. G.

1904—Mason, W. H.

1905—Lusby, S. G.

1907—Bateman, J. E.

Cotton, L. A.*

1908—Norman, E. P.

1909—Holloway, R. A.

1911—Peirce, S. E.
```

5-THE DEAS-THOMSON GEOLOGY SCHOLARSHIP.

Awarded at the Second Year Examination in the Faculty of Science. Candidates must have attended the courses of instruction on Geology (together with Biology or Chemistry) of the Second year, and the scholar is required to attend the lectures and Laboratory practice of the Third Year in Geology and Mineralogy. £50, tenable for one year.

```
1902—Ward, L. K., B.A.*

Taylor, T. G.

1903—Booth, F. A.

1904—Foxall, H. G.

1905—Atkinson, J.

1906—Hammond, W. L.

1906—Ward, L. K., B.A.*

1908—Booth, F. A.

1909—Browne, W. R.

1910—Debenham, F., B.A.

Smith, Catherine D.

1911—Watson, A. D.
```

6-THE DEAS-THOMSON MINERALOGY SCHOLARSHIP.

Awarded for proficiency in Mineralogy to a student on graduating in the Faculty of Arts or Science, who proposes to continue his studies in Mineralogy in a way satisfactory to the Faculty of Science. £50, tenable for one year.

1911—Smith, Catherine D., B.Sc.

<sup>†</sup> Did not comply with the conditions for holding a Scholarship.

\* Holder of two other Scholarships.

(a) Two Scholarships awarded.

#### COOPER SCHOLARSHIPS.

Founded in 1857 by a gift of £1000 (with accumulations) from Sir Daniel Cooper, Bart., for the encouragement of Classical Literature.

#### 7-COOPER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination for proficiency in Classics. £50, tenable for one year.

```
1902-Barton, W. A.
                                   1907—Castlehow, S.
1904—Henderson, R. G.) æq.
                                   1908-Robinson, F. W.
      Rogers, P. H.
                                   1909—Allen, C. K.
1905—MacCallum, M. L.
                                   1910-Byth, G. L.
1906-Schleicher, B. M. J.
                                   1911—Not Awarded.
```

#### 8-COOPER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination for proficiency in Classics. £50, tenable for one year.

```
1902-Henderson, R. G.
                                    1907--Browne, W. R.*
                                          Macrossan, N. W. * } eeq.
1903—Porter, W. E. T.
      MacCallum, M. L., prox. acc.
                                           Cohen, C. H.
1904-Schleicher, B. M. J.
                                    1908—Duhig, J. V. J.
                                    1909-Donovan, C. O. G.
1905—Castlehow, Stanley
                                     1910-Fitz Herbert, J. A.
1906—Fitz Herbert, R. A.
                                     1911 - Not Awarded.
```

## 9-COOPER SCHOLARSHIP, No. III.

Awarded at the First Year Examination for proficiency in Classics. £50, tenable for one year.

```
1903—Henderson, R. G. ) æq.
                                        1906—Castlehow, S.
      Rogers, P. H.
                                       1907-Kaeppel, C. H.
1904—MacCallum, M. L.
                                       1908—Allen, C. K.
1909—Byth, G. L.
1905—Schleicher, B. M. J.
      McKeown, F. M., prox. acc.
                                       1911—Fitzherbert, J. A.
```

## 10-LITHGOW SCHOLARSHIP No I.

Founded in 1864 by a bequest of £1000 from William Lithgow, Esq. Awarded for proficiency in French and German at the Matriculation Examination. £50, tenable for one year.

```
1902-Stephen, J. F.+
                                       1908-Blumer, S. J.
1903-Vaughan, E. F.*
                                       1909—Taylor, R. J.*
1903—McIntosh, A. M.
1906—Turner, T. A.*
                                              Buchanan, A. L.*
                                       1910-Moir, Catherine M.
                                       1911—Crawford, W. F.
      Campbell, A. L.
1907—Hooton, J. R.
```

#### 11.-LITHGOW SCHOLARSHIP No. II.

The Scholarship is awarded to a student who has completed the First Year in the Faculty of Arts for proficiency

Did not comply with the conditions for holding the Scholarship.
 † Holder of two other Scholarships.

in the subjects of the course of Philosophy I. The scholar is required to attend the course of Philosophy II. during his tenure of the Scholarship. £50, tenable for one year.

```
1908—Mann, J. E. F. (2nd Yr.) } & | 1909—Muscio, B. (2nd Year)
Blanksby, H. R. (1st Yr.) } & | 1910—Smith, D. M. (1st Year)
1911—Cockett, C. B. (1st Year)
```

12-WIGRAM ALLEN SCHOLARSHIP.

Founded by gifts of £381 in 1867 (with accumulations), and £500 in 1883, from Sir George Wigram Allen, for the encouragement of the study of Law. Awarded for general proficiency in the subjects of Part I. of the Intermediate LL.B. Examination. £50, tenable for one year.

```
1902—Fahey, B. F., B.A.
1903—Ferguson, J. A., B.A.
1904—Wilson, D., B.A.
Teece, R. N., B.A.
1905—Jordan, F. R., B.A.
Real, E. T., B.A.
Thompson, E. H.
1907—Markell, H. F., B.A.
1907—Markell, H. F., B.A.
```

#### 13-RENWICK SCHOLARSHIP.

Founded in 1877 by a gift of £1000 from the Hon. Sir Arthur Renwick, B.A., M.D., for the encouragement of the study of Natural Science, including Comparative Anatomy. Awarded in the Faculty of Medicine for proficiency in the subjects of the First Year Examination in Medicine. £45, tenable for one year.

```
1902—Parkinson, T. C.
1903—Shellshear, J. L.
1904—Archdall, M.
Brearley, E. A.
1905—Sampson, G. A.
1906—Burfitt, Mary B.
Ewing, T.

1907—Macintosh, A. M.
Edye, B. T.
1908—Wallace, R. A. R.
1909—Benjamin, A.
1910—May, L.
1911—Greig, N. M.
```

#### 14-GEORGE ALLEN SCHOLARSHIP.

Founded in 1877 by a bequest of £1000 from the Hon. George Allen. Awarded at the First Year Examination for proficiency in Mathematics. £40, tenable for one year.

```
1902—Weatherburn, C. E.
1903—Mottershead, A.
1904—Lyons, R. J.
1905—Watkins, H. L.
1906—Utz, H. S.
1907—Campbell, A. L.
```

### 15-BOWMAN-CAMERON SCHOLARSHIP.

Founded in 1877, by a bequest of £1100 from Andrew Robertson Cameron, Esq., M.D. Awarded every third year for general proficiency at the Matriculation Examination. £35, tenable for three years in the Faculty of Arts.

#### 16-FREEMASONS' SCHOLARSHIP.

Founded in 1880, by a gift of £1000 from the Freemasons of New South Wales under the Constitution of the Grand Lodge of England, for the endowment of a Scholarship in honour of the District Grand Master of the Order, John Williams, Esq. Awarded for general proficiency at the Matriculation Examination. Competitors must be the sons of Freemasons of five years' standing of the United Grand Lodge of New South Wales. at any time there shall be no candidates for Matriculation eligible to compete for the Scholarship, or if any such candidates fail to show sufficient merit, it will be open to like competition at the First Year Examination. The Scholarship may be held in any Faculty. £50, tenable for three years, provided that the scholar shall so long faithfully pursue his studies in the University, and shall pass the Annual Examinations with credit. Applications for permission to compete for the Scholarship will be received not later than the last day for receiving entries for the Examination for Matriculation Honours and Scholarships.

1899—Teece, R. N. 1902—Stephen, J. F. 1905—Utz. H. S. 1908—Blumer, S. J. 1911—Godfrey, G. H. Grace, W. H.

#### 17-CAIRD SCHOLARSHIP.

Founded in 1886, by a gift of £1000 from George S. Caird, Esq., for the encouragement of the study of Chemistry. Awarded at the Second Year Examination in the Faculty of Science, for proficiency in Chemistry. The Scholar is required to attend the theoretical and practical courses of instruction in Chemistry during the Third Year of the Faculty of Science. If there should be no suitable candidate at the Second Year Examination, the Scholarship may be awarded at the Third Year Examination, the holder being required to devote himself to research work in the Chemical Laboratory during his first post graduate year. £50, tenable for one year.

<sup>\*</sup> Did not comply with the conditions for holding the Scholarship.

+ Holder of two other Scholarships.

```
      1903—Jensen, H. I.
      1907—Farran-Ridge, C.

      1904—Petrie, J. M., B.Sc.‡
      1908—Griffiths, E.

      Gray, G. J., B.E.
      1909—Burrows, G. J.

      1905—Priestley, H.
      Grey, E. C.

      1910—Blumer, R. C.
      1911—Peirce, S. E.
```

#### 18-AITKEN SCHOLARSHIP

Founded in 1878 by a bequest of £1000 from James Aitken, Esq., of Grafton, for a Bursary or Scholarship. Up to 1893 it was applied as a Bursary. It is now awarded as a Scholarship for general proficiency at the Matriculation Examination in the years in which the Bowman-Cameron Scholarship is not awarded. £50, tenable for one year in any Faculty.

```
1901—Diethelm, O. A. A.
1903—Porter, W. E. T.
1904—Sampson, G. A.
1906—Campbell, A. L.*
Turner. T. A.

1907—Blumer, R. C:
Macrossan, N. W., prox. acc.
1909—Buchanan, A. L.
1910—Fitz Herbert, J. A.
```

19-JAMES KING OF IRRAWANG TRAVELLING SCHOLARSHIP.

Founded in 1888 by a bequest of £4000 from William Roberts, Esq., of Penrith, for the foundation of a Scholarship or Scholarships, in memory of the late James King, of Irrawang, near Raymond Terrace. By the terms of the will, the choice of competitors and the decision of their respective merits are vested in the Senate, acting upon the advice of the Professors of Classics, Mathematics, Chemistry, Physics and Natural History. It has been decided that the sum shall be devoted to the foundation of a Travelling Scholarship, to be called the James King of Irrawang Travelling Scholarship, and to be awarded on the following conditions:—

- 1. The Scholarship shall be awarded to a Graduate of not more than four years' standing, reckoned from his qualification by examination for his first Degree.
- 2. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate, in some approved place or places during the tenure of his Scholarship.
- 3. The amount of the Scholarship is £150 per annum, tenable for not more than two years.

Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the Scholarship is awarded.

<sup>‡</sup> Special award; Research Scholarship for 1904, £100. \*Holder of two other Scholarships.

```
1900—Nicholson, G. G., B.A.
1902—Sawkins, D. T., B.A.
1904—Allen, L. H., B.A.
1906—Weatherburn, C. E., B.A.
```

```
1908—Parkinson, T.C., M.B., Ch.M.
1909—Chapman, B. B., B.A.
1910—Allen, C. K., B.A.
```

#### 20-JOHN HARRIS SCHOLARSHIP.

Founded in 1887 by a gift of £1000 from John Harris, Esq., then Mayor of Sydney. Awarded for proficiency in Anatomy and Physiology at the Third Year Examination in Medicine. £40, tenable for one year.

```
1902—Buchanan, G. A.
1903—Quaife, C.*
1903—Quaife, W. T.
O'Reilly, Susannah H.
1904—Parkinson, T. C.
1905—Poate, H. R. G.
```

```
1906—Brearley, E. A. Brookes, G. A. Seq. 1907—Golledge, K. A. 1908—Ewing, T. T., B.Sc. 1909—Edye, B. T. 1910—Wallace, R. A. R. 1911—Burkitt, A. St. G. N. H.
```

# 21-COUNCIL OF EDUCATION SCHOLARSHIP.

Founded in 1889 by a gift of £300 from the Trustees of the subscribers to a Memorial of the late Council of Education for the foundation of a Scholarship to be called the Council of Education Scholarship. Competition for the Scholarship is to be confined to the sons of teachers or officers in the Department of Public Instruction. It is provided by the deed of gift that before any award is made the fund shall be allowed to accumulate until it shall reach such a sum as will provide a Scholarship of not less amount than those already established in the University. It is to be awarded at the Matriculation Examination for general proficiency, but only when the candidates show such proficiency as in the opinion of the Examiners will entitle them to the award of a Scholarship, and is to be tenable for three years. The fund in December, 1910, amounted to £721 16s. 1d.

## 22-SCIENCE SCHOLARSHIPS OF THE ROYAL COMMISSIONERS FOR THE EXHIBITION OF 1851.

Given by the Royal Commissioners of the Exhibition of 1851, to be awarded to a student of three years' standing for the prosecution of study and research in some branch of Science with a view of developing the manufactures and industries of his country. £150, tenable for two years.

```
1901—Harker, George, B.Sc.
1903—Boyd, A., B.Sc., B.E.
1905—Laby, T. H.
1907—Taylor, T. Griffith, B.Sc.,
B.E.
```

```
1909—Swain, H. J., B.Sc.
1910—Davidson, G. F., B.E.
1911—Benson, W. N., B.Sc.
```

### 23-FRAZER SCHOLARSHIP.

Founded in 1890 by a bequest of £2000 from the Hon. John Frazer, M.L.C. £70.

- 1. The Scholarship is awarded upon the result of the Third Year Examination in History, combined with such further examination or other test as the Professor of History may from time to time determine.
- 2. Those students only are eligible who have just completed their Third Year, and who at the time of the election are qualified for the B.A. Degree.
- 3. One half of the Scholarship money will be paid to the successful candidate at the time of election. The second half will be paid to him (i.) on his passing an examination qualifying for the Degree of M.A., with Honours in History, within two years of the date of his election, or (ii.) on his having within the same period pursued for at least one year, to the satisfaction of the Senate, some other course of historical study or research.

The Scholarship will be awarded in March to the student who shows most proficiency in the papers and essays set in connection with the Examination for Honours in the Third Year.

```
1902—Teece, R. N.
      Mackness, Constance, prox. acc.
1903—Cole, P. R.
      Kemp, R. C. King, prox. acc.
1904-Cramp, K. R.
1905—Paterson, J.
                                      1911—Bruce, J. F.
      Rogers, P. H., prox. acc.
```

```
1906—Whitney, G. C.
1908—Chapman, B. B.
      Lynch, J.
1909 Mann, J. E. F.
1910-Biddulph, L. H.
```

#### 24-WOOLLEY SCHOLARSHIP.

The late Edwin Dalton, Esq., of Sydney, by his will in 1875, bequeathed his residuary estate, subject to a life interest on the part of his widow, and an annuity of £75, to the University to found "a Scholarship or Scholarships in commemoration of the late Dr. Woolley, its first Principal and Professor," desiring that the Scholarship or Scholarships so to be founded should "have reference to that branch of teaching or philosophy which the late Dr. Woolley chiefly inculcated." By the death of his widow in 1893 the University became entitled to the residuary estate, amounting to about £8000, subject to the annuity of £75

The following are the regulations which have been adopted by the Senate for the award of the Scholarship:—

- 1. The Scholarship shall be awarded to a Graduate in Arts of less than four years' standing at the time of the award, reckoning from his qualification by examination for the B.A. Degree.
- 2. The Scholarship will be awarded by the Senate after report from the Professors of Greek, Latin, Modern Literature, Philosophy and History, who shall recommend to the Senate that candidate who in their opinion shows the greatest promise of success in further study of any one or more subjects falling under the heads of Language, Literature, History and Philosophy; provided that they consider such candidate to be of sufficient merit.
- 3. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate at some approved place or places during the tenure of his Scholarship.
- 4. The amount of the Scholarship is £150 per annum, tenable for not more than two years.
- 5. An award of this Scholarship shall generally be made in alternate years with an award of the James King of Irrawang Travelling Scholarship.

Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the Scholarship is awarded.

```
1901—Todd, F. A., B.A.
1903—Merrington, E. N., M.A.
1905—Cole, P. R., B.A.
```

1907—Lovell, H. Tasman, B.A. 1909—Archdall, H. K., B.A.

1911-Muscio, A., B.A.

### GARTON SCHOLARSHIPS.

Founded in 1898, by a bequest of £2050 from the late Thomas Garton, Esq., of Clapham, London, for the establishment of Scholarships for French and German and for Ancient History, or other subjects at the discretion of the Senate. Under the powers granted in the will, the Senate has determined to apply the fund to the foundation of two Scholarships for French and German.

#### 25-GARTON SCHOLARSHIP, No. I.

Awarded at the First Year Examination in the Faculty of Arts, for proficiency in French and German. £45, tenable for one year.

```
      1902—Armstrong, Clare A. C.
      1908—Hooton, J. R.

      1906--Marks, Gladys
      1909—Bulteau, A. W. J.

      1907—Campbell, A. L.
      1910—Watson, Constance E.

      Calow, P. F., prox. acc.
      1911—Moir, Catherine M.

      25-GARTON SCHOLARSHIP, No. II.
```

Awarded at the Second Year Examination in the Faculty of Arts, for proficiency in French and German. £45, tenable for one year.

```
1902—Sproule, Margaret
1904—Armstrong, Clare A. C.
1905—McIntosh, A. M.
1907—Marks, Gladys H.

1908—Campbell, A. L.
Shortland, Edith
1909—Hooton, J. R.
1910—Bulteau, A. W. J.
1911—Watson, Constance E.
```

27-GEORGE AND MATILDA HARRIS SCHOLARSHIP.

Founded in 1900, by a gift of £1700 from Mrs. Matilda Duff Harris, of Ultimo House, in memory of her late husband, George Harris, Esq., to be called the George and Matilda Harris Scholarship, and to be awarded in the Faculty of Law, for the encouragement of the study of Law, under such rules and regulations as the Senate of the University may make from time to time for this purpose. Under this power it has been determined that the Scholarship shall be awarded by the Senate in each year upon the results of Part II. of the Intermediate LLB. Examination. £50, tenable for one year.

```
1902-Wilson, G. H., B.A.
                                       1908—Collins, C. M., B.A.
Markell, H. F., B.A.
1903-Kemp, R. C. King
                                       1909—Lawrence, R. L., B.A. 
Edwards, H. G., B.A. } eq.
1904—Rowland, N. de H., B.A.
1905—Rowland, N. de H., B.A.
                                       1910 - Eldershaw, P. S., B.A.
       Teece, R. N., M.A., prox. acc.
1906—Jordan, F. R., B.A.
                                       1911-Mason, H. H.
                            }æq.
      Real, E. T., B.A.
                                              Utz, H. S., B.A.
                                                                    prox.
                                              Weston, C. A., B.A.
1907—Thompson, E. H.
                   28-QUEEN VICTORIA SCHOLARSHIP.
```

In 1905 the sum of £540 was presented to the University by subscribers to a memorial of the late Queen Victoria for the foundation of a Scholarship.

The fund was formed by contributions from the general community, largely from the school children.

The conditions of award are as follows:--

 That it be awarded to the best girl matriculant of the year, and be tenable for three years under the conditions usually existing for Scholarships.

That the Scholar shall satisfy the Chancellor, privately, that she requires the money, otherwise it shall be handed over to the Chancellor to be used for a bursary for girls, the original winner retaining the title of Queen Victoria Scholar. The Scholarship is of the value of £20, and is tenable for three years.

1905—Maclean, Lillian A. Smith, Clara R. acq. 1908—Connell, Marian A. 1911—

THE COUTTS SCHOLARSHIPS.

Founded in 1905 by a gift of £2700 from Mrs. Janet Coutts, widow of the late Rev. James Coutts. The deed of gift provides for the establishment of two Scholarships, to be called respectively the James Coutts Scholarship and the John Coutts Scholarship, in memory of the donor's deceased sons, who were graduates of the University of Sydney.

# 29 -THE JAMES COUTTS SCHOLARSHIP.

Awarded at the Third Year Examination in the Faculty of Arts for distinction in the study of the English Language and Literature. £50 for one year.

```
1906—MacCallum, M. L.*
Bellhouse, Constance A.
1907—Scroder, Aphra F.
Mackaness, G.

1908—Miles, B. J. V.
1909—Robinson, F. W.
1910—Allen, C. K.
1911—Bruce, J. F.
```

### 30-THE JOHN COUTTS SCHOLARSHIP.

Awarded on the recommendation of the Faculty of Science for distinction in the Science course to a student graduating as Bachelor of Science with Honours, who proposes to continue his studies in a way satisfactory to the Faculty. £50 for one year.

```
1907—Flynn, T. T.
1908—Cotton, L. A.
1909—Cohen, Fanny
```

31 - THE WILLIAM AND JANE GRAHAME MECHANICAL ENGINEERING SCHOLARSHIP.

Founded in 1905 by a gift of £1000 from Mrs. Jane Grahame of "Strathearn," Waverley, widow of the late Hon. William Grahame. Awarded until 1908 at the Second Year Examination for proficiency in Mechanical Engineering. Awarded at the Fourth Year Examination to a student obtaining Honours in the examination, who proposes to continue his studies in Mechanical Engineering in a way satisfactory to the Faculty. £40 for one year.

```
1906—Burnell, J. G. 

May, H. W. 

1907—Carter, E. M. 

Davidson, G. F. 

1908—Lloyd, A. S. 

Norman, E. P. 

1909—Davidson, G. F. 

1910—McKeown, E. W. 

1911—Hebblewhite, W. A. 

Norman, E. P., prox. acc.
```

<sup>\*</sup>Resigned.

#### 32-THE BARKER GRADUATE SCHOLARSHIP.

Founded in 1907 from accumulations from the Barker Scholarship Foundation, and awarded to a graduate under the following conditions:—

- 1. The scholarship shall be awarded to a graduate in Arts or in Science, including Engineering, of less than four years' standing at the time of the award, reckoning from his qualification by examination for his first degree.
- 2. The scholarship shall be awarded by the Senate after report by the Deans of the Faculties of Arts and Science and the Professors of Mathematics and Physics, who shall recommend the candidate showing the greatest promise of success in further study in Mathematics—Pure and Applied
- 3. The holder will be required to prosecute his studies or researches in some approved place or places during the tenure of his scholarship.
- 4. The amount of the scholarship is £150 per annum, tenable for not more than two years. Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the scholarship is awarded.

1907 - Wellisch, E. M., M A. 1908-Lyons, R. J., B.A.

1909—Lusby, S. J., M.A. 1911—Cohen, Fanny, B.A., B.Sc.

#### 33-THE COOPER GRADUATE SCHOLARSHIP.

Founded in 1907 from accumulations from the Cooper Scholarship Foundation, and awarded to a graduate under the following conditions:—

- 1. The scholarship shall be awarded to a graduate in Arts of less than four years' standing at the time of the award, reckoning from his qualification by examination for the B.A. degree.
- 2. The scholarship shall be awarded by the Senate after report from the Dean of the Faculty of Arts and the Professors of Latin and Greek, who shall recommend the candidate showing the greatest promise of success in further study of classical literature.
- 3. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate in some approved place or places during the tenure of his scholarship.

4. The amount of the scholarship is £150 per annum tenable for two years. Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the scholarship is awarded.

1909—Robinson, F. W.

1910-Kaeppel, C. H.

## 34-BELMORE SCHOLARSHIP.

Founded in 1870 by a gift of £300 from the Right Honourable the Earl of Belmore to provide a medal for Agricultural Chemistry and Geology. Upon the establishment of a Chair of Agriculture in 1910, it was decided to award the income of the Fund as a Scholarship.

Awarded at the First Year Examination in the Faculty of Science for proficiency in Chemistry and Geology. The scholar is required to continue his studies with a view to graduating in Agricultural Science. £18 per annum, tenable for two years.

1911-Stephens, H.

#### 35-COOPER SCHOLARSHIP IN VETERINARY SCIENCE.

A scholarship of £25 per annum, tenable for two years, offered by Messrs. William Cooper and Nephews, to be awarded in the Department of Veterinary Science.

#### THE RHODES SCHOLARSHIPS.

REGULATIONS APPROVED BY THE TRUSTEES FOR THE ELECTION OF SCHOLARS IN NEW SOUTH WALES, 1905.

Committee of Selection-The Committee of Selection shall consist of :-

- 1. His Excellency the Governor of New South Wales (in his private capacity), Chairman.
- 2. The Chief Justice of New South Wales.
- The University of Sydney, acting on the recommendation of the Professorial Board.
- Note.—It has been decided (1905) that Clause 3 shall be understood as follows:—
  - (a) That the University shall be represented by the Chancellor, the Vice-Chancellor, and the Chairman of the Professorial Board, who with the Governor and Chief Justice shall constitute the Committee of Selection, with equal powers.
  - (b) That the Professorial Board shall submit to this Committee the names of all the candidates whom they consider reasonably suitable for selection, and that from the names thus submitted the selection shall be made.

## Eligibility of Candidates-

- Candidates shall be British subjects, and unmarried. They must have passed their nineteenth birthday, but not have passed their twenty-fifth birthday, on October 1st of the year in which they are elected.
- Candidates shall be undergraduates or graduates of the University of Sydney.
- Candidates shall have resided in New South Wales for an aggregate period of four years during the five years immediately preceding the date of election.
- 4. Only candidates who have passed an equivalent to the Oxford Responsions Examination, or those who are exempted from Responsions by the Colonial Universities Statute, are eligible for election.

In any doubtful cases of eligibility the decision of the Committee of Selection shall be final.

# Method of Selection-

- 1. In accordance with the wish of Mr. Rhodes, the Trustees desire that "in the selection of a student to a Scholarship regard shall be had to (i.) his literary and scholastic attainments; (ii.) his fondness for and success in manly outdoor sports, such as cricket, football and the like; (iii.) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, fellowship; and (iv.) his exhibition, during school-days, of moral force of character, and of instincts to lead and take an interest in his school-mates." Mr. Rhodes suggested that (ii.) and (iii.) should be decided in any school or college by the votes of fellow-students, and (iv.) by the Head of the school or college.
  - Where circumstances render it impracticable to carry out the letter of these suggestions the Trustees hope that every effort will be made to give effect to their spirit, but desire it to be understood that the final decision must rest with the Committee of Selection.
- 2. To aid the Committee in making a choice, each candidate is required to furnish to the Chairman of the Committee of Selection:—
  - (a) A certificate showing that he is within the eligible limits of age.
  - (b) A certificate from the Professorial Board of the University of Sydney that he is exempt from or has passed the Responsions examination of the University of Oxford or its equivalent, and that he is considered a suitable candidate for the consideration of the Committee of Selection.
  - (c) A full statement of his school and college career, including his educational qualifications, his record in athletics, and such testimonials from his masters at school and his professors at college in reference to the qualities indicated. by Mr. Rhodes as seem best adapted to guide the judgment: of the Committee of Selection.

- 3. Should it seem advisable, the Committee of Selection is free to apply to the candidates, or any selected number of them, such further intellectual or other tests as it may consider necessary for purposes of comparison. No candidate shall be finally selected without a personal interview.
- 4. The Chairman of the Committee of Selection will at once notify to the Trustees the name of the elected scholar, and will forward to Mr. Wylie, the representative of the Trustees at Oxford, all the credentials and testimonials on which the selection was made. The elected scholar will then be furnished by the Chairman of the Committee of Selection with a memorandum prepared by the Representative of the Trustees at Oxford of the steps necessary to have his name enrolled at one of the Colleges at the University.
- 5. The Scholarship will be paid in four quarterly instalments, the first on beginning residence at Oxford, and thereafter terminally on the certificate of the College that the work and conduct of a student have been satisfactory. Without such certificate the Scholarship lapses. A Scholarship which lapses either from the failure of a student to secure his College certificate, from resignation, from marriage, or from any other cause, will not be filled up till the year in which it would naturally expire. This provision is made in order not to interfere with the rota of succeeding scholars.

1904—W. A. Barton, B.A. 1905—P. H. Rogers, B.A. 1906—M. L. MacCallum, B.A. 1907—G. V. Portus, B.A. 1908—Waddy, R. G., M.B. 1909—Bullock, H., M.B. 1910—Hooton, J. R., B.A. 1911—Ward, L. K., M.B.

# VII.

# MILITARY AND CIVIL APPOINTMENTS.

MILITARY COMMISSIONS FOR UNIVERSITY CANDIDATES.

The University of Sydney is one of the "Approved Universities" designated by the Army Council of the United Kingdom to nominate candidates for Commissions in the British Army.

The candidate must reside for three academic years, and qualify for a degree in any faculty but the Medical. If he passes with First-class Honours, he will be entitled to one year's seniority.

He may obtain a Commission in the Infantry or Cavalry, in the Army Service Corps, and in the Royal Artillery, by qualifying in certain branches of mathematics.

He must pass through the military curriculum during his University course, and be attached to permanent forces for six weeks in each of two consecutive years, and must pass a quali-

fying examination set by the War Office in Military subjects, in which the Military curriculum will instruct him.

He must pass a Medical examination, of which the chief features are:—Height at least 5 feet 2 inches at 18, with 34½ inches chest. Good eyesight, hearing, and speech. Sound physical formation.

OPEN COMPETITION EXAMINATIONS FOR THE CIVIL SERVICE OF INDIA, CLERKSHIPS (CLASS I.) IN THE HOME CIVIL SERVICE AND EASTERN CADETSHIPS.

These are held in London in the month of August each year. Every candidate is required to show that he had attained the age of twenty-two, and had not attained the age of twenty-four on the first day of August of the year in which the examination is held.

The full regulations will be found in the N.S.W. Government Gazette, a copy of which may be seen in the Registrar's office.

# VIII.

# EXHIBITIONS.

### 1-SALTING EXHIBITION.

Founded in 1858 by a gift of £500 (with accumulations) from Severin Kanute Salting, Esq., to be applied for the promotion of sound learning. Awarded on the recommendation of the Trustees of the Sydney Grammar School to a student proceeding thence to the University. £25, tenable for three years in the Faculty of Arts.

1900—Barton, W. A. 1903—MacCallum, M. L. 1906—Kaeppel, C. H. 1909—Pitt, W. M.

## 2-J. B. WATT EXHIBITIONS.

Founded in 1876 by a gift of £1000 from the Honourable John Brown Watt, and two subsequent gifts of £1000 each in 1888 and 1889. The Exhibitions are bestowed on the bursary principle (see p. 274), being not tenable in the Professional Schools, and are awarded to boys or youths who have been for at least three years in private colleges or schools. They are tenable for three years, and entitle the holders to £30 for the first year, £40 for the second, and £50 for the third year. The candidates must have passed with special credit either the

Junior or Senior Public Examination. The Exhibition is intended to enable the holder to obtain a course of higher education, either at the University or elsewhere, subject to the direction of the Senate. The complete conditions of award will be found in the Manual of Public Examinations.

## 3-STRUTH EXHIBITION.

Founded in 1883 by a gift of £1000 from John Struth, Esq., for the foundation of an Exhibition to assist students of intellectual promise, but whose means are not otherwise sufficient for the purpose, in obtaining a Degree in the Faculty of Medicine. The Exhibition is awarded to a student who has completed the First Year of the Arts course upon the following conditions:—

- 1. The Deans of the Faculty of Arts and the Faculty of Medicine shall receive a satisfactory assurance that the means of the applicant are insufficient to enable him to proceed with the Medical course without some such pecuniary assistance.
- 2. Applications for permission to compete for the Exhibition, accompanied by the necessary certificates, must be sent to the Registrar at least fourteen days before the first day of the Annual Examinations.
- 3. The Exhibition shall be awarded to that candidate, of those who are allowed to compete, who shall show the greatest proficiency in the First Year Examination of the Arts course, and whose attainments and promise are such as to justify the award.
- 4. The holder, who shall at once proceed with his studies in the Faculty of Medicine, shall receive the sum of £50 per annum for five years; provided that he shall only continue to hold it on the condition that he is diligent and of good conduct, and that he passes creditably all the Examinations of his course. In the event of illness of the holder causing prolongation of his course of medical study, the case will be subject to the special consideration of the Senate. The Exhibition is open to students of either sex. The last award was made in March, 1907.
- 5. The holder of this Exhibition is not exempt from the payment of any fees.

4-HORNER EXHIBITION.

Founded in 1889 by a bequest of £200 from Francis Horner, Esq., M.A. Awarded for proficiency in Mathematics at the Matriculation Examination. It cannot be held with two

other Scholarships in the University. In case of equality in order of merit in competition for the Exhibition, preference shall be given to a student matriculating direct from the King's School, Parramatta, or in the absence of a student from that School, to a candidate from Newington College, Stanmore. £8, tenable for one year.

```
1907—Holloway, R. A.
1908—Brown, W. R.
Willis, H. H., prox. acc.
1902—Henderson, R. G.*
       Mottershead, A.
                                æa.
       Paul, A.
                                          1909-Stafford, F. D.
       Tomlinson, G. L.
                                                 Snow, L. L.*
Robson, A. J.
1903—Lyons, R. J.
1904 - Dennis, S.
       Watkins, H. L.
                                          1910-Fitz Herbert, J. A.*
1905-Utz, H. S. *
                                                 Gregg, N. M.
                                                 Lesslie, Mary E.
       Harrison, B. J. M.
1906—Campbell, A. L.*
                                          1911-Brown, Janet F. M.
       Booth, F. A.
       Lloyd, A. C.
       Robinson, F. W.
                                      IX.
```

## BURSARIES.

The Bursaries at the disposal of the University have all been created (on the initiation of the late Dr. Badham, when Professor of Classics) by private foundations at a cost of £1000 each, together with a margin in some cases to ensure prescribed annual awards amounting to £50; and they are helped, on the part of the Senate, by an accompanying exemption from all lecture fees.

They were created for the purpose of placing the advantages of education in this University within the reach of students, who, whilst giving sufficient promise of benefit, would otherwise be excluded through the want of financial means. In order to secure privacy as regards the financial circumstances of the candidates and their friends, the nominations are directed to be made by the Chancellor alone.

Some of the founders indicate a preference for students from the country, but the majority are silent on this subject. Some state that the bursaries are "to enable the recipient to reside in one of the Affiliated Colleges, or in some other place approved of by the authorities of the University from which he may attend the prescribed courses of lectures;" but in the greater number there is no corresponding expression.

<sup>\*</sup> Holder of two other Scholarships.

Did not comply with the conditions for holding the Exhibition.

In some cases the founders contemplated full bursaries of £50 a year, as for students from the country, though without prohibiting divisions of the amount; but more generally they either expressly allow of awards of £25 a year, or other less sums than £50, or leave the matter open. And of late years the absence of new foundations has created a necessity for extending the usefulness of the bursaries by frequent divisions into halves; and the Senate has granted the same exemptions from fees as in the case of full bursaries.

No bursary is subject to any distinction of creed or of position, except that in one case a preference is expressed, but not imposed, for a student belonging to the donor's own Church, and in another the nomination is confined to sons of a minister of religion, but without distinction of Church; in both of which cases the founder bestowed a second bursary without any restriction.

All the bursaries, except five, which were given by Mr Thomas Walker, in July, 1881, were founded before women were admitted to the University, and they were ostensibly for men only. But Mr. Walker's bursaries were for both sexes, and his instructions required that women should participate. The practice has since been to observe no distinction of sex.

The bursaries are tenable in the Faculty of Arts or that of Science, and not in the professional schools of Law, Medicine, Engineering or Dentistry.

The conditions on which the bursaries are conferred are:-

- 1. That the Chancellor shall have received satisfactory assurance that the candidate's own means, and those of his parents, guardians, "or other friends" (as expressed in some of the foundations), are insufficient to enable him to bear the cost of attending the University without the assistance of a bursary.
- 2. That the candidate is qualified by education and capacity to benefit by the University course, with which view some of the earlier foundations required that the candidate should be examined by the Professor of Classics and (in some cases "or") the Professor of Mathematics and certified by them, or one of them, to be intellectually fit. But as the University bursaries are now ordinarily granted after

- the Matriculation Examination, or an equivalent at the Public Examinations, this stipulation has dropped out of use.
- 3. That the bursar, if not already matriculated, shall matriculate at the commencement of the next Academic year after his appointment, and shall come into his attendance on lectures as the Senate may direct; and that he shall be diligent, and of good conduct; and that he shall pass creditably at the Annual Examinations during his tenure of the bursary.
- 4. Subject to the above conditions, the bursary is held for three years, except when granted to Undergraduates who have already gone through part of the three years' course, and have then become unable to finish their course without help, in which case the tenure is confined to the residue of the ordinary three years' course.

# 1-MAURICE ALEXANDER BURSARY.

In 1874, the sum of £1000 was given by Mrs. Maurice Alexander for the endowment of a bursary in memory of her late husband. The annual value is £40.

## 2-JOHN EWAN FRAZER BURSARY.

In 1876, debentures for £1250, at 4 per cent., were given by the Honourable John Frazer, M.L.C., for the endowment of a bursary, of the annual value of £50, to be called after the name of his deceased son, John Ewan Frazer.

### 3-ERNEST MANSON FRAZER BURSARY.

In 1876, debentures for £1250, at 4 per cent., were given by the Honourable John Frazer, M.L.C., for the endowment of a bursary, of the annual value of £50, to be called after the name of his deceased son, Ernest Manson Frazer.

# 4-WILLIAM CHARLES WENTWORTH BURSARY, No. I.

In 1876, the sum of £1000 was given by Fitz-William Wentworth, Esq., for the foundation of a bursary, of the annual value of £50, to be called after the name of his deceased father, William Charles Wentworth, Esq.

### 5-WILLIAM CHARLES WENTWORTH BURSARY, No. II.

In 1876, the further sum of £1000 was given by Fitz-William Wentworth, Esq., for the foundation of a second

bursary, of the annual value of £50, to be called after the name of his deceased father, William Charles Wentworth, Esq.; but the founder directed that this sum should accumulate until it should reach £1500, that a second bursary should then be established, and that the surplus should accumulate until the sum of £1500 should again be reached, when a similar result is to follow. This foundation reached the sum of £1500 in 1886, and a second bursary was established accordingly.

# 6-WILLIAM CHARLES WENTWORTH BURSARY, No. III.

This fund was established in 1886 by the setting apart of the sum of £500 from the last named foundation, to accumulate for the establishment of a third bursary in accordance with the directions of the founder. It amounted in December, 1910, to £1368 6s. 6d.

#### 7-BURDEKIN BURSARY.

In 1876, the sum of £1000 was given by Mrs. Burdekin for the foundation of a bursary, to be called the Burdekin Bursary. The annual value is £40.

#### 8-HUNTER-BAILLIE BURSARY, No. I.

In 1876, a sum of £1000 was given by Mrs. Hunter-Baillie for the foundation of a bursary, to be called the Hunter-Baillie Bursary. The annual value is £50.

#### 9-HUNTER-BAILLIE BURSARY, No. II.

In 1877, a sum of £1000 was given by Mrs. Hunter Baillie for the foundation of a bursary for the sons of ministers of religion. In the deed of gift the Senate is declared to be the sole judge of who are to be considered ministers of religion. The annual value is £50.

# 10-WALKER BURSARIES.

In 1881, the sum of £5000 was given by Thomas Walker, Esq., of Yaralla, Concord, for the foundation of bursaries. The gift was especially connected with the late resolution of the Senate, to grant to women equal participation with men in all University privileges, and it was desired by the founder that a portion of the bursaries—up to one half, as circumstances might dictate—should be made applicable to students of the female sex. Four bursaries, of the value of £50 per annum, are now awarded.

#### 11-JESSIE E. DUNCAN BURSARY.

In 1901 the sum of £1000 was bequeathed to the University by Mrs. Jessie E. Duncan, widow of the late Dr. Duncan, R.N., for the foundation of a bursary in the Faculty of Arts, in accordance with such regulations as the Senate may determine. £35-per annum.

#### 12-THE LEVEY AND ALEXANDER ENDOWMENT.

In 1879, a sum of £1000 was given by Mrs. Maurice Alexander for the purpose of establishing an endowment in the University, in memory of her late parents, Isaac and Dinah Levey. It is intended for young men who shall have gone through the regular University course, and shall have passed the Statutory Examination for the Degree of Bachelor of Arts in the University of Sydney, and graduated with credit to themselves, and who shall then be desirous of entering a liberal profession, but be without sufficient pecuniary means to bear the cost of the necessary preparation and superior instruction.

It is directed that no regard whatever shall be had to the religious creed or denomination of any candidate, provided that his personal character and repute shall be good, and that in determining any such award the only considerations shall be such as have reference to the character and to the abilities and learning of the candidate, as proved by University Examinations, and to his financial position.

The award is to be made to a Graduate who shall have recently taken his B.A. Degree; but the preference shall be given to one who had graduated in Honours.

The professions which are held specially in view are those of Medicine and Surgery, and of Law in either branch, and those of Architects, Surveyors and Engineers; but full discretion is given to the University Senate to include any other secular profession which shall be deemed by them to be of a learned or liberal character.

It is intended that the Graduate selected under this endowment shall enjoy the income for three years either by one payment of not exceeding one hundred and fifty pounds (when sufficient accumulations are available) for fees or premiums on articles of pupilage; or by half-yearly payments of twenty-five pounds for three years; or partly in each way, as may be deemed by the Senate best for carrying out the objects in view. The last award was made in March, 1909.

## 13-HENRY WAIT BURSARY.

Founded in 1900, by a bequest of £1000 from the late Henry Wait, Esq., of Redfern, "for the encouragement of the study of Medicine." The testator provides that the "Senate or Governing Body of the said University of Sydney shall be the proper person to appoint and determine the conditions and provisions of the said bursary, and to pay to the successful candidate for the same yearly, the amount to be fixed by them therefor." The bursary is awarded to a student who has completed the First Year of the Arts course upon the following conditions:—

- 1. The Deans of the Faculties of Arts and Medicine shall receive a satisfactory assurance that the means of the applicant are insufficient to enable him to proceed with the Medical course without some such pecuniary assistance.
- 2. Applications for permission to compete for the Exhibition, accompanied by the necessary certificates, must be sent to the Registrar at least fourteen days before the first day of the Annual Examinations.
- The bursary shall be awarded to that candidate of those who are allowed to compete who shall show the greatest proficiency in the First Year Examination of the Arts course, provided he shall be deemed to have shown sufficient merit.
- 4. The holder, who shall at once proceed with his studies in the Faculty of Medicine, shall receive the sum of £40 per annum for five years; provided that he shall only continue to hold the bursary on the condition that he is diligent and of good conduct, and that he passes creditably all the Examinations of his course. In the event of illness of the holder causing prolongation of his course of Medical study, the case will be subject to the special consideration of the Senate. The bursary is open to students of either sex. The last award was made in March, 1911.
- The holder of this bursary is not exempt from the payment of any fees.

# Χ.

### PRIZES.

#### 1-WENTWORTH MEDAL.

Founded in 1854, by a gift of £200 from W. C. Wentworth, Esq., the interest to be applied for an Annual Prize for the best English Essay.

In 1889 the fund had accumulated sufficiently to provide for two Prizes of the value of £10 each, and a Prize is now given for competition amongst Undergraduates, and a second Prize for competition amongst Bachelors of Arts of not more than three years' standing.

GRADUATES' MEDAL.

1901—Gough, N. J., B.A.	1 15	1904-Green, H. M., B.A.
Read, Elizabeth J., B.A.	; Æ (	1905—Allen, L. H., B.A.
1902—Gough, N. J., B.A.	اخا	1911-Allen, C. K., B.A.
Scrutton, C. Maude, B.A.	<b>8</b> 8	

#### Undergraduates' Medal.

1900-Gough, N. J.	1909-Allen, C. K.
1905 - MacCallum, M. L.	1910—Allen, C. K.
1906 - MacCallum, M. L.	1911—Not Awarded

#### 2-NICHOLSON MEDAL.

Founded in 1867 by a gift of £200 from Sir Charles Nicholson, Bart., D.C.L., to provide an annual Prize for Latin Verse. The competition for this medal is open to all Undergraduates and Graduates of not more than two years' standing. Value, £10.

```
1902—Allen, L. H.
1904—Allen, L. H.
```

#### 3-FAIRFAX PRIZES.

Founded in 1872, by a gift of £500 from John Fairfax, Esq. Awarded to the greatest proficients among the female candidates at the Senior and Junior Public Examinations. In the case of Seniors the candidates must not be over twenty-five years of age, and of Juniors seventeen years. Value, £14 and £6 respectively.

SENIOR PRIZE.

```
1901—Skillman, Jessie
1902—Bourne, Florence I. Watson, Maria E.
1903—Jones, Grace E.
1904—MacLean, Lillian Alexia
1905—Shortland, Edith
1906—Ballantine, Mabel A.

1907—Connell, Marion A.
1908—Gasteen, Elsie F.
Watson, Constance E., prox. acc.
1909—Anderson, Agnes K.
1910—Bevington, Agnes P.
Baird, Henriette E., prox. acc.
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Junios Prize.

Watson, Constance E. | prox. |
Ramsay, Muriel B. | &eq. |
1902—MacLean, Lillian Alexia |
1903—Norris, Mabel A. C. |
1904—Ballantine, Mabel A. |
1905—Stephen, Gladys V. |
1906—Gasteen, Elsie F. |
Barkell, Philippa K. | &eq. |

Junios Prize.

Watson, Constance E. | prox. |
Connell, Marion A. | acc. |
1907—Fredericksen, Selina B. M. |
1908—Bevington, Agnes P. |
1909—Middleton, Yvonne A. O. | &eq. |
McCulloch, Minnie | &eq. |
1910—Aldridge, Isabel
```

4-JOHN WEST MEDAL.

Founded in 1874, by a gift of £200 from the subscribers of a memorial of the Reverend John West, Editor of the Sydney Morning Herald. Awarded to the greatest proficient in the Senior Public Examination. Value, £8.

```
1901—Stephen, J. F.

Henderson, R. G. } &q.

Thelander, C. A., prox. acc.

1902—Porter, W. E. T.

1903—Sampson, G. A.

1904—Castlehow, Stanley

1905—Robinson, F. W.

Campbell, A. L.

Walker, A. S.

Walker, E. B.

1906—Blumer, R. C.

Macrossan, N. W. } prox. acc.

1907—Duhig, J. V. J.

Byth, G. L.

1908—Buchanan, A. L.

1909—FitzHerbert, J. A.

1910—Nield, J. R.
```

5-SMITH PRIZE.

Founded in 1854, maintained until the year 1885 by annual gifts, and subsequently by a bequest of £100 from the Honourable Professor Smith, M.D., C.M.G. Awarded to the best Undergraduate of the First Year in Experimental Physics. Value, £4.

```
| 1901—Weatherburn, C. E. | 1906—Norman, E. P. |
1902—Mason, W. H. | 1907—Ross, A. Clunies | Holloway, R. A. |
1904—Sampson, G. A. | & Holloway, R. A. |
1905—Cotton, L. A. | & & |
Sewell, L. G. | & & |

| 1906—Norman, E. P. |
1907—Ross, A. Clunies | Holloway, R. A. |
1908—Benjamin, A. |
1909—Snow, L. L. |
1910—Not Awarded.
```

6-NORBERT QUIRK PRIZE.

Founded in 1886, by a gift of £144 from the subscribers to a memorial of the Rev. John Norbert Quirk, LL.D., late principal of Lyndhurst College. Awarded for proficiency in Mathematics at the Second Year Examination. Value, £5.

```
1902—Wellisch, E. M.
1903—Weatherburn, C. E.
1904—Tomlinson, G. L.
Skillman, Jessie } æq.
1905—Lyons, R. J.
1906—Watkins, H. L.

1907—Utz, H. S.
Cohen, Fanny, prox. acc.
1908—Campbell, A. L.
1909—Simond*, E. F.
1911—Meldrum, H. J.
Peirce, S. E.
Robson, A. J.
```

#### 7-SLADE PRIZES.

Founded in 1886, by a gift of £250 from G. P. Slade, Esq., for the encouragement of Science. Two prizes are awarded for proficiency in Practical Chemistry and Practical Physics respectively. Value, £5 each.

PRACTICAL CHEMISTRY.

```
1906-Griffiths, E.
1901-Saunders, G. J.
                                               1907—Grey, C. E.
1902—Foxall, H. G.
                                               1908—Foxall, J. S.
1903—Priestley, H.
1904—Carter, H. G. May, H. W.
                                                1909-Peirce, S. E.
                           æq.
                                                1910-Johns, G. E.
1905—Farran-Ridge, C.
                                    PRACTICAL PHYSICS.
1901—Brown, G. F. Campbell
                                               1905—Cotton, L. A.
                                                Davidson, G. F. \ 2007

1906—Watkins, H. L. Bateman, J. E. \ 2007
1902—Shellshear, J. L.
\begin{array}{c} \textbf{1903-Atkinson, J.} \\ \textbf{Jones, S. W.} \end{array} \\ \underbrace{ \text{eq.} }
1904—Hammond, W. L. eq.
                                                1907—Ranclaud, A. B. B.
        White, C. J.
                                                1908-Norman, E. P.
                                                1910—Not Awarded.
```

#### 8-GRAHAME PRIZE MEDAL.

Founded in 1891, by a bequest of £100 from William Grahame, Esq., of Waverley. Awarded to such candidate as shall display the greatest general proficiency at the Senior Public Examination. Value, £3 10s.

```
1901—Stephen, J. <u>F</u>.
                                        1906—Blumer, R. C.
      Henderson, R. G.
                                               Macrossan, N. W. Cohen, C. H.
                                                                    prox. acc..
      Thelander, C. A., prox. acc.
                                        1907—Duhig, J. V. J. } æq.
1902—Porter, W. E. T.
1903—Sampson, G. A.
                                               Byth, G. L.
1904—Castlehow, Stanley
                                         1908-Buchanan, A. L.
1905—Robinson, F. W.
                                        1909-Fitz Herbert, J. A.
      Campbell, A. L.
                                         1910—Nield, J. R.
      Walker, A. S.
Walker, E. B.
                        æq.
```

#### 9-COLLIE PRIZE.

Founded in 1892, by a bequest of £100 from the Rev. Robert Collie, F.L.S., of Newtown. Awarded to a student of any Faculty at the First Year Examination in Botany. Value, £4.

```
1901—McCulloch, H. T. C.

1902—MacInnes, A., B.A.

1903—Dawes, Madeleine M.

1904—Ferguson, E. W.

1905—Hamilton-Browne, Eliz. I.

1906—Cohen, Fanny
```

### 10-BEAUCHAMP PRIZE.

Founded in 1901, by a gift of £625 from His Excellency the Right Hon. William Lygon, Earl Beauchamp, K.C.M.G., Governor of New South Wales. It is awarded for the best essay on some literary or historical subject, and is of the value of £25. The subject shall be determined either upon the recommendation of the donor or of the Professors of Classics, Modern Literature, History, Philosophy and Law. The competition is open to all Undergraduates and Graduates of not more than twenty-five Terms' standing from Matriculation. (See page 241.)

1902—Teece, R. Clive, M.A. 1907—Green, H. M., B.A., LL.B. 1908—Maxwell, W., B.A. 1911—Allen, C. K., B.A.

1906—Green, H. M., B.A.

Founded in 1904 by a gift of £250 from the members of the Kambala Girls' Union. The prize is awarded at matriculation to a pupil of a private school for girls in New South Wales for general proficiency, to assist in defraying the cost of the purchase of books and other expenses incidental to attendance at the University.

The prize is to be awarded annually to a matriculated student who, through pecuniary circumstances, is, in the opinion of the Chancellor, deemed such as to render her a suitable recipient of such a prize.

Should the principal be increased in the future to a sufficient amount, the prize may be converted into a scholarship to be

awarded under similar conditions.

The term "private school" has been defined by the donors as including those schools the pupils of which are not entitled to compete for State University Bursaries.

1905—Cohen, Fanny 1906—Lane, Laura E. 1908—Prescott, Kathleen M.

12.-FREDERICK LLOYD MEMORIAL PRIZE.

Founded in 1906 by a gift of £110 from the subscribers to a memorial of the late Frederick Lloyd, B.A., Assistant Lecturer in Classics for twelve years in the University of Sydney. It is awarded every second year for a Latin Essay on a specified subject, and is open to competition to second and third year students in the Faculty of Arts. £8. The next award will be made in March, 1911.

1907—Castlehow, S. 1909—Porter, W. E. T. 1911—Chisholm, A. R.

<sup>\*</sup>Names of prize winners, not necessarily implying the receipt of the prize money.

13-NATHAN PRIZES FOR AUSTRALIAN HISTORY AND GEOGRAPHY.
(JUNIOE GRADE.)

Founded by Venour Nathan, Esq., in 1906, under the following conditions:—

- 1. Four prizes, of the value of £7, £6, £4 and £3 respectively, will be awarded as the result of an examination in Australian History and Geography, to be held concurrently with the Junior Public Examination in June.
- 2. They will be open to competition amongst efficient members of a cadet or volunteer corps who are not over 18 years of age on the first day of examination, and who have either passed the Junior Public Examination or who pass the Junior Public Examination at the time of competition for the prizes.
- 3. The text-books recommended are A. W. Jose's "Short History of Australasia," together with suitable books on Australian Geography, such as E. C. Andrew's "Geography of New South Wales," Professor Gregory's "Geography of Victoria," etc.
- 4. Candidates who wish to compete must make application in writing to the Registrar not later than Friday, the 12th May, 1911. Each application must be accompanied by a certificate from the candidate's teacher or other responsible person that the candidate is an efficient member of a cadet or volunteer corps. The successful candidates will be required to produce certificates of birth.
- 5. The prizes will be awarded only when in the opinion of the examiners the competitors show sufficient merit.

1907—Goetz, B. L. 1909—Mauldon, F. R. E. 1910—Loomes, A. R. O'Keefe, E.

14-NATHAN PRIZES FOR IMPERIAL HISTORY AND GEOGRAPHY.
(SENIOR GRADE.)

Prizes of £20 and £10 for Imperial History and Geography, founded in 1906 by Venour Nathan, Esq., will be awarded under the following conditions:—

- 1. The prizes will be open to competition amongst efficient members of the Sydney University Scouts.
- 2. An examination for the prizes will be held annually at the beginning of Lent Term, and candidates will be required to present an essay on a specified subject in conjunction with their examination.

3. The prizes will be awarded only when, in the opinion of examiners, the competitors show sufficient merit.

Text-books recommended: Freeman on Federation, "The Federalist" (Fisher Unwin), Professor Meiklejohn's "The British Empire," and Mahan's "Sea Power."

1907—Edwards, H. G, B.A. (First Prize).
Davidson, G. F. (Second Prize).

Subject of essay for 1912—"The Oversea Dominions and the Navy at the present time. A discussion of the extent of the dependence of their welfare on the predominance of the Navy, and the directions colonial effort should take in recognition of the importance of the Navy to their interests."

### 15-THE NORTON MANNING MEMORIAL PRIZE.

Founded in 1907 by the gift of £125 from the subscribers of the Dr. F. Norton Manning Memorial Fund. Awarded, as an annual prize of books, in Psychological Medicine. Value £5.

### 16-THE CHAMBER OF COMMERCE PRIZE.

The Sydney Chamber of Commerce offers a prize of £5 5s. in Economics and Commerce to the student who, after the Third Year Examination, is adjudged to have done the best work in the three years' course.

1909-Ewing, W. C.

| 1910-Docker, F. J.

### 17-THE PITT COBBETT PRIZE.

Founded in 1910 by a gift of £175 from subscribers to a fund for the foundation of a prize in honour of Professor Pitt Cobbett, M.A., D.C.L., Professor of Law from 1890 to 1909, and now Emeritus Professor. Awarded annually for Constitutional Law. Value £5.

1911-Blanksby, H. R., B.A.

### 18-PARKINSON MEMORIAL PRIZE.

Founded in 1910 by a gift of £225 from subscribers to a memorial of the late Thomas Carlyle Parkinson, M.B., Ch.M., who died at the Lister Institute from plague-pneumonia while engaged in research upon bubonic plague. The prize is awarded annually for proficiency in Pathology on the result of the Fourth Year Examination in Pathology to a student who has completed the course in that subject. Value £5.

1910-Tivey, E. A.

# ORIENT ROYAL MAIL LINE.

The Orient Royal Mail Line of Steamers, through its Managing Director, Sir Kenneth S. Anderson, has offered to the University three free first-class return passages in favour of graduates of the University who desire to proceed to Europe for the purpose of continuing their studies. The disposition of this privilege the Managers leave entirely in the discretion of the Senate, but they express the hope that, as the object of the offer is to multiply the opportunities for education by travel, the privilege will preferentially be conferred on graduates who, though wishful to go to Europe, are debarred from doing so by reason of the expense involved rather than on the holders of any particular University distinction (as such), or of graduates who are able to dispense with such assistance, and would go in any case.

The passages will be available during the months of May to September, both inclusive, to Europe; and during the months of March to July, both inclusive, outwards from Europe. The currency of the return ticket is for a period of three years from the date of leaving till the date of return to Australia.

1909—Archdall, H. K., B.A. Lusby, S. J., M.A. Swain, H. J., B.Sc. 1910—Allen, C. K., B.A. Chapman, B. B., M.A. Davidson, G. F., B.E.

1911—Benson, W. N., B.Sc. Bulteau, A. W. J., B.A. Muscio, B., B.A.

# UNIVERSITY PRIZES.

### I .-- M.A. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Master of Arts in the several schools, if of sufficient merit.

LOGIC, MENTAL, MORAL AND POLITICAL PHILOSOPHY.

1899—Garran, R. R. | 1902—Fletcher, M. Scott

1903—Merrington, E. N.

MODERN HISTORY. 1901—Teece, R. C.

MATHEMATICS.
1906—Weatherburn, C. E. } æq.
Wellisch, E. M.

### II.—B.A. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Bachelor of Arts in the several schools, if of sufficient merit.

```
1901-Todd, F. A.
                                    1908-Castlehow, S.
                                    1909-Robinson, F. W.
1903-Barton, W. A.
                                    Porter, W. E. T., prox. acc. 1910—Allen, C. K.
1904—Allen, L. H.
1906-MacCallum, M. L.
1907—Schleicher, B. M. J.
                                    1911—Byth, G. L.
                            MATHEMATICS.
                                    1907-Watkins, H. L.
1903—Wellisch, E. M.
1904-Weatherburn, C. E.
                                    1909—Campbell, A. L.
1905-Lyons, R. J.
                                    1910—Simonds, E. F.
                  LOGIC AND MENTAL PHILOSOPHY.
                                     1906-Lovell, H. T.
1901—Bowmaker, Jessie
                                     1908-Archdall, H. K.
      Fry, F. Mildred
                                     1909—Mann, J E. F,
1902—Ferguson, J. A.
1903—Cole, P. R.
                                     1910-Muscio, B.
1904-Watts, P. R.
                                    1911—Bruce, J. F.
1905—Northcott, C. H. } æq.
    Paterson, J.
                        FRENCH AND GERMAN.
                                   1911 - Bulteau, A. W. J.
1909—Campbell, A. L.
1910-Hooton, J. R.
```

#### III .- LL.B. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the LL.B. Examination, if of sufficient merit.

```
1900—Mitchell, E. M. 1907—Real, E. T. 1903—Teece, R. Clive 1906—Rowland, N. de H.
```

### IV .- M.D. EXAMINATION.

A Medal is awarded to the candidate who exhibits the greatest proficiency at the M.D. Examination, if of sufficient merit.

1903—Sandes, Francis Percival (Surgery)

### V .- M.B. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the M.B. Examination, if of sufficient merit.

1900—Burfitt, W. F. 1901—Macintosh, A. H. 1906—Parkiuson, T. C. 1908 - Brearley, E. A. 1910 - Priestley, H. 1911 - Edye, B. T.

### VI.-D.Sc. EXAMINATION.

A Medal is awarded to the most distinguished candidate at the D.Sc. Examination, if of sufficient merit.

1908-Jensen, Harold Ingemann.

### VII, -B.Sc. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the B.Sc. Examination, if of sufficient merit.

1902—Vonwiller, O. U. (Mathematics and Physics)
1907—Flynn, T. T. (Biology)
White, C. J. (Chemistry)
1908—Bateman, J. E. (Mathematics)
1909—Griffiths. E. (Chemistry)
Cohen, Fanny (Geology and Mineralogy)

1909—George, S. (Biology)
1910—Browne, W. R. | seq.
Walkom, A. B. | (Geology)
Burrows, G. J., prox. acc.
Burrows, G. J. (Chemistry)
Sly, Eileen M. (Physiology).
1911—Smith, Catherine D. (Geology)

### VIII. - M.E. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Master of Engineering, if of sufficient merit.

1896—Bradfield, J. J. C.

#### IX. -B.E. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the B.E. Examination, if of sufficient merit.

```
1901—†Boyd, W. S.
†Newman, J. M.

1902—*Boyd, A.

1904—†Weston, P. L.
1907—†Akinson, J.
†Norman, J. L.
†Tivey, J. P.

1908—†May, H. W.
1909—†Davidson, G. F.
†Sewell, L. G.
1911—†Burn, A.
†Sachs, W. J. (prox. acc.)
```

<sup>\*</sup> Civil Engineering. + Mining and Metallurgy. . Mechanical and Electrical.

#### X .-- ENGLISH VERSE.

A Medal of the value of £10 is given by the University for the best composition in English Verse. The competition for this Medal is open to all Undergraduates and Bachelors of Arts of not more than two years' standing.

```
      1902—Austin, A. H.
      1908—Allen, C. K.

      1903—Green, H. M., B.A.
      1909—Allen, C. K.

      1904—Green, H. M., B.A.
      1910—Allen, C. K.

      1905—Allen, L. H., B.A.
      1911—Lion, Rosine, B.A.
```

### XI.-UNIVERSITY PRIZE FOR PHYSIOGRAPHY.

A University Prize of the value of £5 is awarded to the student of the First Year who passes the best Class Examination in Geology, if of sufficient merit. Before 1907 it was given for Physiography.

```
1901—Goddard, E. J.
Cramp, K. R., prox. acc.
1902—Flashman, H. W.
1903—Hammond, W. L.
Bridge, J. M., prox. acc.
1904—Taylor, Dorothy R.
1905—Brodziak, Birdie K.
```

#### XII .- UNIVERSITY PRIZES AT PUBLIC EXAMINATIONS.

Prizes of £20 and £10 were appropriated annually by the Senate until the year 1894 for the greatest proficients amongst the male candidates at the Senior and Junior Public Examinations. A Prize of £5 is now offered for competition amongst the greatest proficients in the Junior Examination, the Prize for Seniors being withdrawn. The limit of age for Juniors is seventeen years.

JUNIOR PRIZE.

```
1901-McIntosh, A. M.) æq.
                                         1907-FitzHerbert, J. A.
                                                Barbour, E. P.
Pulling, C. W. L. } prox. acc.
       Atkinson, J.
       Mulcahy, F. B., prox. acc.
1902—Castlehow, S.
                                         1908-Nield, J. R.
                                                Charlton, M. A., prox. acc.
1903—Alden, M. C. 
Cohen, C. H. 
eq.
                                         1909—Simpson, C. H. G.
1904-Macrossan, N. W.
                                                Nommensen, J. W.
       Campbell, A. L.
                                                Jones, A. H.
       Robinson, F. W.
                                                Kay, R. I., prox. acc.
                                         1910—Robson, L. C.
       Vickers, J. G.
1905-Teece, L. G.
                                                Dare, L., prox. acc.
1906-Ritchie, H. A.
```

# \*PRIVATE ANNUAL PRIZES.

English.—Prizes of £2 10s. each, given by Professor MacCallum for English Essays in the First and Second Years, and of £10 for proficiency in English in the Third Year. This last was superseded in 1906 by the James Coutts Scholarship. From 1906 the Second Year Prize is given for English.

### First Year.

1901—Watts, P. R. 1902—Paterson, J. 1903—MacCallum, M. L. 1904—Taylor, Dorothy R. 1905—Marks, Gladys	1906—Robinson F. W. Weston, C. A., prox. acc. 1907—Allen, C. K. 1908—Solomon, K. M. H, 1910—Hall, H. D.
--	---

#### Second Year.

901—Allen, L. H. 902—Watts, P. R. 1903—Henderson, R. G. 1904—MacCallum, M. L. 1905—Schroder, Aphra F. 1906—Brodziak, Birdie K. Young, H. R. (Essays)	1907—Robinson, F. W. 1908—Allen, C. K. 1909 – Bruce, J. F. Solomon, K. M. H. 1910—Not Awarded.	} æq
--	--	------

### Third Year.

1901—Armstrong, Helen D. H.	1903—Allen, L. H.
1902—Waterhouse, E. G.	1905—MacCallum, M. L.
Cole, P. R., prox. acc.	1910—Solomon, K. M. H.

1

Biology.—Prizes of £2 2s., given by Professor Haswell for proficiency in Zoology.

```
1901—Palmer, C. R.
1902—Weatherburn, C. E.
1903—Archdall, M.
1904—Ferguson, E. W.
1905—Burfitt, Mary B.
1906—Fox, Edith E.

1907—Kesteven, H. L. (3rd Year)
Burkitt, A. N. St. G. H. (1st Year)
1908—Burkitt, A. N. St. G. H. (2nd Year)
Van Epen, T. W. (1st Year)
1909—Wyle, C. J. (1st Year)
1910—Badham, C.
```

<sup>\*</sup> The names of those who gained prizes before the year 1899 will be found in the Calendar for 1900.

```
Biology.—Prizes of £1 1s., given by Professor Haswell, for
                  excellence in Laboratory notes,
1901—Binney, Constance C.
                                    1904 - Tebbutt, A. H., prox. occ.
                                     1905-Macintosh, C. L. S. ag.
      Gibson, D. D.
      Graham, D. H.
                                           Tait, G.
1902—Bradley, C. H. B.
                                     1906—Humphries, H. G.
      Poate, H. R. G.
                                     1907—Chapple, A. T.
      White, W. J.
                                     1908 -Fielding, Una
1903—Archdall, M. } æq.
                                    Van Epen, T. W.
1909—Thomas, F. S.
1910—Stewart, Dorothea L.
Ewing, T. & 2
1904—Child, Sophia R.
      Grigor, W. E.
Paruell, Ethel C.
                                           Nye, L. J. J.
Geology.—Prizes of £4 and £5 each, given by Professor David,
       for proficiency in Geology respectively in the Second and
       Third Years.
                              Second Year.
1901—Green, L. C.†
                                     1907—Booth, F. A.
                                     1908-Browne, W. R.
1902—Jensen, H. I.
                                     1909—Debenham, F.
1903—Foxall, H. G.
                                           Smith, Catherine D.
1904—Atkinson, J.
                                     1910-Watson, A. D.
1905—White, C. J.
1906—Cotton, L. A.
                              Third Year.
                                     1906—Benson, W. N., prox. acc.
1901—Verge, J., B.A.
1902—Taylor, T. G.
                                     1907—Cotton, L. A.
1903-Jensen, H. I.
                                     1908—Cohen, Fanny
                                     1909—Browne, W. R.
1904—Foxall, H. G.
                                           Walkom, A. B.
1905—Atkinson, J.
1906-Hammond, W. L.
                                     1910—Smith, Catherine D.
Practical Petrology.—Prize of £1, given by Professor David,
   for proficiency in preparing Microscopic Slides of Minerals.
                                     1907-Booth, F. A.
1901—Green, L. C.+
1903—Nardin, C. C.
                                     1908-Johnson, J. S.
1904-Perry, E. A. †
                                     1909-Fischer, E.
                                     1910-Lahey, R. W.
1905—Kesteven, H. L.
1906—McBryde, J.
    FIELDWORK IN GEOLOGY.—Prize of £2, given by Dr. W. G.
Woolnough.
```

Philosophy.—A Gold Medal, of the value of £10, given by Professor Anderson, M.A., for the best essay on a Philosophical subject; competition to be open to all Bachelors of Arts of not more than two years' standing.

1907—Browne, W. R. 1908—Anderson, W. T. 1909—Hatfield, W. F.

1910 - Wenholz, H.

1907—Archdall, H. K.

```
1902-Merrington, E. N., B.A.
                                    1907-Lovell, H. Tasman, B.A.
1904—Austin, A. H., B.A.
                                    1908-Archdall, H. K., B.A.
1905-Powell, J. G. W., B.A.
                                    1909—Barlex, H. N. C., B.A.
1906—Watts, P. R., B.A.
                                   1910-Muscio, B., B.A.
```

LOGIC AND MENTAL PHILOSOPHY .- Prizes of £5 each, given by Professor Anderson.

# First Year. 1909-Bruce, J. F.

#### Second Year. 1901—Ferguson, J. A. 1908-Manu, J. E. F. (2nd 1902—Cole, P. R. 1903—Watts, P. R. Year). Blanksby, H. R. (1st 1904—Northcott, C. H. Year). 1910-Thomas, G. R. Paterson, J. 1905—Lovell, H. T. Smith, D. M., prox. acc. 1906—Stewart, W. P.

### Third Year.

Logic.—Prize of £2 2s., given by Professor Anderson, for proficiency in Logic amongst Medical Students.

```
1905—Ferguson, E. W.
Parkinson, H. H. } æq.
                                           1907-Walker, A. S.
                                           1909—Collins, A. J.
1906—Hamilton-Browne, Eliz. I.
```

HISTORY.—Prize of £5, given by Professor Wood, for proficiency in History.

```
1901—Teece, R. N.
                                 1904—Paterson, J.
                                      Rogers, P. H. \ eq.
                                1902—Cole, P. R.
     Kemp, R. C. King \ eq.
1903—Cramp, K. R. 
Maxwell, W. 
æq.
                                 1908-Mann, J. E. F.
```

HISTORY—Prizes of £2 10s. each, given by Professor Wood for proficiency in History.

```
First Year.
1910-Currey, C. H.
                                 1911-Not Awarded.
                            Second Year.
1910-McCredie, Gladys
                                 | 1911—Currey, C. H.
```

Political Science.—Prize of £5, given by Professor Pitt Cobbett, for proficiency in the Elements of Political Science.

```
1901—Browne, J. A.
1902—Pitt, A. G. M.
1903—Hodge, S. T.
1904—Beckenham, J. G.
1905—Teece, R. N.
1906—Watts, P. R.
Wheeler, A. R.
```

PALEONTOLOGY (PRACTICAL).—Prize of £2, given by Mr. W. S. Dun, for the best original essay on the Paleontology of the district examined during the annual Geological excursion.

```
1906—Free, Mary G.
1908—Deer, Margaret
```

Descriptive Geometry.—Prize of £2 2s., given by Assistant Professor S. H. Barraclough, for proficiency in Descriptive Geometry.

```
      1906—Ada, W. L.
      1908—Hebblewhite, W. R.

      1907—Lloyd, A. S.
      1910—Mackinnon, J. Y.
```

Engineering Essay — Prize of £3 3s., given by Assistant Professor Barraclough, for an essay on an Engineering subject.

```
1906—Flashman, H. W.
1907—†Swain, H. J.
Thompson, H. L.
1908—Waterhouse, L. V.

1908—Waterhouse, L. V.

1908—Right and S. J. Prox. acc.
1910—Holloway, R. A.
Dennis, C., prox. acc.
```

Astronomy.—Prize of £2 2s., given by Professor Carslaw. 1909—Gasteen, Elsie F.

VETERINARY Science.—Prize of £10, given by E. R. White, Esq. 1910—Stewart, J. R.

Assaying.—Prize of £2 2s., given by Mr. F. A. Eastaugh. 1910—Anderson, W. T.

<sup>+</sup> Not proceeding to a degree.

# HONOURS AT THE DEGREE EXAMINATION.

### FACULTY OF ARTS.

# M.A. EXAMINATION.

### GREEK AND LATIN LITERATURE.

```
1876—Beatty, J. J. M.

1897—Class II.—Pratt, F. V.

1902—Class II.—McLaren, A. D.

1911—Class I.—Schleicher, B. M. J.
```

## MATHEMATICS.

```
1865—Murray, C. E. R.

1876—Rennie, E. H.

1877—Butler, E. J.

1908—Class II.—Weatherburn, C. E.

Wellisch, E. M.

1908—Class II.—Lusby, S. G.
```

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LOGIC AND MENTAL PHILOSOPHY, ETC.
1887-Legge, J. G.
                                       1902-Class I.-Fletcher, M. S.
1890-Woodthorpe, R. A.
                                        1903-Class I .- Merrington, E. N.
1892—Cocks, N. J.
                                                         Lasker, S.
      Brennan, C. J.
                                        1908—Class I.—Edwards, J.
1894—Shaw, H. G.
1896—Class I.—Smairl, J. H.
                                        1909-Class II.-Deane, W.
                                        1910-Class I.-Roberts, T. T.
Class II.—Millard, G. W.
1899—Class I.—Garran, R. R.
                                                                (Education)
                                              Class II.-Barlex, H. N. C.
      Class II.—Taylor, Eliz. I.
                                                                 (Education)
```

ENGLISH LITERATURE AND POLITICAL PHILOSOPHY.

1894—Russell, F. A. A.

FRENCH AND GERMAN LITERATURE.

1901—Class II.—Roseby, T. E. | 1904—Class I.—Wilshire, H.

LATIN AND MODERN FRENCH LITERATURE.

1895-Class II.-Bowmaker, Ruth.

LATIN AND OLD FRENCH LITERATURE.

1903—Class I.—Paxton, Betha. 1904—Class II.—Uther, Mary H.

PHILOSOPHY AND FRENCH LITERATURE. 1896—Class II.—Stonham. J.

ENGLISH LITERATURE AND MODERN HISTORY. 1897—Class II.—Doust, Edith L.

FRENCH PHILOLOGY, LANGUAGE AND LITERATURE. 1908—Class I.—Sharpe, G. F.

### MODERN HISTORY.

1898—Class II.—Chalmers S. D.	Class III.—Crawford, T. S.		
Edwards, E. S.	1905-Class IIMurray, Flor. J.		
1900—Class I.—Teece, R. C.	Class III.—Fullerton, Lottie		
Class II.—Lance, Elisabeth A.	1906—Class II.—Cramp, K. R.		
1901—Class II.—McMullen, F.	1907—Class I.—Paterson, J.		
1902—Class II.—Jones, C. H. F.	1908—Class II.—Whitney, G. C.		
Class III.—Gordon, Emily I.	1909—Class I.—Chapman, B. B.		
1903—Class II.—Mills, Elsie,	Dunlop, Mabel L. T.		
A. H. ( g	Class II.—Shortland, P. D.		
Teece, R. N.)	1910—Class I.—Lynch, J.		
Nolan, J. H. M.	1911—Class I.—Morley, Muriel V.		
1904—Class I.—Cole, P. R.	Class II.—Flower, E. Monica		
ENGLISH LITERATURE.			

1905—Class II.—Barnes, Pearl E. 1906—Class II.—Mallarky, Ethel M. (including one section of Mod. Hist.) 1911—Class I.—Mackaness, G.

EDUCATION.

1911-Class I.-Middleton, R. J.

# \*B.A. EXAMINATION.

LATIN.				
1902.	1907.			
Class I.—Fraser-Hill, Charlotte E. Teece, R. N. Class II.—Ferguson, J. A.	Class I.—Schleicher, B. M. J. Class II.—McKeown, F. M.			
Sandford, Blanche V.	Jones, Grace E.			
Class III.—Crisford, Hilda N. M. Larcombe, E. R.	1908.			
,	Class I.—Castlehow S.			
1903.	Class II Wyndham, Elinor, M.			
Class I.—Barton, W. A. Jensen, Klio	McGill, A. D. Archdall, H. K.			
1904. Class I.—Allen L. H.	1909.			
Class II Lovick A M )				
Jordan, F. R. } <sup>æq.</sup>	Class I,—Porter, W. E. T. Robinson, F. W.			
Bonney, R. S.	Perry, Irene F.			
1905.	Class II.—Norris, Mabel			
Class I.—Henderson, R. G. Class II.—Rogers, P. H.	1910.			
Graham, Frances	Class I.—Allen, C. K.			
1906.	Blumer, R. C.			
Class I.—MacCallum, M. L.	Kaeppel, C. H.			
Class II.—Clark, Marjorie D. Watson, Maria E.	Class II.—Lumsdaine, K. B. F. Nowlan, J. G.			

<sup>\*</sup> The names of those who obtained Honours before 1899 will be found in the University Calendar for 1900.

Class

Class

# LATIN—continued. 1911. I.-Byth, G. L. Class Class II.-None. Class III.—Gretton, Ethel M. Solomon, K. M. H. Blight, S. E. Maclardy, D. S. GREEK. 1902. I.—Teece, R. N. Class III.—Larcombe, E. R. 1903. I.—Barton, W. A. Jensen, Klio Class Class II.—Stewart, J. R. Class III.—Brentnall, Nina T.

1904. I.—Allen, L. H. Class Bonney, R. S. II.—Campbell, A. P. Class 1905.

I.—Paterson, J. Glass. Rogers, P. H. Henderson, R. G. 1906. I.-MacCallum, M. L. Class

Watson, Maria E. FRENCH.

1902. I.—Mackness, Constance Class Wilshire, H. Fraser-Hill, Charlotte E. Armstrong, Helen D. H. Class III.—Reid, Violet M.

I.—Sproule, Margaret Class Waterhouse, E. G. Sharpe, G. F. Docker, Gladys M. B. Wardrop, Maggie R.

1903.

1904. I.-Jordan, F. R. Class Murray-Prior, Doroth. K MacCallum, Isabella R. Class II.—Spence, J. Carey, Daisy

I.—Schleicher, B. M. J. Class III.—Jones, Grace E. 1908. I.—Castlehow, S. Archdall, H. K. McGill, A. D. 1909. I.—Robinson, F. W. Porter, W. E. T. Class Class II.—Mann, J. E. F. Class III.—Norris, Mabel 1910. I.-Kaeppel, C. H. Class Allen, C. K. 1911.

1907.

I.-Byth, G. L. Class II.—Blight, S. E. Class Solomon, K. M. H.

1905. I.—Armstrong, Clare A. C. ClassClass II.—Graham, Frances Latreille, Meta G. E. Class III.—Austin, Fanny M. Haigh, V. 1906.I.—McIntosh, A. M. Class Lovell, H. T. Class II.—Bourke, J. O. A. Class III.—McLean, A. L. Coleman, E. A. 1907. I.—Paxton, Grace Class Class II.—Brierley, Nina B. Davies, E.S.

Fry, Eva J.

Chandler, H. Class III.—Tarrant, T. A.

# FRENCH-continued.

	1908. I.—Wyndham, Elinor M. II.—Malcolm, Olive Mitchell, Clarice Barlex, H. N. III.—Jopling, Mildred H. Stokes, Marion E. Crane, C. C. Short, F.	Class III.—Brown, Millicent A. M. Macphee, Isabel  1910.  Class I.—Hooton, J. R. Class II.—Parkinson, Kathleen A. Class III.—Francis, Irene I. Fielding, Una L.
Class	1909. I.—Campbell, A. L. Perry, Irene F. Shortland, Edith Duncan, Annie B. Calow, P. F.	Class I.—Bulteau, A. W. J. } eq. Chisholm, A. R. Class II.—Widmer, F. E. Class III—Lilley, Kathleen M.
	GER	MAN.
Class	1902. I.—Wilshire, H. Armstrong, Helen D. H.	Class I.—Campbell, A. L. Duncan, Annie B. Shortland, Edith
Class	1903. I.—Sproule, Margaret Waterhouse, E. G.	Class III.—Calow, P. F. Class III.—Ramsay, Muriel B. 1910.
Class	1905. I.—Armstrong, Clare A. C.	Class I.—Hooton, J. R. Class II.—Nowlan, J. G. Parkinson, Kathleen A.
Class	1906. I.—McIntosh, A. M.	1911. Class I.—Bulteau, A. W. J.
	ENGI	LISH.
Class	1902. I.—Armstrong, Helen D. H. Phillips, F. G. Mackness, Constance Crisford, Hilda N. M.	Class I.—Allen, L. H. Skillen, Elizabeth Watts, P. R. 1905.
Class	II.—Holt, Edith J. K. Wheeler, H. C. F. Fullerton, Lottie Kemp, Laura M. King	Class II.—Northcott, C. H. Coombes, A. J. 1906. Class I.—MacCallum, M. L.
Class	1903. I.—Waterhouse, E. G. Cole, P. R.	Bellhouse, Constance A. 1907. Class I.—Scroder, Aphra F. Mackaness, G.  acq.
Class	1903. II.—Hope, P.	Class II.—Clouston, Lavinia Seq. Young, Hilda M.

#### ENGLISH—continued.

1910. 1908. I.-Allen, C. K. Class L.—Miles, B. J. V. Miles, D. v. Cusbert, A. W. Req. Class Muscio, B. Armstrong, Millicent S. Roseby, Clara Watts, Ethel L. 1911. Class III .- Jopling, Mildred H. I.-Bruce, J. F. Class Malcolm, Olive Solomon, K. M. H. Class II.—Burns, Dorothy 1909. Gretton, Ethel M. Stewart, Dorothea L. I.—Robinson, F. W. Class Class III.—Connell, Marion A. Ramsay, Muriel B. Watson, Evelyn A. Taylor, Margaret H. McCredie, Jessie Class III.—Taylor, R. C. HISTORY. 1908. 1902. I.—Teece, R. N. I -Lynch, J. Class Class æq. Chapman, B. B. Mackness, Constance Fullerton, Lottie Malcolm, Olive II.—Reid, Violet M. Whyte, H. W. Class Class II.—Roseby, Clara 1903. Class III.—Webb, J. E. I.--Cole, P. R. Class Kemp, R. C. King 1909. 1904. I.—Mann, J. E. F. I.—Cramp, K. R. Class Class II.—Ferrier, Elizabeth I. II.-Maxwell, W. Class 1905. 1910. I.—Paterson, J. Class HONOURS. Rogers, P. H. I.—Biddulph, L. H. Class Northcott, C. H. 1911. 1906. I.—Whitney, G. C. I.—Bruce, J. F. Class Class Class II.—Leeson, Ida E. Cousins, A. Class III.—Bourne, Florence I. Fletcher, C. E. B. McCredie, Gladys E 19.07. Lennard, W. Class II.—McKeown, F. M. Class II.—Mulholland, W. J. Class III.—Dunlop, Mabel L. T.

### MATHEMATICS.

1903. 1902. I.—Hawken, R. W. H. Class -Wellisch, E. M. Class Smith, W. Sharpe, G. F. Class II .- Tivey, J. P.

### MATHEMATICS - continued.

MATHEMATICS—continued.				
1904.	1907.			
Class I.—Weatherburn, C. E. Brearley, E. A.	Class I.—Watkins, H. L. Class II.—Brown, J.			
Class II.—Sutton, Mabel H.	1908			
1905.	!			
Class I.—Barry, D. R.	Class I.—Cohen, Fanny Utz, H. S.			
$\left\{ egin{aligned} & \mathrm{Skillman,\ Jessie} \ \mathrm{Tomlinson,\ G.\ L.} \end{aligned}  ight\}$	Class II.—Alexander, Hilda M.			
Class II.—Paul, A.	1909.			
1906. Class I.—Lyons, R. J. Cotton, L. A.	Class I.—Campbell, A. L. Class II.—Perry, Irene F. Deffell, Alice H.			
Lusby, S. G. Mottershead, A.	1910.			
Class II.—Collins, C. M.	Class I.—Simonds, E. F. Class II.—Blumer, R. C.			
Chrismas, C. H.	Class III.—Ballantine, Mabel A.			
McIntosh, A. M. Class III.—Bourne, Florence I. Roughton, Gladys M.	1911.			
Walker, C. C. P.	Class II.—Brown, W. R.			
LOGIC AND MEN	TAL PHILOSOPHY.			
1902.	1905.			
Class I.—Ferguson, J. A. Green, H. M.	Class I.—Northcott, C. H. Paterson, J.			
Class II.—Castleman, A.	Coombes, A. J.			
Brownlie, Eveline A.	Class II.—Melville, H. P.			
1903.	Austin, Fanny M.			
Class J.—Cole, P. R.	1906.			
Austin, A. H. Hope, P.	Class I.—Lovell, H. T.			
Class II.—Grant, W. J.	Portus, G. V.			
Stewart, J. R.	Whitney, G. C.			
Giles, J. H. P. McWilliam, N. G.	Class II.—McLean, A. L.			
○ 1904.	Jones, E. D. L. Parsons, Florence L.			
Class I.—Watts, P. R.	*Ross, J. A.			
Fry, Edith M.	Bourke, J. O. A.			
Class II.—Levick, A. M.				
Wheeler, A. R.	1907.			
Campbell, A. P. Spence, J.	Class II.—Deane, W.			
Class III.—Goddard, T. H.	Chandler, H. Tarrant, T. A.			
Powell, J. W. G.	North, F.			

<sup>•</sup> Unmatriculated.

#### LOGIC AND MENTAL PHILOSOPHY-continued

Class

Class

Class I.—Archdall, H. K.
Lynch, J.
Chapman, B. B.
Class II.—Armstrong, A. M.
Whyte, H. W.
Barlex, H. M.
Short, F.

Class III.—De Putron, Violet Ross, J. A. Gourlay, Mary E. F. 1909.

Class I.—Mann, J. E. F. Class II.—Calow, P. F. Eldershaw, P. S. Class III.—Dart, G. Hayes, J. W. Burns, Dorothy
Class II.—Fletcher, C. E. B.

Mulholland, W. J. Berman, F. T.

1910.

Debenham, H.

1911.

Shortland, L. J.

I.-Bruce, J. F.

Robertson, T. G.

I.-Muscio, B.

Class II.—Hatfield, W. F.

Class III. - Jerrems, R.

#### GEOLOGY AND PALÆONTOLOGY.

1899.

Walker, E. B.

Class II.-Lee, T. N.

1900.

Class I .- Wilton, E. N.

1902.

Class II.—Alexander, Maud M.

1905.

Class II.—Barry, D. R.
Burfitt, Mary B.
Wade, R. T.

### PHYSICS.

1902.

Class II.—Tivey, J. P.

BOTANY. 1907.

Class II.-White, C. J.

1906.

4

Class I.-Lusby, S. G.

CHEMISTRY.

1907.

Class I.—White, C. J.

### EDUCATION.

1911.

Class III.—Chisholm, A. R. Class III.—Bulteau, A. W. J.

# FACULTY OF LAW.

# LL.B. Examination.

Class I.—Teece, R. C.
Class II.—Robson, R. N.
Arnold, A. G. de L.
Rogers, W. A. H.
Stephen, H. M.

1904.

Class II.—Browne, J. A. Wilson, G. H. Vickery, E. F.

1905.

Class II.—Ferguson, J. A. Kemp, R. C. King Green, H. M.

1906.

Class I.—Rowland, N. de H. Class II.—Wilson, D. Teece, R. N. 1907.

Class I.—Real, E. T.
Class II.—Jordan, F. R.
Fisher, A. D. W.
Manning, H. E.
Watts, P. R.
Henry, H.

1909

Class I.—Townshend, S. E.
Class II.—Thompson, E. H.
Hughes, J.
Haigh, V.

1910,

Class II—Minter, C.
Collins, C. M.
Lowe, M H.

1911.

Class II.—Hooke, R. W. Laurence, R. D. Edwards, H. G.

# FACULTY OF MEDICINE.

# M.D. EXAMINATION.

1903.—Class I.—Sandes, F. P. (Surgery). Blackburn, C. B. (Medicine). 1904—Class II.—Hall, E. C. (Materia Medica and Therapeutics). 1907—Class II. -Hipsley, P. L. (Surgery). M.B. EXAMINATION. 1902. Class II.—Page, E. C. G. Wallace, D. Muscio, A. 1903. Class II.—Dansey, St. J. W. Hipsley, P. L. Smith, S. A. Mason, T. W. } æq. Davis, J. S. Woolnough, R. E. Plomley, M. J. Suckling, F. M. 1904. Class II.—Buchanan, G. A. Browne, C. S. Connolly, T. P. Sharp, G. G. Mawson, W. D'Arcy, Constance E. 1905. Class II.—Simpson, F. G. M. Smith, P. E. W. McKelvey, J. L. O'Reilly, Susannah H. 1906. Class I.—Parkinson, T. C. Class II.—McCulloch, H. T. C. Quaife, W. T. Palmer, C. R. Harris, S. H. 1907. Class II.—Poate, H. G. R. Deakin. J. E. F. Shellshear, J. L. Diethelm, O. A. A. MacInnes, A., B.A.

1895.—Smith, G. E. (Anatomy).

1908. Class I.—Brearley, E. A. Rogers, F. C. Class II.- Brooks, G. A. Archdall, M. Matthews, H. D. Tomlinson, G. L. Weedon, C. J. 1909. I.-Smith, K. Class Golledge, K. A. Class II.—Waddy, R. G. Parkinson, H. H. Ferguson, E. W. Bullock, H. Fahy, J. F. 1910. Class I.-Priestley, H. Ewing, T. T. Dalyell, Elsie J. Marsh, H. T. Burfitt, Mary B. Hamilton-Browne Elizabeth I. Class II.—Parker, L. R. Maclean, Lilian A. 1911. Class I.-Edye, B. T. McIntosh, A. M. Walker, A. S. } æq. Ward, H. K.

Harrison, B. M. J.

Class II.—Barrow, J. M. } æq.

Sear, H. R.

Davis, N. J.

# FACULTY OF SCIENCE.

# B.Sc. EXAMINATION.

CHEMISTRY. 1901. 1909. Class I.—Petrie, J. M. Class I.—Griffiths, E. Class II.-Heden, E. C. B. 1910. Class I.—Burrows, G. J. 1907. Class I.-White, C. J. Grey, E. C. 1908. Class II.—Walkom, A. B. Class I.—Farran-Ridge, C GEOLOGY AND PALÆONTOLOGY. 1902. 1907. I.—Free, Mary G. Hammond, W. L. } æq. I.-\*Verge, J. Class Class †Green, L. C. McKinnon, E. 1903. 1908. I.—Taylor, T. G. II.—†Stone, W. G. Class I.—Deer, Margaret Class Sherring, Beatrice II.—Cotton, L. A. Breakwell, E. Class 1904. I.-Jensen, H. I. Class 1909. Class I.-Booth, F. A. 1905. Cohen, Fanny I.-\*Foxall, H. G. Class Kesteven, H. L. Class II.-Hunter, J. G. 1906. 1910. Class I. -\*Atkinson, J. Class I.-Mackinnon, M. Class II.—Dwyer, T. C. Jacobs, Grace E. Goddard, E. J. Class II .- Watkins, Dorothy M. MINERALOGY. 1893. 1903. Class II -Forde, J. Class II.—Jensen, H. I. 1894. I.—Watt, J. A. Class GEOLOGY AND MINERALOGY. 1902. 1908. I.—†Larcombe, C. O. G. Class I.—Cotton, L. A. Class 1909. \*Verge, J. I.—Cohen, Fanny 1905. Class I. - \*Foxall, H. G. II.-Lloyd, A. C. Class Class Mawson, D. 1910. Gray G. J. Class I.—Browne, W. R 1906. Walkom, A. B. 1 I .- \*Atkinson, J. Burrows, G. J. Class 1907. ` 1911.

Class

I.—Benson, W. N.

Hammond, W. L.

Class

I.—Smith, Catherine D.

Not passing through the regular course.

THAT .	rsics.
1902.	1908.
Class I.—Vonwiller, O. U.	Class II.—Bateman, J. E. Ranclaud, A. B. B
Class I.—Close, J. C. 1904. Class II.—Taylor, T. G. 1905.	1909. Class 1I.—Norman, E. P. Herbert D. P.
Class I.—Mason, W. H.  1906. Class I.—Ewing, T. Class III.—Sharp, L. H.	1910. Class II.—Holloway, R. A. Class III.—Ross, A. C.
. BIO	LOGY.
1902. Class II.—Johnston, S. J. 1906. Class II.—Goddard, E. J. Dwyer, T. C. 1907. Class I.—Flynn, T. T. Class II.—Mackinnon, E. Johnston, T. H. 1908. Class II.—Kesteven, H. L. Breakwell, E.	Class I.—George, S. Class II.—Kesteven, H. L. Hunter, J. G.  1910.  Class I.—Burkitt, A. St. G. N. H. Class II.—Morison, Marion W.  1911.  Class II.—Little, Elaine M.
MATH	EMATICS.
1902. Class I.—Vonwiller, O. U.	Class I.—Cohen, Fanny Class III.—Herbert, D. P.

Class	I.—Vonwiller, O. U.	Class I	I.—Cohen, Fanny II.—Herbert, D. P. Norman, E. P. } eq.
Class	1903. II.—Close, J. C.		1910.
Class	1905. I.—Weatherburn, C. E.	Class	I.—Browne, W. R. Holloway, R. A.
Class	1908. I.—Bateman, J. E.	Class	1911. I.—Smith, Catherine D.

# M.E. EXAMINATION.

# CIVIL ENGINEERING.

1894. | 1896. | Class I.—Bradfield, J. J. C.

# B.E. EXAMINATION.

CIVIL ENGINEERING.

1900. Class II .- Hawken, R. W. 1905. 1901. Class II.—Martyn, A. M. Class I.—Madsen, J. P. V. Smail, J. A. M. Myers, H. W. 1902. 1908 I .- Boyd, A. Class II .- Morrison A. Class Class II.—Corlette, J. M. C. DEPARTMENT OF MINING AND METALLURGY. MINING. 1902. 1904. Class II.—Freeman, C. C. Class II .- Patterson, B. G. †Süssmilch, C. A. Cameron, C. B Whitfeld, H. E. 1905. Heden, É. C. B. Class II.—Stephen, J. F. Williams, L. B. Webb, S. D. †Green, L. C. Thomas, D. Mawson, D. 1906. Gould, H. J. Class II.—Bridge, J. M. 1903. Class II.—Ward, L. K. 1907. Giblin, N. E. Peterson, A. J. I.—Atkinson, J. Gray, G. J. Corlette, J. M. C. Class II.—†McIntyre, W. K. METALLURGY. 1905. 1902. Class II. Heden, E. C. B. Class II.—Burgess, J. H. Freeman, C. C. Taylor, T. G. Gould, H. J. Stephen, J. F. †Morson, W. J. †Perry, E. A. 1903. I .- Ward, L. K. Class Class II.—Peterson, A. J. 1906. †Brereton, E. Le G. Class I.-Bridge, J. M. Gray, G. J. Corlette, J. M. C. Class II.—Whiteman, W. D. †Süssmilch, C. A. Foxall, H. G. 1904. Class I.-Shellshear, W. 1907. Saunders, G. J. -Patterson, B. G. Class II.-I.-Atkinson, J. Class Hill, J. H. F.

† Unmatriculated.

Barr, J.

Class II.—†McIntyre, W. K.

#### ASSAYING AND ORE TREATMENT.

1903. 1905. I .- Stephen, J. F. Class I.—†Brereton, E. Le G. Class II.—Burgess, J. H. †Stoddart, R. Class II.—Giblin, N. E. 1906. Ward, L. K. Class I.-Bridge, J. M. Verge, J. Foxall, H. G. 1907. 1904. -Atkinson, J. McIntyre, W. K. II.—Walker, J. S. D. Class II.—Saunders, G. J. Barr. J.

MINING AND METALLURGY.

1909.

Class I.—Sewell, L. G. Class II.—McBryde, J.

DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

1903. \*Boyd, A. 1907. 1904. I.—Prescott, W. A. Tivey, J. P. Class I .- Weston, P. L. Class II.—†Hall, R. V. Class II.—Clayton, F. H. 1906. Flashman, H. W. I .- † Marriott, E. W. Class Norman, J. L. Class II.—Cowlishaw, R.G. Bellemey, S. J.

ENGINEERING DESIGN AND DRAWING.

(Mining and Metallurgy.)

Class II.—Foxall, H. G.
Bridge, J. M.

1907.

Class I.—Atkinson, J.

(Mechanical and Electrical.)

1906. Class I.—†Marriott, E. W. Class I.—Norman, J. L.

MECHANICAL ENGINEERING.

1907.

Class I.—Norman, J. L. Tivey, J. P. Seq. Class II.—Prescott, W. A. †Price, A. L.

Not passing through the regular course.

<sup>+</sup>Unmatriculated.

# MECHANICAL AND ELECTRICAL ENGINEERING.

1905.	1910.
Class I.—†Morris, L. C. Class II.—Woodcock, L. R.  1908. Class I.— May, H. W. Power, R.	Class II.—Lloyd, A. S. Smith, R. G. Class III.—McKeown, E. W.
Burnell, J. G. Carter, H. G. Sharp, L. H. *Swain, H. J. Thompson, H. L. Class II.—Jones, S. W.  1909. Class I.—Davidson, G. F. Class II.—Ada, W. L. Carleton, G. B.	Class I.—Burn, A. Sachs, W. J. Norman, E. P. Class II.—Knight, O. Le M. Beeston, S. L. Class III.—Hebblewhite, W. R. Herbert, D. P.
Carter, E. M.	

# MATRICULATION EXAMINATION.

HONOURS.

### NOVEMBER, 1910.

COOPER SCHOLARSHIP NO. II. FOR CLASSICS—Not awarded.

BARKER SCHOLARSHIP AND HORNER EXHIBITION FOR MATHEMATICS—
Janet F. M. Brown.

LITHGOW SCHOLARSHIP FOR FRENCH AND GERMAN—W. F. Crawford.

BOWMAN CAMERON SCHOLARSHIP FOR GENERAL PROFICIENCY—J. R. Nield.

FREEMASONS' SCHOLARSHIP FOR GENERAL PROFICIENCY—

G. H. Godfrey } æq. W. H. Grace ENGLISH. Class I. GREEK. Mellor, R. W. H. Class III. Class I. Coppleson, V.M. Glass, B. S. Baird, Henriette E. Burns, P. H. C. Bevington, Agnes P. Nield, J. R. & Baird, Henriette E. Baldick, G. L. Street, L. W. Class II. Ferguson, J. G. Parry, Evelyn M. \ aq. Wells, T. C. M.  $\left. \begin{array}{l} Nield, J. R. \\ Powe, A. B. \end{array} \right\}$  æq. Solling, F. P. M. Voss, P. E. Bromley, Myrtle S. Heath, L. B. Wallace, C. D. Heath, L. B. Bradfield, Mary M. Wilkinson, Norm Sims, A. R. Henry, H. A. Grace, W. H. Mellor, R. W. H. Finlayson, M. R. ) æq. Class II. Foggon, C. A. Barker, Gladys W. McGowan, Dorothy M. Wilkins, Dorothy I. Class III. Minty, C. C. McDonald, C. G. Childe, G. Smith, C. G. Mason, Elizabeth Minty, C. C. Godfrey, G. H. Wilkinson, Norma L. Foggon, C. A. æq. Biden, N. E. Sheldon, Mary Bevington, Agnes Flook, W. K. W. 3 eq. Stanger, N. A. Stewart, N. B. Hellstrom, C. O. Henry, H. A. Howard, A. J. S. Symonds, H. Pulling, C. W. L. Crawford, W. F. Booth, E. H.

LATIN.

Class I.

Nield, J. R. Childe, G. Henry, H. A.

Class II.

Pulling, C. W. L. Powe, A. B. Heath, L. B. Mellor, R. W. H. Baird, Henriette É. Kelly, A. W. McDonald, C. G. æq. Stanger, N. A. Foggon, C. A.

Class III.

Baldick, G. L. Minty, C. C. Smith, C. G. Street, L. W. \ æq. Barker, Gladys W. Bevington, Agnes æq. Sutton, N. G. Hellstrom, C. O. Grace, W. H. Innes, H. S. R. Symonds, H. McBride, H. W. C. Wilkinson, Norma L.

# FRENCH.

Class I.

Crawford, W. F. Bradfield, Mary M. Roper, Mary T. Ferguson, J. G.

Class II.

Hellstrom, C. O. Wallace, C. D. Smith, C. G. Nield, J. R. Foggon, C. A. Symonds, H.

Childe, G. æq. Evans, H. G. Clark, Annie M. Powe, A. B. Middleton, Yvonne A. O. Grace, W. H. McDonald, C. G. Whitfeld, L. O. Raysmith, Doris R. Burns, Rosina

Class III. Baldick, G. L. Minty, C. C. Bertram, Kathleen Μ. Mason, Elizabeth Kelly, A. W. Mellor, R. W. H. MacBride, H. W. C. Urquhart, Miriam Μ. Barker, Gladys W

Stanger, N. A. Wells, T. M. Sutton, N. G. Street, L. W.

Kennedy, E. W.

# Class I.

Crawford, W. F. Roper, Mary T.

Class II.

GERMAN.

McDonald, C. G. Bevington, Agnes P. Clark, Annie M. Baird, Henriette E. Dart, R. A. Meyer, W. J.

Class III.

Evans, H. G. Innes, H. S. R. Edmond, N. S.

### MATHEMATICS.

Class I.

Brown, Janet F. M. Ferguson, J. G. Biden, N. E. Nield, J. R. Wallace, C. D. Brett, H. V. Murray, D. M. Bevington, Agnes P. Thorne, H. H. Baldick, G. L. Cunningham, W. A. Mellor, R. W. H. Barker, Gladys W. Sims, A. R.

Ciass II.

Porter, Laura E. I. Symonds, H. McKay, F. C. B. Meldrum, T. A. Powe, A. B. Pulling, C. W. L. Raysmith, Doris R. Flook, W. K. W. Murray, C. W. Godfrey, G. H. Coppleson, V. M. Burns, P. H. C.

Class III.

Cornwall, H. M. Jenkins, C. C. Ryan, K. J. Harden, G. B. Whitfeld, L. O. Wells, T. C. M. Eliott, G. N. Wilkinson, J. C. Murray, G. A. Innes, H. S. R. Baird, Henriette E. Stafford, W. C. Grugeon, S. G. Kelly, A. W. Voss, P. E.

The following candidates passed in two or more subjects at the Higher Standard, in accordance with the requirements of the by-laws for admission to one or more of the several Faculties or Departments:-

Adams, J. B.—Latin, English.

Aurousseau, M.—Latin, English, French.

Barlow, R. C.-Latin, French.

Beale, H. L.-Latin, English, French.

Beckett, L. S.—Latin, English, French, Physics (Part I.).

Bell, E. H. D.-Latin, English, German, French.

Burns, Rosina—Latin, French.
Bushelle, J. E. W.—Latin, Physiology.

Butler, S. W.-Latin, English.

Cade, May T .- Latin, Mathematics.

Christie, C. G. C.-Latin, French.

Daly, Minnie-Latin, English.

Donovan, B. W. A.—Latin, English, French. Douglas, S.—Latin, English, Greek. Dryer, A. T. B.—Latin, English, French.

Edwards, G. M.—Latin, Mathematics, Chemistry (Inorganic). Fisher, W. G. D.-Latin, Mathematics, Chemistry (Inorganic).

Fox. N. M. D.-Mathematics, Mechanics.

Furnival, Cicely-Latin, English.

Grosse, B. M.-Latin, English, French.

Harkness, B. C .- Latin, Chemistry (Inorganic).

Harney, J. A .- Latin, English, French.

Harrison, J. L.-Latin, Mathematics, French.

Henderson, S. H.-Latin, English, French.

Hillcote, W. G. V.—Latin, English.

Holliday, C. D.—Latin, Mathematics, French.

Hunt, Isabella M.-Latin, Botany.

Hutchinson, L. C.-Latin, English, Mathematics.

James, N. L.-Latin, English.

Jefferis, R. E.-Latin, English, French.

Jonas, R. J.-Latin, Mathematics, Mechanics.

Keohan, Eileen N. G.-Latin, English.

King, S. W.—Latin, French.
Litchfield, F. R.—Latin, Mathematics, Mechanics.
Litchfield, J. F.—Latin, Chemistry (Inorganic).

Loxton, E. H.—Latin, Mathematics, Chemistry (Inorganic).

Mack, B. H.-Latin, English, French.

Macneil, A. R.—Latin, Mathematics, Chemistry (Inorganic).

Mann, O. A.—Latin, English, Mathematics.

Mauldon, F. R. E.—Latin, French.

Middleton, Yvonne A. O.-Latin, English, French.

Moreau, S. J. H.—Latin, English, Geology.

Murphy, A. P.—Latin, English, French. O'Neill, V. F.—Latin, English, French, History.

Owens, W.-Latin, English.

Parker, K. S.—Latin, English, Greek.

Reye, J. A.—Latin, Mathematics, French, Mechanics, Chemistry (Inorganic).

Richardson, A. E.—Latin, Mathematics, Chemistry (Inorganic).

Roper, Mary T.-Latin, French, German.

Sheldon, Mary-Latin, English.

Sinclair, R. M.—Latin, English, French.

Sinclair, W. R.—Latin, English, Mathematics, Mechanics, French.

Smith, Jessie C.—Latin, English. Solling, F. P. M.—Latin, English, French, Chemistry (Inorganic).

Talbot, Edith—Latin, English, French, Botany.

Watt, R. G .- Latin, English.

Whitelaw, Ella J.-Latin, French.

Wilkinson, J. C.-Latin, Mathematics, Mechanics.

Woolnough, S. J.-Latin, English, Greek.

The following passed the additional paper in English and Geography for Engineering candidates:

Biden, N. E.	Harden, G. B.	Noble, R. A.
Booth, E. H.	Hellstrom, C. O.	Ryan, K. J.
Brett, H. B.	Kelly, A. W.	Sinclair, W. R.
Cornwall, H. M.	Mellor, R. W. H.	Thorne, H. H.
Firkin, C. L.	Morrison, W.	Wallace, C. D.
Grugeon, S. G.	Murray, C. W.	

### MARCH, 1910.

### PASS.

### In the list that follows:—

- (a) Signifies that the candidate is qualified for matriculation in the Faculty of Arts.
- (b) Signifies that the candidate is qualified for matriculation in the Faculties of Medicine and Science, but not the Department of Engineering.
- (c) Signifies that the candidate is qualified for matriculation in the Faculties of Arts Law, Medicine, and Science, but not the Department of Engineering.
- (d) Signifies that the candidate is qualified for matriculation in the Faculties of Arts, Law, Medicine, and Science, and in the Department of Engineering.
- (e) Signifies that the candidate is qualified for matriculation in the Faculties of Medicine and Science, and the Department of Engineering.
- (f) Signifies that the candidate is qualified for matriculation in the Faculty of Science and the Department of Engineering.
- (g) Signifies that the candidate is qualified for matriculation in the Faculty of Science,
- (h) Signifies that the candidate is qualified for matriculation in the Department of Veterinary Science.
- Signifies that the candidate is qualified for matriculation in the Faculties of Arts and Science.

$\boldsymbol{a}$	Asprey, T. D. W.	c Beaven, Laura	a Bogle, J.
	Barkley, O. A.	c Beith, B. McN.	c Bradfield, E. V.
c	Barriskill, J. R.	a Bell, R. M.	d Bradley, C. C.
c	Barton, F. M.	a Berman, A. C.	c Brady, J. F.
·c	Bateman, C. D.	c Beveridge, T. W.	a Bray, Irene M.
a	Baynes, R. H. B.	a Blackwell, C. de la T.	c Bromley, Myrtle S
c	Beale, H. L.	a Blomfield, B. B.	a Browne, W. J. R.

a Buchan, W.

Burnett-Bruce, H. G.

c Butler, S. W.

c Cameron, G. H.

c Cameron, W. W.

c Campling, C. R. c Carrothers, Pearl

a Cassidy, J. J.

c Cayzer, A.

Champion, G. S.

Clark, A. E.

a Cocks, H. S.

c Cook, W. H. Crane, C. G.

Crouch, E. C.

Cuninghame, W. A. F.

a Currey, Mabel

c Daniel, P. L.

d Degotardi, J. B. c De Putron, Irene M.

a Donnellan, G.

Donovan, B. W. A.

c Douglas, S.

h Drummond, L.

Drver, A. T. B.

a Duckworth, R. K.

a Duff, W.

a Dunn, W. D.

a Edmonds, A. H.

Fay, H. J.

a Flynn, M. R.

Fox. O. S.

Furnival, Cicely

a Gallagher, J. V.

Grosse, B. M.

Hadley, Esme L.

Hain, L. T.

a Hamilton, Ellice E. P.

a Harkness, Bertie C.

a Harrison, F. D.

Hawke, A. J.

c Henderson, S. H. c Hewitt, Catherine M.

a Hillcoat, W. G. V.

d Horne, T. C.

a Horniman, L. V.

Hudson, A. R.

a Hudson, J. J.

h Irvine, L. R. H.

Irving, R. C. C.

c Jefferis, R. E.

a Johnson, L. A.

c Jonas, R. J.

c Jones, F. H.

a Kent, G. M.

King, S. W. M.

Kirkland, H. E.

d Litchfield, F. R.

a Lloyd, Dorothea

McAllister, T. L. K.

a McCloy, S. M.

MacDougall, G. J. C.

McGrath, M. J.

c McKelvey, S. J.

McKenzie, A. D.

a MacKenzie, D. W. M. McLeod, J. E.

McMahon, Lilian

c · McQuiggin, H. G.

c Mann, J. W.

a Manton, Irene M.

Matheson, C. N.

Middleton, Yvonne

A. O.

a Mitchell, A. D.

c Moreau, S. J. H.

a Moulsdale, Lucy M.

c Muir, F. W.

c Mullins, J. T.

e Murray, C. W.

e Murray, D. M.

h Naughton, F. W. B.

d Noble, R. A.

a O'Rourke, Kathleen

a Owen-Harris, Jean M.

a Owens, W.

a Partridge, K. F.

Payne, W. R.

Perdriau, R. J. a Proudfoot, Stella

Quinn, R. F.

Scholes, L. R.

a Sheldon, Mary

c Simmonds, C. C.

c Small, D. S.

e Smith, C. B.

a Smith, Jessie C.

Smith, J. W. Storie Dixon, Athol A

Summers, P. L.

Templeton, C. G. a Tranter, F. W. J.

h Turner, J. S.

b Uren, C.

d Vogan, H. J.

a Wade, C. G.

c ·Watt, L. F.

a Watt, R. G.

d Wilkinson, J. C.

Williams, G. J. c Windeyer, Marian F.

c Woolnough, S. J. c Young, W. R.

h Young-Wai, S.

# FACULTY OF ARTS.

# FIRST YEAR EXAMINATION.

December, 1910, and March, 1911.

COOPER SCHOLARSHIP NO. III. FOR CLASSICS—J. A. Fitzherbert.
GEORGE ALLEN SCHOLARSHIP FOR MATHEMATICS—J. A. Fitzherbert.
GARTON SCHOLARSHIP NO. I. FOR FRENCH AND GERMAN—Catherine M. Moir.
LITHGOW SCHOLARSHIP FOR LOGIC AND MENTAL PHILOSOPHY—C. B.
COCKETT.

PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH—H. D. Hall. HONOURS.

LATIN I.	MATHEMATICS I.	PHILOSOPHY I.
High Distinction. Fitzherbert, J. A. Beale, J. G. M. Distinction, Kidston, R. R. Boyce, R. C. M. Credit. Conolly, Emily S.	High Distinction. Fitzherbert, J. A. Colville, A. B. Cotton, F. S. Frecker, E. W. Frederiksen, Selina B. M. Lesslie, Mary E. Pike, W. E. (Eng.)	High Distinction. Cockett, C. B. Frecker, E. W. Distinction. Hall, H. D. Samson, C. M. Credit. Cotton, F. S.
GREEK I. High Distinction. Fitzherbert, J. A. Distinction. Frederiksen, Selina B. M.	Distinction. Mackinnon, J. Y. (Eng.)  Credit. Bootle, Bertha C.	PHILOSOPHY II.  Distinction.  *Murphy, G. F.
Gasteen, Elsie F. (2nd Year)	ENGLISH I. High Distinction. Hall, H. D. Frecker, E. W.	GERMAN I.  High Distinction.  Moir, Catherine M.  Armstrong, Mary E.  Boyce, R. C. M.
Distinction. Ferguson, Margaret W. FRENCH I.	Distinction. Beale, J. G. M. Blanchard, J. R. Cotton, F. S.	CHEMISTRY I.  Distinction.  Cotton, F. S.
High Distinction. Moir, Catherine M. Armstrong, Mary E. Beale, J. G. M. Distinction. Kidston, R. R.	Credit. Cockett, C. B. Jenkins, Gwendolin Herd, Mary A. Lesslie, Mary E. Samson, C. M.	Gredit. Gardner, R. A. Mulvey, R. D. (2nd Year) Losslie, Mary E.

Bovce, R. C. M.

Perkins, G. W. H.

Paradise, Ilma M.

<sup>\*</sup> Evening Student.

Evening Students.

High Distinction.

Haddock, D. A. (3rd Year)

Johns, G. E. (2nd Year)

Distinction.

Clyne, T. J. (2nd Year)

Cousins, A. (3rd Year)

McNiven, W. S. (2nd Year)

Tonkin, W. H. (2nd Year)
Kelly, F. P.
Back, J. (3rd Year)
Keys, S. G.
Luke, A. V.
Wiseman, W.
Thomas, G. R. (2nd Year)
Harkness, B. C.

GEOLOGY I.

See Faculty of Science.

### The following have completed the First Year Examination :-

Abbott, J. P. Armstrong, Mary E. Barr, Dorothy M. Barrington, Mary \*Bates, J. H. Beale, J. G. M. Blacklock, Lydia Blanchard, J. R. Boyce, R. C. M. Boyer, R. J. F. Bootle, Bertha C. Burns, Jane F. \*†Cameron, Elizabeth Campbell, Annie E. I. Cavell, Elsie M. \*Clark-Duff, W. G. Clark, H. P. Cockett, C. B. Colville, A. B. Cotton, F. S. Conolly, Emily S. Dew, Mildred R. Edwards, Annie L. Erhard, Elsa Fergusson, Margaret W. Fitzherbert, J. A. Flannery, F. L. Frecker, E. W.

Ritchie, H. A.

M.

McKenzie, Margaret H.

Frederiksen, Selina B.

Frederiksen, Selina B. M. Gardner, R. A. \*Graham, I. L. Green, R. F. H. Hall, H. D. \*Hardwick, C. A. Herd, Mary A. Herbert, Constance I. \*Harrison, C. H. Hubble, Georgina T. Hughes, R. W. †\*Jarvie, T. W. Jenkins, Gwendolin Jones, J. H. Jones, R. J. E. V. Keller, L. F. \*Kelly, F. P. \*Keys, S. G. Kidston, R. R. \*Killip, J. H. Lance, A. L. Lesslie, Mary E. Lewers, Rachael D. Lipscomb, Winifred H. \*Lusby, J. M. Lyons, Kathleen G. \*McAlpine, G. W.

McDonald, K. D. McKenzie, Margaret H.. McNamara, Marion Maher, H. O. Moir, Catherine M. \*Montgomerie, F. N. \*Morling, G. H. \*Murray, J. E. Neale, Marie A. Orr, Mabel N. Paradise, Ilma M. Perkins, G. W. H. Ritchie, H. A. Samson, C. M. \*Selle, W. A. Sherwin, Margaret A. Shield, R. V. Simpson, B. G. C. \*Spaull, G. T. Stephen, A. C. Swan, Amv M. Taylor, Gladys E. Wallace, Marv Walsh, Ivy M. Waterhouse, Doris E. \*Waugh, J. Wingrove, Alice M.

### Order of Merit in Individual Subjects.

#### LATIN I.

Pass, December, 1910. Hughes, R. W.

Colville, A. B. A. B. Lesslie, Mary E. Jones, R. J. E. V.

McNamara, Marion Simpson, B. G. C. Jones, J. H. Boyer, R. J. F.

<sup>\*</sup> Evening Student.

#### Latin-continued. Murray, J. E. \*Christopherson, H. Lyons, Kathleen G. 1 Wingrove, Alice M. ) & Wallace, Mary Abbott, J. P. Taylor, Gladys E. Armstrong, Mary E. Green, R. F. H. \*Bartrop, W. E. G. Dew, Mildred R. Neale, Marie A. Herd, Mary A. \*Dickson, T. M. Fergusson, Margaret W. Pass, March, 1911. (Alphabetical). \*Ball, F. \*Clark-Duff, W. G. Rabett, N. B. L. Barrington, Mary Hodge, R. S. Sherwin, Margaret A. \*Bates, J. H. Hubble, Georgina T. Shield, R. V. Blacklock, Lydia \*Kelly, F. P. \*Spaull, G. T. Burns, Jane F. Lipscomb, Winifred H. Stephen, A. C. Butterworth, Nineveh R. | Maher, H. O. Walsh, Ivy M. GREEK I. Pass, December, 1910. Ritchie, H. A. McKenzie, Margaret H. | Conolly, Emily S. Lyons, Kathleen G. Hughes, R. W. Pass, March, 1911 (Alphabetical). i McDonald, K. D. Bates, J. H. PHILOSOPHY I. Pass, December, 1910 (Alphabetical). Blanchard, J. R. Gardner, R. A. Millar, N. S. Cavell, Elsie M. Green, R. F. H. Pugh, Constance M. Clark, H. P. Jones, J. H. \*Waugh, J. Flannery, F. L. Lewers, Rachel D. Pass, March, 1911 (Alphabetical). Racklyeft, R. C. | Swan, Amy M. PHILOSOPHY II. AND III. Pass, December, 1910 (Alphabetical). \*Keller, L. F. \*Harrison, C. H. †Walpole, G. A. \*Killip, J. H. \*Hindmarsh, P. MATHEMATICS I. Pass, December, 1910 (Alphabetical). \*Everingham, A. L. Armstrong, Mary E. †\*Cameron, Elizabeth \*Atkins, W. Campbell, Annie E. I. Flannery, F. L. Barr, Dorothy M. Gardner, R. A. Cavell, Elsie M. Green, R. F. H. \*Ball, F. Clark, H. P. \*Bartrop, W. E. G. Cockett, C. B. Hall, H. D. \*Bates, J. H. \*Clark-Duff, W. G. \*Hannay, K. \*Hardwick, C. A. Beaver, E. Dew, Mildred R. \*Harrison, C. H. \*Blanchard, A. G. \*Drew, Alice B. C. Boyer, R. J. F. Edwards, Annie L. Herbert, Constance 1. Burns, Jane F. Erhard, Elsa, †\*Hobden, A. R.

<sup>\*</sup> Evening Student.

<sup>+</sup> Unmatriculated.

Hodge, R. S.
Hubble, Georgina T.
Hughes, R. W.
Jones, J. H.
Jones, R. J. E. V.
\*Kelly, F. P.
\*Killip, J. H.
Lance, A. L.
\*Lecky, C. S.
\*Lecky, J.
Lewers, Rachael D.
Lipscomb, Winifred H.
\*Lusby, J. M.

Mathematics I.—continued.
McDonald, K. D.
\*McCrory, J.
McKenzie, Margaret H.
McNamara, Marion
Maher, H. O.
Millar, N. S.
Moir, Catherine M.
\*Morling, G. H.
\*Murray, J. E.
†\*Newton, W.
Orr, Mabel N.
Paradise, Ilma M.

Pugh, Constance M.
†\*Renouf, T. G.
†\*Reilly, W. J.
Ritchie, H. A.
Simpson, B. G. C.
Sherwin, Margaret A.
\*Spaull, G. T.
Stephen, A. C.
Swan, Amy M.
Taylor, Gladys E.
\*Waugh, J.
Wingrove, Alice M.

### Pass, March, 1911 (Alphabetical).

Blacklock, Lydia Butterworth, Nineveh R Jenkins, Gwendolin \*Keller, L. F. \*McAlpine, G. W. Neale, Marie A.

Perkins, G. W. H.

Racklyeft, R. C. Walsh, Ivy M.

#### ENGLISH I.

### Pass, December, 1910.

Moir, Catherine M. Waterhouse, Doris E. Lyons, Kathleen G. Colville, A. B. Kidston, R. R. Boyer, R. J. F. McKenzie, Margaret H. Perkins, G. W. H. Barr, Dorothy M. æq. Erhard, Elsa Jones, R. J. E. V. Shield, R. V. & eq. \*Lecky, J. Blacklock, Lydia McNamara, Marion

Kelly, F.P. Gombert, Renee (2nd Year) Waugh, J. Abbott, J. P. Killip, Elsie M. Fergusson, Margaret W. Dew. Mildred R. Herbert, Constance I. Wingrove, Alice M. Clark, H. P. \*Lusby, J. M. \*Harrison, C. H. \*Selle, W. A. Bootle, Bertha C. \*Killip, J. H.

Wallace, Mary Barrington, Mary Walsh, Ivy M. Jones, J. H. \*Keller, L. F. \*Christopherson, H. Conolly, Emily S. Lipscomb, W. H. Sherwin, Margaret A. Orr, Mabel N. \*Dickson, T. M. Taylor, Gladys E. Stephen, A. C. Lewers, Rachael D. Hubble, Georgina T. Simpson, B. G. C. †\*Harkness, B. C.

# Pass, March, 1911 (Alphabetical).

Burns, Jane F. †\*Cameron, Elizabeth Cavell, Elsie M. Gardner, R. A. \*Graham, I. L. Lance, A. L.

\*McAlpine, G. W.

\*McCrory, J.

McDonald, K. D.

Maher, H. O.

†\*Murphy, G. F. Pugh, Constance M. \*Spaull, G. T. Swan, Amy M. †\*Wilson, G. M.

<sup>\*</sup> Evening Student.

#### FRENCH I. Pass, December, 1910. Erhard, Elsa McNamara, Marion Flannery, F. L. Campbell, Annie Dew, Mildred R. Waterhouse, Doris E. E. I. Edwards, Annie L. Herd, Mary A. æq. Murray, J. E. Wallace, Mary Pass, March, 1911 (Alphabetical). Barr, Dorothy M. Jenkins, Gwendolin Perkins, G. W. H. \*Hannay, K. \*Keys, S. G. \*†Reilly, W. J. Herbert, Constance I. Orr, Mabel N. \*†Wilson, G. M. Hughes, R. W. Paradise, Ilma M. GERMAN I. Pass, December, 1910. Erhard, Elsa | Edwards, Annie L. | Waterhouse, Doris E. Pass, March, 1911 (Alphabetical). Campbell, Annie E. I. Lance, A. L. HISTORY I. Pass. December, 1910. Abbott, J. P. Blanchard, J. R. Neale, Marie A. Ross, H. E. C. Pass, March, 1911. Barrington, Mary | Keller, L. F. HISTORY II. EVENING STUDENTS.

### Pass, March, 1911. | Lusby, J. M.

Pass, December, 1910.

Hardwick, C. A.

Selle, W. A.

CHEMISTRY I.

Pass, December, 1910 (Alphabetical).			
	*Ball, F.	"Hindmarsh, P.	*McNiven, R. J. (2nd
	*Baxendale, J. (3rd Yr.)	*†Hobden, A. R.	Yr.)
	*Bentley, E. (3rd Yr.)		*Neville, J. (2nd Yr.)
	*Berman, F. T. (3rd Yr.)	*Leaver, H. (2nd Yr.)	*†Renouf, T. G.
	*Crapp, P. F.		*Sheppard, W. J. (2nd
	*Drew, Alice B. C.	<b>Yr.</b> )	Yr.)
	*Gallagher, F. J. E. (2nd		*Spaull, G. T.
	$\mathbf{Yr.}$ )	*McKenzie, A. D.	*†Walpole, G. A.
	*Harrison, C. H.		*Waugh, J.

Pass, March, 1911 (Alphabetical). Swan, Amy M.

†Wilson, G. M.

\*Jarvie, T. W.

McCrory, J.

\*Killip, J. H.

Watts, Ethel L., B.A.

| Montgomerie, F. N.

<sup>\*</sup> Evening Student

<sup>†</sup> Unmatriculated.

#### EVENING STUDENTS.

### Pass, December, 1910 (Alphabetical).

Beale, J. G. M.
Beaver, E.
Blacklock, Lydia
Bootle, Bertha C.
Bulteau, A. W. J. (3rd
Year)

Burns, Jane F.

Clark, H. P.
Dew, Mildred R.
Fergusson, Margaret W.
Hall, H. D.
Hubble, Georgina T.
Kidston, R. R.
Maher, H. O.

McTiernan, E. A. F. (2nd Year) Samson, C. M. Stacy, B. V. (3rd Year)

Stacy, B. V. (3rd Year) Stephenson, J. H. (2nd Year) Wingrove, Alice M.

Pass, March, 1911 (Alphabetical.)

†Cameron, Elizabeth Everingham, A. L. †Jarvie, T. W. Morling, G. H. Short, Edith E. | Woodward, H. M. (2nd | Year)

### GEOLOGY I.

# Pass, December, 1910 (Alphabetical).

Barr, Dorothy M.
Blanchard, J. R.
Bootle, Bertha C.
Boyce, R. C. M.
Campbell, Annie E. I.
Cavell, Elsie M.
Conolly, Emily S.
De Low, Daphne D.
(2nd Year)

Barrington, Mary Lacey, E. F. Orr, Mabel N. Edwards, Annie L.
Herbert, Constance I.
Herd, Mary A.
Hodge, R. S.
Jenkins, Gwendolin
Jones, R. J. E. V.
Lewers, Rachael D.
Lipscomb, Winifred H.
Lyons, Kathleen G.

McDonald, K. D.
Neale, Marie A.
Paradise, Ilma M.
Schleicher, Ruth C.
Simpson, B. G. C.
Taylor, Gladys E.
Wallace, Mary
Waterhouse, Doris E.
Wise, Dorothy (2nd Yr.)

Pass, March, 1911 (Alphabetical).

Racklyeft, R. C. Richardson, S. R. W. (2nd Year)

Sherwin, Margaret A. Stephen, A. C. Walsh, Ivy M.

### PHYSICS I.

### Pass, December, 1910.

| Ritchie, H. A.

Samson, C. M.

Pass, March, 1911 (Alphabetical).

Green, R. F. H.

Lance, A. L.

Shield, R. V.

# FACULTY OF ARTS.

# SECOND YEAR EXAMINATION.

December, 1910, and March, 1911.

Cooper Scholarship No. 1 For Classics—Not awarded.

GARTON SCHOLARSHIP NO. II. FOR FRENCH AND GERMAN-Constance E Watson. BARKER SCHOLARSHIP NO. I. AND NORBERT QUIRK PRIZE FOR MATHE-\*H. J. Meldrum, B.Sc. MATICS-S. E. Peirce (Sci.) A. J. Robson (Sci.) Professor Anderson's Prize for Philosophy II:—\*G. R. Thomas. D. M. Smith (prox. acc.) PROFESSOR WOOD'S PRIZE FOR HISTORY-C. H. Currey. LATIN II. GERMAN II. FRENCH II. High Distinction. High Distinction. High Distinction. Chisholm, A. R. (3rd | Watson, Constance E. Watson, Constance E. Year) Credit. Credit. Credit. Gombert, Renée Grieve, Dora Gasteen Elsie F., ) Grieve, Dora Pitt. W. McI. Meares, Nellie D. MATHEMATICS II. Oakey, Dorothy M. PHILOSOPHY II. AND: High Distinction. III. \*Meldrum, H. J. B.Sc. High Distinction. GREEK II. Peirce, S. E. \*Thomas, G. R. Credit. æq. (Sci.) Smith, D. M. Meares, Nellie D. Robson, A. J. Pitt, W. McI. Distinction. (Sci.) Miller-Hermes, Rache-Distinction. R. ENGLISH II. Bourne, C. A. \*Ranson, Marion (Eng.) \*Cameron, R. G. Distinction. \*Johns, G. E. Currey, C. H. \*Tonkin, W. H. Wise, Dorothy PHILOSOPHY I. Docker, Constance I. B. Credit. Wilson, Jane E. M. L. Distinction. Joseph, Marie F.

Burgmann, E. H.

Bardon, R.

\*Potter, F.

Stephenson, J. H.

Credit.

Packham, Cecily F.

<sup>\*</sup> Evening Student.

HISTORY II.

Currey, C. H. Eldridge, F. B. Crago, Violet E.

Distinction.

Docker, Constance I. B.

Gray, W. J.
Richardson, S. R.

Credit.

Houison, Laura O.

HISTORY I.

Distinction.
Gombert, Renée

The following
\*Andrew, Gertrude
Austin, Elsie M.
Barber, Minnie
Bardon, R.

Beresford, M. J. de La

P.
Bergin, Evangeline A.
\*Bourke, C. A. R.
Burgmann, E. H.
\*Cameron, R. G.
Cahalan, E. B.
\*Clough, H. L.
\*Clyne, T. J.
Currey, C. H.
Crago, Violet E.
De Low, Nellie D.
Docker, Constance I. B.
Donaldson, C. B.

Dunstan, Dorothy F. Eldridge, F. B. \*Fischer, E. F. Gale, Kathleen W. \*Gallagher, F. J. E. Gasteen, Elsie F.

Gombert, Renée

Credit. Meek, R. W.

EVENING STUDENTS.
High Distinction.
Harris, H. L.

Distinction. Greaves, J. W. Andrew, Gertrude

EDUCATION.
High Distinction.
Smith, D. M.
Distinction.
\*Breakwell, E., B.Sc.
Duncan, Annie B., B.A.

Renée \*Lennard, W. \*Johns, G. E

The following have passed the Second Year Examination:—

Gertrude | \*Gormley, Ella M. | Oakey, Dorol

Grieve, Dora \*Greaves, J. W. Gray, W. J. \*Harris, H. L. Hollingdale, E. T. Houison, Laura O. Joseph, Marie F. \*Layh, Lilian Lewis, Martha J. Lonsdale, L. M. Lodder, Ida Macdonald, Flora A. \*McKenzie, J. G. \*McNiven, W. S. \*McNiven, R. J. McTiernan, E. A. F. Machin, J. Meares, Nellie C. D. Meek, R. W. Miller-Hermes, Rachel R.

Mulvey, R. D.

\*Munro, W.

\*Neville, J.

Order of Merit in Individual Subjects.

LATIN II. Pass, December, 1910.

| \*Andrew, Gertrude

Credit.
Austin, Elsie M.
\*Gallagher, F. J. E.

CHEMISTRY I.
See under First Year
Arts.

GEOLOGY I. See under First Year Science.

CHEMISTRY II.
High Distinction.
\*Johns, G. E.

Oakey, Dorothy M. Packham, Cecily F. Pauss, Olga M. Petrie, H. W. Pitt, W. McI. \*Ranson, Marion Richardson, S. R. W. Robinson, Oovey J. Rofe, W. J. F. \*Sheehy, T. \*Sheppard, W. J. Slade, C. S. Smith, D. M. Smith, W. H. Stephenson, J. H. \*Thomas, G. R. \*Tonkin, W. H. von Hagen, C. J. Watson, Constance E. Williams, D. Wilson, Jane E. M. L. White, Constance E. Wise, Dorothy \*Willcocks, H. P.

McTiernan, E. A. F.

Williams, D.

\* Evening Student.

Slade, C. S.
Cahalan, E. B.
Petrie, H. W.
Smith, W. H.
Burgmann, E. H.
Bergin, Evangeline A.

Grieve, Dora Mulvey, R. D. Miller-Hermes, Rachel R. Gray, W. J.

Dunstan, Dorothy F. Desmond, A. T.

Beresford, M. J. de La P Austin, Elsie M. Wise, Dorothy Rofe, W. J. F. Meek, R. W.

LATIN I.

Robinson, Ovey J. Packham, Cecily F.

Gale, Kathleen W.

LATIN II.

Pass, March, 1911 (Alphabetical.)

Barber, Minnie
De Low, Nellie D.
Docker, Constance I. B.
Hollingdale, Eustace T.

Lewis, Martha J. Macdonald, Flora A. \*McKenzie, J. G. Machin, J. Pauss, Olga M. \*Sheehy, T.

LATIN I.

Pass, March, 1911.

Houison, Laura O.

GREEK II.

Pass, December, 1910.

Lonsdale, L. M.

Burgmann, E. H.

ENGLISH II.

Pass, December, 1910.

\*Thomas, G. R.
Watson, Constance E.
Smith, D. M.
Crago, Violet E.
Williams, D.
Slade, C. S.
\*Harris, H. L.
\*McNiven, R. J.
\*Andrew, Gertrude
Dunstan, Dorothy F.
Bardon, R.
Miller-Hermes, Rachel

\*Layh, Lilian Arnold, G. P. Houison, Laura O. \*McNiven, W. S. Pitt, W. McI. De Low, Nellie D. \*Clyne, T. J. \*Ranson, Marion Austin, Elsie M. Lodder, Ida \*Munro, W.

Hill, Eleanora D.
Cahalan, E. B.
Joseph, Marie F.
Eldridge, F. B.
\*Cantello, G. A.
White, Constance E.
Meek, R. W.
\*Neville, J.
\*Greaves, J. W.
Robinson, Ovey J.
\*Tonkin, W. H.

ENGLISH I.

Gombert, Renée

ENGLISH II.

Pass, March, 1911 (Alphabetical).

\*Clough, H. L. Cusack, Margaret \*Fischer, E. F. Gale, Kathleen W. \*Hardwick, C. A. Hollingdale, E. T. Macdonald, Flora A. Oakey, Dorothy M. Pauss, Olga M. \*Potter, Fred Rofe, W. J. F. \*Sheehy, Theophilus Von Hagen, C. J.

<sup>\*</sup> Evening Student.

#### ENGLISH I.

Pass, March, 1911 (Alphabetical).

\*McKenzie, J. G.

Richardson, S. R. W.

#### FRENCH II.

Pass, December, 1910.

Stephenson, J. H. Petrie, H. W. \*Harris, H. L.

\*Gallagher, F. J. E.

FRENCH I. Crago, Violet E.

#### FRENCH II.

Pass, March, 1911 (Alphabetical).

Donaldson, C. B. Gale, Kathleen W.

Lewis, Martha J. Oakey, Dorothy M.

Packham, Cecily F. Wilson, Jane E. M. L.

FRENCH I. Pass March, 1911. Eldridge, F. B.

GERMAN II.

Pass, December, 1910. Machin, J.

> Pass, March, 1911. Arnold, G. P.

GERMAN I.

Pass, March, 1911. Barber, Minnie

MATHEMATICS II.

Pass, December, 1910. Gasteen, Elsie F.

#### PHILOSOPHY II. AND III.

Pass, December, 1910 (Alphabetical).

\*Chalmers, S. G.
Clough, H. L.

Currey, C. H. Gray, W. P.

\*Greaves, J. W.

\*Hardwick, C. A. \*Laws, J. H.

\*Layh, Lilian \*McNiven. W.

\*Moore, Olive

Mulvey, R. D.

\*Neville, J. Richardson, S. R. W. Smith, W. H.

\*Willcocks, H. P.

Pass, March, 1911 (Alphabetical).

\*Fischer, E. F.

Machin, Jonathan

<sup>\*</sup>Evening Student.

#### PHILOSOPHY I.

Pass, December, 1910 (Alphabeti	icai).
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Dunstan, Dorothy F. Page, C. G. Thompson, V. W. Petrie, H. W. Williams, D. Lodder, lda Meares, Nellie D. Slade, C. S. Wilson, Jane E. M. L.

#### PHILOSOPHY I.

Pass, March, 1911 (Alphabetical). Donaldson, C. B. | Von Hagen, C. J. | Rofe, W. J. F.

#### HISTORY II.

Pass, December, 1910. \*Greaves, J. W. \*Andrew, Gertrude Layh, Lilian \*Fischer, E. F. \*Harris, H. L. Order of Merit. Macdonald, Flora A. \*Munro, W. \*Gormley, Ella M. \*Cantello, G. A. \*Kendall, L. G. \*Sheppard, W. J. æq. \*Laws, J. H. White, Constance E. \*Sheehy, T. \*Clough, H. L. Smith, W. H. \*Cusack, Margaret

#### HISTORY 1.

Bergin, Evangeline A. Robinson, Oovey J. Lewis, Martha J. ) Cummings, V. G. Bardon, R.

#### EDUCATION.

#### Pass, December, 1910 (Alphabetical).

Bergin, Evangeline A. \*Kendall, L. G. \*Meldrum, H. J. \*Clyne, T. J. \*McKenzie, J. G. \*Munro, W. Pass, March, 1911 (Alphabetical). Cummings, V. G. Lewis, Martha J.

GEOLOGY I. (See First Year Arts.)

Lonsdale, L. M.

#### GEOLOGY II.

Pass, December, 1910.

White, Constance E. Joseph, Marie F.

#### BIOLOGY I.

Pass, March, 1911 (Alphabetical).

Barber, Minnie Hill, Eleanora D.

ROMAN LAW, CONSTITUTIONAL LAW.

(See under Faculty of Law.)

<sup>\*</sup> Evening Student.

# FACULTY OF ARTS.

### THIRD YEAR EXAMINATION.

December, 1910, and March, 1911.

UNIVERSITY MEDAL FOR CLASSICS-G. L. Byth.

UNIVERSITY MEDAL FOR MATHEMATICS-Not awarded.

University Medal for Logic and Mental Philosophy-J. F. Bruce.

University Medal for French and German-A. W. J. Bulteau.

JAMES COUTTS SCHOLARSHIP FOR ENGLISH-J. F. Bruce.

FRAZER SCHOLARSHIP FOR HISTORY-J. F. Bruce.

PROFESSOR ANDERSON'S PRIZE FOR LOGIC AND MENTAL PHILOSOPHY— J. F. Bruce.

PROFESSOR MACCALLUM'S SPECIAL PRIZE FOR ENGLISH—K. M. H. Solomon.
HONOUR LISTS.

LATIN.	GREEK.	MATHEMATICS.
Honours.	Honours.	Honours.
Class I.	Class I.	Class I.
Byth, G. L.	Byth, G. L.	Smith, Catherine D.
Class III.	Class II.	(Sci.).
Gretton, Ethel M.	Blight, S. E.	Class II
Solomon, K. M. H.	Solomon, K. M. H.	
Blight, S. E.		Brown, W. R.
Maclardy, D. St. C.	FRENCH.	
ENGLISH.	Honours.	PHILOSOPHY.
	Class I.	Honours.
Class I.	Bulteau, A. W. J.	
Bruce, J. F.	Chisholm, A. R. j &	Class 1.
Solomon, K. M. H.	Class II.	Bruce, J. F.
Class II.	*Widmer, F. E.	*Shortland, L. J.
Burns, Dorothy	Class III.	Burns, Dorothy
Gretton, Ethel M.)	Lilley, Kathleen M.	Class II.
Stewart, Dorothea { æq.	•	*Fletcher, C. E. B.
L. )		*Mulholland, W. J.
Class III.	GERMAN.	*Berman, F. T.
Connell, Marion A.	Honours.	·
Watson, Evelyn A.	Class I.	Class III.
*McCredie, Jessie	Bulteau, A. W. J.	Jerrems, R.

<sup>\*</sup> Evening Student.

EDUCATION.  Honours.  Class II.  Chisholm, A. R.	Class II. *Mulholland, W. J.	Credit. Bulteau, A. W. J. *Berman, F. T. *Fletcher, Alice M.
Class III. Bulteau, A. W. J.  HISTORY.  Honours.  Class I.  Bruce, J. F.  *Cousins, A.  *Fletcher, C. E. B.    *Lennard, W.	PHILOSOPHY II. AND III. High Distinction. Bruce, J. F. *Shortland, L. J. Burns, Dorothy  Distinction.	Post Graduate.  PHILOSOPHY I.  Distinction.  Duncan, Annie B., B.A.  HISTORY II.  Distinction.  *McCredie, Jessie
*Lennard, W. McCredie, Gladys E.	*Fletcher, C. E. B. *Mulholland, W. J.	Credit. Philp, Doris M.
The following ha	ave completed the Third Year	Examination :— Patison, Irene M.

\*Back, J.

\*Baxendale, J. Beith, Janet A. R.

\*Bentley, E. G.

\*Berman, F. T.

Blight, S. E

\*Bowden, R. J. \*Brady, V. J. J.

\*Breakwell, E., B.Sc.

Brown, M. C. Brown, W. R.

Bruce, J. F.

\*Buckley, Cora R. Bulteau, A. W. J.

Burns, Dorothy Byth, G. L.

Chisholm, A. R. \*Clemens, W. F.

Connell, Marion A. \*Cousins, A.

\*Dyce, A. H.

\*Fletcher, Alice M.

\*Fletcher, C. E. B.

\*Gallagher, J. L.

\*Gibson, J.

Gretton, Ethel M. \*Haddock, D. A. Hill, Ethel L.

Hughes, R. F.

\*Jerrems, R. \*Lennard, W.

\*Leroy, A. E. Lilley, Kathleen M.

Lillingston, Jessie M.G. Lloyd, A. S.

Lucas, C. R. McAdam, F. V. McCredie, Gladys E.

\*McCredie, Jessie \*McIlwraith, J.

\*Mcllwraith, W. D. McKern, A. S.

Maclardy, D. St. C. \*Maguire, M. J.

Maiden, Acacia D.

\*Mallett, T. R. Markwell, Gladys E.

\*Mulholland, W. J.

\*Oakes, A. W.

A.

Philp, Doris M.

\*Porter, G.

\*Priestley, Louie

Purnell, Lily C.

Rich, C. E. Roberts, Mabel B.

Roxburgh, N. W.

Saunders, Pearl M. Schleicher, Dorothy C.

Μ. Sharp, P. J.

\*Shortland, L. J.

Simpson, E. T.

Simpson, R. I. Sinclair, C. W.

Solomon, K. M. H.

Stacy, B. V. Steel, J. B. V.

Stewart, Dorothea L. Street, K. W.

\*Tait, E. W.

\*Teasdale, F. V.

Watson, Evelyn A

\*Widmer, F. E.

#### Order of Merit in Individual Subjects.

LATIN III.

Pass, December, 1910.

| \*Oakes, A. W.

Brown, W. R.

Hill, Ethel L.

```
Latin III .- continued.
Lloyd, A. S.
                          Hughes, R. F.
                                                   *Gallagher, J. L. } æq.
                                             æa
McAdam, F. V.
                          Steel, J. B. D.
                                                   Brown, M. C.
Rich, C. E.
                          Stewart, Dorothy L.
                          *Porter, G.
                                                   Lucas, C. R.
                                LATIN II.
                             Chisholm, A. R.
                                LATIN III.
                       Pass, March, 1911 (Alphabetica1).
Clemens, W. F.
                          Purnell, Lily C.
                                                   Watson, Evelyn A.
Maiden, Acacia D.
                         Saunders, Pearl M.
                                 LATIN II.
                             Roberts, Mabel B.
                               GREEK III.
                            Pass, December, 1910.
                                                Maclardy, D. St. C.
             Steel, J. B. V.
                               ENGLISH III.
                            Pass, December, 1910.
*Haddock, D. A.
                          Hadley, Enid L.
                                                    Carter, Beatrice F.
McCredie, Gladys E.
                          *Leroy, A. E.
                                                    Blight, S. E.
Sinclair, C. W.
                                                    *Cousins, A.
                          Schleicher, Dorothy
                                                    Lilley, Kathleen M.
*Priestley, Louie
                               C.M.
                                                    Purnell, Lily C.
*Fletcher, C. E. B.
                          Smyth, Sybil R.
*Lennard, W.
                          *Bentley, E. G.
                                                    *Allen. W. V.
                                            æq.
Lloyd, A. S.
                          *Bowden, R. J.
                                                    *Mulholland, W. J.
                          *Brady, V. J. J.
                                                    Sharp, P. J.
*Back, J.
                          *Berman, F. T.
                                                    Philp, Doris M.
Patison, Irene M.
*Widmer, F. E.
                          *Buckley, Cora R.
                                                    Roberts, Mabel B.
                                                    *Gibson, J.
*Dyce, A. H.
                          McKern, A. S.
                          *Mallett, T. R. )
*Maguire, M. J.
                                                    Saunders, May A.
                                           æq.
                          *Porter, G.
                                                    Simpson, E. T.
                          *Fletcher, Alice M.
                                                    *McIlwraith, J.
                                                    *Baxendale, J.
                          Maiden, Acacia D.
                               ENGLISH II.
*Haddock, D. A.
                         l Lucas, C. R.
                                                   *Widmer, F. E.
                              ENGLISH III.
                       Pass, March, 1911 (Alphabetical).
Brown, M. C.
                          Lillington, Jessie M. G. |
                                                   Mackay, Helen E.
Beith, Janet A. R.
                          *McIlwraith, W. D.
                                                    *Teasdale, F. V.
```

#### ENGLISH II.

\*McDarra, G.

Roxburgh, N. W.

| Saunders, Pearl M.

FRENCH III.

Pass, December, 1910.

\*Shortland, L. J. Patison, Irene M.

Burns, Dorothy \*Dyce, A. H.

\*Gibson, J. Street, K. W.

FRENCH II.

\*Gallagher, J. L.

#### FRENCH III.

Pass, March, 1911 (Alphabetical).

Hill, Ethel L. \*Jerrems, R. McAdam, F. V. Markwell, Gladys E. Rich, C. E.

Roberts, Mabel B. Watson, Evelyn A.

FRENCH II.

\*Fletcher, Alice M.

GERMAN III.

Pass, December, 1910.

Schleicher, Dorothy C. M.

Lilley, Kathleen M.

#### MATHEMATICS III.

Pass, December, 1910 (Alphabetical).

Connell, Marion A. \*Gibson, J.

Markwell, Gladys E.

\*Teasdale, F. V.

### LOGIC AND MENTAL PHILOSOPHY II. AND III. Pass, December, 1910 (Alphabetical).

\*Back, J.

\*Baxendale, J.

\*Bentley, E. G.

\*Bowden, R. J. \*Brady, V. J.

Brown, M. C.

Brown, W. R. \*Buckley, Cora R.

Byth, G. L.

Chisholm, A. R.

Beith, Janet A. R.

\*Clemens, W. F. \*Gallagher, J. L. \*Giltinan, R.

Hill, Ethel L. \*Jerrems, R.

\*Johnson, J. S.

McCredie, Gladys E. \*McCredie, Jessie McKern, A. S.

\*Maguire, M. J.

\*Mallett, T. R. Markwell, Gladys E. \*Oakes, A. W.

\*Porter, G. \*Redshaw, S. Sharp, P. J.

Sinclair, C. W. Smyth, Sybil R. Steel, J. B. V.

Street, K. W.

Pass, March, 1911 (Alphabetical).

| Lillingston, Jessie M. G. | \*Mcllwraith, W. D.

#### PHILOSOPHY I.

Rourke, Lillie A., B.A.

\*Tait, E. W.

<sup>\*</sup> Evening Student.

#### EDUCATION.

	Pass, December,	1910	(Alphabi	stical)
*T ' A TT	+446-11	TT T	TO CL	1 4 7

\*Dyce, A. H. \*Giltinan, R.

\*Haddock, D. A.

4040 (41 : - ${
m *Meldrum, H.\ J..\ B.Sc.}$ 

\*McIlwraith, J.

\*Priestley, Louie \*Widmer, F. E.

#### Graduates.

Pass (Alphabetical).

Bussmann, F., B.A. Evans, Sara, B.A. Leaver, J., B.A.

Roberts, W., B,A. Rourke, Lillie, B.A. Smith, Eleanor, B.A. Small, Ethel E., M.A. Watts, Ethel L., B.A. Woodlands, Mabel, B.A.

Pass. March, 1911 (Alphabetical).

\*Allen, W. V. \*Leroy, A. E. \*Owen, T. A.

| Saunders, Pearl M.

#### HISTORY II.

#### Pass. December (Order of Merit), 1910.

\*Breakwell, E., B.Sc. Connell, Marion A. )

\*Maguire, M. J. \*Allen, W. V. Rich, C. E.

Hughes, R. F. \*Clemens, W. F.

\*Priestley, Louie

McKern, A. S.

Carter, Beatrice F. \*Leroy, A. E.

\*Tait, E. W. \*Oakes, A. W.

\*Buckley, Cora R. \*Giltinan, R. æq. \*Mallett, T. R.

Sharp, P. J. \*McÍlwraith, W. D. \*Owen, T. A.

Simpson, E. T. \*Brady, B. J. J.

\*McIlwraith, J.

#### HISTORY I.

Pass, December, 1910. Bowden, R.

#### BIOLOGY I.

Pass, December, 1910 (Alphabetical).

Hughes, R. F.

Stewart, Dorothea L.

pass, March, 1911. Maiden. Acacia D.

#### GEOLOGY III.

Hadley, Enid L.

Pass, December, 1910 (Alphabetical).

Philp, Doris M.

Saunders, May A.

Pass March, 1911 (Alphabetical).

Mackay, Helen E.

Purnell, Lily C.

LAW SUBJECTS.

(See under Faculty of Law,)

<sup>\*</sup> Evening Student.

# FACULTY OF ARTS.

# M.A. EXAMINATION.

SCHOOL OF CLASSICAL PHILOLOGY AND ANCIENT HISTORY

GREEK AND LATIN LITERATURE.

Honours.

Class I .- Schleicher, B. M. J.

LATIN LITERATURE.

Pass.

Davies. Edith M.

SCHOOL OF MODERN LITERATURE.

ENGLISH.

Honours.

Class I.-Mackaness, G.

Pass (Alphabetical).

Lewis. Enid de Save

Lion, Rosine

'

FRENCH.
Pass.

Mote, L. C.

SCHOOL OF MODERN HISTORY.

Honours.

Class I .- Morley, Muriel V.

Class II. (alphabetical).

Flower, Emily M.

Meek, H. K.

SCHOOL OF LOGIC, MORAL, MENTAL AND POLITICAL PHILOSOPHY

EDUCATION.

Class I.—Middleton, R. J.

Pass.

Dart, G.

ETHICS.

Pass.

Schrader, C. P.

Thesis—Aristotle's Ethical, Political and Educational Ideals and Modern Standards.

# DEPARTMENT OF MILITARY SCIENCE.

#### December, 1910.

#### DIPLOMA IN MILITARY SCIENCE.

Distinction.

Roberts, G. A. Wootten, W. F.

Credit

Crichton, W. J. Shannon, M. R.

Pass (Alphabetical). Charlton, J. R. Cohen, H. F.

Class Lists in Individual Subjects.

MILITARY SCIENCE I.

(Strategy and Military History).

High Distinction.

Willis, H. H.

| Wootten, W. F.

Collins, C. R.

Distinction.

Lloyd, H. W.

Howell-Price, D. C. W.

Credit.

Smith, W. J. Logan, M. W. Shannon, M. R. Cohen, H. F.

Chaseling, J

Pass.

Bushell, E. H. Jacob, M. J. Roberts, G. A. Parker, B. F. Crichton, W. J. Hardie, J. L. Todd, A. C. R. Travers, R. J. A.

Sachs, W. J. Bourne, C. A. Charlton, J. R. Rowland, W. J.

Passed in Strategy.

Hamilton, J.

Rayson, H

MILITARY SCIENCE II.

(Imperial Defence and Military History.)

Pass (Alphabetical).

Bourne, C. A. Edmunds, J. N. Howell-Price, D. C. Jess, C. H. Lloyd, A. S. Long, S. A. Parker, B. F. Moore, D. Todd, A. Willis, H. H

#### MILITARY TOPOGRAPHY.

#### High Distinction.

Tilney, L. E. Gipps, H. D. L.

Hardie, J. L.

Lloyd, H. W.

# Distinction. Roberts, G. A.

# Credit.

Shannon, M. R. Carter, R. B. Sampson, V. Whinfield, J. R. S. Sachs, W. J. Logan, M. W.

#### Pass.

Cohen, H. F. Smith, W. J. Jacobs, M. Dignam, A. R. Ashcroft, R. G. B. Crighton, W. J. Bushell, E. Todd, A. C. R. King, R. G. Howell-Price, D. C. Chester, J. L. Patterson, G. H.

Bourne, C. A. Charlton, J. R. Rayson, H. Hamilton, J. Somerville, G. C.

#### MILITARY ENGINEERING.

#### Distinction.

Frecker, E. W.

Jess, C. H.

Long, S. A.

Credit.

Chester, J. L. Edmonds, J. N. Lloyd, H. W.

Smith, M. P.

#### Pass.

Bushell, E. H. Hardie, J. L. Howell-Price, D. C. W. Pike, W. E. Pye, C. Todd, A. C. R. Wayland, S. C.

# DEPARTMENT OF ECONOMICS AND COMMERCE.

#### ECONOMICS AND COMMERCE I.

Mr. H. Y. Braddon's Prize for Business Methods—J. G. Lee  ${\rm T.~N.~Rickard~}$   $\}$  eq.

# Pass, December, 1910.

Rickard, T. N. Salmon, N. L. Lancaster, J. E. Jones, F. W. Cavell, Linda M. Wheaton, F. F. George, R. F. Lee, J. G.

Cox, P. P. Marx, R. A. Williams, F. A.

Credit. Bartlett, H. J. Sheehy, E. J.

Rodgers, F. F. Staples, E. H.

Brierley, A. N. Kennedy, H. Pass. | Casson, A. J. T.

Anderson, S. T

Passed in Accountancy.
Townshend, S. E.

# ECONOMICS AND COMMERCE II.

Pass, December, 1910. Distinction.

Waites, T. Craigie, W.

Day, W. O. C. Harbutt, R. E. Webb, A. M.

Credit.

Merrett, J. Doyle, W. S. H. Haigh, V. Golledge, H. W Clifford, C. W. P. Dawson, R. C.

Pass.

Murphy, J. Scrutton, R. le N. Goodman, G. C. Cox, W. B. Henderson, A. G. Stillman, W. H. Moffitt, T. W. Trotter, J. Donaldson, C. B.

Passed in Economics. Eldridge, J. C.

Passed in Accountancy.
Townshend, S. E.

#### ECONOMICS AND COMMERCE III.

CHAMBER OF COMMERCE PRIZE-F. J. Docker.

MR. R. F. IRVINE'S PRIZE FOR ECONOMICS III,-F. J. Docker.

Pass, December, 1910.

Distinction.

Docker, F. J.

Credit.

Beardmore, F. J. Herlihy, F. J. Swain, Edith M. M., B.A. | McDonald, H. L. Hicks, G. C.

Pass.

Hancock, E. C.

Eade, H. A.

Pass, March, 1911. Leifermann, C. H.

# POST-GRADUATE SCHOLARSHIPS AND PRIZE COMPOSITIONS.

SCIENCE RESEARCH SCHOLARSHIP GIVEN BY THE ROYAL COMMISSIONERS OF THE EXHIBITION OF 1851.—W. N. Benson, B.Sc.

Barker Graduate Scholarship for Mathematics—Fanny Cohen, B.A., B.Sc.

WOOLLEY SCHOLARSHIP FOR CLASSICS AND PHILOSOPHY—B. Muscio, B.A.

University Medal for English Verse-Rosine Lion, B.A.

WENTWORTH PRIZE FOR GRADUATE'S ENGLISH ESSAY-C. K. Allen, B.A.

BEAUCHAMP PRIZE FOR AN ENGLISH ESSAY-C. K. Allen, B.A.

PROFESSOR ANDERSON'S MEDAL FOR A PHILOSOPHICAL ESSAY—B. Muscio, B.A.

NICHOLSON MEDAL FOR LATIN VERSE-A. R. Chisholm.

FREDERICK LLOYD MEMORIAL PRIZE FOR A LATIN ESSAY-A. R. Chisholm,

# FACULTY OF LAW.

# INTERMEDIATE LL.B. EXAMINATION. March, 1911.

WIGRAM ALLEN SCHOLARSHIP FOR THE SUBJECTS OF SECTION I.— Nimmo, W. M., B.A. Blanksby, H. R., B.A.

PITT COBBETT PRIZE FOR CONSTITUTIONAL LAW.—Blanksby, H. R., B.A. GEORGE AND MATILDA HARRIS SCHOLARSHIP FOR THE SUBJECTS OF SECTION II.—

H. H. Mason.
H. S. Utz, B.A.
C. A. Weston, B.A.

prox. acc.
æq.

# SECTION I.

# (ROMAN LAW AND CONSTITUTIONAL LAW).

#### Pass (Order of Merit).

Nimmo, W. M.,
B. A.
Blanksby, H. R.
B. A.
Biddulph, L. H.
Collier, C. T.

Stacy, B. V.
Howard, G. C.
McLelland, H. W.
Ranson, J. R., B.A.
Chedgey, H. V.

Simpson, R. I., B.A.
Simpson, E. T.
Ferguson, B. H.
Terrey, L. C.
Roxburgh, N. W.

#### CONSTITUTIONAL LAW.

#### Pass.

Lloyd, A. S.

Lucas, C. R.

McTiernan, E. A.

# ROMAN LAW.

#### Pass.

Beresford, M. J. de la P. Cahalan, E. B. Hollingdale, E. T.

Tait, E. W. Patrick, R. A.

Sheppard, W. J. Bourke, C. A. R.

#### SECTION II.

(PUBLIC INTERNATIONAL LAW, JURISPRUDENCE, AND ELEMENTS OF POLITICAL SCIENCE).

#### Pass (Order of Merit).

Mason, H. H.
Utz, H. S., B.A.
Weston, C. A, B.A.

Waston, C. A, B.A.

Mason, H. H.
B. A.
Cohen, C. H., B.A.
Wray, C. D. W.

Fuller, B. C.
Swan, W. J.
Cullen, G. F.

# FACULTY OF MEDICINE.

### FIRST DEGREE EXAMINATION.

RENWICK SCHOLARSHIP FOR GENERAL PROFICIENCY IN THE SUBJECTS OF THE EXAMINATION—N. M. Gregg.

#### Pass, December, 1910 (Alphabetical).

Allen, C. W. G. Anderson, J. T. Aspinall, A. E. Barbour, E. P. Buss, R. C. S. Burton, R. N. Byrne, K. Carruthers, B. M. Coghlan, C. C. Curtis-Elliott, F. C. Dark, E. P. Davidson, A. M. Dean, A. W. Digby, J. L. Donovan, C. O. G. Douglass, C. N. Fenwick, W.

Bamber, L.
Blashki, E. P.
Brown, K. S. M.
Browne, D. J.
Davis, D. A. A.
Edwards, W. A.
Gardiner, S. S.
Hill, G. F.
Hunter, L. J.

Gregg, N. M. Grey, E. C., B.Sc. Grev, F. T., B.A. Harris, C. M. Haynes, R. J. Henderson, J. K. Huxtable, C. R. R. Jones, J. T. Langan, A. N. Morgan, I. Murphy, P. J. North, H. M. Nve, L. J. J. O'Regan, S. V. O'Reilly, Olive K. Page, W. R.

Parkinson, P. S. Rae, R. K. Railton, S. A. Ridler, H. A. Roberts, A. T. Sandbrook, E. A. Silberthau, R. J. Shand, J. C. Stewart, J. Tanko, C. Tooth, H. L. Thomas, A. C. Voss, Dorothy M. Wall, H. A. C. Winn, R. C. Zions, N.

#### Pass, March, 1911 (Alphabetical).

Laing, J. K. C. Lowe, G. B. McCaffrey, E. M. MacCulloch, J. R. Morris, P. A. Murray, A. W. G. Nisbet, A. T. H. Nott, L. W.

Randall, W. H. N. Raymond, A. W. Richards, R. W. Rivett, Amy C. Sandford, Elma L. Saunders, J. L. Trindall, R. B. Wade, B. G.

#### CLASS LISTS.

# CHEMISTRY I. Distinction.

Parkinson, P. S. Gregg, N. M. Morgan, I.

Nye, L. J. J. Winn, R. C. North, H. M.

O'Reilly, Olive K... Ridler, H. A. Thomas, A. C.

#### Credit.

Coghlan, C. C.
Burton, R. N.
Donovan, C. O. G.
Fenwick, W.
Jones, J. T.
O'Regan, S. V.

Voss, Dorothy M. Davidson, A. M. Page, W. R. Silberthau, R. J. Wall, H. A. C. Railton, S. A. Digby, J. L. Anderson, J. T. Buss, R. C. S. Dean, A. W. Grey, F. T., B.A. Tanko, C.

#### BIOLOGY I. AND PHYSICS I.

(See under Faculty of Science.)

# SECOND YEAR EXAMINATION

Lent Term. 1910.

#### APPLIED LOGIC.

#### Pass (Alphabetical).

Adams, C. G. Alcorn, A. Alcorn, R. M. Alexander, N. M. A. Anderson, C. Balls, R. Blomfield, C. R. Brown, W. S. Buchanan, A. L. Byrne, G. C. (3rd Year) Carter, R. B. Chapman, C. L. Clipsham, S. B. Clowes, A. S. Cohen, C. K. Davenport, P. A. C. Davis, T. R. E. Denham, H. K. Donald, W. H. Duhig, J. V. Duncan, G. M. Elworthy, R. E. Evans, W. Exton, Harriette M. Farrar, J. W. Flower, W. Fox, O. P. Graham, S. M. Greaves, F. W. B. Grieve, K. H.

Grieve, P. N. Hawthorne, W. S. Hay, G. M. Henry, C. Hudson, R. H. Hunter, J. G., B.Sc. Jamieson. J. I. M. Jekyll, A. C. A. Jensen, F. J. Jones, Maude S. Kelly, A. F. Kesteven, H. L., B.Sc. Kirkwood, N. E. B. Lane, R. C. Lilley, C. M. Lovejoy, R. A. McCarthy, F. J. Macdonald, W. J. McMaster, R. M. Malcolm, J. Manery, W. J. May, L. Meehan, A. V. Mellor, E. J. Meyers, E. S. Millett, W. L. Mitchell, P. W. Murphy, A. J. Nixon, R. J. O'Riordan, S.

Packer, N. E. Parkinson, C. K ... Parry, E. K. Pattinson, W. F. Pinhey, E. T. Pockley, B. C. A.. Potts, T. K. Power, J. J. Quessy, A. L. Rayson, H. Rosenthal, C. P. Royle, N. D. Smith, D. I. R. Snow, L. L. Stafford, A. L. Stafford, S. R. Sutton, M. G. Taylor, R. J. Thomas, F. S. Thomas, H. E. Thomson, R. M. Todd, A. C. R. Tozer, C. J. Welch, H. L. St. V ... Wesley, C. H. Whiting, C. W. Wiley, C. J. Wilson, B. G. Yeates, W. F. S.. Young-Wai, J..

# SECOND DEGREE EXAMINATION.

August, 1910.

#### ANATOMY AND PHYSIOLOGY.

JOHN HARRIS SCHOLARSHIP FOR ANATOMY AND PHYSIOLOGY-A. St. G. N. H. Burkitt.

> High Distinction. Burkitt, A. St. G. N. H. Distinction.

Brunnich, K. F. C. Fisher, E. M. Graham, R. V.	

Collins, A. J. Benjamin, A. McLelland, H. S. & æq.

Forbes, A. D.
Thompson, C. W.
Teece, L. G.

Bray, G. W.

Green, R. A. R.

Credit. Wassell, C. E. Bateman, J. E., B.Sc.

Gailagher, M.J. O'Reilly, M. F.

#### Pass (Alphabetical). ir. J. M.

Bray, G. W.	Hair, J. M.
Byrne, G. C.	Hardie, J.
Church, J. V.	Harris, H. R. J.
Coleman, A. H.	Hawthorne, H. L.
David, W. E.	Jackson, C. P.
Dunlop, A. T.	Lloyd, C. H.
Fallon, C. J.	McGregor, R. S.
Finlay, D. F.	Manning, G. E.
Fitzherbert, R. A.	Molesworth, C. S.
Gibson, N. M.	Norrie, H. F. J.
O D A D	,

North, R. B. Plant, H. F. H. Rattray, R. H. Renwick, G. A. Scott, J. H. V. Single, C. V. Stanton, A. M. Van Epen, T. W. Walsh, H. S. Willcocks, G. C.

# Pass, March, 1911 (Alphabetical).

Ardill, Katie Fetherston, L., B.A. Holloway, E. S. Kelly, P. J.

Kennedy, B. C. Kirkland, W. D. Lilley, E. M. Pigott, L. M.

Ross, C. C. Simmons, W. F. Slattery, M. J. Webb, J. E.

# THIRD DEGREE EXAMINATION.

August, 1910.

PATHOLOGY, SURGICAL ANATOMY AND OPERATIVE SURGERY. PARKINSON MEMORIAL PRIZE FOR PATHOLOGY-E. A. Tivey.

> High Distinction. Tivey, E. A. Maguire, F. A. Distinction. Smith, M. P. Metcalfe, J. B. Bridge, R. H. Chapple, A. T. Morris. E. S.

#### Credit.

Frizell, T. J. Hughes, L. H. æq. Tansey J. T. P. Shearman, C. H. Scot Skirving, A. W.

Aspinall, A. M. Blaxland, F. Beazley, R. N. Boulton, N. P. Bowman, R. McD. Chapman, A. J. P. Clatworthy, C. H. Dawson, A. L. Dawson, J.

Donaldson, J. E.

Brettingham-Moore, E. Burke-Gaffney, A. E. Burke-Gaffney, F. C. Curtis, P. M.

Inglis, W. K. æq. James, J. A. Mason, G. W. Kay, W. E.

Pass (Alphabetical).

Fletcher, W. M. A. Furber, T. M. Glissan, D. J. Halloran, G. R., B.Sc. Herlihy, J. D. R. Hittmann, F. C. B. Hodgkinson, H. R. Macdonald, Enid C. McDonnell, R. McKenzie, J. B. F.

Pass, December, 1910 (Alphabetical).

Findley, C. A. Fowler, C. W. Griffiths, N. Kenny, J.

Thompson, F. C. Northcott, C. H. Gibson, A. J. Vickery, K. F.

Macqueen, R. A. A. Mollison, A. J. Murphy, J. J. Pascoe, Elise V. Payne, P. H. Pye, C. R. A. Sabiel, F. H. Wallace, R. A. R. Watson, F. H.

McDonald, W. A. McKee, S. Walker, C. C. P.

### FINAL DEGREE EXAMINATION.

December, 1910.

UNIVERSITY MEDAL-B. T. Edye.

#### Honours at Graduation.

Class 1. Edye, B. T. McIntosh, A. M., B.A. Walker, A. S. Ward, H. K. aeq. Harrison, B. M. J.

Class 11. Barrow, I. M., B.A. Sear, H. R. Davis, N. J.

# SUBJECTS OF THE FINAL DEGREE EXAMINATION.

Distinction.

Edye, B. T.

#### Credit.

Walker, A. S. aeq. Ward, H. K. Holmes a Court. A. W. McIntosh, A. B.A. Harrison, B. J. M.

Clayton, H. J. Davis, N. J. Barrow, I. M., B.A. Martin, W. W. æq. Wooster, F. C. Thomson, E. G.

Pass (Alphabetical).

Berge, C. G. Clipsham, W. B. Fitzgerald, M. Fox, Edith E. Humphries, H. G. Jones, S. E. Lindeman, G. B.

Macartney, G. W. Pockley, F. G. A. McLean, A. L., B.A. Robertson, N. K. McLelland, R. E. Sear, H. R. Shellshear, W. G. Markwell, N. W. Norrie, G. Tait, L. G. Nowland, H. H. Turner, T. A. Parker, T. E. Weedon, S. H. Pass, June, 1910 (Alphabetical).

Blumer, G. A. Foy, L. H., B.E. Haynes, A. R.

Paul, C. N. Smyth, J. S.

Powell, J. W. G., B.A. Verge, C. A.

#### EXAMINATION FOR THE DEGREE OF M.D.

#### Pass, March, 1911

Griffiths, F. G., B.A., M.B. (Medicine).

Thesis: "Studies in pulmonary tuberculosis, its dissemination, specific diagnosis and treatment, and some points in its pathology."

# DEPARTMENT OF DENTISTRY.

# FIRST YEAR EXAMINATION.

Pass, December, 1910. Butler-Wood, Irene V.

# SECOND YEAR EXAMINATION.

Pass.

Magee, Eva K. Clifford, W. P. Douglass, G.

Goodall, A. A. Kendall, R. C. Lane, R. P.

†Moxham, D. Scott, C. F. Wallace, E. S.

Class Lists in Individual Subjects.
August, 1910.

ANATOMY AND DENTAL ANATOMY.

High Distinction. Lane, R. P.

Distinction. Wallace, E. S.

Credit.

Douglass, G. Scott, C. F.

Clifford, W. P. †Moxham, D. Kendall, R. C.

# THIRD YEAR EXAMINATION.

March, 1911.

Pass (Alphabetical).

Callaghan, A. A. Christiansen, F. E.

McMaster, W.

Sutton, A. F.

# FOURTH YEAR EXAMINATION.

Boulton, K. R.

Pass, December, 1910 (Alphabetical).

Bush, R. B.

Douglass, A.

Class Lists in Individual Subjects.

PATHOLOGY.

August, 1910.

Credit.

Bush, R. B.

† Unmatriculated.

# PHARMACY STUDENTS.

#### CHEMISTRY I. Pass, December, 1910 Distinction. Blackall, H. N. Murray, H. R. Ingamells, L. Edwards, N. Dwyer, G. Credit. O'Connor, J, J. Bradford, E. H. Sabiel, B. N. Barclay, F. E. Pass (Alphabetical). Crain, J. R. Matheson, R. A. Ross, G. R. Elliott, E. G. Matthews, J. D. Smith, L. W. Jones, W. E. Parkes, F. W. Uren, A. McGirr, J. Pidcock, T. E. Urquhart, G. L. Malone, L. Pye, E. J. D. Pass, March, 1911. Cains, R. H. Powell, R. CHEMISTRY INTRODUCTORY (ONLY). Pass, May, 1910 (Alphabetical). Cowell, N. G. G. | Hearne, F. | Uren, A. December, 1910. Vincent, E. G. March, 1911. Stevenson, S. CHEMISTRY, METALS (ONLY). Pass. August, 1910 (Alphabetical). Boyne, A. W. Cowell, N. G. | Hearne, F. Pass, December, 1910 (Alphabetical). Donald, W. T. McHugh, C. J. Ward, O. D. Green, T. E. Vincent, E. G. March, 1911. Harvey, S. W. McL. ORGANIC CHEMISTRY (ONLY). Pass, December, 1910 (Alphabetical). Cowell, N. G. G. Phillips, J. V. Holmes, J. G. Harvey, S. W. M. Miller, H. R. Rose, H. C. Pass, March, 1911 (Alphabetical).

· | Burnet, H. R.

| Vincent, E. G.

Boyne, A. McI.

#### CHEMISTRY, PRACTICAL (ONLY). Pass, 1910 (Alphabetical) Cowell, N. G. G. Miller, H. R.

BOTANY.

September, 1910.

Credit.

Murray, H. R. Edwards, N.

Reye, Alma

Truscott, P. Bradford, E. H. Blackall, H. N. Ingamells, L.

| O'Connor, J. J. Pass (Order of Merit).

West, F. V. Phillips, J. Malone, L. Sinclair, H. A. Pidcock, T. E.

Lilley, Kathleen M. Fowler, H. J. Mathews, J. D. Urquhart, G. L. Bailey, P. J.

| Sabiel, B. N.

December, 1910. Credit.

Stevens, G. C. W.

Pass (Order of Merit).

Fletcher, M. P. Boyne, A. M. Cowell, N. G. G. Hanton, W. J.

Kilburn, J. C. Miller, H. R. æq. Vincent, J. A.

March, 1911. Pass (Alphabetical).

Martin, R. C. Spencer, J. B. Winning, W. M.

Matheson, R. A.

MATERIA MEDICA.

December, 1910. High Distinction. Clarke, M. S.

> Distinction. McClean, J.

> > Credit.

Blackall, H. N. Urquhart, G. L. Tanner, L. A.

Attwater, C. M. Barclay, F. E. Bradford, E. H. Burnett, H. R. Cambourne, P.

Bailey, P. J. Cowell, N. G. G. Dwyer, G. Fowler, H. J.

Edwards, N. Fletcher, M. P.

Pass (Alphabetical).

Murray, H. R. O'Connor, J. J. Pidcock, T. E. Parkes, F. W.

Reye, Alma Sabiel, B. N. Sinclair, H. A. Spencer, J. B.

Ingamells, L.

Truscott, P.

Pass, Maren, 1911 (Aiphabetical).

McGirr, J. T. Matheson, R. A. Matthews, J. D. Oxenham, D. B. Small, N. P. Stevens, G. C. W. Uren, A.

# FACULTY OF SCIENCE.

# FIRST YEAR EXAMINATION.

### December, 1910, and March, 1911.

LEVEY SCHOLARSHIP FOR CHEMISTRY AND PHYSICS-+ A. Pain (ineligible). Awarded to-R. A. Gardner (Arts) W. E. Pike (Eng.) SMITH PRIZE FOR PHYSICS-Not awarded. SLADE PRIZE FOR PRACTICAL CHEMISTRY-G. E. Johns (Arts). University Prize for Geology—†A. Pain (ineligible)—Prize not awarded. PROFESSOR HASWELL'S PRIZE FOR ZOOLOGY.—C. Badham. THE COLLIE PRIZE FOR BOTANY-C. Badham. DR. WOOLNOUGH'S PRIZE FOR FIFLD NOTES IN GEOLOGY-+A. Plowman (ineligible)-Awarded to H. Wenholz (Agric. Sci.). PROFESSOR DAVID'S PRIZE FOR MICROSCOPE SLIDES-R. W. Lahey (Eng.) PROFESSOR HASWELL'S PRIZE FOR LABORATORY NOTEBOOK-†Annie J. Spencer (ineligible). Awarded to-Dorothea L. Stewart (Arts)) L. J. J. Nye (Med.) The following have completed the First Year Examination :-Alphabetical. †Pain, A. Badham, C. Smith, Esther L. Dunkley, A. M. †Pillans, W. Tearne, Donna M. Froggatt, J. L. †Plowman, A. Wardlaw, H. S. H. †Hood, S. J. Rice, C. T. Class Lists in Individual Subjects. CHEMISTRY I. High Distinction. †Pain, A. | †Hood, S. J. †Harding, H. G. A. Distinction. Dunkley, A. M. Wardlaw, H. S. H. †Pillans, W. Credit. Badham, C. Froggatt, J. L. Pass, December, 1910 (Alphabetical). †Bocking, Zillah †Plowman, A. Simonds, E. F., B.A. Lennox, F. W. Smith, Esther L. Rice, C. T. †Moore, H. J. Sandford, F. E.

† Not passing through the regular course.

Pass, March, 1911. Pattinson, May Tearne, Donna M. BIOLOGY I. High Distinction. Badham, C. Distinction. | Stephens, H. (Agric. Sc.) Gregg, N. M. (Med.) O'Regan, S. V. (Med.) Credit. Buss, R. C. S. North, H. M. (Med.) Thomas, A. C. Parkinson, P. S. (Med.) (Med.) (Med.) æq. Huxtable, C. R. R. Coghlan, C. C. Smith, Esther L. (Med.) (Med.) Morgan, I (Med.) Page, W. R. Wall, H. A. C. Burton, R. N. æa. (Med.) (Med.) (Med) Stewart, J. I Wardlaw, H. Grey, E. C., B.Sc. >æq. (Vet. Sci.) H. (Med.) Railton, S. A. Pass (Alphabetical). †Pain, A. †Spencer, Annie J. Pass, March, 1911. Froggatt, J. L. | Pattinson, May Tearne, Donna M. PHYSICS I. Distinction. Gardner, R. A. Colville, A. B. (Arts) Fitzherbert, J. A. (Arts) (Arts) æa. O'Regan, S. V. (Med.) Frecker, E. W. (Arts) Pike, W. E. (Eng.) Morgan, I. (Med.) Credit. Thomas, A. C. (Med.) †Pain, A. Parkinson, P. S (Med.) Gregg, N. M. (Med.) Wardlaw, H. S. H. Blumer, C. H. (Eng.) Dunkley, A. M. Railton, S. A. (Med.) Silberthau, R. J. (Med.) Pass (Alphabetical). †Moore, H. J. Badham, C. †Plowman, A. †Hood, S. J. †Pillans, W. Smith, Esther L. Pass, March, 1911. Rice, C. T. Froggatt, J. L. i Tearne, Donna M. GEOLOGY I. Distinction. †Pain, A. Gretton, Ethel Dunkley, A. M. (Arts) Pauss, Ölga M. (Arts) †Plowman, A.

<sup>†</sup> Not passing through the regular course.

Credit. Wardlaw, H.S.H. Blumer, C. H. Schleicher, Dorothy Wenholz, H. (Eng.) C. M. (Arts) Campbell, A. L. Rice, C. T. (Agric.) æq. †Hood, S. J. Stephens, H. (Eng.) Frederiksen, Selina, B. Cockett, C. B. (Agric. Sci.) M. (Arts) (Arts) Abbott, J. P. Patrick, R. A. (Arts) Cran, C. R. (Eng.) (Arts) Boyer, R. J. F. (Arts) Flannery, F. I

Pass, December, 1910 (Alphabetical).

Badham, C. Froggatt, J. L.

†Gallop, Lena F. W. †Pillans, William Simonds, E. F. †Spencer, Annie J.

#### MATHEMATICS I.

(For Honours List see under Faculty of Arts.)
Pass, December, 1910 (Alphabetical).

Dunkley, A. M. †Hood, S. J.

†Plowman, A.

Smith, Esther L.

MATHEMATICS I. Pass, March, 1911. Rice, C. T.

MATHEMATICS II.

Pass.

†Moore, H. J.

†Pillans, W.

# SECOND YEAR EXAMINATION.

CAIRD SCHOLARSHIP FOR CHEMISTRY—S. E. Peirce.

DEAS-THOMSON SCHOLARSHIP FOR GEOLOGY—A. D. Watson.

PROFESSOR DAVID'S PRIZE FOR GEOLOGY—A. D. Watson.

DEAS-THOMSON SCHOLARSHIP FOR PHYSICS—S. E. Peirce.

The following have completed the Second Year Examination :-

Briggs, E. A. Davis, S. J. G. Lewis, Adelaide E. Peirce, S. E. Perry, Mary C. Robson, A. J. Southee, E. A. Taylor, H. B. Watson, A. D.

Class Lists in Individual Subjects.

GEOLOGY II.

High Distinction.

Watson, A. D.

Davis, S. J. G.

Watson, A. D.

Taylor, H. B.

Davis, S. J. G.

Briggs, E. A.

Davis, S. J. G.

Lewis, Adelaide E.

Lewis, Adelaide E.

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Distinction.
                    Briggs, E. A.
                         Pass.
                    Perry, Mary C.
                  Pass, March, 1911.
                 Lewis, Adelaide E.
                   BIOLOGY
                                TT.
                        Credit.
                                     Little, Elaine M.
                  Pass (Alphabetical).
              Perry, Mary C.
                                          Southee, E. A.
                  CHEMISTRY II.
                    High Distinction.
†Harding, H. G. A.
                                     Peirce, S. E.
                      Distinction.
                    Robson, A. J.
                        Credit.
                                     Briggs, E. A.
                        Pass.
              Shand, J. C.
                                          Watson, A. D.
             Southee, E. A.
                  Pass, March, 1911
                   Perry, Mary C.
                MATHEMATICS II.
        (For Honours see under Faculty of Arts.)
                  Pass (Alphabe([:al).
                                     Southee, E. A.
                  Pass, March, 1911.
                    Taylor, H. B.
                    PHYSICS II.
                   High Distinction.
                     Peirce, S. E.
                      Distinction.
                    Robson, A. J.
                  Pass, March, 1911.
                    Taylor, H. B.
```

Pass. Simonds, E. F., B.A. †Not passing through the regular cours

PHYSIOLOGY I.

# THIRD YEAR EXAMINATION.

JOHN COUTTS SCHOLARSHIP-Catherine D. Smith.

DEAS-THOMSON MINERALOGY SCHOLARSHIP-Catherine D. Smith.

PROFESSOR DAVID'S PRIZE AND UNIVERSITY MEDAL FOR GEOLOGY—Catherine D. Smith-

PROFESSOR HASWELL'S PRIZE FOR BIOLOGY II.—H. H. Willis.

The following have completed the Third Year Examination :-

Blumer, R. C.
Debenham, F., B.A,

Flint, A. C.
Little, Elaine M.

Simonds, E. F., B.A. Smith, Catherine D.

Class Lists in Individual Subjects.

BIOLOGY.

Honours.

Class I. Willis, H. H. Class II. Little, Elaine M.

GEOLOGY III.

GEOLOGY AND MINERALOGY.

Honours at Graduation.

Class I.

Smith, Catherine D.

BIOLOGY III.

Credit.

Little, Elaine M.

BIOLOGY II.

High Distinction.

Willis, H. H.
Pass (Atchabetical).

Flint, A. C.

†Maclellan, Annette

CHEMISTRY III.

Pass (Alphabetical).

Blumer, R. C.

Debenham, F., B.A.

GEOLOGY III.

Pass.

Debenham, F., B.A.

Flint, A. C.

MATHEMATICS III.

(For Honours List see under Faculty of Arts.)

:Irregular Student.

# D.Sc. EXAMINATION.

# DEPARTMENT OF BIOLOGY.

#### Pass, March, 1911 (Alphabetical).

Johnston, T. H., B.Sc.—Thesis: "Studies on Australian Cestoda."

Kesteven, H. L., B.Sc.—Thesis: "The Constitution of the Gastropod Protoconch, its value as a Taxonomic feature, and the significance of some of its forms."

# DEPARTMENT OF VETERINARY SCIENCE.

# FIRST YEAR EXAMINATION.

WHITE PRIZE FOR GENERAL PROFICIENCY IN THE SUBJECTS OF THE EXAMINATION—J. R. Stewart.

The following have completed the First Year Examination: --Pass, December, 1910.

Davis, V. E. H. Finlay, G. F. Hindmarsh, W. L. Patten, R. A. Stewart, J. R. Veech, B. C. Walters, C. J. M.

Pass, March, 1911.

Cunningham, A. T.

James, E. S.

Class Lists in Individual Subjects.

JUNIOR ANATOMY.

High Distinction.

 $\left. \begin{array}{l} Walters, C.\ J.\ M. \\ Stewart, J.\ R. \\ Veech, B.\ C. \end{array} \right\} \\ \approx q.$ 

Credit.

Davis, V. E. H.

BIOLOGY I.

Credit.

Stewart, J. R.

CHEMISTRY I.

Credit.

Stewart, J. R.

# DEPARTMENT OF AGRICULTURAL SCIENCE.

# FIRST YEAR EXAMINATION.

Belmore Scholarship for Proficiency in Chemistry I. and Geology  $\, . - \,$  H. Stephens.

The following have completed the First Year Examination:—
Pass, December, 1910 (Alphabetical).

Southee, E. A.

! Stephens, H.

| Wenholz, H.

Pass, March, 1911.

Heinrich, J. O.

Class Lists in Individual Subjects.

BIOLOGY I.

Distinction.
Stephens, H.

CHEMISTRY I.

Distinction.
Stephens, H.

GEOLOGY I.
(See under Faculty of Science.)

# DEPARTMENT OF ENGINEERING.

PETER NICOL RUSSELL SCHOLARSHIPS FOR ENTRANCE TO THE DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING-

> Stafford, F. D. aq. Tandy, P. E.

#### FIRST YEAR EXAMINATION.

ASSISTANT PROFESSOR BARRACLOUGH'S PRIZE FOR DESCRIPTIVE GEOMETRY -Mackinnon, J. Y.

> The following have completed the First Year Examination :-Pass, December, 1910 (Alphabetical).

Blumer, C. H. Mackinnon, J. Y. Pike, W. E. Massie, R. J. A. Dowling, B. S. Potts, W. E.

Pass, March, 1911 (Alphabetical).

†Edwards, A. R. Hooper, G. H. Gibbes, F. W. Gibson, W. H. H. Hamilton, J.

Hope, B. C. James, H F. Lahey, R. W. McMahon, J. T. Tidswell, F. A. Whitfeld, G. A.

#### HONOUR LISTS.

ENGINEERING DESIGN.

High Distinction.

Dowling, B. S.

Pike, W. E.

Distinction.

Lahey, R. W.

| Edwards, A. R.

| Hope, B. C.

Credit, Blumer, C. H.

CHEMISTRY I.

Credit.

Pike, W. E.

Potts, W. E.

GEOLOGY I. AND PHYSICS I.

(For Distinction Lists see under Faculty of Science.)

# Not passing through the regular Course.

DESCRIPTIVE GEOMETRY.

High Distinction.

Mackinnon, J. Y.

Distinction.

Edwards, A. R.

GEOLOGY I.

Pass, December, 1910 (Alphabetical).

Blumer, C. H. Lahey, R. W. Massie, R. J. A.

| Webb, K. E.

Laney, R. W.

Pass, March, 1911 (Alphabetical).

| McMahon, J. T.

Pelly, J. H.

Hall, G. E.

ENGINEERING DESIGN.

Pass, March, 1911.

‡Winters, R. J.

# SECOND YEAR EXAMINATION.

December, 1910, and March, 1911.

The following have completed the Second Year Examination :-

DEPARTMENT OF CIVIL ENGINEERING.

Pass, December, 1910. Bourne, C. A.

Pass, March, 1911 (Alphabetical).

Calvert, F. J. De Burgh, T. H. M. Fry, H. G.

Lancaster, E. E.

DEPARTMENT OF MINING AND METALLURGY.

Pass, December, 1910 (Alphabetical).

Campbell, A. L., B.A. Cran, C. R.

Hinder, R. B.

| Nielsen, M. M.

Pass, March, 1911. Deane, C.

DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

Pass, December, 1910 (Alphabetical).

Maxwell, M.

Roper, W. H.

Pass, March, 1911. †Hebblewhite, F. S.

# Not passing through the regular Course.

#### HONOUR LISTS.

ENGINEERING DESIGN.

High Distinction.

Campbell, A. L., B.A.

Distinction.

Fry, H. G.

Maxwell, M.

MECHANICAL ENGINEERING I.

Distinction.

Bourne, C. A.

Campbell, A. L., B.A. '

Credit.

Maxwell, M.

ENGINEERING CONSTRUCTION I.

High Distinction.

Campbell, A. L., B.A.

Distinction.

Bourne, C. A.

ENGINEERING CONSTRUCTION II.

High Distinction.

Campbell, A. L., B.A.

Credit.

Bourne. C. A.

PHYSICS II.

Distinction.

Maxwell, M.

Credit.

Bourne, C. A.

Roper, W. H.

ENGINEERING CHEMISTRY.

Distinction.

Bourne, C. A. Corbett, L.

Maxwell, M. Campbell, A. L., B.A.

Credit.

| Smith, R. C. Hebblewhite, G. S. Roper, W. H.

GEOLOGY I.

(See under Faculty of Science.)

#### THIRD YEAR EXAMINATION.

December, 1910, and March, 1911,

Assistant Professor Barraclough's Prize for a Mechanical En-GINEERING ESSAY-R. A. Holloway; C. Dennis, (prox. acc.)

The following have completed the Third Year Examination :-

DEPARTMENT OF CIVIL ENGINEERING.

December, 1910.

Vincent, W. F.

March, 1911.

Mallarky, S.

DEPARTMENT OF MINING AND METALLURGY.

December, 1910 (Alphabetical).

Adamson, R. W. Best, G. H. T.

Desgrand, V. A. G.

Lloyd, A. C., B.Sc.

Rorke, H. A.

DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

December, 1910 (Alphabetical). Holloway, R. A.

Bridge, C. W. Dennis, C. England, J.

Revnolds, L. J. Roberts, L. M.

Taylor, E. P.

HONOUR LISTS.

SURVEYING I.

Credit.

Lloyd, A. C., B.Sc.

Pass.

†Winters, R. J.

MINERALOGY.

Distinction.

Foxall, J. S.

Credit.

Desgrand, V. A. G.

GEOLOGY II. A. ECONOMIC.

High Distinction.

Foxall, J. S.

Distinction.

Lloyd, A. C., B.Sc.

Credit.

Adamson, R. W.

<sup>#</sup> Not passing through the regular Course.

#### MECHANICAL ENGINEERING II.

Distinction.

Holloway, R. A.

Dennis, C.

| Taylor, E. P.

Credit.

Roberts, L. M.

Rorke, H. A.

CIVIL ENGINEERING III.

Credit.

Vincent, W. F.

SURVEYING I.

Pass.

†Winters, R. J.

#### FOURTH YEAR EXAMINATION.

DEPARTMENT OF MINING AND METALLURGY.

The following have completed the Fourth Year Examination:—
Alphabetical.

Anderson, W. T.

| Mulligan, E. N.

Smith, H. H.

Hanton, T. G.

HONOUR LISTS.

MR. F. A. EASTAUGH'S PRIZE FOR ASSAYING-W. T. Anderson.

Honours at Graduation.

Class 11.

W. T. Anderson

MINING.

High Distinction.

Anderson, W. T.

Distinction.

Hanton, T. G.

ENGINEERING DESIGN.

Distinction.

Anderson, W. T.

ASSAYING.

High Distinction.

Anderson, W. T.

Distinction.

Hanton, T. G.

METALLURGY.

Credit.

Anderson, W. T.

Smith, H. H.

| Hanton, T. G.

DEPARTMENT	OF	MECHANICAL	AND	ELECTRICAL	ENGINEERING.

	CHANCAL AND BLEC	•					
The following	have completed the Fourth Ye March, 1911 (Alphabetical						
Beeston, S. L. Burn, A.	Hebblewhite, W. R. Herbert, D. P.	Norman, E. P. Sachs, W. J.					
Doyle, A. B.	Houston, R.	Wilkins, T.					
Forster, A. D. J.	Knight, O. Le M.	1					
June, 1910 (Alphabetical).							
Fry, H. W.	•	eland, O. A.					
HONOUR LISTS.							
University Medal in	MECHANICAL AND ELEC Burn, A. W. J. Sachs	TRICAL ENGINEERING— (prox. acc.)					
William and Jane Gra	HAME SCHOLARSHIP FOR I W. R. Hebble E. P. Norman						
	Honours at Graduation.	(1					
Class I.	Class II.	Class III.					
		Hebblewhite, W. R.					
Burn, A.	Knight, O. L.						
Sachs, W. J.	Beeston, S. L.	Herbert, D. P.					
Norman, E. P.	1						
Wilkins, T.	ļ	1					
ELE	CTRICAL ENGINEERI	NG II.					
·	High Distinction.						
Burn, A.		Knight, O. L.					
•	Distinction.	9					
Herbert, D. P.	Sachs, W. J.	Wilkins, T.					
	Credit.	.,,,,,					
Names E D	Oreur.	I Therele A. D					
Norman, E. P.	I II amatan D						
• •	Houston, R.	Doyle, A. B.					
	Houston, R. ENGINEERING DESIGN	•					
•	·	•					
	ENGINEERING DESIGN	ī.					
Sachs, W. J.	ENGINEERING DESIGN High Distinction.   Burn, A.	•					
	ENGINEERING DESIGN High Distinction.   Burn, A. Distinction.	ī.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGN High Distinction.   Burn, A. Distinction.	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGN High Distinction.   Burn, A. Distinction. P.	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGN High Distinction.   Burn, A. Distinction. P.   VARIABLE ENGINEERIN High Distinction.	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGN High Distinction.   Burn, A. Distinction. P.	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGNATION HIGH DISTINCTION.    Burn, A.    Distinction.       MANICAL ENGINEERING High Distinction.   Hebblewhite, W. R.   Norman, E. P.	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.	ENGINEERING DESIGNATION HIGH DISTINCTION.    Burn, A.    Distinction.   IANICAL ENGINEERING High Distinction.   Hebblewhite, W. R.   Norman, E. P.   200   3	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.  MECH	ENGINEERING DESIGNATION DE LA DESIGNATION DESIGNATION DESIGNATION DESIGNATION DESIGNATION	I. I Beeston, S. L. Wilkins, T. IG III.					
Sachs, W. J.  Norman, E.  MECH	ENGINEERING DESIGNATION HIGH DISTINCTION.    Burn, A.    Distinction.   IANICAL ENGINEERING High Distinction.   Hebblewhite, W. R.   Norman, E. P.   200   3	I. I Beeston, S. L. Vilkins, T.					
Sachs, W. J.  Norman, E.  MECH	ENGINEERING DESIGNATION High Distinction. P. Distinction. P. IANICAL ENGINEERIN High Distinction. Hebblewhite, W. R. Norman, E. P. \ Sachs, W. J. \ Distinction. Forster, A. D.	I. I Beeston, S. L. Wilkins, T. IG III.					
Sachs, W. J.  Norman, E.  MECH  Burn, A.  Wilkins, T.	ENGINEERING DESIGNATION High Distinction. P. Distinction. P. IANICAL ENGINEERIN High Distinction. Hebblewhite, W. R. Norman, E. P.  Sachs, W. J.  Distinction. Forster, A. D. Creitt.	Beeston, S. L. Wilkins, T. NG III. Beeston, S. L.					
Sachs, W. J.  Norman, E.  MECH  Burn, A.  Wilkins, T.  Houston, R.	ENGINEERING DESIGNATION High Distinction. P. Distinction. P. IANICAL ENGINEERIN High Distinction. Hebblewhite, W. R. Norman, E. P. \ Sachs, W. J. \ Distinction. Forster, A. D.	I. I Beeston, S. L. Wilkins, T. IG III.					
Sachs, W. J.  Norman, E.  MECH  Burn, A.  Wilkins, T.	ENGINEERING DESIGNATION High Distinction. P. Distinction. P. IANICAL ENGINEERIN High Distinction. Hebblewhite, W. R. Norman, E. P.  Sachs, W. J.  Distinction. Forster, A. D. Creitt.	Beeston, S. L. Wilkins, T. NG III. Beeston, S. L.					

# UNIVERSITY OFFICERS, ETC.

#### VISITOR.

The Governor of New South Wales for the time being is ex office Visitor to the University.

- \*1850.—His Excellency Sir Charles Augustus Fitz Roy, K.C.B., K.H.
  - 1855.—His Excellency Sir Thomas William Denison, K.C.B.
  - 1861.—His Excellency the Right Hon. Sir John Young, Bart., K.C.B., G.C.M.G.
  - 1868.—His Excellency the Right Hon. the Earl of Belmore, M.A.
  - 1872.—His Excellency Sir Hercules George Robert Robinson G.C.M.G.
  - 1879.—His Excellency the Right Hon. Lord Augustus W. Loftus, G.C.B., M.A.
- 1886.—His Excellency the Right Hon. Charles Robert Baron Carrington, P.C., G.C.M.G.
- 1891.—His Excellency the Right Hon. Victor Albert George Child Villiers, Earl of Jersey, G.C.M.G.
- 1893.—His Excellency the Right Hon. Sir Robert William Duff, P.C., G.C.M.G.
- 1895.—His Excellency the Right Hon. Henry Robert, Viscount Hampden.
- 1899.—His Excellency the Right Hon. William Lygon, Earl Beauchamp, K.C.M.G.
- 1902—His Excellency Vice-Admiral Sir Harry Holdsworth Rawson, G.C.B.
- 1909—His Excellency the Right Hon. Frederick John Napier, Baron Chelmsford, K.C.M.G., M.A. CHANCELLOR.

The Chancellor is elected by the Fellows of the Senate out of their own body, for such period as the Senate may from time to time appoint. The period is at present limited by By-law to three years, but the retiring Chancellor is declared to be eligible

for re-election.

1851.—Edward Hamilton, M.A.

1852.—Sir Charles Nicholson, Bart., M.D., D.C.L., LL.D.

1864.—The Hon. Francis Lewis Shaw Merewether, B.A.

<sup>\*</sup> The dates prefixed to the names of Office Holders refer to their first appointment or entrance upon office.

1865.—The Hon. Sir Edward Deas-Thomson, C.B., K.C.M.G.

1878.—The Hon. Sir W. M. Manning, Kt., K.C.M.G., LL.D.

1895.—The Hon. Sir Wm. Chas. Windeyer, Kt., M.A., LL.D.

1896.—The Hon. Sir Henry Normand MacLaurin, Kt., M.A., M.D., LL.D.

## VICE-CHANCELLOR.

The Vice-Chancellor is annually elected by the Fellows of the Senate out of their own body.

1851.—Sir Charles Nicholson, Bart., M.D., D.C.L., LL.D.

1854.—The Hon. F. L. S. Merewether, B.A.

1862.—The Hon. Edward Deas-Thomson, C.B.

1865.—The Hon. J. H. Plunkett, B.A.

1869.—The Rev. Canon Allwood, B.A.

1883.—The Hon. Mr. Justice Windeyer, M.A., LL.D.

1887.—The Hon. Hy. Normand MacLaurin, M.A., M.D., LL.D.

1889.—The Hon. Arthur Renwick, B.A., M.D.

1891.—Henry Chamberlaine Russell, C.M.G., B.A., F.R.S. \*The Hon. Arthur Renwick, B.A., M.D.

1892.—The Hon. Arthur Renwick, B.A., M.D.

†His Honour Judge Backhouse, M.A.

1893.—His Honour Judge Backhouse, M.A.

1895.—The Hon. Hy. Normand MacLaurin, M.A., M.D., LL.D.

1896.—His Honour Judge Backhouse, M.A.

1900.—The Hon. Sir Arthur Renwick, Kt., B.A., M.D.

1902.—The Hon. Mr. Justice A. H. Simpson, M.A.

1904.—Sir Philip Sydney Jones, Kt., M.D.

1906.—The Hon. Sir Arthur Renwick, Kt., B.A., M.D.

1908.—The Hon. Sir William Portus Culler, Kt., M.A., LL.D. Chief Justice of New South Wales.

1911.-His Honour Judge Backhouse, M.A.

#### THE SENATE.

The original Senate was appointed by Proclamation on the 24th of December, 1850, under the Act of Incorporation, and consisted of the following:-

The Rev. William Binnington Boyce Edward Broadhurst, Esq. John Bayley Darvall, Esq.

Stuart Alexander Donaldson, Esq.

The Right Rev. Charles Henry Davis Alfred Denison, Esq.

Edward Hamilton, Esq. James Macarthur, Esq.

\*Mr. Russell having retired during his year of office, the Hon. Dr. Renwick was elected in his place for the remainder of the year.

†The Hon. Dr. Renwick having retired during his year of office, Judge Backhouse was

elected in his place for the remainder of the year.

Francis Lewis Shaw Merewether, Esq. The Rev. William Purves
Charles Nicholson, Esq.
Bartholomew O'Brien, Esq.
The Hon. Edward Deas-Thomson, Esq.
The Hon. John Hubert Plunkett, Esq.
William Charles Wentworth, Esq.

Under the original Incorporation Act, the election to vacant Fellowships was vested in the Senate until there should be one hundred Graduates holding the Degree of M.A., LL.D., or M.D. By an Act passed in 1861, the election to vacancies was vested in Fellows of the Senate, Professors and other Public Teachers of the University, Examiners, Principals of Incorporated Colleges within the University, Superior Officers declared to be such by By-law, and Graduates who should have taken any or either of the Degrees of M.A., LL.D., or M.D. By an Act passed in 1881, the privilege of voting at such elections was extended to Bachelors of Arts of three years' standing, and by the University Extension Act of 1884 the privilege was further extended to all Bachelors of three years' standing. In addition to the sixteen Fellows, it was provided by the Act of 1861 that there should not be fewer than three, nor more than six, ex officio Members of the Senate being Professors of the University in such branches of learning as the Senate might by any By-law select. The provisions of the above mentioned Acts are incorporated in the University and University Colleges Act of 1900.

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EX-MEMBERS OF THE SENATE.
1850-1854-Hamilton, Edward, M.A.
1850-1855-Davis, the Right Rev. C. H., D.D.
1850-1856—Broadhurst, the Hon. Edward, B.A.
1850-1859—Boyce, the Rev. W. B.
1850-1859-Therry, His Honour Sir Roger
1850-1860-Macarthur, the Hon. James
1850-1860—Denison, Alfred, B.A.
1850-1861-Donaldson, the Hon. Sir Stuart A.
1857-1861—Cooper, Sir Daniel, Bart., G.C.M.G.
1853-1865—Douglass, Henry Grattan, M.D.
1861-1866—Woolley, the Rev. J., D.C.L. (Principal) (ex officio)
1850-1868-Darvall, Sir John Bayley, M.A.
1850-1869-O'Brien, Bartholomew, M.D.
1850-1869—Plunkett, the Hon. John Hubert, B.A.
1850-1870-Purves, Rev. W., M.A.
1850-1872-Wentworth, the Hon. William Charles
1868-1872—Nathan, Charles, M.D.
1869-1873—Stenhouse, N. D., M.A.
1868-1874—Arnold, the Hon. William M.
1850-1875—Merewether, the Hon. F. L. S., B.A.
1856-1877-Polding, the Most Rev. Archbishop, D.D.
1859-1878--Allen, the Hon. George
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1873-1878—Dalley, the Right Hon. William Bede, P.C.
1858-1878—Martin, the Hon. Sir James, Chief Justice
1861-1879—Pell, Professor Morris Birkbeck, B.A. (ex officio)
1860-1879—Deas-Thomson, the Hon. Sir E., C.B., K.C.M.G.
1860-1880—Macarthur, the Hon. Sir William
1872-1882—Forster, the Hon. William
1850-1883—Nicholson, Sir Charles, Bart, M.D., D.C.L., LL.D.
1867-1884—Badham, Professor Charles, D.D. (ex officio)
1861-1885—Smith, the Hon. Professor, C.M.G., M.D., L.L.D. (ex officio)
1877-1885—Allen, the Hon. Sir George Wigram, K.C.M.G.
1885-1886-Martin, the Hon. Sir James, Chief Justice
1855-1886-Allwood, Rev. Canon Robert, B.A.
1879-1887-Darley, the Hon. Sir F. M., B.A., Chief Justice
1878-1887—Stephen, the Rt. Hon Sir Alfred, C.B., G.C.M.G., C.J., P.C.
1887-1888—Knox, George, M.A.
1872-1888—Rolleston, Christopher, C.M.G.
1880-1889—Barton, the Hon. Edmund, M.A.
1886-1889—Barry, the Most Rev. Alfred, D.D., LL.D.
1884-1890—Stephens, Professor W. J., M.A. (ex officio)
1883-1891-Jennings, the Hon. Sir Patrick A., K.C.M.G., LL.D.
1875-1891—Macleay, the Hon. Sir William, Kt.
1870-1892—Hay, the Hon. Sir John, K.C.M.G., M.A.
1877-1892—Gurney, Professor Theodore T., M.A. (ex officio)
1891-1892-O'Connor, the Hon. Richard Edward, M.A.
1859-1894—Faucett, the Hon. Peter, B.A.
1885-1894—Scott, Professor Walter, M.A. (ex officio)
1861-1895-Manning, the Hon. Sir Wm. Montagu, Kt., K.C.M.G., LL.D.
1892-1896-Manning, the Hon. Mr. Justice Charles J., M.A.
1894-1896—Gurney, Professor Theodore T., M.A. (ex officio)
1866-1897-Windeyer, the Hon. Sir William Charles, Kt., M.A., LL.D.
1896-1898—Scott, Professor Walter, M.A. (ex officio)
1879-1904—Liversidge, Professor Archibald, M.A., LL.D., F.R.S.
1879-1904-Oliver, His Honour Alexander, M.A.
1875-1907—Russell, Henry Chamberlaine, C.M.G., B.A., F.R.S.
1904-1907—David, Professor T. W. Edgeworth (ex officio)
1877-1908-Renwick, the Hon. Sir Arthur. Kt., B.A., M.D.
1890-1909-Cobbett, Professor Pitt. M.A., D.C.L.
1888-1910—Stephen, Cecil Bedford, M.A., K.C.
```

#### PRESENT SENATE.

1895-Anderson, Henry Charles Lennox, M.A.

1887—Backhouse, His Honour Judge Alfred Paxton, M.A., Vice-Chancellor.

1892—Barton, the Right Hon. Sir Edmund, G.C.M.G., M.A., LL.D., D.C.L., P.C.

1888—Butler, Professor Thomas, B.A.

1896—Cullen, the Hon. Sir William Portus, Kt., M.A., LL.D., Chief Justice of New South Wales. 1904—Griffith, the Right Hon. Sir Samuel Walker, G.C.M.G., M.A., P.C., Chief Justice of the High Court of Australia.

1887-Jones, Sir Philip Sydney, Kt., M.D.

1894—Knox, Edward William.

1907—Leverrier, Frank, B.A., B.Sc., K.C.

1898—MacCallum, Professor Mungo W., M.A., LL.D., Dean of the Faculty of Arts (ex officio).

1883—MacLaurin, the Hon. Sir Henry Normand, Kt., M.A., M.D., LL.D. (St. And. and Edin.), Chancellor.

1893—O'Connor, the Hon. Mr. Justice Richard Edward, M.A.

1910—Peden, Professor John Beverley, B.A., LL.B., Dean of the Faculty of Law (ex officio).

1910—Piddington, Albert Bathurst, B.A.

1909—Purser, Cecil, B.A., M.B., Ch.M.

1889—Rogers, His Honour Judge Francis E., M.A., LL.B.

1897—Simpson, The Hon. Mr. Justice Archibald Henry, M.A. 1883—Stuart, Professor T. P. Anderson, M.D., LL.D., Dean

of the Faculty of Medicine (ex officio) 1889—Teece, Richard, F.I.A., F.F.A.

1908—Warren, William Henry, M.Inst. C.E., Dean of the Faculty of Science (ex officio).

PROFESSORIAL BOARD.—The Chancellor, the Vice-Chancellor, Professors Wilson (Chairman)\*, Anderson, Butler, Carslaw, David, Fawsitt, Haswell, MacCallum, Mackie, Peden, Pollock, Stewart, Stuart, Warren, Watt, Welsh, Wood, Woodhouse, Mr. H. E. Barff.

FACULTY OF ARTS.—The Chancellor, the Vice-Chancellor, Professors MacCallum (Dean)†, Anderson, Butler, Carslaw. Mackie, Wood, Woodhouse, Assistant-Professors E. R. Holme, E. M. Moors, A. Newham, Mr. H. E. Barff, Mr. C. J. Brennan. Mr. G. G. Nicholson, Dr. F. A. Todd.

FACULTY OF LAW.—The Chancellor, the Vice-Chancellor, Professor Peden (Dean)†, Mr. H. E. Barff, the Right Hon. Sir Edmund Barton, the Hon. Sir William Cullen, Mr. D. G. Ferguson, the Right Hon. Sir Samuel Griffith, Mr. F. R. Jordan, Mr. F. Leverrier, Mr. E. M. Mitchell, the Hon. Mr. Justice R. E. O'Connor, Mr. A. B. Piddington, Judge Rogers, Mr. Justice A. H. Simpson, Dr. G. W. Waddell.

<sup>\*</sup> To 31st December, 1913.

FACULTY OF MEDICINE.—The Chancellor, the Vice-Chancellor, Professor Stuart (Dean)†, Sir Philip Jones, M.D., Dr. Cecil Purser, Professors Fawsitt, Haswell, Pollock. Welsh, Wilson, Dr. W. G. Armstrong, Dr. F. A. Bennet, Dr. A. Davidson, Dr. T. Storie Dixson, Dr. Froude Flashman, Dr. J. Foreman, Sir James Graham, Dr. H. Critchley Hinder, Dr. A. McCormick, Dr. C. P. B. Clubbe, Dr. A. E. Mills, Dr. H. Russell Nolan, Dr. F. A. Pockley, Dr. Scot Skirving, Dr. R. H. Todd, Mr. H. E. Barff.

FACULTY OF SCIENCE.—The Chancellor, the Vice-Chancellor, Professor Warren (Dean†) Professors Carslaw, David, Fawsitt, Haswell, Pollock, J. D. Stewart, Stuart, Watt, Assistant-Professor S. H. Barraclough, Drs. S. Dodd, J. P. V. Madsen, Messrs. H. E. Barff, J. H. Cardew, F. Danvers Power.

BOARD OF STUDIES IN PURE SCIENCE.—The Chancellor, the Vice-Chancellor, Professor Warren (Dean), Professors Carslaw, David, Fawsitt. Haswell, Pollock, Stuart, Assistant-Professors Moors, Newham, Schofield, Mr. E. Le Gay Brereton, Dr. H. G. Chapman, Mr. L. A. Cotton, Dr. F. Howson, Messrs. S. J. Johnston, I. G. Mackay, O. U. Vonwiller, Dr. W. G. Woolnough.

BOARD OF STUDIES IN ENGINEERING.—The Chancellor, the Vice-Chancellor, Professor Warren (Dean), Professors Carslaw, David, Fawsitt, Pollock, Assistant-Professor Barraclough, Dr. J. P. V. Madsen, Messrs. J. H. Cardew, W. S. Dun, F. A. Eastaugh, T. F. Furber, E. W. McKeown, F. Danvers Power, H. A. Roberts, J. Sulman, B. W. Turner.

BOARD OF STUDIES IN VETERINARY SCIENCE.—The Chancellor, the Vice-Chancellor, Professor Stewart (Chairman), Professor Warren (Dean), Professors Fawsitt, Haswell, Pollock, Anderson Stuart, Welsh, Dr. S. Dodd.

BOARD OF STUDIES IN AGRICULTURE.—The Chancellor, the Vice-Chancellor, Professor Watt (Chairman), Professor Warren (Dean), Professors David, Fawsitt, Haswell, Pollock, Mr. W. Froggatt.

BOARD OF DENTAL STUDIES.—The Chancellor, the Vice-Chancellor, Professor Stuart (Dean of the Faculty of Medicine), Professors Pollock, Fawsitt, Wilson, Sir Philip Sydney Jones, M.D., Professor Welsh, Dr. A. MacCormick, Dr. T. S. Dixson, Dr. Cecil Purser, Dr. R. F. Reading, Dr. P. A. Ash, Mr. Donald Smith, Dr. F. Marshall, Dr. H. G. Moxham.

<sup>+</sup> To 30th September, 1912.

BOARD OF MILITARY STUDIES.—The Chancellor, the Vice-Chancellor, the Director of Military Science (Colonel H. J. Foster), Professors David, MacCallum, Warren, Wilson, Brigadier-General Bridges, Assistant-Professor Barraclough, Major J. F. Flashman, Major R. C. Simpson.

BOARD FOR CONDUCTING THE PUBLIC EXAMINATIONS.—The Chancellor, the Vice-Chancellor, the Professors and Assistant-Professors, and the Registrar.

LIBRARY COMMITTEE.—The Chancellor, the Vice-Chancellor, the Professors and the Librarian.

#### EX-PROFESSORS.

CLASSICS AND LOGIC.—1852-1866—Woolley, the Rev. John, D.C.L. 1867-1883—Badham, Rev. Charles, D.D.

GEOLOGY AND MINERALOGY.—1870-1872—Thomson, Alexander M., D.Sc.

MATHEMATICS AND NATURAL PHILOSOPHY.—1852-1877—Pell, Morris B., B.A.. 1877—1902.—Gurney, Theodore T., M.A. (Professor emeritus).

CHEMISTRY AND EXPERIMENTAL PHYSICS.—1852-1885—Smith, the Hon. John, M.D., LL.D., C.M.G.

NATURAL HISTORY.-1882-1890-Stephens, Wm. John, M.A.

Physics.—1886-1898—Threlfall, Richard, M.A.

GREEK.—1885-1900—Scott, Walter, M.A. (Professor emeritus)

CHEMISTRY.—1874-1907—Liversidge, Archibald, M.A., LL.D., F.R.S. (Professor emeritus).

Law.—1890-1909—Cobbett, Pitt, M.A., D.C.L. (Professor emeritus).

#### TEACHING STAFF.

AGRICULTURE—1910—Robert Dickie Watt, M.A., B.Sc.

Anatomy—Challis Professor—1890—\*James T. Wilson, M.B., Ch.M. (Edin.), F.R.S.

Demonstrator—1905—S. A. Smith, M.B., Ch.M. Demonstrator—1910—H. R. G. Poate, M.B., Ch.M.

Junior Demonstrators—1911—B. Coen, M.B., L. G. Tait, M.B.

Honorary Demonstrators for 1910—Edgar M. Stephen, M.B., Ch.M.; E. H. Binney, M.B., Ch.M.; M. Veech, M.B., Ch.M.; H. M. Moran, M.B., Ch.M.

Honorary Demonstrator in Neurology—J. F. Flashman, B.A., B.Sc., M.D., Ch.M.

<sup>•</sup> M.B., Ch.M., Honours 1983; late Demonstrator of Anatomy, University of Edinburgh.

- Architecture—P. N. Russell Lecturer—1887—(b) John Sulman, F.R.I.B.A.
- Biology—Challis Professor—1890—William A. Haswell, M.A., D.Sc. (Edin.), F.R.S.
  - Assistant-Lecturer and Demonstrator—1907—S. J. Johnston, B.A., B.Sc. Junior Demonstrators—1908—Sydney George, B.Sc. 1910—Charles Badham.
- CHEMISTRY—Professor—1909—† Charles E. Fawsitt, D.Sc. (Edin.), Ph.D. (Leipsic).
  - Assistant-Professor—1908—\*James A. Schofield, A.R.S.M., F.I.C.; Assistant-Lecturer and Demonstrator—1908—E. le Gay Brereton; Junior Demonstrators—1907—G. Wright; Organic—1910—E. Griffiths, B.Sc.; 1910—G. J. Burrows, B.Sc.; 1906—J. W. Hogarth; 1910—A. C. T. Kellick.
  - Assistant Lecturer and Demonstrator in Chemistry, Assaying and Metallurgy—1907—F. A. Eastaugh, A.R.S.M.
- CLINICAL MEDICINE—Lecturer—1889—(g) R. Scot-Skirving, M.B., Ch.M. (Edin.)
- CLINICAL SURGERY—Lecturer—1899—(d) H. V. Critchley Hinder, M.B., Ch.M.
- DENTISTRY—Mechanical Dentistry, including Crown and Bridge Work—1901—Vacant; 1910—(b) F. Marshall, D.D.S.; Clinical Dentistry, including Orthodontia—1911—(c) H. G. Moxham, B.D.S. (Syd.), D.D.S. (Phil.); Surgical Dentistry, including Deformities—1901—(g) R. Fairfax Reading, M.R.C.S., L.R.C.P., L.D.S. (Eng.), 1907—(g) P. A. Ash, D.D.S., (g) Donald Smith.
- DISEASES OF THE EAR, NOSE AND THROAT—1907—(f) H. Russell. Nolan, M.B., Ch.M.
- DISEASES OF THE SKIN—1907—(f)F. A. Bennet, M.D.

<sup>\*</sup> Demonstrator, 1892 to 1908.

tLate Lecturer in Chemistry, Glasgow University, and Demonstrator in Chemistry in the University of Edinburgh,

<sup>(</sup>b) To December 31st, 1916.

<sup>(</sup>c) To December 31st, 1917.

<sup>(</sup>d) To December 31st, 1911.

<sup>(</sup>f) To December 31st, 1913.

<sup>(</sup>g) To December 31st, 1914.

- Economics and Commerce—Lecturers—Economics, 1907—R. F. Irvine, M.A.; Accountancy, 1907—H. Dunstan Vane, F.C.P.A.; Business Methods, &c., 1907—H. Y. Braddon; Commercial Geography, 1908—W. G. Woolnough, D.Sc.; Commercial Law, 1908—F. A. A. Russell, M.A.; History and Technology of Commercial Products, 1908—F. B. Guthrie, F.I.C., F.C.S. Local Government, 1909—J. Garlick.
- EDUCATION-Professor-1910-SAlexander Mackie, M.A.
- ELECTRICAL ENGINEERING—P. N. Russell Lecturer—1909—(a)
  John Percival V. Madsen, B.Sc., B.E. (Syd.), D.Sc.
  (Adelaide). Junior Demonstrator—1911—Alan Burn,
  B.Sc. (Adelaide), B.E. (Syd.).
- Engineering—Challis Professor—1884—\*William H. Warren, Wh.Sc., M. Inst. C.E., Dean of the Faculty of Science.
  - P. N. Russell Assistant Lecturer and Demonstrator in Civil Engineering—1911—H. A. Roberts, B.E. Junior Demonstrator—1911—T. Wilkins, B.E.
- EQUITY, PROBATE, BANKRUPTCY AND COMPANY LAW—Challis Lecturer—1911—F. R. Jordan, B.A., LL.B.
- Geodesy and Astronomy—1906—(e) T. F. Furber.
- GEOLOGY AND PHYSICAL GEOGRAPHY—Professor and William Hilton Hovell Lecturer—1891—†T. W. Edgeworth David, C.M.G., B.A., D.Sc., F.R.S. (New College, Oxford).
  - Assistant Lecturer in Mineralogy and Petrology and Demonstrator in Geology—1905—W. G. Woolnough, D.Sc. Assistant Lecturer and Demonstrator in Geology—1911—L. A. Cotton, B.A., B.Sc. Junior Demonstrators—1909—Fanny Cohen, B.A., B.Sc. 1910—A. B. Walkom, B.Sc.
- Greek—Professor—1901—William John Woodhouse, M.A. (Queen's College, Oxford).
- GYNÆCOLOGY—1897—(g) Joseph Foreman, M.R.C.S.

<sup>\*</sup>Member of the American Society of Civil Engineers; Whitworth Scholar; Society of Arts Technological Scholar.

<sup>†</sup>Late Scholar of New College, Oxford, and late Member of the Geological Survey of New South Wales.

Late Hamilton Fellow, University of Edinburgh.

<sup>(</sup>a) To December 31st, 1915.

<sup>(</sup>g) To December 31st, 1914.

<sup>(</sup>e) To December 31st, 1912.

- HISTORY—Challis Professor—1891—G. Arnold Wood, M.A. (Balliol College, Oxford).
- LATIN—Professor—1891—Thomas Butler, B.A. (Sydney).
  - Assistant-Lecturer—1903—Frederick Augustus Todd, B.A. (Sydney), Ph.D. (Jena).
- Law-Challis Professor-1910-John Beverley Peden, B.A., LL.B., Dean of the Faculty of Law.
- Law of Procedure, Evidence and Pleading—Challis Lecturer—1901—(f) David G. Ferguson, B.A. Acting Lecturer for 1911—H. R. Curlewis, B.A., LL.B.
- Law of Status, Civil Obligations and Crimes—Challis Lecturer—1907—(f) E. M. Mitchell, B.A., LL.B.
- Logic and Mental Philosophy—Challis Professor—1890—

  \* Francis Anderson, M.A. (Glasgow). Reader—1910—

  H. T. Lovell, M.A., Ph.D.
- MATERIA MEDICA AND THERAPEUTICS Lecturer 1883 (g) Thomas S. Dixson, M.B., Ch.M. (Edin.)
- Mathematics, Pure and Applied—Professor—1903—†Horatio Scott Carslaw, M.A. (Cambridge), D.Sc., (Glasgow), Sc.D. (Cambridge), F.R.S.E.
  - Assistant Professors—1909—¶A. Newham, M.A. (St. John's College, Cambridge). 1909—§E. M. Moors, M.A., F.I.A. Acting Assistant Lecturer for Lent Term—A. L. Campbell, B.A.
- MECHANICAL ENGINEERING.—P. N. Russell Assistant Professor—
  1908—(c) ‡ S. Henry Barraclough, B.E. (Syd.), M.M.E.
  (Cornell), Assoc. M. Inst. C.E., M.I. Mech. E. Assistant
  Lecturer and Demonstrator—1911—E. W. McKeown,
  B.E. Junior Demonstrator—E. P. Norman, B.E.

<sup>\*</sup> Late Clarke Philosophical Fellow, University of Glasgow.

<sup>+</sup> Fellow of Emmanuel College, Cambridge, and formerly Lecturer in Mathematics. University of Glasgow.

t Late Science Research Scholar of the Royal Commissioners of the Exhibition of 1851. Lecturer. 1897-1908.

<sup>¶</sup> Assistant Lecturer, 1886-1908.

<sup>§</sup> Assistant Lecturer, 1887-1908.

<sup>(</sup>f) To December 31st, 1913.

<sup>(</sup>c) To December 31st, 1917.

- MEDICAL JURISPRUDENCE—Lecturer—1910—(b) R. H. Todd, B.A., M.D., Ch.B.
- MEDICAL TUTOR-1910-Sinclair Gillies, M.A., M.D. (Lond.).
- METALLURGY—P. N. Russell Lecturer—1899—(b)Basil W. Turner, A.R.S.M.
- MIDWIFERY—Lecturer—1897—(g) Sir James Graham, Kt., M.D., Ch.M. (Edin.)
- MILITARY SCIENCE Challis Director—1907—Colonel Hubert John Foster, R.E.
  - Lecturer in Military Topography—1908—Captain C. H. Brand.
  - Lecturer in Military Engineering—1907—Assistant Professor S. Henry Barraclough, B.E. (Syd.), M.M.E. (Cornell), Assoc. M. Inst. C.E., M.I. Mech. E.
  - Lecturer in Military Law-1908-Major V. le Gay Brereton.
  - Lecturer in Military Administration—1909—Major R. C. Simpson.
- MINING—P. N. Russell Lecturer—1903—(b)F. Danvers Power, F.G.S.
- MODERN LITERATURE—Challis Professor—1887—\*Mungo W. MacCallum, M.A., L.L.D. (Glasgow), Dean of the Faculty of Arts.
  - English—1908—Assistant Professor—‡ Ernest R. Holme, M.A. Assistant Lecturers—French and German—1903—George Gibb Nicholson, B.A. (Syd.), B.C.L. (Oxon.). 1908—Christopher J. Brennan, M.A.
- Ophthalmology—Lecturer—1889—(g)† F. Antill Pockley, M.B., Ch.M. (Edin.)
- Paleontology—Lecturer—1902—(b) William S. Dun.

<sup>\*</sup>Late Professor of English Literature in University College, Aberystwyth, Wales; late-Luke Fellow, University of Glasgow.

<sup>+</sup>M.B., Ch.M., First Class Honours, University Medal; Scholar and Prizeman, Edin., 1884.

<sup>(</sup>b) To December 31st, 1916.

<sup>(</sup>g) To December 31st, 1914.

<sup>#</sup> Assistant Lecturer, 1894-1908.

- Pathology—Professor—1902—David Arthur Welsh, M.A., B.Sc., M.D., M.R.C.P (Edin.)
  - Demonstrators—1910—J. E. V. Barling, M.B., Ch.M. Junior Demonstrators—1911—Elsie J. Dalyell, M.B., Ch.M. E. W. Ferguson, M.B., Ch.M.
- Physics—Professor—1899—J. Arthur Pollock, D.Sc. (Sydney).

  Assistant Lecturers and Demonstrators—1903—O. U. Vonwiller, B.Sc. 1910—1. G. Mackay, B.A. Junior Demonstrator—1910—A. B. B. Ranclaud, B.Sc., B.E.
- Physiology—Professor—1883—‡T. P. Anderson Stuart, M.D., Ch.M., LL.D. (Edin.), Dean of the Faculty of Medicine.
  - Assistant-Lecturers and Demonstrators—1903—H. G. Chapman, M.D., B.S.; 1911—F. Howson, M.A., M.R.C.S..
    Junior Demonstrator—1909—E. C. Grey, B.Sc.
- Principles and Practice of Medicine—Lecturer—1901—(b). Arthur E. Mills. M.B., Ch.M.
- Principles and Practice of Surgery—Lecturer—1890—
  (g) Alexander MacCormick, M.D. (Edin.), Hon. F.R.C.S..
  (Lond. and Edin.). Acting Lecturer for 1911—C. P.
  B. Clubbe, L.R.C.P., M.R.C.S.
- Psychological Medicine—Lecturers—1908—(g) J. Froude Flashman, B.A., M.D., Ch.M., B.Sc.—1908—(g) Andrew Davidson, M.D.
- Public Health—1904—(e) William G. Armstrong, B.A., M.B., Ch.M.
- ROMAN LAW AND EQUITY PRACTICE—1910—G. W. Waddell, M.A., LL.D.
- Surgical Tutor-1908-R. B. Wade, M.D., Ch.M. (Syd.)
- Surveying—P. N. Russell Lecturer—1906—(e) J. Haydon Cardew, Assoc. M. Inst. C.E., L.S.
- VETERINARY SCIENCE—Professor—1909—James Douglas Stewart, . M.R.C.V.S., B.V.Sc. (Syd.)

<sup>‡</sup> M.B., Ch.M., First Class Honours, Ettles Scholar, 1880; M.D., Thesis Gold Medal . 1882, Edin.; late Assistant to Professor of Physiology, Edinburgh.

<sup>(</sup>b) To December 31st, 1916.

<sup>(</sup>c) To December 31st. 1917.(e) To December 31st, 1912.

<sup>(</sup>g) To December 31st, 1914.

M.B. First Class Honours Medicine, University Scholarship and Gold Medal.

VETERINARY ANATOMY — Lecturer — 1911 — Sydney Dodd, F.R.C.V.S., D.V.S. (Melb.). Demonstrator—1911— H. V. Baker, V.M.D.

VETERINARY PATHOLOGY AND BACTERIOLOGY—Lecturer—1912— Sydney Dodd, F.R.C.V.S., D.V.S. (Melb.)

TUTOR TO THE WOMEN STUDENTS—1900—Isabel Margaret Fidler, B.A.

HONORARY LECTURERS.

HISTORY OF MEDICINE-T. Fiaschi, M.D.

THE ETHICS OF MEDICAL PRACTICE—Sir Philip Sydney Jones, M.D.

CURATORS OF MUSEUMS.

MUSEUM OF NORMAL AND MORBID ANATOMY—Professor D. A. Welsh, M.A., B.Sc., M.D. (Honorary).

MACLEAY MUSEUM OF NATURAL HISTORY—George Masters.

NICHOLSON MUSEUM OF EGYPTIAN, GREEK, ROMAN AND MEDIÆVAL
ANTIQUITIES — Professor W. J. Woodhouse, M.A.
(Honorary).

## Examiners for 1911-12.

## EXAMINERS IN ARTS.

The Professors.

The Lecturers.

### EXAMINERS IN LAW.

The Professor.
The Lecturers.
F. R. Jordan, B.A.,
LL.B.

G. W. Waddell, M.A., LL.D.

C. W. Harriott, B.A.

## EXAMINERS IN MEDICINE.

The Professors.

The Lecturers.

Fourness Barrington, F.R.C.S. (Eng.), M.B., Ch.M. (Edin.) Thomas Fiaschi, M.D. (Pisa).

J. Macdonald Gill, M.D., L.R.C.P., M.R.C.S.

E. J. Jenkins, B.A., M.D. (Oxon.)

Sir Philip Sydney Jones, Kt., M.D. (Lond.)

Stanhope H. MacCulloch, M.B., Ch.M. (Edin.)

Charles MacLaurin, M.B., Ch.M. (Edin.)

The Hon. Sir H. N. MacLaurin, M.A., M.D. (Edin.), LL.D.

Arthur A. Palmer, M.B., Ch.M.

G. E. Rennie, B.A. (Syd.), M.D. (Lond.)

Professor E. C. Stirling, M.A., M.D. (Cantab.), C.M.G., F.R.S.

EXAMINERS IN DENTISTRY.

The Professors.

The Lecturers.

L. A. Carter, D.D.S. (Phil.)

EXAMINERS IN SCIENCE.

The Professors.
Professor A. J. Gibson.

The Lecturers.

J. J. C. Bradfield, M.E.

ADMINISTRATIVE STAFF.

REGISTRAR AND LIBRARIAN, 1882-H. E. Barff, M.A.

CHIEF CLERK AND ACCOUNTANT, 1887—Robert A. Dallen.

CLERK OF EXAMINATIONS, 1909—S. E. Townshend, B.A., LL.B.

Assistant Accountant, 1887—William S. Mayer.

CLERKS, 1905—George L. Garnsey. 1902—Charles W. Peacock. 1908—H. A. Wilson.

Assistant Librarian, 1902-John Le Gay Brereton, B.A.

Junior Assistant Librarian—1900—Kenneth Binns. Library Assistants—1910—J. A. Tunnicliffe; 1911—B. V. Steel; C. D. W. Wray (Law Library).

University Solicitor, 1907—Robert Smith, M.A.

Auditor, 1899—David Fell, C.A.A.

ESQUIRE BEDELL, 1897—John Mitchell Purves, M.A.

Secretary of the University Extension Board—1906—Assistant Professor E. R. Holme, M.A.

YEOMAN BEDELL—S. Craddock.

OVERSEER OF THE UNIVERSITY PARK AND GROUNDS—Albert Green.

## MEMBERS OF THE UNIVERSITY.

## MEMBERS OF CONVOCATION.

H.M. the King, LL.D. Abbott, George H., B.A., 1887, M.B., Ch.M. Abbott, Henry Palmer, B.A., 1893 Abbott, Thos. K., B.A., 1888 Abigail, Eliza L., B.A., 1893 (Mrs. Abigail, Ernest Robert, B.A., 1896, LL.B. Abrams, Reginald Orton, B.A., 1908 Adams, Francis Charles, M.B., 1904 Affleck, Ada C., M.B., Ch.M. (Mrs. Hardman) Aiken, Fercy Norman, M.B., 1903 Alexander, Hilda Mary, B.A., 1908 Alexander, Maud Marion, B.A., 1902 Allan, Edith Jeannie, B.A., 1895 (Mrs. Costello) Allen, Arthur Wigram, B.A., 1883§ Allen, George Boyce, B.A., 1877 Allen, Hugh George, M.B., Ch.M. Allen, Leslie Holdsworth, B.A., 1904 Allen, Reginald C., B.A., 1879 Ambrose, Theodore, M.B., Ch.M. Amess, William, B.A., 1883 Amos, Jeanie Cairns, B.A., 1890 (Mrs. Anderson) Amos, Nellie Margaret, B.A., 1902 Amphlett, Edward Albin, B.E., 1889 Amphlett, Henry Martin, B.E., 1897 Anderson, Arthur, M.B., Ch.M. Anderson, Catherine, M.A. Anderson, Francis, M.A. §¶ Anderson, Henry C. L., M.A.† Anderson, Hugh Miller, B.A., M.B., Ch.M. Anderson, Mand Edith, B.A., 1896 (Mrs. Ashton) Anderson, Robert, B.A., 1906 Anderson, Virginia, B.A., 1904 Anderson, William A. S., B.A., 1892

Andrews, William, M.B., 1887 Anstey, George Webb, B.A., 1893 d'Apice. Antoine Wm. M., B.A. 1899, LL.B. d'Apice, John Edmund Francis, B.Sc., 1900 Archdall, Henry Karow, B.A., 1908 Archdall, Mervyn, M.B., 1908 Armitage, Charles Horsfall, B.A., Armstrong, Alexander Milner, B.A., 1908 Armstrong, Clare Annie Constance, B.A., 1905 Armstrong, Harriet Ethel Mary, B.Sc., 1907 Armstrong, Helen Daphne Harvey, B A., 1902 Armstrong, Ina Beatrice Harvey, B.A., 1901 (Mrs. Watson) Armstrong, Isabella, B.A., 1895 Armstrong, John Nicholas Fraser, B.E., 1904 Armstrong, Laurens F. M., B.A., 1884, LL.B. Armstrong, Margaret Jane, B.A., 1897 Armstrong, Tancred de Carteret, B.A., 1891 Armstrong, William G., B.A., M.B., Ch.M.T Arnold, Aldous Campbell, M.B., Ch.M. Arnold, Austin Guerry de L., LL.B., 1903 Arnold, Edwin Charles, B.A., 1896 Arnott, Robert Fleming, B.E., 1895 Artlett, Ettie. B.A., 1888 (Mrs. Starkey) Artlett. William Langridge, B.A.,

Andrews, Ernest Clayton, B.A., 1894

Ash, Fortescue Leo, B.A., 1908 Ash, Percy A., D.D.S.¶ Askham, Albert Charles, B.A., 1905 Aspinall, Arthur Ashworth, B.A., 1889 Aspinall, Archibald John, M.B., Ch.M. Aspinall, Jessie Strahorn, M.B., Ch.M. Atkins, William L., B.A., 1893 Atkinson, John. B.E., 1907 Auld, John Hay Goodlet, B.A., 1897 Austin, Alfred Herbert, B.A., 1903 Austin, Fanny May, B.A., 1905 Ayres, Charles, B.A., 1882 Backhouse, Alfred Paxton, M.A. Badham, Charles¶ Badman, Gradys Eunice, B.A., 1907 Bailey, Margaret Anne, B.A., 1900 Baker, H. M.¶ Ball, Lionel Clive, B.E., 1900 Baucroft, Peter, M.B., Ch.M. Barber, Richard, M.A. Barbour, George Pitty, M.A. Baret, Henri Victor David, B.A., 1903, M.B Barff, Henry E., M.A. Barker, Henry Auriol, B.A., 1881 Barker, Reginald Frederick, B.E., 1900 Barker, Thomas Chas., B.A., 1886 Barlee, Frederick R., M.A. Barlex, Harrie Norman Clayton, Barling, James Eric Vernon, M.B., Barnes, Edmund H., M.B., Ch.M. Barnes, Margaret Estelle, B.D.S., 1906 Barnes, Pearl Ella, M.A. Barnet, Donald McKay, B.A., 1890 Barr, James, B.E., 1904 Barraclough, Francis Egerton, M.A., LL.B.

Barraclough, Samuel H., B.E., 1892¶

Fourness,

Barret, James, M.D.

M.B., Ch.M.

Barron, George Moncrieff,

Barrington,

Ch.M.

Barrow, Isaac Manly, B.A., 1905, Barry, Duncan Robertson, B.A., 1905 Barry, Hugh de Barri, B.A., 1898 Barton, Alan Darvall, M.B., Ch.M. Barton, Right Hon. Sir Edmund, M.A.† Barton, John a'Beckett B.A., M.B., Ch.M. Darvall. Barton, Joanna, B.A., 1893 Barton, Wilfred Alex., B.A., 1903 Bateman, John Edwin, B.Sc., 1908 Bathgate, Donald Gordon, B.A., 1903, LL.B. Bavin, Gertrude Lillian, B.A., 1898 (Mrs. Parker) Bavin, Thos. Rainsford, B.A., 1894. LL.B. Baylis, Harold M., B.A., 1883 Beardmore, Ada, B.A., 1896 (Mrs. Beveridge) Beardsmore, Emily Mand, B.A., 1894 (Mrs. Brewster) Beardsmore, Robert Henry, B.A., 1895 Beatty, Harold Ramsay, M.B., Ch.M. Beaumont, Annie Holloway, B.A., 1898 (Mrs. Cooper) Beaver, William Richard, B.E., 1899 Beckenham, John George, B.A., 1904. LL.B. Beegling, Daniel, B.A., 1885 Beehag, Samuel Alfred, B.A., 1886 Belgrave, T. B., M.D. Bell, George, M.B., Ch.M. Bell, Harry C. Rikard, M.B., Ch.M. Bellhouse, Constance Annie, B.A., 1906 Bellemey, Sydney J., B.E., 1906 Benjafield, Vivian, M.B., Ch.M. Bennet, Francis Alexander, M.D. & T Bennett, Agnes Elizabeth L., B.Sc., 1894 Bennett, Sidwell, B.A., 1908 Bennett, Vyvyan Christopher, B.E., 1904 Harold Graves, M.B., Bennetts, Ch.M. Benson, W. N., B Sc., 1908 Berge, Charles Gustav, M.B., Ch.M. "Public Teacher Admitted ad eundem gradum.

F.R.C.S.,

M.B..

Berne, Percy Witton, B.A., 1883 Berry, David Houston, B.A., 1908 Bertie, Charlotte Maud, B.A., 1896 Biffin, Harriett E., M.B., Ch.M. Binney, Constance Clarice, M.B., 1906 Binney, Ed. Harold, M.B., Ch.M. Binns, William Johnstone, M.A., M.B. Birch, William John, B.E., 1891 Black, Reginald A. W., B.A., 1896, Blackburn, Charles B., M.D., Ch.M. Blacket, Arthur R., B.A., 1872 Blacket, Cuthbert, B.A., 1891 Blair, John, M.D. Blanksby Leslie Holmes, B.A., 1908 Blatchford, Torrington, B.A., 1894 Blaxland, Henry Charles, B.A., 1897 Blaney, Henry Patrick, M.B., 1903 Bligh, Erasmus A. R., M.B., Ch.M. Bloomfield, Elsie I'Anson, B.A. 1897 (Mrs. Horder) Bloomfield, William John, B.A., 1896, LL.B. Blue, Archibald Irwin, M.B., Ch.M. Blume, Bertha Elizabeth, B.Sc., 1908 Blumer, Charles, M.A. Blumer, George Albert, M.B., Ch.M. Blumer, George Alfred, M.A. Board, Peter, M.A. Bode, Arnold G. H., B.A., 1888 Boelke, Paul, M.B., Ch.M. Böhrsmann, Gustav Hall, M.B., Ch. M. Böhrsmann, Rudolph H., M. B., Ch. M. Bolton, Barbara Marion, B.A., 1902 (Mrs. Selfe) Bonamy, Nellie Mildred Blanche, B.A., 1899 Bond, Harold H. B.D.S., 1906 Bond, Lionel Wilfred, M.B., Ch.M. Bonney, Reginald Schofield, B.A., 1904. LL.B. Booth, Irene Mildred, B.A., 1907 Booth, Mary, B.A., 1890 Bottrell, Edwin Horace, M.B., Ch.M. Bourke, Joseph Ormond Aloysius, B.A., 1906 Bourne, Eleanor Elizabeth, M.B., Ch.M. Bourne, Florence Ida, B.A., 1906

Bowmaker, Jessie, B.A., 1901 (Mrs. Turner) Bowmaker, Ruth, M.A. (Mrs. Britton) Bowmaker, Theophilus Robert, B.A., 1896 Bowman, Alister S., B.A., 1878 Bowman, Andrew, M.A. Bowman, Archer, B.E., 1889 Bowman, Arthur. B.A., 1880 Bowman, Edward, M.A. Bowman, Ernest M., B.A., 1880 Bowman, Myril Macdougall, M.A. Boxall, Nelson Leopold, B.A., 1896 Boyce, Francis Stewart, B.A., 1893, LL.B. Boyd, Arthur, B.Sc , 1901, B.E. Boyd, Robert James, M.E. Boyd, William Sprott, B.E., 1901 Boydell, William Guy Broughton, B E., 1905 Brade, Gerald Francis, M.B., 1899 Bradfield, John Job Crew, M.E.1 Bradley, Clement Henry Burton, M.B., Ch.M. Bradley, John Houghton, B.D.S., 1906 Breakwell, Ernest, B.Sc., 1908, B.A. Brearley, Edwin Andrew, B.A., 1904, M.B., Ch.M. Brearley, Joseph Henry Draper, B.Sc., 1894, B.E. Breckenridge, Charles C. P., LLB., Brennan, Christopher J., M.A. T Brennan, Francis P., M.A. Brennan, Sarah O., M.A., B.Sc. Brennand, Henry John W., B.A., M.D., Ch.M. Brentnall, Nina Tillotson, B.A., 1903 Brereton, Ernest le Gay¶ Brereton, John Le Gay, B.A., 1894 Bridge, John M., B.E., 1906 Brierley, Frank Sheppard, M.B., Ch.M. Brierley, Nina Benson, B.A., 1907 Britten, Herbert E., B.A., 1888 Britton, Theodosia Ada, B.A., 1891 (Mrs. Wallace)

Bowden, John Ebenezer, M.A.

Bowker, Cedric Victor, M.B., 1898

Broadbent, Percy Lewis, M.B., Ch.M. Broderick, Cecil Thomas Hawkes, B.A., 1896, LL.B. Brodie, Isabella Esther, B.A., 1895 (Mrs. Newton) Brodžiak, Birdie Kate, B.A., 1908 Broinowski, Gracius Herbert, M.B., 1897 Broinowski, Leopold T., B.A., 1897 Brook, Henry James Sidney, B.A., Brookes, George Arthur, M.B., 1908 Brooks, Harold Arthur, B.E., 1905 Broome, Edward, B.A., 1897 Broughton, Frank William Walford, B.D.S., 1908 Brown, Alfred, B.A., 1866 Brown, George Edward, M.A., LL.B Brown, George Frederick Campbell, B.E., 1907 Brown, James, B.A., 1907 Brown, Mary E., B.A., 1885 Brown, Sophia, B.A., 1894 Brown, William Vernon, B.A., 1894 Browne, Claude Seccombe, M.B., Ch.M. Browne, Elsie Forrest, M.B., Ch.M. Browne, Joseph Alexander, LL.B., 1904. Browne, William C., B.A., 1864 Browne, William Rowan, B.Sc., 19119 Browning, Robert Humphrey, B.A., 1908 Brownlie, Elizabeth Alice Dalziel, B.A., 1901 Brownlie, Eveline Agnes, B.A., 1902 Bruce, Annie, B.A., 1901 Bruce, Grace Mitchell, B.A., 1901 Bruce, Mary H., B.A., 1887 (Mrs. Walker) Bruce, Mary Jane, B.A., 1896 Buchanan, Charles Arthur, B.A., 1889 Buchanan, Charles Pakenham, B.A., 1900 Buchanan, George Arthur, M.B., Ch.M. Buchanan, Joseph David, M.B., Ch.M. Buckland, Thomas, B.A., 1878

Bucknell, D'Arcy H., M.A. Bucknell, Louis Jeffrey, B.E., 1891 Bullock, Howard, M.B., Ch.M. Bundock, Charles W., B.A., 1878 Bunting, Edith Annie, B.A., 1896 Burfitt, Mary Boyd, B.A., B.Sc., M.B., Ch.M. Burfitt, Walter F., B.A., B.Sc., M.B., Ch.M. Burge, Stephen Bruce, M.B., 1900 Burgess, John Henry, B.E., 1905 Burkitt, Edmund Henry, M.B., 1896 Burn, Alan, B.E., 1911¶ Burne, Alfred Dangar, B.D.S., 1908 Burnell, Frederick Spencer, B.A., 1908 Burnell, John Gurner, B.E., 1908 Burrows, George Joseph, B.Sc. ¶ Busby, Hugh, M.B., Ch.M. Bushnell, Pollie, B.A., 1896 Butler, Francis J., B.A., 1882 Butler, Patrick James, B.A., 1900 Butler, Spencer Joseph St. Clair, B.A., 1893, LL.B. Butler, Stanley Wm. Beauchamp, B.A., 1900 Butler, Thomas, B.A., 1876¶† Byrne, Lily Comyn, B.A., 1896 Byrne, James Kevin, B.A., 1894 Byrne, William Edmund, B.A., 1892 Cadden, Leslie George Barton, B.A., 1899 Caddy, James Pascoe, B.E., 1903 Cahill, Annie Lucille, B.A., 1894 Cahill, Arthur Charles, M.B., Ch.M. Cahill, John Hampton, M.B., 1903 Cakebread, William Jowers, B.A., 1894 Callaghan, Stanislaus Kostka, B.A., 1905 Cameron, Archibald Peter, B.A., 1894 Cameron, Colin Bowman, B.E., 1902 Cameron, Donald Allan, M.B., Ch.M. Cameron. William Thomas, B.A., 1904 Campbell, Allan, B.A., 1874 Campbell, Alexander Petrie, B.A., 1904 ¶ Public Teacher.

Campbell, Charles Robert, B.A., 1893 Campbell, Edward, M.A. Campbell, Florence Eva, B.A., 1907 Campbell, George P., B.A., 1885 Campbell, Gerald R., M.A. Campbell, John Stuart, B.A., M.B., Ch.M. Campbell, Joseph, M.A. Canaway, Arthur P., B.A., 18946 Candlish, Robert Smith, B.A., 1904, M.B., Ch.M. Cantrell, Sydney William, B.A., 1907 Cape, Alfred John, M.A. Capper, Lisle Hyne, B.D.S., 1907 Cardew.J. Haydon, Assoc.M.I.C.E.¶ Carey, Daisy, B.A., 1904 Cargill, John Sydney, B.A., 1889 Cargill, William Duthie, M.B., Ch.M. Cartile-Thomas, Ella, B.A., 1900 (Mrs. Budden) Carlile-Thomas, Julia, M.B., Ch.M. (Mrs. Fox) Carlisle, W. W., B.A., 1878 Carlos, Joseph, B.A., 18935 Caro, Hilda, B.A., 1896 Caro, Philip, B.E., 1904 Carroll. William John Smythe, B.A., 1904 Carruthers, Ada Mary, B.A., 1904 Carruthers, Sir Joseph H., M.A. Carslaw, Horatio Scott, M.A., D.Sc. T Carter, Herbert Gordon, B.E., 1908 Carter, L. A., D.D.S.; Carvosso, Albert B., B.A., 1884 Casey, Michael Alphonsus, B.A., 1896 Castleman, Arthur, M.A. Castlehow, Stanley, B.A., 1908 Castling, James Robert, B.A., 1896 Challands, Fred., M.B., Ch.M. Chalmers, Stephen Drummond, M.A. Chambers, George Alexander, M.A. Chandler, Harry, M.A. Chapman, Alfred Ernest, B.A., 1893,  $_{
m LL.B.}$ Chapman, Benjamin Burgoyne, M.A. Chapman, Henry G., M.D., B.S.¶ Chapman, Herbert Owen, M.B., Ch M. Chelmsford, His Excellency Lord,

Chenhall, William Thomas, M.B. 1897 € Chisholm, Edwin Claude. M.B., Ch.M. Chisholm, Wm., B.A., 1875, M.D. Chrismas, Charles Herbert, B.A., 1906 Chubb, Montague Charles Lyttelton. B.A., 1896 Clark, Francis George, B.A., 1900. LL.B. Clark, Marjorie Dufaur, B.A., 1906 Clarke, Francis W., B.A., 1884 Clarke, Gother Robert C., M.B., Ch.M. Clarke, Philip Sylvester, M.B., Ch.M. Clayton, Cyril Henry Joseph, B.E., 1903 Clayton, Frank Herbert, B.E., 1907 Clayton, Hector Joseph Richard, B.A., 1907, LL.B. Clegg, William Carnegie, 1899, LL.B. Cleland, John Burton, M.D., Ch.M. Clifford, James Percy, M.B., 1906 Clift, Guy Chalmers, B.E. Clipsham, Gertrude Mary, B.A., 1899 Clines, Peter Jos., B.A., 1896, LL.B. Close, John Campbell, B.Sc., 1903 Closs, Wm. John Leech, B.A., 1890 Clouston, Lavinia, B.A., 1907 Clouston, Thomas Bennett, M.B., 1905 Clubb, Wallace, B.A., 1896 Cobbett, Pitt, M.A., D.C.L.¶ Cocks, Nicholas John, M.A. Coen, Bernard Joseph, M.B., 1908¶ Coen, Francis. B.A., 1906, LL.B. Coen, Joseph. M.B., 1905 Coffey, Francis Louis Verhulst. B.A., 1894, LL.B. Coghlan, Charles A., M.A., LL.D. Coghlan, Iza Frances Josephine, M.B., Ch.M. Cohen, Alroy Maitland, B.A., 1903, LL.B. Cohen, Arthur Francis, B.E., 1904 Cohen, Fanny. B.A., B.Sc. I

M.A. 6

Cohen, John J., M.A. Coldham, John C., B.E., 1906

<sup>+</sup> Fellow of the Senate.

Coleman, Ernest Albert, B.A., 1906 Collier. Frederick William Dean, B.A., 1904, M.B. Collings, Edith, B.A., 1904 Collins, Clifford Malua, B.A., 1906, LL B. Colvin, Arthur Edmund. M.B., Ch.M. Colver, Moreton John Godden, B.E. 1896 Combes, Edgar William Anthony, M.B., Ch.M. Combes, Jane Frances, B.A., 1895 ·Compton, Albert Zarenne, B.A., 1904 Conlon, William Aloysius, B.A., M.B., Ch.M. Connellan, John, B.A., 1892 Connolly, John, M.A. Connolly, Thomas Patrick, Ch.M. Connor, Thomas John, B.A., 1895 Conroy, Lionel Bigoe Henzell, M.B., 1903 Cook, Sydney Leicester, B.A., 1898 Cook, Walter Edmund, M.E. Cooke, Clarence Hudson, B.A., 1892 Cooley, Percy Glover, M.B., Ch.M. Coombes, Archie James, B.A., 1905 Cooper, Sir Pope Alexander, M.A. Cope, Hubert Roger, M.B., 1898 Copland, Frank Fawcett, B.A., 1894 Corbett, Wm. F., B.A., 1883 Corbin, Albert George, B.Sc., M.B., Ch.M. ·Cordingley, Grace Marion, M.A. Corfe, Austruther John, M.B., Ch.M. Corfe, Duncan Bertram, B.E., 1903 Corlette, Cyril E., M.D., Ch.M. ·Corlette, James Montagu Christian, B.E., 1903 Cormack, Alex. John, M.A. Cosh, James, B.A., 1891 ·Cosh, John Inglis Clark, M.B., Ch.M. ·Cotton, George Reginald Cope, M.B., 1908 ·Cotton, Leo Arthur, B.Sc., 1908¶ ·Coutts, Margaret, B.A., 1903

Cole, Arthur George, B.A., 1907

Cole, Louisa, B.A., 1898 Cole, Percival Richard, M.A.

Cowan, David, B.A., 1894 Cowie, Herbert, B.A., 1907 Cowlishaw, Leslie, M.B., Ch.M. Cowlishaw, Roy G., B.E., 1906 Cowlishaw, Wm. Patten, M.A. Cowlishaw, Winifred, B.A., 1903 Cox, Frederick Henry, M.B., 1895 Cox, Harold, B.A., 1889 Coyle, William Thomas, B.A., 1891 Cozens, George Charles, B.D.S., 1907 Craig, A. Donald, B.A., 1893, B.E. Craig, Charles, B.A, 1892, LL.B. Craig, Francis Brown, M.B., 1907 Craig, Robert Gordon, M.B., Ch.M. Cramp, Karl Reginald, M.A. Crane, Charles, B.A., 1882 Crane, Clive Charles, B.A., 1908 Crane, John T., B.Sc., 1887 Cranswick, George H., B.A., 1904 Crawford, Stella Maud C., B.A., 1896 (Mrs. Edwards) Crawford, Thomas Simpson, M.A. Crawley, Aubrey Joseph Clarence, M.B., Ch.M. Creagh, Albert J., B.A., 1889 Creagh, William John, B.A., 1892, LL.B. Cribb, Estelle Muriel Bridson, M.A. Cribb, John Geo., M.A. Cripps, Esther Fischer, B.A., 1891 Crisford, Hilda Nelsie Moore, B.A., 1902 Crocker, Herbert D., M.A. Croft, Edith, B.A., 1908 Cropper, Cecil Howe, B.E., 1906 Crouch, Frederick R., B.D.S., 1906 Crowley, Archibald, B.A., 1901 Cruise, Emily A., B.A., 1897 Cullen, Wm. P., M.A., LL.D.† Cullinane, John Aloysius, B.A., 1895, LL.B. Culpin, Ernest, M.B., 1905 Culpin, Daisy Ellen, B.A., 1907 Cumming, Jennie, B.A., 1896 (Mrs. Kinnear) Curlewis, Harold Burnham, B.A., 1897 Curlewis, Herbert Raine, B.A., 1890, LL.B.

<sup>†</sup> Fellow of the Senate.

<sup>¶</sup> Public Teacher.

Curnow, William Leslie, B.A., 1890 Davison, Sam. Beaumont, B.A., 1896-Curren, Ethel, B.A., 1905 Dawes, Madeline Mabel, B.A., 1905 Curry, John Nicholas, B.A., 1908 Dawson, Arthur F., M.A. Curtis, William C. M.A. Dawson, James, M.A. Day, Edward James, M.B., Ch.M. Curtis, William John, M.A., LL.B. Cusbert, Allan William, M.A. Day, Leo Septimus, B.A., 1899 Daley, Frank H., B.A., 1889 Deakir, John Edward Ferdinand, Dallen, Robert Ambrose\* Dalmas, Lizzie, B.A., 1895 Dalton, Gerald T. A., M.A. Daly, May Edith, B.A., 1895 (Mrs. McDonald) Dalyell, Elsie Jean, M.B., Ch.M.¶ Dansey, St. John Warburton, M.B., Ch.M. D'Arcy-Irvine, Malcolm Mervyn, B.A., 1889 D'Arcy, Constance Elizabeth, M.B., Ch.M. D'Arcy, George Synnott, B.A., Ch.M. 1895 D'Arcy, John Synnott, B.A., 1890 Dare, Henry H., M.E. Dargin, Sydney, B.A., 1871 Dart, George, M.A. Dart, Riverine Norman, B.E., 1904 Dash, Ebenezer, B.A., 1894 David, Margaret Edgeworth, B.A., 1907 David, T. W. Edgeworth, B.A., F.R.S.T Davidson, Andrew, M.D.¶ Davidson, Colin George Watt, B.A., 1897 1899, LL.B. Davidson, Leslie G., M.B., Ch.M. Davies, Arthur Bernard, B.A., 1894, LL.B. Davies, Edith Warlow, M.A. Davies, Ernest Stanley, B.A., 1907 Davies, Harry Warlow, B.E., 1903 Davies, Isobel. B.A., 1906 1899 Davies, Mary Edith. M.A. Davies, Reginald L., M.B., Ch.M.

Davies, Wyndham John E., B.A.,

Davis, Agnes Marianne Harrison,

B.A., 1896, B.Sc. (Mrs. S. E.

1893, LL.B.

Davis, Henry, B.A., 1890 Davis, James Shedden, M.D., Ch.M.

Cook)

M.B., Ch.M. Deane, Henry, M.A. Deane, Henry James, B.E., 1897 Deane, Wallace, M.A. Deane, William Smith, M.A. Debenham, Arthur John, B.E., 1903-Debenham, Frank, B.A., 1906 Debenham, Jessie, B.A., 1906 De Lissa, Ethel Naida, B.A., 1898 (Mrs. Bensusan). De Lissa, Horace, B.A., 1896 Deck, George Henry Baring, M.B., Deck, John Northcote, M.B., Ch.M. Deck, Norman Cathcart, B.D.S., 1907 Deer, Margaret, B.Sc., 1908 Delohery, Cornelius, M.A. Delohery, Ernest Cecil, B.E., 1903 Delohery, Henry Charles, M.B., 1899 Denham, Howard Kynaston, B.A., 1903, LL.B. Dennis, James, M.A. Densley, Lucy Norma, B.A., 1908 De Putron, Violet Lucy, B.A., 1908 Dettmann, Herbert Stanley, B.A., Dey, Charlotte Johnston, B.A., 1898-(Mrs. Stuckey) Dey, Robert, M.B., Ch.M. Dick, James Adam, B.A., 1886 Dick, Robert, M.B., Ch.M. Dick, William Thomas, B.A., 1890 Dickinson, Edward Moseley, B.A., Dickinson, Evelyn Elizabeth, M.B., 1908, Ch.M. Diethelm, Oscar Albert Anton, M.B., Dight, Arthur Hilton, B.E., 1905 Dight, Wilfred Billingsley, M.B., Ch.M. Dimond, Margaret Cecilia, B.A., 1893 Dixon, Graham Patrick, M.B., Ch.M. 7 Public Teacher.

Dixon, James Thomson, B.E., 1895 Dixon, Herbert Hutchinson, B.A., 1894 Dixson, Thomas S., M.B., Ch.M.¶ Doak, Frank Wiseman, B.A., 1891 Doak, Walter James, B.E., 1895 Docker, Alfred Brougham, B.E., 1903 Docker, Ernest B., M.A. Docker, Gladys Mary Brougham, B.A., 1903 Docker, Wilfred Brougham, B.A., 1905 Dodd, Sydney, M.R.C.V.S., D.VS. (Melb.)¶ Doig, Alexander John, B.A., 1895 Dolan, Alfred P. B., B.D.S., 1906 Donkin, William Dalkeith, B.E., 1907 Donovan, Harrie Caresfort Edmond, M.B., 1906 Donovan, John J., M.A., LL.D. Douglas, Robert Johnstone, B.A., 1905 Douglass, Albert Horace, B.A., 1908 Doust, Edith Lucy, M.A. (Mrs. Wolstenholme) Dowe, Philip William, B.A., 1893 Dowling, Frank Vincent, B.A., 1898 Doyle, John, B.A., 1891 Doyle, William Oscar, M.B., 1906 Drummond, Shafto L., B.A., 1893 Dudley, Joseph T., B.A., 1885 Duesbury, Pearl, B A., 1908 Duff, Victor Clark, B.A., 1904 Dumoio, Nona, B.A., 1898 Dun, William Sutherland I Dunnicliff, Mary Clifton, B.A., 1898 Dunlop, John W., B.A., 1895 Dunlop, Leslie William, Ch.M. M.B., Dunlop, Mabel Laura T., M.A. Dunlop, Norman John, B.A., B.Sc., M.B., Ch.M. Dunne, Charles Daniel, B.A., 1873 Dunstan, Ephraim, M.A. Durack, Joseph Jerry E., B.A., 1899 Durack, William Joseph, M.B., Ch.M. Eames, Jane, B.A., 1895

Eastaugh, F. A., A.R.S.M. Ebsworth, Samuel Wilfrid, 1905, LL.B. Edmunds, John Michael, B.A., 1892 Edmunds, May, B.A., 1897 (Mrs. J. A. Klein) Edmunds, Walter, M.A., LL.B. Edwards, David Sutherland, B.A., 1894, LL.B. Edwards, Dorothea, B.A., 1908 Edwards, Edward Evan, B.A., 1898 Edwards, Edward Samuel, M.A. Edwards, Henry George, B.A., 1908, LL.B. Edwards, James George, M.B., Ch. M. Edwards, J. Ross, M.A. Edwards, John, M.A. Edwards, Rowland Campbell, B.Sc., 1908 Eichler, William Otto Heldmuth, M.B., Ch.M. Elder, Francis R., B.A., 1877 Eldridge, Ada Maitland, M.A. (Mrs. McIlrath) Elkin, Jonathan Bevan, B.A., 1895 Elliott, Millicent V., B.A., 1895 Ellis, Ethel, B.A., 1894 (Mrs. W. V. Brown) Ellis, Mary, M.A., (Mrs. George) Ellis, Lawrence Edward, M.B., Ch.M. Elphinstone, Elsie Mary, B.A., 1899 Elphinstone, James, B.A., 1881 Elphinstone, James Cooke, B.A., 1896, LL.B. Elwell, Laurence Bedford, M.B., Ch.M. Elworthy, Wm. Henry, M.B., Ch.M. Emanuel, Nathaniel, B.A., 1867 England, Theo., B.A., 1885 England, Thomas H., B.A., 1885 English, Robert Joseph. M.B., Ch.M. Enright, Walter John, B.A., 1893 Evans, Ada E., B.A., 1895, LL.B. Evans, Sara, B.A., 1904. Evans-Jones, David Pentland, B.A., 1898, LL.B. Ewing, Thomas, B.Sc., B.A., M.B., Ch.M.

Fahey, Bartley Francis, B.A., 1901, Fairfax, Edwd. Wilfred, M.B., Ch.M. Fairfax, James Oswald, M.A. & Faithfull, George Ernest, M.A. Faithfull, William Percy. M.A. Fallon, Cyril Joseph. B.A., 1908 Farrell, Robert M., M.B., Ch.M. Farran-Ridge, Clive, B.Sc., 1908 Fawsitt, Charles Edward. D.Sc., Ph.D. ¶ Feez, Arthur H., B.A., 1880 Fell, Catherine Isabella, B.A., 1900 Mrs. F. Wood) Fell, David\* Ferguson, David G., B.A., 1886¶ Ferguson, Eustace William, M.B., Ch.M. Ferguson, John Alexander, B.A., 1902, LL.B. Fetherston, Leslie, B A., 1908 Fiaschi, Thomas, M.D.; Fidler, Carleton B., B.A., 1888 Fidler, Ethelwyn, B.A., 1907 Fidler, Isabel Margaret, B.A., 1898¶ Finckh. Alfred Edmund, M.B., 1905 Finn, William George, B.A., 1895 Finney, Charlotte, B.A., 1895 (Mrs. Hodge)Finney, Joseph, B.A., 1894 Finselbach, Friedrich W.A., M.B., 1906Fisher, Arthur Donnelly W., B.A., 1904, LL.B. Fisher, Donnelly, M.A. Fitz, Norman, B.E., 1888 Fitzgerald, Edmund, B.A., 1866 Fitzgerald, John Thomas, B.A., 1890 Fitzhardinge, Grantley Hyde, M.A. Fitzhardinge, Julie Grantley, M.A. Fitzhardinge, Maude Yeomans, M.A. Fitzpatrick, Bernard Joseph, B.A., Fitzpatrick, Edward Bede Lucien, M.B., Ch,M. Fitzpatrick, Mabel, B A., 1908 Fitzpatrick, Thomas John Augustine, B.A., 1893 Flannery, George Ernest, B.A., 1892, LL.B.

Charles Ernest, M.B., Flashman. 1903 Flashman, Horace West, B.E., 1907 Flashman, James Froude, B. B.Sc., M.D., Ch.M.¶ Flavelle, Lucy Isabel, B.A., 1896 B.A., Flecker, Oscar Sydney, M.B., Ch.M. Flecker, Hugo, M.B., Ch.M. Fleming, Howard G. T., B.A., 1894 Fletcher, Archibald William, B.A., 1886, B.Sc. Fletcher, Charles R., B.A., 1881 Fletcher, Frank E., M.A. Fletcher, Joseph J., M.A. Fletcher, Katherine Eliz., B.A., 1895 (Mrs G. Paine) Fletcher, Michael Scott, M.A., Flint, Charles A., M.A. Flower, Emily Monica, M.A. Flynn, John E., M.A. Flynn, Joseph Alban, M.A. Flynn, Theodore Thomson, B.Sc., 1907 Flynn, William J., B.A., 1884 Forde, James, B.A., 1891, B.Sc. Fordyce, Henry St. C., M.B., Ch.M. Foreman, Hy. Jas. Clifton, B.A., 1896 Foreman, Joseph, M.R.C.S.¶ Forster, Charles E., B.A., 1876 Forster, Redmond Clarence Hall, M.B., Ch.M. Forsyth, Walter George, B.A., 1898,. LL.B. Fosbery, Eustace E., M.A. Foster, Colonel Hubert J., R.E.¶ Fox, Arthur Wesley, M.B., 1908 Fox, Harold S., B.A., 1885 Fox, Millicent. B.A., 1905 Fox, Hedley Ebenezer, M.B., Ch.M. Foxall, Henry G., B.E., 1906 Foy, Leslie Harold, B.E., 1903, M.B.,. Ch.M.Fraser, George, B.A., 1906 Fraser, Robert W., B.A., 1885 Francis, Henry Ralph, M.A. Fraser, Donald, M.B., Ch.M. Fraser-Hill, Charlotte Elizabeth, B.A., 1902 Free, Mary Grace. B.Sc., 1907 ¶ Public Teacher. ‡ Examiner.

Freeman, Ambrose William, B.A., 1896. B.E. French, Bernard Russell, B.A., 1907. LL.B. Freshney, Reg., M.B., Ch.M. Frew, Alison Eavis Harding, B.E., 1908 Froggatt, W.¶ Fry, Edith Mary, B.A., 1904 Fry, Eva Jane, B.A., 1907 Fry, Florence Mildred, M.A. Fuller, George W., M.A. Fullerton, Alexander Y., B.A., 1885 Fullerton, Lottie, M.A. (Mrs. Austin) Furber, Robert Iggulden, M.B., Ch.M. Furber, Thomas F.¶ Futter, Victor S., B.A., 1906 Gale, Charles A., B.A., 1906 Galt, James, B.A., 1899 Garde, Henry Lee, M.B., Ch.M. Garde, Henry Thomas, B.E., 1903 Garland, James Robert, M.A. Garland, John, M.A. Garnsey, Arthur Henry, M.A. Garnsey, Edward R., B.A., 1885 Garrick, Joseph Hector, M.A. Garran, Robert R., M.A. Garry, John Jos. Patrick, B.E., 1905 Gattenhof, William Vincent, B.D.S., 1908 Geddes, Samuel, B.A., 1885 George, John, M.A. George, Sydney, B.Sc. ¶ Gerber, Edward W. T., B.A., 1892, LL.B. Gibbes, Alfred George, M.A. Giblin, Norman Ernest, B.E., 1903 Giblin, William Eric, M.B., 1908 Gibson, Alexander J. 1 Gibson, Charles George, B.E., 1900 Gibson, Duncan David, M.B., Ch.M. Gilchrist, James Joseph, M.B., Ch.M. Giles, John Porter Harris, M.A. Gill, Alfred Chalmers, M.A., LL.B. Gill, J. Macdonald, M.D.; Gillam, Dora Alice, M.A. Gillespie, Arthur Paul, M.B., 1907 Gillies, James, B.A., 1889 Gillies, Sinclair, M.D.

Goddard, Ernest J., B.A., D.Sc. Goddard. Thomas Herbert, B.A., 1904 Godsall, Robert Spencer, M.B., Ch.M. Goergs, Karl R. W., M.B., Ch M. Goldsmid, Albert, M.B., 1895 Golledge, Kenneth Alfred, M.B., Ch. M. Gombert, France, B.A., 1908 Gordon, Emily Isabel, M.A. Gordon, George Acheson, B.A., 1895 Gorman, John R., B.A., 1866 Gorringe, Lloyd Septimus, B.E., 1901 Gould, Hubert John, B.E., 1902 Gourlay, Mary Elizabeth Florence, M.A. Gowing, Ellis N., M.A. Graham, David Hannam, M.B., Ch.M. Graham, Emily Rebecca. B.A., 1903 Graham, Frances, B.A., 1905 Graham, Sir James, M.B., 1886 § T Graham, Mabel Jessie, M.B., Ch.M. (Mrs. Baillie) Grant, William, M.B. Grant, William James, B.A., 1903 Grassick, Charles C., B.A., 1897 Gray, Arthur St. J., M.A. Gray, George James, B.E., 1903, B.Sc. Green, Arthur V., LL.D. Mackenzie, B.A., Green, Henry 1902, LL.B. Green, Terence Albert, M.B., 1893 Greenham, Eleanor Constance, M.B., Ch.M. Greenlees, Gavin, B.A., 1895 Greenway, Alfred R., B.A., 1870 Gregson, Edward Jesse, B.A., 1903 Gregson, William Hilder, B.A., 1898 B.E. Greville, Minnie, B.A., 1907 Grey, William Charles, M.B., Ch.M. Grieve, Robert Henry, B.A., 1900 Griffith, Alfred John, M.A. Griffith, James Shaw, B.A., 1895 Griffith, Rt. Hon. Sir Samuel W.. M.A.+ Griffiths, Edward, B.Sc.¶ Griffiths, Frederick Guy, B.A., 1898, M.D.

Griffiths, John Neville, M.B., 1905

Grigor, William Ernest, M.B., Ch.M. Grogan, Albert Thos. Henry, B.A., 1897 Grosse, Edward Henry, B.D.S., 1907 Grut, Charles Frederick de Jersey. **B.E.**, 1901 Gullett, Lucy Edith, M.B., Ch.M. Gurney, Theodore T., M.A.¶ Hadley, Alfred Edward, B.A., 1893 Hadley, Charles William, B.A., 1899 Haigh, Victor, B.A., 1905, LL.B. Halcombe, Charles Digby, M.B., 1902 Hall, Alfred Ernest, B.A., 1893 Hall, Austin Vine, B.A., 1908 Hall, Dorothy Vine, B.A., 1906 Hall, Edwin Cuthbert, M.D., Ch.M. Hall, Ernest Kingsbury, B.E., 1903 Hall, Florence Sidney, B.A., 1907 Hall, William Hessell, M.A. Hall, George R. P., B.Sc., M.B., Ch.M. Halliday, George C., B.A., 1884 Halliday, John Chas. W., M.B., Ch.M. Hallman, Edward F., B.Sc., 1906 Halloran, Aubrey, B.A., 1892, LL.B. Halloran, George Henry, B.A., 1896 Halloran, Ida, B.A., 1893 (Mrs. Yabsley)Halloran (formerly Guérin), Bella, M.A. Hamilton, John Simpson, B.A., 1907 Hamilton-Brown, Elizabeth Isabel, M B., Ch.M. Hammand, Kendall. M.B., 1907 Hammond, Alfred de Lisle, M.A. Hammond, John Harold, B.A., 1896, LL.B. Hammond, Walter Leslie, B.Sc., 1907 Handcock, Charles Lancelot, M.B., Ch.M. Hansard, Edith Hirst, B.A., 1897 (Mrs. Hirst) Hansard. Norman William, M.B., Ch.M. Hardman, Robert, M.B., 1900 Hardie, Howard G., B.D.S., 1906

Harker, Constance Elizabeth, B.A., 1895 Harker, George, B.Sc. 1899 Harker, Mabel, B.A., 1907 Harley, Helen Louise, B.A., 1903 Harper, Rev. Andrew, M.A., D.D. Harper, Margaret Hilda, M.B., Ch. M. Harriott, Charles Warre, B.A., 1889 Harriott, Georgina Jane, B.A., 1894 Harris, George, B.A., 1891, LL.B Harris, Henry Joseph, M B., Ch.M. Harris, Herbert Theodore Rawson, B.E., 1905 Harris, John, B.A., 1892 Harris, John Solomon, M.B., Ch.M. Harris, Lawrence Herschell Levi, M.B., Ch.M. Harris, Lewis Alexander, B.A., 1905, LL.B. Harris, Marian, B.A., 1898, B.Sc. Harris, Sir Matthew, B.A., 1863 Harris, Reginald Arthur, B.A., 1902 Harris, Samuel Henry, M.B., Ch.M. Harris, Walter Eli, M.B., Ch.M. Harris, William Henry, M.B., Ch.M. Harrison, Edgar Selwyn, M.B., Ch.M. Hart, Basil Lloyd, M.B., Ch.M. Harvey, Revina, B.A., 1895 (Mrs. Morison) Harvey, Robert Frederick, B.A., 1908 Harvey, William George, B.A., 1894 Harwood, Marian Fleming, B.A., 1898 Haswell, William A., M.A., D.Sc.,  $F.R.S.\P$ Hawken, Roger Wm. Hercules, B.E., 1900, B.A. Hay, Mary Catherine, B.A., 1897 (Mrs. Johnson) Hayes, David John, B.A., 1894 Hayley, Percy E. L., B.E., 1893 Haynes, Arthur Richard, M.B., Ch.M. Healy, Patrick J., M.A. Hedberg, John Alfred, B.A., 1896 Heden, Ernest Charles., B.A., 1898, B.Sc., B.E. Helsham, Charles Howard, B.A.,

1859

Hargraves, Edward John, B.A.,

1892

Henderson, G. Cockburn, B.A., 1893 Henderson, Robert Greenway, B.A., 1905 Henderson, Robert Newburn, B.A., Henning, Edmund Tregenna, B.E., 1903 Henry, Ada, M.A. Henry, Arthur, M.B., Ch.M. Henry, Hugh, B.A., 1905, LL.B. Henry, Ida Emily, M.A. Hertzberg, Marcus, B.A., 1906, LL.B. Hewitt, Thomas Cotgrave, B.A., 1904 Heydon, George A. M., B.A., 19078 Hicks, Alick Walter, B.A., 1908 Hicks, Harold Frank, B.D.S., 1908 Higgins, Frederick Charles, M.B., Ch.M. Higgins, Michael A., B.A., 1879 Higgins, Percy Reginald, B.A., 1893, LL.B. Hill, Douglas Bayley, M.B., Ch, M. Hill, Evelyn M., B.A., 1895 Hill, George Arthur, M.A. Hill, James Henry Fraser, B.A., 1900, B.E. Hill, John Goodwin Watson, B.A., M.B., Ch.M. Hill (nee Uther), Mary Handfield, M.A. Hill, Thomas, M.A. Hilliard, Arthur Vaughan, B.A., 1890 Hills, Henry H., M.A. Hinder, Henry V.C., M.B., Ch.M.¶ Hinder, Robert John. B.A., 1889 Hinder, W. Septimus, D.D.S.¶ Hinton, William Samuel, B.A., 1902, LL.B. Hipsley, Alice Ellen, B.A., 1898 Hipsley, Percy Leslie, M.D., Ch.M. Hobbs, Edwin, B.A., 1897 Hobbs, John William, B.A., 1894 Hodge, Ernest Arthur, B.A., 1895 Hodge, Sydney Trevillian, B.A., 1902, LL.B. Hodgkins, Amy Alice, B.A., 1895 (Mrs. James)

Hoets, John William van Rees, M.B., Ch.M. Hogarth, Julius W.¶ Hogg, James E., M.A. Hogg, Kate Emily, B.A., 1894 Holden, Florence Mackenzie, B.A., Hole, William Francis, B.E., 1896 Holland, John Joseph, M.B., 1905 Holliday, Andrew, B.A., 1898, LL.B. Hollingdale. Bernard Austin, B.A., 1906, LL.B. Holloway, Irene Anna, B.A., 1904 Holme, Ernest Rudolph, M.A. Holme, John Barton, B.A., 1893, LL.B. Holmes, Harry Glennie, M.B., Ch.M. Holmes, William Fredk., B.A., 1894 Holt, Arthur Christian, B.A., 1895, M,B, Holt, Edith Jane Katherine, B.A., 1902 (Mrs. Morgan) Holt, Wilfrid John, M.A. Hood, Dannina, B.A., 1894 (Mrs. Lanfear) Hope, Percival. B.A., 1903 Hopkins, Francis Irvine, B.A., 1893 Hopman, John Henry, B.A., 1894 Horniman, Alexander, B.A., 1866 Horton, Marion Charlotte, B.Sc., 1897 (Mrs. White) Hosking, Richard, B.Sc. Houison, Andrew, B.A., 1869 Houison, James, B.A., M.D. Houison, Stephen James, B.A., 1898 Howard, John Bruton, B.A., 1895 Howard, Vera, B.A., 1907 Howson, Frank, M.A. (Oxon.),  $M.\dot{R}.C.S.\P$ Hudson, William, M.A. Huggart, Alfred Theodore, B.A., 1892Huggart, William Charles, M.B., Ch.M. Hughes, Charles Michael, B.A., 1886 Hughes, Hugh Jason, B.A., 1897 Hughes, James Charles, M.B., Ch.M. Hughes, James O'Donoghue A., B.A., 1894 Hughes, John, B. A., 1906, LL.B. ¶ Public Teacher

Hodgson, Evelyn G. M.A.

Hughes, Michael O'Gorman, B.A., 1890, B.Sc., M.B. Humphery, Esca Morris, M.B., Ch.M. Humphries, Herbert Gordon, M.B., Čh M. Hungerford, Hedley Heber, B.A., 1886 Hunt, Claude L. W., M.B., Ch.M. Hunt, Digby St. Clair W., B.A., 1895 Hunt, Fanny E., B.Sc., 1888 Hunt, Hugh Alton Stanislaus, B.A., 1897 Hunt, William Edwin, B.A., 1908 Hunter, John, M.A. Hunter, Mary Alison Miles, B.A., 1895 Hunter, Thomas Brown, B.A., 1898 Hunter, William Allen, M.B., 1902 Hurst, George, M.A. Hutchinson, George Thos., B.A., 1900 Hyde, Ellis, B Sc., 1905§ Hynes, Sarah, B.A., 1891 Iceton, Edward Arthur, M.A. Irvine, Robert F., M.A. ¶ Jack, Robert Lockhart, B.E., 1899 Jackson, Clements F. V., B.E., 1895 Jackson, Elizabeth, B.A., 1907 Jackson, Frederick Chas., B.A., 1897 Jackson, Frederick H., B E., 1903 Jackson, Henry Latimer, M.A. Jackson, John Wm., M.B., Ch.M. Jackson, Robert, M.A. Jacobs, James, B.A., 1894 James, Arthur Henry, B.A., 1893 James, Augustus G. F., B.A., 1888 James, George Alfred, B.A., 1893 James, Thomas, B.A., 1896 James, William Edwin, M.A. Jamieson, G. Wellington, B.A., 1893 Jamieson, Sydney, B.A., 1884 Jacques, Harold Vivian, B.A., 1904, Jarrett, Marjorie Kate, B.A., 1901 Jarvie, Bennie, B.A., 1898 Jefferis, James, LL.D. Jenkins, Charles J., B.A., 1887 Jenkins, Chas. Warren B., B.E., 1895 Jenkins, Edward J., M.D. § Jensen, Harold Ingemann, D.Sc. Jensen, Klio, M.A.

Johnson, Martin Luther, B.A., 1893 Johnson. Norman Russell, BE., 1908 Johnston, Alexander W., M.A. Johnston, Ella Russell, B.A., 1890 (Mrs. Martin) Johnston, Herbert Hough, M.B., Ch.M. Johnston, John, B.A., 1887 Johnston, Langloh Parker, M.B., Ch.M. Johnston, Mary Eleanor B.A., 1896 (Mrs. Woodlands) Johnston, Stephen Jason, B.A., 1894 B.Sc.¶ Johnston, Thomas Harvey, M.A., D.Sc. Johnstone, Henry T., B.A., 1885 Jones, Albert E., LL.B., 18896 Jones, Cortis Harry Frederick, M.A. Jones, Eric D. L., B.A., 1906 Jones, Ernest Trevor, B.A., 1884 Jones, Grace Eveline, B.A., 1907 Jones, G. E. Russell, M.A. Jones, John Russell, B A., 1908 Jones, Sir Philip Sydney, M.D.+ Jones, Philip Sydney, M.B., Ch.M. Jones, Rees Rutland, M.A. Jones, Richard Theophilus, M.D. Jones, Stephen William, B E., 1908 Jones, Thomas, B.A., 1895 Jones, Thomas E., B.A., 1884 Jopling, Mildred Hilda. B.A., 1908 Jordan, Frederick Richard, B.A., 1904, LL.B.; ¶ Jordan, George Edward Gustavus, B.Sc., 1901 Joseph, Horace B., B.A., 1887 Kaeppel, Andrée Adelaide, B.A., 1906 Kater, Norman William. M.B., Ch.M. Kay, Robert, M.A. Kay, Stuart, M.B., Ch.M. Kellett, Frederick, M.A. Kellick, Arthur Charles Tapley Kelynack, Arthur James, B.A., 1889, LL.B. Kelynack, Harold Leslie, B A., 1893 Kemmis, William Henry, B.A., 1890 + Fellow of the Senate.

Admitted ad eundem gradum
Public Teacher.

<sup>†</sup> Fellow of the Senate. ‡ Examiner.

Kemp, L. Mildred King, B.A., 1902 Kemp, Richard Cyril King, B.A., 1903, LL.B. Kemp, Richard Edgar, M.A. Kendall, Frank Louis, B.A., 1893 Kendall, Herbert William, M.B., 1905 Kendall, Theodore M., B.A., 1876 Kenna, Patrick J., B.A., 1882 Kennedy, Annie Augusta, B.A., 1893 (Mrs. Atkins) Kennedy, Emily Clara, B.A., 1895 (Mrs. Studd Browne) Kennedy, Philip, M.A. Kent, Fredk. Deacon, M.A. Kent, Harry Chambers, M.A. Kershaw, Joseph Cuthbert, B.A., 1894, LL.B. Kesteven; H. Leighton, D.Sc. Kidston, Robert Matthew, B.A., 1892 Kilgour, Alexander James, B.A., 1894, LL.B. King, Aubrey Arthur, M.B., Ch.M. King, Cecil J., M.A. King, Copland, M.A. King, Frederick Hart, M.A. King, George C., B.A., 1887 King, R. W., B.A., 1884 & King, Walter U. S., M.A. Kinross, Robert Menzies, B.A., M.B., Ch.M. Kirchner, Edward Ruvane, B.D.S., 1907 Klein, James Augustus, M.A. Knaggs, Samuel Thomas, M.D. Knox, Adrian, LL.B., 18956 Knox, Edward William † Knight, Arthur, M.A. La Douce, Felicie Aurélie., B.A., 1905 Lafferty, Terence Matthew, B.A., 1899 Laird, Henry Hermann, B.A., 1907, LL.BLamrock, Arthur Stanton, B.A., 1891 Lancaster, Llewellyn Bentley, M.B., Ch.M. Lance, Elisabeth Ada, M.A.

Lander, William H., M.A. Lane, Alan Philip Reade, B.D.S, 1908 Lane, Frederick George, B.A., 1895 Lang, John Gavin, M.A. Langley, Isabella E., B.A., 1897 Langton, Frederick W., B.A., 1887 Langton, William Digan, M.B., Ch.M. Larcombe, Ernest Rich., B.A., 1902 Larkins, Frank Joseph Moore, B.A., 1902, LL.B. Larkins, Harold Matthew, B.E., Larkins, Nicholas Clement, M.B., Ch.M. Lasker, Samuel, M.A. Latham, Oliver, M.B., Ch.M. Latreille, Meta Gertrude Emily, B.A., 1905 Lawrence, Raymond Lister, B.A., 1908, LL.B. Lawes, Charles Herbert Essery. M.B., Ch.M. Layton, John Edward, B.A., 1893 Leahy, John Patrick Daunt, B.A., M.B., Ch.M. Ledger, William Henry, B.E., 1893 Lee, Henry Herbert, M.B., Ch.M. Lee, Herbert Ernest, B.A., 1886 Lee, Thomas Nelson, M.A. Lee, William, M.A. Lees, Geoffrey John, M.B., 1900 Leeson, Ida Emily, B.A., 1906 Legge, J. Gordon, M.A., LL.B. Lehane, Thomas Joseph, LL.B., 1903 Leibius, G. Hugo, B.A., 1888 Lennox. Edith, B A., 1906 Lenthall, Ellen Melicent, B.A., 1893 de Lepervanche, Eustace Mézières, B.A., 1900 Leslie, James Robert, M.B., Ch.M. Lethbridge, Harold Octavius, M.B., Ch.M. Leverrier, Frank, B.A., 1884, B.Sc. † Levick, Alfred Manning, B.A., 1904 Levy, Daniel, B.A., 1893, LL.B. Lewis, Henry Clyde, B.A., 1893 Lichtscheindl, Rose, B.A., 1894 (Mrs. Innes) Liddell, Andrew Innes, M.A. Admitted ad eundem gradum.

Liggins, Jessie Hunsdon, B.A., 1899 Light, Hilda Vera, B.A., 1908 Lightoller, George Henry Standish, M.B., Ch.M. Lindsay, W. C., B.A., 1903, LL.B. Lingen, John Taylor, M.A. Linsley, Wm. H., B.A., 1880 Lion, Rosine, M.A. Lipscomb, Thomas Walter, M.B., Ch.M. Lister, Henry, M.B., 1892 Litchfield, W. Frederick, M.B., 1893 Little, Vivian Agincourt Spence, M.A. Littlejohn, Edward S., B.A., 1887 Liversidge, Archibald, M.A., LL.D., F.R.S.¶ Llewellyn, Rees Frank, M.B., 1902 Lloyd, Frederick, M.D. Lloyd, Thomas, B.A., 1878 Lodder, Nellie, B.A., 1908 Logan, George, B.A., 1903 Lomer, Caroline, M.A. (Mrs. Vidler) Lord, Frank Colbran Turner, B.A., 1903 Loudon, Bertha Winifred, B.A., 1904 Louis, Philip Herbert, M.A. Love, William Arnold, B.D.S., 1907 Lovell, Henry Tasman, M.A., Ph.D. ¶ Lowick, Clara, B.A., 1904 Loxton, Edward James, M.A. Loxton, Frederick E., B.A., 1906 Ludowici, Edward, M.B., Ch.M. Luker, Donald, M.B., Ch.M. Lukin, Gresley W. H., M.A. Lusby, Sydney Gordon, M.A. Lydall, John French, B.A., 1907 Lyden, Michael J., M.D. Lydon, James, B.A., 1894 Lynch, Joseph, M.A. Lynch, Michael D., B.A., 1870 Lynch, William, B.A., 1863 Lyon, Pearson, B.A., 1890 Lyons, Ettie, B.A., 1904 Lyons, Richard J., B.A., 1906 Macansh, Andrew W., B.A., 1885 MacCallum, Isabella Renton, B.A., 1904 MacCallum, Mungo L., B.A., 1906 MacCallum, Mungo W., M.A.¶†

Macarthy, Herbert T. S., B.A., 1860 McCarthy, Arthur W., B.A., 1881 McClelland, Hugh, B.A., 1881 McClelland, Walter Cecil, B.Sc., M.B., Ch.M. McCook, Adam Stuart, B.A., 1895 McCook, William Henry, B.A., 1900 MacCormick, Alexander, M.D.§¶ McCoy, William Taylor, B.A., 1894 McCrae, Arthur Gordon, B.E., 1903 MacCreadie, John Laing Martin, M.B., Ch.M. McCredie, RobertWm., M.B., Ch.M. MacCulloch, Harrington Thom Cuthbert, M.B., Ch.M. McCulloch, Percy V., B.A., 1881 Thomas MacCulloch, Stanhope H., M.B., Ch.M.‡ McDermott, Vesian B., B.A., 1887 McDonagh, John M., B.A. 1879 Macdonald, Fanny Elizabeth, B.A., 1895 Macdonald, James M., M.A. Macdonald, Louisa, M.A.§∥ McDonald, Timothy George, B.A., 1903 McDonald, William Alphonsus, B.A., 1907 McDonnell, Æneas J., M.D., Ch.M. McDonnell, Randall C. W., B.A., 1888 McDowall, James, M.A. McDowall, St. Andrew Logan, M.B., 1905 William McDowall, Valentine, M.B., 1905 McElhone, Frank Eric, B.A., 1908 McEncroe, Jas. Michael, M.B., Ch.M. McEvilly, Augustus, B.A., 1886 McEvilly, Ulric, B.A., 1883 McEvoy, Bertie Patrick, B.A., 1899 McEvoy, John Joseph Stuart, M.B., 1900 McFarlane, John Stuart, M.B., 1908 MacFarlane, Laurie M., B.A., 1906 McGill, Alec Douglas, B A., 1908 McGuinn, Denis, B.A., 1884 MacInnes, Angus, B.A., Ch.M.

Admitted ad eundem gradum.

† Fellow of the Senate.

(Mrs. G. L King)

Public Teacher.
Examiner.

MacInnes, Isabel Mary, B.A., 1904

Macintosh, Alexander Hay, M.B., Ch.M. McIntosh, Alexander M., B.A., 1906, M.B. Macintosh, Cyril Leslie Stewart, M.B., Ch.M. Macintosh, George Donald, M.B., Ch.M. McIntosh, Harold, B.A., 1889 McIntyre, Aug. T., B.A., 1879 McIntyre, Duncan A., B.A., 1888 Mack, Sidney, B.A., 1890, LL.B. Mack, Augustus Charles, 1902 Mackaness, George, M.A. Mackay, Iven Giffard, B.A., 1904¶ McKay, James, B.A., 1896 McKay, William J. Stewart, B.Sc., M.B., Ch.M. McKean, Alexander, B A., 1908 McKean, Leslie John, B.A., 1907, LL B. McKelvey, John Lawrence, M.B., Ch.M. Mackenzie, Arthur Joseph, M.B., Ch.M. Mackenzie, John, M.B., Ch.M. McKeown, Eric W., B.E.¶ McKeown, Frederick Maurice, B.A., 1907 McKibbin. Rachel, B.A., 1908 Mackie, Alexander, M.A. §¶ McKie. Ernest N., B.A., 1906 McKillop, Archibald, M.B., 1906 McKillop, Lachlan Martin, M.B., Ch.M. Mackinnon, Ewen, B.Sc., 1907 Mackinnon, Roger R. S., M.B., Ch.M. Mackintosh, Bertha Adeline Hilda, B.A., 1899 Mackness, Constance, B.A., 1902

Maclardy, J. D. St. Clair, M.A.

LL.B.

Maclardy, Margaret M. St. C., B.A.,

McLaren, Alexander Duncan, M.A.,

McLaren, John Gilbert, B.A., 1895

MacLaurin, Charles, M.B., Ch.M.

McLaughlin, Daniel, B.A., 1890

MacLaurin, Hon. SirHenry Normand, M.A., M.D., LL.D. MacLaurin, Henry Normand, B.A., McLean, Archie L., B.A., 1906, M.B. Maclean. Charles Hector Roderick, B.A., 1901 Maclean, Fredk. S., B.A., 1887 McLean, George, M.B., Ch.M. McLeod, James, B.A., 1879 McLintock, Colin Scott, B.A., 1900 McMahon, Gregan, B.A., 1896 MacManamey, James Frazer, B.A., 1881 MacManamey, John Frazer, B.A., 1889 MacManamey, William Frazer, B.A., 1892 MacMaster, Donald Æneas D., B.A., B.Sc., M.B., Ch.M. MacMullen, Frank, M.A. McMurray, Wahab, M.D.§ Macrossan, Hugh Denis, B.A., 1902 McNeil, Andrew, B.A., 1889 McNevin, Arthur Joseph, B.A., 1895 McNevin, Thomas Butler, B.A., 1893 MacPherson, John, M.A., B.Sc., M.B., Ch.M. MacPherson, Peter, B.A., 1889 MacTaggart, Edgar A., B.D.S., 1906 MacTaggart, John Norman C., M.E. McWilliam, Neville Gilbert, B.A., 1903, LL.B. Madsen, John Percival Vissing, B.Sc., 1900, B.E.¶ Maffey, Reginald William H., B.A., 1896, M.B. Magarey, Frank W. A., M.D., Ch.M. Maher, Charles H., B.A., 1877 Maher, Charles Weston, M.B., Ch.M. Maher, Matthew E., B.A., 1867 Maher, Thomas Francis, B.A., 1893 Maher, W. Odillo, M.D. Main, John. B.A., 1892 Maitland, Herbert Lethington, M.B., Ch.M. Makin, William, B.A., 1902 Malcolm, Olive, B.A., 1908

¶ Public Teacher.
+ Fellow of the Senate.

Admitted ad eundem gradum. ‡ Examiner.

Mallarkey, Ethel May, M.A. Maloney, Andrew W., B.A., 1893 Maloney, John Thomas, B.A., 1899 Mann, William J. G., M.A. Mannell, Francis Worthington, B.A., Manning, Henry Edward, B.A., 1900, LL.B. Manning, Hugh Eldred, B.A., 1905, LL.B. Manning, James N., M.A., LL.D. Manning, Reginald K., B.A., 1887 Manning, William Alexander, M.A. Manning, W. Hubert, M.A. Manning, William Ernest, B.A., 1892 Mansfield, Walter Charles, M.B., Ch.M. Marden, John, LL.D. Markell, Horace Francis, B.A., 1905 LL B. Marks, Hyam, B.A., 1892 Marks, Florence, B.A., 1893 Marks, Gladys Hope, B.A., 1908 Marks, Leah, B.A., 1893 Marks, Percy J., B.A., 1887 Marr, Fannie Augusta, B.A., 1899 (Mrs. Jack) Marr, Gordon William Singer, M.B., 1901 Marrack, John Rea M., M.A. Marsden, Ernest Ambrose, M.B., Ch.M. Marsh, Alison Mary, BA, 1908 Marsh, Harold Seaward, M.B., 1903 Marsh, Harold Theodore, M.B., Ch.M. Marshall, Frank B.D.S., 1906 Marshall, William Henry, B.D S., Martin, Laura Margaret, B.A., 1907 Martin, Lewis Ormsby, B.A., 1893,  $_{
m LL.B.}$ Martyn, Athelstane Markham, B.E., 1905 Martyn, Sydney Charles, B.A., 1889 Mason, Thomas William, M.B., 1903 Mason, William Harry, B.Sc., 1905 Massey - Makinson, Arthur, B.A., 1903 Mate, William H., B.A., 1864

Mathews, Hamilton Bartlett, B.A., 1899 Mathison, Walter, B.A., 1880 Mathison, Walter Charter, B.E., 1899 Matthews, Henry Delahunt, M.B., 1908 Maughan, David, B.A., 1906 🛭 Mawson, Douglas, B.E., 1902, B.Sc. Mawson, William, M.B., Ch.M. Maxwell, Henry Francis, B.A., 1895 Maxwell, William, B.A., 1904 Maxted, Henry Louis, B.A., 1902 May, Hubert Walter, B E, 1908 Maynard, Ethel Margaret, B.A., 1894 (Mrs. Peden) Mayne, William M., M.A. Mayne, J. O'Neill, B.A., 1884 Maze, William A. A., B.A., 1892 Meagher, Louis Felix, B.A., 1889 Meares, Hercules, B.A., 1893, LL.B. Meares, Matilda, M.A. Meek, Herbert Arthur, B.A., 1903 Meillon, John, M.A., LL.B. Meillon, Joseph, B.A., 1863 Meldrum, Henry John, B.Sc., 1907 Mell, Cecil Newton, B.A., 1894 Melville, Hector Pope. B.A., 1905 Menzies, Guy Dixon, M.B., Ch.M. Merewether, E. A. M., B.A., 1884, Merewether, Hugh H. M., B.A., 1894, LL.B. Merewether, Walton L., M.A. Merewether, William D. M., B.A., 1895, LL.B. Merrington, Ernest Northcroft, M.A. Metcalfe, George, M.A. Middleton, Robert John, M.A. Miles, James Albert, B.A., 1894 Miles, Vivian James. M.A. Millard, Alfred C., B.A., 1885 Millard, Godfrey William, M.A. Millard, Reginald J., M.B., Ch.M. Miller, James W., B.A., 1896 Miller, Richard John, B.A., 1885 Miller, Robert Christy, M.B., 1908 Mills, Archibald Joseph, B.A., 1907 Mills, Arthur E., M.B., Ch.M.¶ ¿ Admitted ad eundem gradum.

Mills, Elsie Ada Harland, M.A. (Mrs. Holmes) Mills, Percy Harcourt, B.A., 1893, LL.B. Minter, Clifford, B.A., 1907, LL.B. Mitchell, Clarice, B.A., 1908 Mitchell, Ernest Meyer, B.A., 1896, LL.B. Mitchell, Ethel Robertson, B.A., 1898 Mobbs, Athol Walter, M.B., Ch M. Molesworth, Edmund Harold, M.B., Ch.M. Moloney, Thomas P., B.A., 1885 Molster, Eliza, B.A., 1893 (Mrs. Dowe) Molster, Sarah, M.A. Monaghan, John Graham, M.A. Monahan, William Willis, B.A., 1897, LL.B. Mounington, Alfred. M.A. Montague, James H., M.A. Montefiore, Hortense Henriette, B.A., 1896 Montgomerie, John, B.A., 1889 Moore, David C., B.A., 1883 Moore, Frank Joseph S., B.A., 1883 Moore, George, M.D. Moore, Henry Edington, B.A., 1967, LL B. Moore, John, B.A., 1883 Moore, Samuel, M.A. Moore, Verner, B.A., 1884 Moore, Walter Albert, B.A., 1894 Moors, Elphinstone M., M.A.¶ Moran, Herbert Michael, M.B., 1907 More, George Allan, B.E., 1901 Morgan, Fredk. A., B.A., 1888 Morgan, Thomas H. D., B.A., 1892 Morley, Irene Madeline, B.A., 1904 Morley, Muriel Violet, M.A. Morrice, John, B.A., 1874 Morris, John James, B.A., 1895 Morris, Robert N., B.A., LL.D. Morrish, Francis, B.A., 1882 Morrison, Archibald, B.E., 1908 Mort, Harold Sutcliffe, B.Sc., 1901. Mort, H. Wallace, M.A. Mort, Selwyn Robert, B.E., 1900

Morton, John, M.B., Ch.M. Morton, Selby, M.D. Moseley, Arthur Henry, M.B., Ch.M. Mote, Arnold Rudolph, B.A., 1902 Mote, Livingstone Charles, M.A. Mott. Olive Lenore, B.A., 1905 Mottershead, Arthur, B.A., 1906 Moulton, James E., B.A., 1892 Moustaka, Orea Emma Hellas, B.A., 1897 (Mrs. Beatty) Mowbray, Rupert Wallace, B.A., 1903 Moxham, Cecil G., B.D.S., 1906¶ Movlan, William P., B.A., 1906 Mugliston, Madeline Lucy, B.A., 1904 Mulhollaud, John Joseph, B.A., 1899 -Mullens, Arthur Frank Macquarie, B.A., 1896 Mullins, George Lane, M.D. Mullins, John Lane, M.A. Murray, Charles Edward Robertson, M.A. Murray, C. O'Connor, B.A., 1904, LL.B. Murray, Donald, M.A. Murray, Florence Jane, M.A. (Mrs. Armitage) Murray, George Lathrop, Ch.M. Murray, Mercy M. H., B.A., 1897 (Mrs. Nugent Robertson) Murray-Prior, Dorothea Katherine, B.A., 1904 Murray-Prior, Ruth A., B.A., 1906 Murray-Prior, Robert Sterling, B.A., 1905 Muscio, Allan, M.B., 1902 Musmann, Carl Ernst Gottlieb, B.A., 1897 Mutton, Isaiah, B.A., 1900 Myers, David M., B.A., 1866 Myers, Harold Walter, B.E., 1901 Nardin, Collis Carleton, B.E., 1905 Nardin, Ernest Willoughby, B.E., Nash, John Brady, M.D. Nathan, Edward Alleyne, M.A.,  $_{
m LL.B.}$ Neave, Bevan W., B.D.S., 1906 Nelson, Duncan John, B.A., 1895

Morton, Gavin, M.B., Ch.M.

M.B.,

Newman, George Hine, B.A., 1887 Newman, James Malcolm, B.E., 1901 Newman, Kelsey Illidge, B.A., 1894 Newsham, Alice Isabel, B.A., 1900 Newton, Alice Sarah, M.B., Ch.M. (Mrs. Newton-Tabrett) Newton, Henry, B.A., 1889 Newton, Roland G., B.A., 1906 Newton, William Thomas Joseph, M.B., 1900 Nicholls, William Hunt Ward, B.A., 1891 Nicholson, George Gibb, B.A., 1899¶ Nimmo, William Muir, B.A., 1907 Noad, Emma Alison, B.A., 1907 Noake, Arthur R., M.A. Noake, Reginald, B.A., 1877 Noake, Reginald Robert, B.A., 1904 Noake, Stephen C., B.A., 1906 Noakes, Mabel Alicia, B.A., 1896 (Mrs. Stonham) Noble, Edmund Murray, M.A. Nolan, John Henry Monteith, M.A.  $Nolan, Herbert Russell, M.B., Ch. M. \P$ Norman, Edwin Philip, B.E., 1911¶ Norman, John Lupton. B.E., 1907 Norrie, George, M.B , Ch M. North, Frederick, B.A., 1907 Northcote, Right Hon. Henry Stafford, Baron, M.A. Northcott, Clarence Hunter, B.A., 1905 Oakes, Florence Isabella Mantel, B.A. 1905 O'Brien, Agnes Gertrude, B.A., 1895 O'Brien, Francis, M.A. O'Brien, The Right Rev. Monsignor James J., D.D.O'Brien, Kathleen Moira, B.A., 1894 O'Brien, Lucius, B.A., 1865 O'Brien, Ormond, B.A., 1876 O'Brien, Patrick Daniel, B.A., 1894, LL.B. O'Connor, Arthur C., M.B., Ch.M. O'Connor, Hon. Mr. Justice R. E., M.A.+

Nettleship, Edward, B.A., 1895

Newham, Arthur, M.A.¶ Newman, Ernest Ludlow,

1903

O'Donohue, John P. Markham, B.A., 1895, LL.B. O'Halloran, Charles Michael, M.B., 1908 Old, George Greensil, M.B., 1900 Oliver, James, M.A. Olver, William Reath, M.B., Ch.M. Oram, A. Murray, M.D. O'Keefe, John A., B.A., 1887 O'Keefe, John James, M.B., 1898 O'Mara, Michael, M.A. O'Neill, James Bernard, B.A., 1895 O'Reilly, Hubert de Burgh, B.A., 1892, LL.B. O'Reilly, Theophilus Linnell, M.B., Ch.M. O'Reilly, Susannah Hennessy, B.Sc., M.B., Ch.M. O'Reilly, Walter Creswell, B.A., 1903 O'Reilly, Walter William Joseph. M.D.§ Ormiston, Martha Isabel, M.B., 1907 Osborne, Henry Stuart, B.A., 1896 Osborne, John King, M.B., Ch.M. O'Sullivan, Daniel Roche, B.A., 1901 O'Sullivan, Eugene Francis, B.A., Oswald, Alfred William, B.A., 1903 Oxenham, Humphrey Bede, M.B. Ch.M. Owen, Tom Mackellar, B.E., 1905 Page, Arthur Ernest, B.A., 1899 Page, Earle Christmas Grafton. M.B., Ch.M. Pain, Allan Franklyn, B.A., 1894 Pain, Arthur Wellesley, B.A., 1884 Pain, Ernest Maynard, M.B., Ch.M. Paine, Bennington Haille, B.A., 1893 Paine, George Henry, B.A., 1894 Palmer, Allan Burnett, B.A., 1907 Palmer, Arthur A., M.B.. Ch M.t Palmer, Chas. Reginald, M.B., Ch.M. Palmer, Henry Wilfred, M.B., Ch.M. Palmer, Selina Elizabeth, B.A., 1903 Palmer, Thomas Henry, B.L., 1898 Paris, Jane Elizabeth, B.A., 1897 (Mrs. Martin) † Fellow of the Senate.

O'Conor, Broughton B., B.A., 1892,

Parish, Walter G., M.A. Park, Joseph, M.B., Ch.M. Parker, Leslie Richard, M.B., Ch.M. Parker, Reginald Arthur, M.B., Ch.M. Parker, Wm. A., B.A., 1892, LL.B. Parkinson, Henry Hallam, M.B., Ch.M. Parnell, Ethel Caroline, M.B., Ch.M. Parsons, Emily Waugh, B.A., 1899 Parsons, Florence Louey, B.A., 1906 Parsons, Joseph, M.A. Parry, Edward Lloyd D., M.B., Ch.M. Paterson, John, M.A. Paton, Arthur T., B.A., 1887 Paton, Mary Paterson, B.A., 1902 Patterson, Benjamin Gilmore, B.E., 1904 Patterson, Mervyn Stuart, M.B., Ch.M. Pattinson, Anthony Walton, B.A., 1894 Paul, Alfred, B.A., 1905, B.Sc. Paul, Charles Norman, M.B., Ch.M. Paul, George Augustus, M.B., Ch.M. Paxton, Betha, M.A. Paxton, Grace, B.A., 1907 Pearce, William T. L. A., B.A., Peden, John B., B.A., 1892, LL.B. ¶† Penman, Arthur P., B.E., 1906 Penman, John Edwards Foggon, B.A., 1897 Penman, Leslie E., B.A., 1906 Perkins, Alfred Edward, M.A., M.B., Ch'.M. Perkins, Frederick Thomas, M.A. Perkins, Joseph A. R., B.A., 1892 Perkins, Richard, M.B., Ch.M. Perry, John, M.A. Perské, Hermann, B.A., 1887 Peterson, Arthur James, B.Sc., 1901, Petherbridge, Walter Charles, M.B., Ch.M. Petrie, Edith Maud, B. A., 1901 Petrie, James Matthew, D.Sc. Philip, Frederick Charles, M.A. Phillips, Catherine Agnes, B.A., 1896

Phillips, Arthur Bradridge, M.B., Ch.M. Phillips, Frederick Geo., B.A., 1902 Phillips, Reginald Bede, B.A., 1902 Pickburn, James P., B.A., 1892, LL.B. Piddington, Albert Bathurst, B.A., 1883† Piddington, Francis Llewellyn, B.E., 1898 Pike, George H., M.A. Pilcher, George de Vial, B.A., Pilcher, Charles E., B.A., 1865 Pilcher, Norman George Stafford, B.A., 1898, LL.B. Pincombe, Torrington Hawke, B.A., 1890 Pitt, Arthur Gladstone Matcham, B.A., 1902, LL.B. Platt, Cecil Percival, B.E., 1905 Plomley, Francis James, M.A. Plomley, Morris James, M.B., Ch.M. Plume, Henry, M.A. Poate, Hugh Raymond Guy, M.B., Ch.M.¶ Pockley, Eric Osbaldiston, M.B., Ch.M. Pockley, F. Antill, M.B., 18886¶ Poidevin, Leslie Oswald Sheridan, B.A., 1900 Pollock, James Arthur, D.Sc.¶ Poole, William, B.E., 1900 Poolman, Arthur Ed., B.A., 1883 Pope, Roland J., B.A., 1885 Portus, Garnet V., B.A., 1906 Potts, Cuthbert, B.A., 1898 Powell, James William Garnett, B.A., 1904, B.Sc. Powell, Theodore, M.A. Power, F. Danvers¶ Power, John Wardell, M.B., Ch.M. Power, Percy Horne, B.A., 1901 Power, Reginald, B.E., 1908 Praed, Annie, B.D.S., 1906 Pratt, Frederick V., M.A. Pratt, Walter Henry, B.A., 1901 Prentice, Arthur J., B.A., 1892 Prescott, William Arnold, B.E., 1907 Pridham, Alice Mary, B.A., 1908

Pridham, Edward, B.D.S., 1907 Pridham. Harold Ernest. Ch.M.Priestley, Henry, B.Sc., M.B., Ch.M. Pring, Robert Dorlow, M.A. Pritchard, Alice, B.A., M.B., Ch.M. Pritchard, Wm. Clowes, B.A., 1888 Proctor, Lizzie, M.A. (Mrs. Cocks) Pulleine, Robert Henry, M.B., 1898 Punch, James Steenson, B. D.S., 1907 Purcell, Philip Francis, B.A., 1898 Purcell, Winifred Dalton, B.A., 1895 Purser, Cecil, B.A., M.B., Ch.M. Purves, Alan Melrose, M.B., Ch.M. Purves, John Mitchell, M.A. Quaife, Frederick Harrison, M.A. Quaife, Walter Thorold, M.B., Ch.M. Quaife, William F., B.A., 1879 Quick, Sir John, LL.B., 1881 Quigley, James, B.A., 1890 Quinn, John Joseph, B.A., 1905, LL.B. Radford, Louis Bostock, M.A., D.D. Rae, Thomas Robert, B.E., 1905 Ralston, Alexander G., M.A. Ralston, Alexander Windeyer, B.A., 1907, LL.B. Ramsay, James, B.A., 1885 Ramsden, Edward Maxwell, M.B., Ranclaud, A. B. B., B.Sc., 1908, Ranson, Joseph Robert, B.A., 1908 Raves, George Alfred, B.A., 1897 Raves, Helen Alice, M.A. Read, Elizabeth June, B.A., 1899 Read, William Henry, M.B., Ch.M. Reading, R. Fairfax, M.R.C.S., L.Ď.S.¶ Real, I dward Thynne, B.A., 1905, LL.B. Redgrave, Harold W., B.A., 1906 Redgrave, Leslie Alfred, B.A., 1905 Redshaw, George, B.A., 1895 Rees, Walter Llewellyn, M.B., Ch.M. Reid, Norman, B.E., 1898 Reid, Robert Stewart, B E., 1905 Reid, Roberta Jane Sinclair, B.A.,

Reidy, John Jas. Gralton, B.A., 1896 Rennie, Edward H., M.A. Rennie, George E., B.A., 1882 Renwick, Charles Saunders, M.B. Ch.M. Renwick, Herbert John, B.A., 1893 Reynolds, Alfred John, B.A., 1907 Reynolds, Arthur J. P. G., B.A., 1890 Reynolds, Reginald Blair, M.A. Rhodes, Alice O. R., B.A., 1906 Rich, George E., M.A. Richards, Samuel J., M.B., Ch.M. Richardson, Charles Noel Derwent, B.A., 1893, LL.B. Richardson, Rosslyn James Dalvell, B.E., 1903 Richardson, Henry A., B.A., 1867 Rickard, Jonathan Charles, B.A., 1907, LL.B. Rigg, Thomas, M.A. Riley, Edward Blomfield Gerald, B.D.S., 1907 Riley, Ernest Arthur, M.A. Riley, Patrick William, B.A., 1894 Riley, Spencer George Birkenhead. B.A., M.B., Ch.M. Riley, Valentine B., B.A., 1872 Rishworth, Henry Shiers, B.A., 1908 Ritchie, Harold John, M.B., Ch.M. Roberts, Alfred John Spencer Cecil, M.B., Ch.M. Roberts, James W., B.E., 1892 Roberts, Thomas Taylor, M.A. Robert: on, James William, B.E., 1904 Robertson, Joseph, M.A. Robertson, Lionel Joseph, M.B., 1903 Robinson, Charles H. P., B.A., 1893 Robinson, George Frederick Greenwell, B.A., 1890 Fairley, M.B., Robinson. Grace Ch.M. (Mrs. Boelke) Robinson, Katherine, B.A., 1907 Rebinson, Mabel Fuller, B.A., 1890 (Mrs.: Windeyer) Robinson, Mabel Hawthorne, B.A., Robjohns, Leonard, B.A., 1894 t Fellow of the Senate.

Reid. Violet Margaret, B.A., 1902

Robson, Wm. Elliott Veitch, B.A., -1889Roe, James Martin, M.B., 1900 Rofe, John F., M.A. Rofe, Ruth Irene, B.A., 1904 Roger, Robert, B.A., 1876 Roger, Robert, M.B., Ch.M. Rogers, Francis Cecil, M.B., Ch.M. Rogers, Francis Edward, LL.B.† Rogers, Leslie Halse, M.B., Ch: M. Rogers, Percival Halse, B.A., 1905 Rogers, William LL.B., 1903 William Arnott Halse, Rolin, Tom, M.A. Rooney, William J., B.A., 1892 Rorke, Sydney Norman, M.B., Ch.M. Roseby, Clara, B.A., 1908 Roseby, Edmund Rupert, Ch.M. Roseby, Gertrude Amy, B.A., 1895 Roseby, Minnie, B.A., 1895 Roseby, Sarah Mabel, B.A., 1900 Roseby, Thomas, M.A., LL.D. Roseby, Thomas Ernest, M.A. Ross, Chisholm, M.D. Ross, Colin John, B.E., 1891 6 Ross, William John Clunies, B.Sc., 1891 § iter, Florence Annie, B.A., 1898 (Mrs. D. M. Cooper) Rossiter, Roth-Schmidt, Frederica, B.A., 1897 Roughton, Gladys M., B.A., 1906 Rourke, Ernest John, B.A., 1893 Rourke, George Augustus, B.A., 1893 Rourke, Lillie Agnes, B.A., 1895 Rowan, Thomas, M.D. Rowland, Norman de Horne, B.A., 1895, LL.B. Rowlands, Harold Berkeley, B.E., 1897 Royle, John MacD., B.E. Rudder, Sydney Llewellyn, B.A., Russell, Charles Townsend, B.A., Russell, Edward, M.A. Russell, Ethel Albinia, B.A., 1893 Russell, Francis Alfred Alison, M.A.

Russell, Harry A., B.A., 1887 Russell, Jane Foss, M.A. (Mrs. Barff) Russell, John F. S., M.A. Russell, Lillian, B.A., 1891 (Mrs. G. C. King) Russell, William. M.A. Russell, William Patrick, B.A., 1907 Rutherford, Constance Muriel, B.A., . 1903, M.B. Rutherford, Florence Marion, B.A., 1900 (Mrs. Fric Fitzhardinge) Rutherford, George Washington, B.A., 1900, LĽ.B. Rutledge, Edward H., M.B , Ch.M. Rutledge, William F., B.A., 1871 Ryan, Gerald, B.A., 1893 Ryan, James William, B.A., 1901 Rygate, Charles D. H., B.A., 1883 Rygate, Henry B., B.A., 1885 Rygate, Philip William, M.A., B.E. Saddington, Arthur G., B.A., 1887 Sadler, Alexander, B.A., 1900 Sadler, Henry Frank, M.B., 1903 Sandes, Francis Percival, M.D., Ch.M. Sandford, Blanche Vavasour, B.A., 1902 Sands, John Marshall, B.A., 1889 Sapsford, Clinton Pelham, M.B., Ch.M. Saunders, Arthur, B.A., 1893 Saunders, Eva Florence, B.A., 1897 Saunders, Florence Louisa, B.A., 1903, M.B. Saunders, George Joseph, B.E., 1904 Savage, Vincent Wellesley, M.B., Čh.M. Savage, Edward Joseph, M.B., Ch.M. Sawkins, Dansie Thomas, M.A. Sawkins, Frederick John T., M.B., Ch.M. Sawyer, Basil, B.E., 1896 Saxby, George Campbell, 1891 Saywell, Thomas Stanley, B.A., 1900 Scarvell, Edric Sydney, B.A., 1893,  $_{
m LL.B.}$ Schenk, Theodor W. G. H., M.B., Ch.M.

<sup>†</sup> Fellow of the Senate.

<sup>§</sup> Admitted ad eundem gradum.

Schleicher, Bernard Michael John, Schlink, Herbert Henry, M.B., Ch.M. Schmidt, Egmont T. C., M.B., Ch.M. James A., A.R.S.M., Schofield. F.C.S.¶ Schrader, Cyril Petersen. M.A. Scot-Skirving, Robert, M.B., 1888 Scott, Edward Henry, M.B., Ch.M. Scott, Walter, M.A.¶ Scoular, David, B.A., 1895, LL.B. Scroder, Aphra Frances, B.A., 1907 Scrutton, Caroline Maude, B.A., 1900 Seaward, William T., B.A., 1892 Seldon, Florence Mary, B.A., 1894 (Mrs. Stobo) Seldon, William, M.B., 1902 Sellors, Richard P., B.A., 1890 Sendall, Alfred E., B.A., 1888 Serisier, Lavigne Ernest, B.A., 1891 Shand, Alexander B., B.A., 1884 Sharp, Granville Gilbert, B.Sc., M.B., Ch.M. Sharp, Lewis H., B.Sc., 1906, B.E. Sharp, W. Hey, M.A.§ Sharp, Walter Alexander Ramsay, B.A., M.B., Ch.M. Sharpe, Ernest, B.A., 1865 Sharpe, George Frederick, M.A. Sharpe, William George, B.A., 1897 Shaw, Frederick C. S., M.B., Ch.M. Shaw, Henry Giles, M.A. Shaw, John A. K., B.A., 1885 Sheehy, William, M.B., Ch.M. Sheldon, Herbert, M.B., Ch.M. Sheldon, Stratford, B.Sc., M.B., Ch.M. Shellshear, Cyril, M.B., Ch.M. Shellshear, Joseph Lexden, M.B., Ch.M. Shellshear, Wilton, B.E., 1904 Sheppard, Arthur Murray, M.B., Čh.M. Sheppard, Edmund Haslewood, B.A., 1882 Sheridan, Francis B., B.A., 1874 Sheridan, John Patrick, B.A., 1890 Sheridan, Muriel Eulalie Bingham, B.A., 1900

Sherlock, John Bolt, B.A., 1895 Sherring, Beatrice Alice, B.Sc., 1908 Shewcroft, Alfred John, B.A., 1893 Shirley, John, B.Sc., 1887 Shirlow, Sydney S., M.B., Ch.M. Shiriow, William J., M.B., Ch.M. Short, Frederick, B.A., 1908 Shorter, Herbert Leopold Ashton. M.B., 1899 Shortland, Percy D., M.A. Simpson, Hon. Mr. Justice Archibald Henry, M.A.§† Simpson, Edward S., B.E., 1895 Simpson, Francis G. M., M.B., Ch. M. Sinclair, Colin Archibald, B.A., 1899. LL.B. Sinclair, George Wade, B.A., 1908 Skerritt, Arthur P., B.E., 1906 Skillen, Elizabeth, B.A., 1904 Skuthorpe, Garnett Stemyn, B.E., 1905 Skillman, Jessie, B.A., 1905 Slack, Ella Mary, B.A., 1905 Slack, Ida Leslie, M.A. Slade, Oswald Carey, B A., 1903, Slee, Richard Thilthorpe, B.E., 1901 Sloman, C. Wansbrough, B.A., 1893 Sloman, John, B.A., 1872 Sly, George J., M.A., LL.D. Sly, Joseph D., M.A., LL.D. Sly, Richard Meares, M.A., LL.D. Smail, Herbert Stewart Inglis, B.E., 1897 Smail, James Alex. Moore, B.E., 1905 Smairl, Joseph Henry, M.A. Small, Ethel Ella, M.A. Smee, Reginald, B.A., 1901 Smith, Archibald, B.A., 1889 Smith, Charles Percy, B.A., 1908 Smith, Donald¶ Smith, Emma Isabel, B.A., 1893 Smith, Grafton Elliott, M.D., Ch.M. Smith, Herbert Saumarez, M. A. Smith, Hilton Charles Garnett, M.B., Ch.M. Smith, Kenneth, M.B., Ch.M. Smith, Nellie May, B.A., 1906

Smith, Percy Edward Walton, M.B., Ch.M. Smith, Robert, M.A. Smith, Stewart Arthur, M.B., Ch.M. Smith, Stanley Clifton, B.A., 1906 Smith, William S., M.A. Smith, William, B.A., 1902 Smith, William Michael, M.A. Smithers, Ada Margery, B.A., 1907 Smyth, Frank L. S., M.A. Smyth, John Sands, M.B., Ch.M. Snow, Stuart Bishop, B.A., 1908 Somerville, George B., B.A., 1882 Spark, Ernest J. T., M.B., Ch.M. Sparling, Lilian Grace, B.A., 1906 Spence, John, B.A., 1904, LL.B. Spier, Reginald Vincent, B.E., 1902 Sproule, Margaret, B.A., 1903 Sproule, Robert, B.A., 1907 Squire, Hilton Bell, B.A., 1893 Stack, John, M.A. Stacy, Fitzroy Somerset, B.A., 1897, LL.B. Stacy, Harold Skipton, M.D., Ch.M. Stacy, Valentine Osborne, M.B., 1908 Stanley, Fredk. Vernon, B.E., 1902 Stanley, George P., M.B., Ch.M. Stanton-Cook, Millicent Ivy, B.A., 1907 Starkey, John N., B.D.S., 1906 Starkey, William Augustus, B.D.S., Steel, Robert, M.A. Steele, Andrew Buchanan, M.B., 1907 Stephen, Edgar Horatio Milner, M.B., Ch.M. Stephen, Edward Milner, B.A., 1891 Stephen, Henry Montagu, 1900, LL.B. Stephen, James Farish, B.E., 1905 Stephen, John Wm. Farish, B.A., 1897 Stephens, Charles T., B.E., 1892 Stephens, Frederick Glover Neason, M.B., Ch.M. Stephenson, Anita Leila, B.A., 1901 Stephenson, John Hunter, M.A. Stevens, Wm. Woodburn, Ch.M. М.В.,

Stevenson, William Henry Webster, Stewart, Alexander Hav, B.E., 1902 Stewart, Charles, M.D. Stewart, Colin Percival, M.B., Ch. M. Stewart, Donald Grant, B.A., 1896 Stewart, Jas. Douglas, B.V.Sc., M.R.C.V.S.T Stewart, James Robert, B.A., 1903. Stewart, William Pentleton, B.A., 1907 Stiles, Bernard Tarlton, M.B., Ch.M. Stirling, E. C., M.D.‡ Stockwell, Leslie G., B.D.S., 1906 Stokes, Edward S., M.B., Ch.M. Stokes, Frank Oliver, M.B., 1907 Stoney, Edmund Heighton, B.A., 1898 Stonham, John, M.A. Stonham, Kathleen, B.A., 1895 (Mrs. Willis) Storey, John Colvin, M.B., Ch.M. Stoyles, Herbert George, M.A. Street, Charles James, M.A. Street, Philip Whistler, B.A., 1883 Strickland, Tom Percival, B.E., 1897 Stuart, T. P. Anderson, M.D. 6, LL.D.†¶ Stuckey, Francis Seavington, M.B., Ch.M. Studds, Harold Augustus, B.A., 1900 Studdy, Albert J., B.A., 1888 Studdy, Annie Avice Matilda, B.A., 1891 Studdy, William B., M.B., Ch.M. Suckling, Frank Martin, M.B., Ch. M. Sulman, John, F.R.I.B.A. Sullivan, Denis Joseph, B.A., 1899 Sullivan, Henry, B.A., 1872 Sullivan, James, B.A., 1894 Sullivan, James, B.A., 1867 Sullivan, Reg., B.A., 1892, LL.B. Sutherland, Constance A., M.A. Sutherland, Elmina L., B.A., 1891 Sutherland, Peter, B.A., 1890 Sutton, Mabel Harriet, B.A., 1904 Swanwick, Kenneth ffoulkes, B.A., 1896, LL.B. Sweet, Geoffrey Bruton, M.B., 1893 Swynny, William Frank, B.A., 1899 Symonds, Bertha Violet, B.A., 1897 (Mrs. Knight) Symonds, Daisy, B.A., 1893 Tait, Leslie Gordon, M.B., 1910¶ Talbot, Ethel, M.B., Ch.M. Tange, Charles L., B.A., 1880 Tange, Frank Septimus, M.B. Ch.M. Tarleton, John Willington, M.B., 1902 Tarplee, William F., B.A., 1884 Tarrant, Thomas Ambrose, B.A., 1907 Taylor, Charles, M.D. Taylor, Charles James, M.B., Ch.M. Taylor, Elizabeth Ironside, M.A. (Mrs. Bowden) Taylor, Hugh W., M.A. Taylor, James Wilson, M.A. Taylor, John M., M.A., LL.B. Taylor, Sarah, B.A., 1893 Taylor, Thomas Griffith, 1904. B.E. Taylor, Thomas Manning, B.A., 1901 Tebbutt, Arthur Hamilton, B.A., 1905 Teece, Ashley Howard, B.A., 1907 Teece, Richard, F.I.A., F.F.A. Teece, Richard Clive, M.A., LL.B. Teece, Roy Noel, M.A., LL.B. Telfer, James Barnet, M.A. Terrey, Hedley, M.B., Ch.M. Terry, Frank, B.A., 1906 Thallon, James B., B.A., 1876 Thomas, David, B.E., 1902 Thomas, George Bowen, M.B., Ch.M. Thomas, Richard Weld, B.A., 1893 Thompson, Alexander, B.A., 1895 Thompson, Harold Lindsay, B.E., 1908 Thompson, I. Florence, M.A. Thompson, James A., M.A. Thompson, Joseph, M.A., LL.B. Thompson, Robert Alfred, B.A., 1891 Thompson, Sydney A., B.A., 1887 Thompson, William Mann, M.A., Thomson, Alec., B.A., 1891, LL.B. Thomson, Jack Mowbray.

Cb.M.

Thomson, Jean Graeme, M.B., Ch. M. Thorburn, James Thomas, B.A., 1886 Thorne, George, B.A., 1865 Thornton, Septimus, B.A., 1896 Throsby, Herbert Zouch, M.B., 1898 Tidswell, Frank, M.B., Ch.M. Tietkins, Emi'y Mary, B.A., 1907 Tighe, William, B.A., 1892, LL.B. Tivey, John Proctor, B.A., 1902, B.Sc., B.E. Todd, Frederick Augustus, B.A., 1901, Ph.D.¶ Todd, R. H., B A., M.D., Ch.B.¶ Tole, Joseph, B.A., 1869, LL.B. Tom, Wesley, B.A., 1860 Tomkinson, William, B.A., 1908 Tomlinson, George Leigh, M.B., Ch.M. Toose, Stanley Vere, B.A., 1908 Townley, Percy Langford, M.B., Ch.M. Townshend, Samuel Edward, B.A., 1905, LL.B. Tozer, Seymour Darvall, B.A., 1899. LL.B. Tracey, Frederick, M.A. Trebeck, Tom Beal, M.A. Tremlett, Frank C. G., 1906 Trindall, Richard B., B.A., M.B., Ch.M. Try, John Cowley, B.E., 1902 Tudor-Jones, Evan, M.B., Ch.M. Turner, Annie Elizabeth, B.A., 1899 Turner, Emily May, M.A. (Mrs. Corkhill) Turner, Basil W., A.R.S.M. T Twynam, Henry, B.E., 1896 Ure, Edith, M.B., Ch.M. Ure, Sarah Louisa, M.B., Ch.M. Uther, Allan Hammill, B.A., 1891, LL.B. Uther, Jennie Bertha, B.A., 1894 Uther. Mary Handfield, M.A. (Mrs. Utz, Harold Stuart, B.A., 1908 Vallack, Arthur Styles, M.B., Ch.M. Vane, H. Dunstan, F.S.I.A. Varley, Charles Grant, LL.B., 1902

Veech, Michael, M.B., Ch.M.

Veech, Louis Stanislaus, B.A., 1890, Verco, Sydney Manton, M.B., Ch.M. Verco, Clement Armour, M.B., Ch.M. Verge, Arthur, M.B., Ch.M. Verge, Cuthbert Arnold, M. B, Ch. M. Verge, John, B.A., 1899, B.E. Vernon, Geoffrey Hampden, M.B., Vernon, Murray Menzies, M.B., Ch.M. Vicars, James, M.E. Vickers, Leslie, B.A., 1908 Vickers, Wilfred, M.B., Ch.M. Vickery, Ebenezer Frank, B.A., 1901, LL.B. Vivers, George Arthur, M.B., Ch.M. Vonwiller, Oscar Ulric, B.Sc., 1902¶ Waddell, Annie, B.A., 1895 (Mrs. Thomas) Waddell, George Washington, M.A.,  ${
m LL.D.}\P$ Waddy, Ernest Frederick, B.A., 1907 Waddy, Richard Granville, M.B., Ch.M. Waddy, Percival Richard, B.A., 1891, LL.B. Waddy, Percival Stacy, M.A. Wade, Robert Blakeway, Ch.M.¶ Wade, Charles Gregory, B.A., 1005 Wade, Robert Thompson, B. A., 1905 Waine, Victor J., B.E., 1906 Waldron, Thomas W. King, B.A., 1893, LL.B. Walker, Arthur D., B.A., 1906 Walker, Clifton C. P., B.A., 1906 Walker, Hugh, B.E., 1903 Walker, James Ernest, B.A., 1894, LL.B. Walker, John Stuart Dight, B.E., Walker, Samuel Herbert, B.A., 1894 Walker, William A., B.A., 1888 Walker-Smith, Hugh Bell, M.B., 1907 Walkom, Arthur B., B.Sc.¶ Wallace, Donald, M.A., M.B., Ch.M. Wallace, F. E., B.A., 1889, LL.B. Wallach, Bernard, B.E., 1897

Wallach, Henriette, B.A., 1907 Walsh, John James, B.A., 1899 Walsh, William M. J., M.A. Walton, George Henry Montague, B.A., 1899, LL.B. Walton, John Francis, M.B., 1903 Walton, William Bain, M.B., Ch.M. Ward, Bertha Raymond, B A., 1907 Ward, Leonard K., B.A., 1900, B.E. Ward, Ruby Estelle, B.A., 1897 Ward, Thomas W. C., B.A., 1884, Wardrop, Gabriel, B.A., 1893 Wardrop, Maggie Robertson, B.A., 1903 Waring, Herbert R., B.A., 1906, LĽ.B. Wark, Florence Helen, M.A. Warren, Ernest William, B.E., 1897, B.A., LL.B. Warren, William Edward, M.D. Warren, William Henry, M.I.C.E. ¶† Wassell, Joseph Leathom, M.B., Ch.M. Waterhouse, Eben Gowrie, B.A., Waterhouse, Gustavus Athol, B.Sc., 1899, B.E. Waterhouse, John, M.A. Watkins, Hubert Lance, B.A., 1907 Watkins, John Leo, M.A. Watson, H. F., B.A., 1903, LL.B. Watson, James Fred-rick, M.B., Ch.M. Watson, Lindsay G. H., B.A., 1907 Watsen, Maria Eleanor, M A. Watson, William George, M.A. Watson, Robert S., B.A., 1887 Watt, Andrew Robert James, B.A., 1893, LL.B. Watt, Charles Prosper, B.A., 1893 Watt, John Alexander, M.A., B.Sc. Watt, Robert Dickie, M.A., B.Sc.¶ Watt, Thomas Evans, B.A., 1906, LL B. Watts, Ethel Lucy, B A., 1908 Watts, Percy Richard, B.A., 1904, LL.B. Waugh, Keith Cameron, B.E., 1908 Waugh, Richard Andrew Phipps, M.B., 1903 Waugh, Robert, M.A. Wearne, Amy Isabel, B.A., 1893 Wearne, Minnie F., M.A. Wearne, Richard Arthur, 1895 Weatherburn, Charles Ernest, M.A., B.Sc. Webb, Bernard L., B.A., 1906 Webb, James Eli, B.A., 1908 Webb, Sydney Douglas, B.E., 1905 Weedon, Cyril James, M.B., Ch.M. Weigall, Albert Bythesea, M.A. Weigall, A. Raymond, B.E., 1894 Weigall, Harold Walter, B.A., 1895 Weigall, Henry Stewart, B.E., 1903 Wellisch, Edward Montague, M.A. Welch, John Basil St. Vincent, M.B.. Ch.M. Welch, Kenyon St. Vincent, M.B., Ch.M. Welsh, David Arthur, M.A., B.Sc., M.D.¶ Wentworth, Fitzwilliam, M.A. West, Edith Annie, B.A., 1900 West, Francis William. M.B., Ch.M. Weston, Percy Leonard, B.Sc., 1901 B.E. Wheeler, Arthur Russell, B.A., 1904, LL.B. Wheeler, Harold Charles Fearon, B.A., 1902 Wherrett, Ernest Albert. M.B., Ch. M. White, Charles Alfred, B.A., 1895 White, Charles Josiah, B. Sc., 1907, B.A. White, Norman Frederick, B.E., 1894 White, Wilfred James. M B., 1907 White, W. Moore, LL.D. § Whiteman, Reginald John Nelson, M.B., Ch.M. Whiteman, Woodleigh D., B.E., 1906 Whitfeld, Eleanor Madeline, B.A., 1895 (Mrs. Wood) Whitfeld, Hubert E., B.A., 1897, B.E. Whitfeld, Lewis, M.A.

Whiting, Joseph, B.A., 1895 Whitney, George C., M.A. Whyte, Henry William, B.A., 1908: Wilkins, Thomas, B.E., 1911 Wilkinson, Frederick B., M.A. Wilkinson, Henry L., B.A., 1880 Wilkinson, Ida Beatrice, B.A., 1903-(Mrs. Donelley) Wilkinson, W. Camac, B.A., 1878 Williams, A. Lukyn, M.A. Williams, Alfred James, B.A., 1898 Williams, James L., B.A., 1892 Williams, John Alfred, B.A., 1894 Williams, Leslie Ballesat, B.A., 1899, Williams, William, B.A., 1891 Williams, William, B.A., 1895 Williams, Wm Henry, B.A., 1894 Williamson, Percy Leyden, B.A., 1899 Willis. Carlyle Gordon, B.A., 1907 Willis, Charles Savill, M.B., Ch.M. Willis, Charles St. Leger, M.B., 1906 Willis, Robert Spier, M.A. Wilshire, Hector, M.A. Wilson, David, M.A., LL.B. Wilson. Mary Dunstan, M.A.. (formerly Ella Wilson) Wilson, Frederick James, B.A., 1893 Wilson. George Harry, B.A., 1901, LL.B. Wilson, Gwendolene Lilian, B.A., 1900 Wilson, John Bowie, B.E., 1897 Wilson, James T., M.B., Ch.M., F.R.S.¶ Wilson, Richard Cunliffe, 1901, B.E. Wilson, Roger, B.A., 1877 Wilson, Thos. George, M.D., Ch.M. Wilton, Edward Nowill, B.A., 1900 Windeyer, John Cadell, M.D., Ch.M. Windeyer, Richard, B.A., 1891 Windever, William Archibald, B.A.. Winton, Louis Joseph, B.E., 1901 Wise, Bernhard R., B.A., 18856 Withers, Oswald Edgar Bruce, M.B., 1907

Withycombe, Ernest John, B.A., 1899Wolstenholme, Harry, B.A., 1890 Wood, Ebenezer C., M.A., B.Sc., B.E. Wood, Fredk. Ernest, B.A., 1890 Wood, Frederick William, B.A., 1894 Wood, George Arnold, M.A.¶ Wood, Henry. B.E., 1903 Wood, James Patrick, B.E., 1895 Wood, Harrie Dalrymple, 1893, LL.B. Woodburn, Joseph William, B.E., Woodcock, Lancelot Richard, B.E., 1905 Woodd, Henry A., B.A., 1887 Woodhouse, William John, M.A.¶ Woodlands, Mabel Rose, B.A., 1908 Woodthorpe, Robert A., M.A. Woodward, Frederick P., B.A., 1892Woolcock, John L., B.A., 1883 Woolnough, George, M.A. Woolnough, Robert Edmund, M.B., Ch.M.

Woolnough, Walter George, D.Sc.¶ Wootton, Ernest, B.A., 1892 Woore, John Morris Simeon, B.E., 1896 Worrall, Ralph, M.D. Wright, Gilbert ¶ Wright, Stewart, B.A., 1882 Wyatt, Arthur H., M.A. Wylie, Mary Wilhelmina, M.B., Ch.M. Wyndham, Elinor Margaret, B.A., 1908 Yarnold, Alfred Henry, M.A. Yarnold, Isabel May, B.A., 1899 Yarrington, Clive T. L., M.A. Yarrington, William H. H., M.A., LL.B. Yeates, Ainslie Arthur, M.A. Yeomans, Allan, M.A. Young, Edgar Harold, M.B., Ch.M. Young, Hilda May, B.A., 1907 Young, James, B.A., 1900, LL.B. Zlotkowski, Frederick Sobieski

Wladimir, M.B., Ch.M.

# GRADUATES.

# MASTERS OF ARTS.

Anderson, Catherine, 1901 Anderson, Francis, 1890 Anderson, Henry C. L., 1878 Backhouse, Alfred P., 1873 Barber, Richard, 1889 Barbour, George Pitty, 1889 Barff, Henry E., 1882 Barlee, Frederick Rudolph, 1884 Birlex, Harrie Norman Clayton, 1910 Barnes, Pearl Ella, 1905 Barraclough, Francis Egerton, 1909 Barton, Edmund, 1870 Binns, William Johnstone, 1902 Blum.r. Charles, 1908 Blumer, George Alfred, 1897 Board, Peter, 1891 Bowden, John E., 1863 Bowmaker, Ruth, 1895 Bowman, Andrew, 1864 Bowman, Edward, 1864 Bowman, Myril Macdougall, 1910 Brennan, Christopher J., 1897 Brennan, Francis P., 1882 Brennan, Sarah O., 1891 Broughton, Alfred, 1870 Brown, George Edward, 1900 Bucknell, D'Arcy H., 1886 Campbell, Edward, 1884 Campbell, Gerald R., 1885 Campbell, Joseph, 1882 Cape, Alfred John, 1867 Carruthers, Joseph H., 1878 Castleman, Arthur, 1906 Chalmers, Stephen Drummond, 1899 Chambers, George Alexander, 1904 Chandler, Harry, 1909 Chapman, Benjamin Burgoyne, 1910 Chelmsford, His Excellency Lord, 19108 Cocks, Nicholas John, 1892 Coghlan, Charles A., 1879 Cohen, John J., 1881 Cole, Percival Richard, 1905 Connolly, John, 1908 Cooper, Pope A., 1874 Cordingley, Grace Marion, 1903 Cormack, Alexander J., 1886

Cowlishaw, William Patten, 1862 Cramp, Karl Reginald, 1906 Crawford, Thomas Simpson, 1904 Cribb, Estelle Muriel Bridson, 1901 Cribb, John George, 1893 Crocker, Herbert D., 1886 Cullen, William Portus, 1882 Curtis, William C., 1859 Cusbert, Allan William, 1910 Curtis, William John, 1903 Dalton, Gerald T. A., 1882 Dart, George, 1911 Davies, Edith Mary, 1911 Davies, Edith Warlow, 1901 Dawson, Arthur F., 1877 Dawson, James, 19036 Deane, Henry, 1893 Deane, Wallace, 1909 Deane, William Smith, 1884 Delohery, Cornelius, 1888 Dennis, James, 1897 Dillon, John T., 1876 Docker, Ernest B., 1865 Donovan, John J., 1859 Doust, Edith Lucy, 1898 Dunlop, Mabel Laura Tange, 1909. Dunstan, Ephraim, 1870 Edmunds, Walter, 1879 Edwards, John, 1908 Edwards, J. Ross, 1884 Edwards, Edwd. Samuel, 1898 Eldridge, Ada Maitland, 1903 Ellis, Marv, 1909 Fairfax, James Oswald, 1910 Faithfull, George E., 1869 Faithfull, William P., 1868 Fisher, Donnelly, 1875 Fitzgerald, Robert M., 1859 Fitzhardinge, Grantley H., 1869 Fitzhardinge, Julie Grantley, 1908. Fitzhardinge, Maude Yeomans, 1901 Fletcher, Frank E., 1883 Fletcher, Joseph J., 1876 Fletcher, Michael Scott, 1902 Flint, Charles Alfred, 1884 Flower, Emily Monica, 1911 Flynn, John, 1879

Flynn, Joseph A., 1881 Fosbery, Eustace E., 1881 Francis, Henry R., 1870 Fry. Florence Mildred, 1905 Fuller, George W., 1882 Fullerton, Lottie 1905 Garland, James R., 1862 Garland, John, 1905 Garnsey, Arthur Henry, 1896 Garran, Robert Randolph, 1899 Garrick, Joseph H., 1871 George, John, 1910 Gibbes, Alfred George, 1875 Giles, John Porter H., 1908 Gill, Alfred Chalmers, 1899 Gillam, Dora Alice, 1903 Gordon, Emily Isabel, 1902 Gowing, Ellis Norman, 1909 Gray, Arthur St. J., 1887 Griffith, Alfred John, 1896 Griffith, Samuel W., 1870 Gourlay, Mary Elizabeth Florence, 1910 Hall, William Hessell, 1890 Halloran (née Guérin), Bella, 1892§ Hammond, A. de Lisle, 1884 Healy, Patrick J., 1877 Henry, Ada, 1908 Henry, Emily Ida, 1908 Hill, George Arthur, 1899 Hill, Thomas, 1878 Hills, Henry H., 1880 Hodgson, Evelyn G., 1881 Hogg, James E., 1890§ Holme, Ernest Rudolph, 1909 Holt, Wilfred John, 1902 Hudson, William, 1902 Hunter, John, 1869 Hurst, George, 1882 Iceton, Edward Arthur, 1870 Jackson, Henry Latimer, 1886 Jackson, Robert, 1880 James, William Edwin, 1903 Jensen, Klio, 1905 Johnston, Alexander W., 1876 Johnston, Thomas Harvey, 1907 Jones, Griffith E. R., 1877 Jones, Cortis Harry Frederick, 1902 Jones, Rees R., 1872 Kay, Robert, 1876

Kellett, Frederick, 1895 Kemp, Richard E., 1873 Kennedy, Philip, 1903 Kent, Frederick D., 1874 Kent, Harry C., 1875 King, Cecil J., 1887 King, Copland, 1887 King, Frederick H., 1876 King, Walter Uther S., 1884 Klein, James Augustus, 1909 Knight, Arthur, 1909 Lance, Elisabeth Ada, 1900 Lander, William H., 1882 Lang, John Gavin D., 1884 Lasker, Samuel, 1903 Lee, Edward, 1859 Lee, Thomas Nelson, 1907 Lee, William, 1878 Legge, J. Gordon, 1887 Liddell, Andrew I., 1875 Lingen, John Taylor, 1881 Lion, Rosine, 1911 Little, Vivian Agincourt Spence, 1907 Lomer, Caroline, 1891 Louis, Philip Herbert, 1904 Lovell, Henry Tasman, 1908 Loxton, Edward James, 1888 Lukin, Gresley W. H., 1891 Lusby, Sydney Gordon, 1908 Lynch, Joseph, 1910 MacDonald, Jas. M., 1879 McDowall, James, 1905 Macdonald, Louisa, 1892 Mackaness, George, 1911 Mackie, Alexander, 1907 McLaren, Alexander Duncan, 1903 Maclardy, J. D. St. Clair, 1883 MacMullen, Frank, 1901 MacPherson, John, 1895 Mallarkey, Ethel May, 1906 Mann, William J. G., 1882 Manning, Jas. Napoleon, 1885 Manning, William A., 1875 Manning, W. Hubert, 1878 Marrack, John Rea Melville, 1884 Mayne, Wm. M., 1884 Meares, Matilda, 1892 Meillon, John, 1888 Merewether, Walton L., 1879 Merrington, Ernest Northeroft, 1903:

Metcalfe, George, 1868 Middleton, Robert John, 1911 Miles, Vivian James. 1910 Millard, Godfrey William, 1896 Mills. Elsie Ada Harland, 1903 Molster, Sarah, 1904 Monaghan, John Graham, 1902 Monnington, Alfred, 1888§ Montague, James H., 1877 Moore, Samuel, 1882 Morley, Muriel Violet, 1911 Mort, H. Wallace, 1881 § Mote, Livingstone Charles, 1911 Mullins, John Lane, 1879 Murray, Charles E. R., 1865 Murray, Donald, 1892 Murray, Florence Jane, 1905 Nathan, Edward A., 1882 Noake, Arthur Raynor, 1909 Noble, Edmund Murray, 1890 Nolan, John Henry Monteith, 1903 Northcote, Right Hon. Henry Stafford, Baron, 1906 § ·O'Brien, Francis, 1868 O'Connor, Richard E., 1873 O'Mara, Michael, 1877 Oliver, James, 1885 Parish, Walter G., 1866 Parsons, Joseph, 1904 Paterson, John, 1907 Paxton, Betha, 1903 Perkins, Alfred Edward, 1886 Perkins, Frederick Thomas, 1901 Perry, John, 1876 Philip. Frederick Charles, 1910 Pike, George H., 1891 Plomley, Francis James, 1876 Plume, Henry, 1889 § Powell, Theodore, 1876 Pring, Robert D., 1875 Proctor, Lizzie, 1898 Purves, John M., 1873 Quaife, Frederick H., 1862 Ralston, Alexander G., 1883 Raves, Helen Alice, 1907 Rennie, Edward H., 1876 Reynolds, Reginald Blair, 1903 Rich, George E., 1885 Rigg, Thomas, 1890 Riley, Ernest Arthur, 1905

Roberts, Thomas Taylor, 1910 Robertson, Joseph, 1877 Robinson, Frederick Walter, 1911 Rofe, John F., 1885 Rogers, Francis E., 1863 Rolin, Tom, 1885 Roseby, Thomas, 1871 Roseby, Thomas Ernest, 1901 Russell, Edward, 1880 Russell, Frank A. A., 1894 Russell, Jane Foss, 1889 Russell, John Frazer S., 1896 Russell, William, 1882 Rygate, Philip William, 1886 Sawkins, Dansie Thomas, 1902 Schleicher, Bernard Michael John, Schrader, Cyril Peterson, 1911 Sharp, William Hey, 1881§ Sharpe, George Frederick, 1908 Shaw, Henry Giles, 1894 Shortland, Percy Douglas, 1909 Simpson, Archd. H., 1895 Slack, Ida Leslie, 1901 Sly, George J., 1874 Sly, Joseph D., 1872 Sly, Richard M., 1876 Smairl, Joseph Henry, 1896 Small, Ethel Ella, 1902 Smith, Herbert Saumarez, 1908 Smith, William Michael, 1904 Smith, William S., 1905 Smith, Robert, 1878 Smyth, Frank L. S., 1879 Stack, John, 1860 Steel, Robert, 1879 Stephenson, John Hunter, 1892 Stevenson, William Henry Webster, 1910 Stonham, John, 1896 Stoyles, Herbert George, 1904 Street, Charles James, 1909 Sutherland, Constance Adelaide, 1889 Taylor, Elizabeth Ironside, 1899 Taylor, Hugh W., 1884 Taylor, James Wilson, 1887 Taylor, John Michael, 1891 Teece, Richard Clive, 1901 Teece, Roy Noel, 1904 Telfer, James Barnet, 1903

Weigall, Albert B., 1869

Wellisch, Edward Montague, 1906.

Wilkinson, Frederick Bushby, 1884;

Wilson, Mary Dunstan (formerly:

Yarrington, Clive Tennyson L., 1895

Wentworth, Fitzwilliam, 1876 Whitfeld, Lewis, 1882

Whitney, George Charles, 1908

Williams, A. Lukyn, 1881

Ella Wilson), 1895

Woolnough, George, 1873

Wyatt, Arthur H., 1869

Wood, Ebenezer Clarence, 1886

Woodthorpe, Robert A., 1890

Yarnold, Alfred Henry, 1903

Willis, Robert Spier, 1862

Wilshire, Hector, 1904

Wilson, David, 1903

Thompson, I. Florence, 1887 Thompson, James A., 1882 Thompson, Joseph, 1875 Thompson, William M., 1875 Tracey, Frederick, 1885 Trebeck, Tom Beal, 1884 Turner, Emily May, 1902 Uther, Mary Handfield, 1904 Waddell, George Washington, 1900 Waddy, Percival Stacy, 1908 Wallace, Donald, 1899 Walsh, William M. J., 1889 Wark, Florence Helen, 1905 Waterhouse, John, 1876 Watkins, John L., 1876 Watson, Maria Eleanor, 1909 Watson, William George, 1873 Watt, John Alexander, 1892 Waugh, Robert, 1879 Wearne, Minnie, 1892 Weatherburn, Charles Ernest, 1906

BACHELORS OF ARTS.

Abbott, George H., 1887 Abbott, Henry Palmer, 1893 Abbott, Thomas K., 1888 Abigail, Eliza L., 1893 Abigail, Ernest Robert, 1896 Abrams, Reginald Orton, 1908 Alexander, Hilda Mary, 1908 Alexander, Maud Marion, 1902 Allan, Edith Jeannie, 1895 Allen, Arthur W., 1883 § Allen, Carleton Kemp, 1910 Allen, Frederick T, 1909 Allen, George Boyce, 1877 Allen, Leslie Holdsworth, 1904 Allen, Reginald C., 1879 Allen, William V., 1911 Amess, William, 1883 Amos, Jeanie Cairns, 1890 Amos, Nellie Margaret, 1902 Anderson, Hugh Miller, 1890 Anderson, Lily Winifred Marshall, 1909 Anderson, Mand Edith, 1896 Anderson, Robert, 1906 Anderson, Virginia, 1904 Anderson, William Addison S., 1892 Andrews, Ernest Clayton, 1894 Anstey, George Webb, 1893

Yarrington, William Henry H., 1880 Yeates, Ainslie Arthur, 1900 Yeomans, Allan, 1871 d'Apice, Antoine William M., 1899 Archdall, Henry Karow, 1908 Armitage, Charles Horsfall, 1902 Armstrong, Alexander Milner, 1908-Armstrong, Clare Annie Constance, Armstrong, Helen Daphne Harvey, Armstrong, Ina Beatrice Harvey, 1901. Armstrong, Isabella, 1895 Armstrong, Laurens F. M., 1884 Armstrong, Margaret Jane, 1897 Armstrong, Millicent Sylvia, 1910 Armstrong, Netta Holroyd, 1909 Armstrong, Tancred de C., 1891 Armstrong, William G., 1884 Arnold, Edwin Charles, 1896 Artlett, Ettie, 1888 Artlett, William Langridge, 1902: Ash, Fortescue Leo, 1908 Askham, Albert Charles, 1905 Aspinall, Arthur Ashworth, 1889 Atkins, William Leonard, 1893 Atterton, Beatrice Sophia, 1909 Auld, John Hay Goodlet, 1897 Austin, Alfred Herbert, 1903 Austin, Fanny May, 1905 Avres, Charles, 1882

Back, John, 1911 Badman, Gladys Eunice, 1907 Bailey, Margaret Anne, 1900 Ballantine, Mabel Alice, 1910 Baret, Henri Victor David, 1903 Barker, Henry Auriol, 1881 Barker, Thomas Charles, 1886 Barnet, Donald McKay, 1890 Barrow, Isaac Manly, 1905 Barry, Duncan Robertson, 1905 Barry, Hugh de Barri, 1898 Barton, Joanna, 1893 Barton, John a'Beckett D., 1896 Barton, Wilfred Alexander, 1903 Bathgate, Donald Gordon, 1903 Bavin, Gertrude Lillian, 1898 Bavin, Thos. Rainsford, 1894 Baxendale, James, 1911 Baylis, Harold M., 1883 Beardmore, Ada, 1896 Beardsmore, Emily Maud, 1894 Beardsmore, Robert Henry, 1895 Beaumont, Annie Holloway, 1898 Beckenham, John George, 1904 Beegling, Daniel, 1885 Beehag, Samuel Alfred, 1886 Beith, Janet Agnes Rouse, 1911 Bellhouse, Constance Annie, 1906 Bender, Edwin Cormack, 1909 Bennett, Sidwell, 1908 Bentley, Ernest Grafton, 1911 Berman, Frederick Thomas, 1911 Berne, Percy Witton, 1883 Berry, David Houston, 1908 Bertie, Charlotte Maud, 1896 Biddulph, Lindon Helton, 1910 Black, Reginald Austin William, 1896 Blacket, Arthur R., 1872 Blacket, Cuthbert, 1891 Blair, Annie Scott, 1909 Bland, Francis Armand, 1909 Blanksby, Harold Robertson, 19i0 Blanksby, Leslie Holmes, 1908 Blatchford, Torrington, 1894 Blaxland, Henry Charles, 1897 Blight, Stanley Endean, 1911 Bloomfield, Elsie I'Anson, 1897 Bloomfield, William John, 1896 Blumer, Reginald Charles, 1910 Bode, Arnold G. H., 1888 Bonamy, Nellie Mildred Blanche, 1899 Bolton, Barbara Marion, 1892

Bonney, Reginald Schofield, 1904 Booth, Irene Mildred, 1907 Booth, Mary, 1890 Bourne, Florence Ida, 1906 Bourke, Joseph Ormond Aloysius, 1906 Bowden, Robert John, 1911 Bowmaker, Jessie, 1901 Bowmaker, Theophilus Robert, 1896 Bowman, Alister S., 1878 Bowman, Arthur, 1880 Bowman, Ernest M., 1880 Boxall, Nelson Leopold, 1896 Boyce, Francis Stewart, 1893 Brady, Vincent John Joseph, 1911 Breakwell, Ernest, 1911 Brearley, Edwin Andrew, 1904 Brennand, Henry John W., 1896 Brentnall, Nina Tillotson, 1903 Brereton, John Le Gay, 1894 Brierley, Alan Nunan, 1910 Brierley, Nina Benson, 1907 Britten, Herbert Edward, 1888 Britton, Theodosia Ada, 1891 Broderick, Cecil Thomas Hawkes, 1896 Brodie, Isabella Esther, 1895 Brodziak, Birdie Kate, 1908 Broinowski, Leopold T., 1897 Brook, Henry James Sidney, 1896 Broome, Edward, 1897 Brown, Alfred, 1866 Brown, Catherine Vernon, 1909 Brown, George Edward, 1904 Brown, James, 1907 Brown, Mary Elizabeth, 1885 Brown, Merton Carlyle, 1911 Brown, Millicent Amiel Macmillan, 1909 Brown, Sophia, 1894 Brown, William Richard, 1911 Brown, William Vernon, 1894 Browne, William C., 1864 Browning, Robert Humphrey, 1908 Brownlie, Elizabeth Alice Dalziel, 1901 Brownlie, Eveline Agnes, 1902 Bruce, Annie, 1901 Bruce, Grace Mitchell, 1901 Bruce, James Fawthrop, 1911 Bruce, Mary Jane, 1896 Bruce, Mary H., 1887

Buchanan, Charles Arthur, 1889 Buchanan, Charles Pakenham, 1900 Buckland, Thomas, 1878 Buckley, Cora Ruby, 1911 Bulteau, Alfred William James, 1911 Bundock, Charles, 1878 Bunting, Edith Annie, 1896 Burfitt, Mary Boyd, 1905 Burfitt, Walter F., 1894 Burges, James Clement, 1909 Burnell, Frederick Spencer, 1908 Burns, Dorothy, 911 Bushnell, Pollie, 1896 Bussmann, Frederick, 19 0 Butler, Francis Joseph, 1882 Butler, Patrick James, 1900 Butler, Spencer Joseph St. C., 1893 Butler, Stanley William Beauchamp, 1900 Butler, Thomas, 1876 Byrne, James Kevin, 1894 Byrne, Lily Comyn, 1896 Byrne, William Edmund, 1892 Byth, George Leonard, 1911 Cadden, Leslie George Barton, 1899 Cahill, Annie Lucille, 1894 Cakebread, William Jowers, 1894 Callaghan, Stanislaus Kostka, 1905 Calow, Paul Francis, 1910 Cameron, Archibald Peter, 1894 Cameron, William Thomas, 1904 Campbell, Alexander Petrie, 1904 Campbell, Allan, 1874 Campbell, Arthur Lang, 1909 Campbell, Charles Robert, 1893 Campbell, Florence Eva, 1907 Campbell, George Polding, 1885 Campbell, John Stuart, 1902 Campbell, Maggie, 1910 Canaway, Arthur P., 1894§ Candlish, Robert Smith, 1904 Cane, Percy Frank, 1909 Cantrell, Sydney William, 1907 Cargill, John Sydney, 1889 Carlile-Thomas, Ella, 1900 Carlisle, William W., 1878 Carlos, Joseph, 1893 Carey, Daisy, 1904 Caro, Hilda, 1896 Carroll, William John Smyth, 1904 Carruthers, Ada Mary, 1904

Carter, Albert George, 1909 Carvosso, Albert B., 1884 Casey, Michael Alphonsus, 1896 Castlehow, Stanley, 1908 Castling, James Robert, 1896 Chapman, Alfred Ernest, 1893 Chi-holm, Alan Rowland, 1911 Chisholm, William, 1875 Chrismas, Charles Herbert, 1906 Chubb, Montague Charles Lyttelton, 1896 Clark, Francis George, 1900 Clark, Marjorie Dufaur, 1906 Clarke, Francis William, 1884 Clayton, Hector Joseph Richard, 1907 Clegg, William Carnegie, 1899 Clemens, William Francis, 1911 Clines, Peter Joseph, 1896 Clipsham, Gertrude Mary, 1899 Closs, William John Leech, 1890 Clouston, Lavinia, 1907 Clubb, Wallace, 1896 Coen, Francis, 1906 Coffey, Francis Louis Verhulst, 1894 Cohen, Alroy Maitland, 1903 Cohen, Cecil Hope, 1910 Cohen, Fanny, 1908 Cole, Arthur George, 1907 Cole, Louisa, 1898 Coleman, Ernest Albert, 1906 Collier, Frederick William Dean, 1901 Collings, Edith, 19:14 Collins, Clarence Richard, 1909 Collins, Clifford Malua, 1906 Collins, Lillian, 1909 Combes, Jane Frances, 1895 Compton, Albert Zarenne, 1904 Conlon, William Aloysius, 1891 Connal, Norman, 1910 Connell, Marion Agnes, 1911 Connellan, John, 1892 Connor, Thomas John, 1895 Copland, Frank Fawcett, 1894 Cook, Millicent Ivy Stanton, 1907 Cook, Sydney Leicester, 1898 Cooke, Clarence Hudson, 1892 Coombes, Archie James, 1905 Corbett, William Francis, 1883 Cosh, James, 1891 Cotton, Edith Madge, 1910

Cotton, Leo Arthur, 1906 Cousins, Arthur, 1911 Coutts, Margaret, 1903 Cowan, David, 1894 Cowie, Herbert, 1907 Cowlishaw, Winifred, 1903 Cox, Harold, 1889 Coyle, William Thomas, 1891 Craig, Alexander Donald, 1893 Craig, Charles, 1892 Crane, Charles, 1882 Crane, Clive Charles, 1908 Cranswick, George Harvard, 1904 Crawford, Stella Maud C., 1896 Creagh, Albert Jasper, 1889 Creagh, William John, 1892 Cripps, Esther Fischer, 1891 Crisford, Hilda Nelsie Moore, 1902 Croft, Edith, 1908 Crowley, Archibald, 1901 Cruise, Emily A., 1897 Cullinane, John Aloysius, 1895 Culpin, Daisy Ellen, 1907 Cumming, Jennie, 1896 Curlewis, Harold Burnham, 1897 Curlewis, Herbert Raine, 1890 Curnow, William Leslie, 1890 Curren, Ethel, 1905 Curry, John Nicholas, 1908 Daley, Frank H., 1889 Dalmas, Lizzie, 1895 Daly, May Edith, 1895 D'Arcy, George Synnott, 1895 D'Arcy, John Synnott, 1890 D'Arcy-Irvine, Malcolm M., 1889 Dargin, Sydney, 1871 Dash, Ébenezer, 1894 David, Margaret Edgeworth, 1907 David, Mary Edgeworth, 1909 Davidson, Colin George Watt, 1899 Davies, Arthur Bernard, 1894 Davies, Ernest Stanley, 1907 Davies, Isobel. 1906 Davies, Wyndham John E., 1893 Davis, Agnes Marianne Harrison, 1896 Davis, Eleanor Theresa, 1910 Davis, Henry, 1890 Davison, Samuel Beaumont, 1896 Dawes, Madeleine Mabel, 1905

Day, Leo Septimus, 1899 Debenham, Frank, 1906 Debenham, Herbert, 1910 Debenham, Jessie, 1906 Deer, Margaret, 1909 Deffell, Alice H., 1909 De Lissa, Ethel Naida, 1898 De Lissa, Horace, 1896 Denham, Howard Kynaston, 1903: Densley, Lucy Norma, 1908 De Putron, Vera Ruth, 1909 De Putron, Violet Edith, 1908 Dettmann, Herbert Stanley, 1897 Dey, Charlotte Johnston, 1898 Dick, James Adam, 1886 Dick, Lily Jane, 1909 Dick, William Thomas, 1890 Dickinson, Edward Moseley, 1899-Dimond, Margaret Cecilia, 1893 Dixon, Herbert Hutchinson, 1894 Dixson, Thomas Storie, 1910 Doak, Frank Wiseman, 1891 Docker, Gladys Mary Brougham, 1903: Docker, Wilfred Brougham, 1905 Doig, Alexander John, 1895 Douglas, Robert Johnstone, 1905 Douglass, Albert Horace, 1908 Dowe, Philip William, 1893 Dowling, Frank Vincent, 1898 Doyle, John, 1891§ Drummond, Shafto Landour, 1893: Dudley, Joseph T., 1885 Duesbury, Pearl, 1908 Duff, Victor Clark, 1904 Dumolo, Nona, 1898 Duncan, Annie Burnett, 1909 Dunlop, John W., 1895 Dunlop, Norman John, 1890 Dunne, Charles Daniel, 1873 Dunnicliff, Mary Clifton, 1898 Durack, Joseph Jerry E., 1899. Dyce, Alexander Henry, 1911 Eames, Jane, 1895 Ebsworth, Samuel Wilfred, 1905. Edmunds, John Michael, 1892 Edmunds, May, 1897 Edwards, David Sutherland, 1894 Edwards, Dorothea. 1908 Edwards, Edward Evan, 1898 Edwards, Henry George, 1908

Elder, Francis R., 1877 Eldershaw, Philip Sheridan, 1909 Elkin, Jonathan Bevan, 1895 Elliott, Millicent V., 1895 Ellis, Ethel, 1894 Elphinstone, Elsie Mary, 1899 Elphinstone, James, 1881 Elphinstone, James Cooke, 1896 Emanuel, Nathaniel, 1867 England, Theophilus, 1885 England, Thomas H., 1885 Enright, Walter John, 1893 Evans, Ada Emily, 1895 Evans, Evan Gustave Severn, 1910 Evans, Joseph, 1909 Evans, Sara, 1904 Evans-Jones, David Pentland, 1898 Ewing, Thomas. 1907 Fahey, Bartley Francis, 1901 Fallon. Cyril Joseph, 1908 Feez, Arthur H., 1880 Fell, Catherine Isabella, 1900 Ferguson, David G., 1886 Ferguson, John Alexander, 1902 Ferrier, Elizabeth Irene, 1909 Fetherston, Leslie, 1908 Fidler, Carleton B., 1888 Fidler, Ethelwyn, 1907 Fidler, Isabel Margaret, 1898 Fielding, Una Lucy, 1910 Finn, William George, 1895 Finney, Charlotte, 1895 Finney, Joseph, 1894 Fisher, Arthur Donnelly W., 1904 Fitzgerald, Edmund, 1866 Fitzgerald, John Timothy, 1890 Fitzpatrick, Bernard Joseph, 1897 Fitzpatrick, Mabel, 1908 Fitzpatrick, Thomas John A., 1893 Flannery, George Ernest, 1892 Flashman, James Froude, 1892 Flavelle, Lucy Isabel, 1896 Fleming, Howard George T., 1894 Fletcher, Alice May, 1911 Fletcher, Archibald William, 1886 Fletcher, Cecil Edgar Bowen, 1911 Fletcher, Charles R., 1881 Fletcher, J. A., 1879 Fletcher, Katherine Elizabeth, 1895 Flynn, William J., 1884 Forde, James, 1891 Foreman, Henry James C., 1896

Forster, Charles E., 1876 Forsyth, Walter George, 1898 Fox, Harold S., 1885 Fox, Millicent, 1905 Francis, Irene Isabel, 1910 Fraser, Alexander Dale, 1910 Fraser, George, 1906 Fraser, Robert W., 1885 Fraser-Hill, Charlotte Eliz., 1902 Freeman, Ambrose William, 1896 French, Bernard Russell, 1907 Fry, Edith May, 1904 Fry, Eva Jane, 1907 Fuller, Bryan Cecil, 1910 Fullerton, Alex. Y., 1885 Futter, Victor Sedley, 1906 Gale, Charles Albert, 1906 Gallagher, James Lawrence, 1911 Galt, James, 1899 Garnsey, Edward R., 1885 Geddes, Samuel, 1885 Geer, Lilian, 1909 Gerber, Edward William T., 1892 Gibson, John, 1911 Gillies, James, 1889 Giltinan, Richard, 1911 Goddard, Ernest James, 1904 Goddard, Thomas Herbert, 1904 Gombert, France, 1908 Gordon, George Acheson, 1895 Gordon, George Acheson, 1907 Gorman, John R., 1866 Graham, Emily Rebecca, 1903 Graham, Frances, 1905 Grahame. George Frier, 1909 Grant, William James, 1903 Grassick, Charles C., 1897 Green, Henry Mackenzie, 1902 Greenlees, Gavin, 1895 Greenway, Alfred R., 1870 Gregson, Edward Jesse, 1903 Gregson, William Hilder, 1898 Gretton, Ethel Mary. 1911 Greville, Minnie, 1907 Grev, Francis Temple, 1909 Grieve, Alexander Campbell, 1909 Grieve, Robert Henry, 1900 Griffith, James Shaw, 1895 Griffiths, Frederick Guy, 1898 Albert Thomas Henry, Grogan, 1897 Haddock, David Alfred, 1911

Hadley, Alfred Edward, 1893 Hadley, Charles William, 1899 Haigh, Victor, 1905 Hall, Alfred Ernest, 1893 Hall, Austin Vine, 1908 Hall, Dorothy Vine, 1906 Hall, Florence Sidney, 1907 Hallett, Percy William, 1910 Halliday, George C., 1884 Halloran, Aubrey, 1892 Halloran, George Henry, 1896 Halloran, Ida, 1893 Hamilton, John Simpson, 1907 Hammond, John Harold, 1896 Hansard, Edith Hirst, 1897 Hargraves, Edward John, 1859 Harker, Constance Elizabeth, 1895 Harker, Mabel, 1907 Harley, Helen Louise, 1903 Harriott, Charles Warre, 1889 Harriott, Georgina Jane, 1894 Harris, George, 1891 Harris, John, 1892 Harris, Lewis Alexander, 1905 Harris, Marian, 1898 Harris, Matthew, 1863 Harris, Reginald Arthur, 1902 Harvey, Revina, 1895 Harvey, Robert Frederick, 1908 Harvey, William George, 1894 Harwood, Marian Fleming, 1898 Hatfield, William Frederick James

Hawken, Roger William H., 1902 Hay, Mary Catherine, 1897 Haves, David John, 1894 Haves, James William, 1909 Hedberg, John Alfred, 1896 Heden, Ernest Charles, 1898 Helsham, Charles Howard, 1892 Henderson, George Cockburn, 1893 Henderson, Robert Greenway, 1905 Henderson, Robert Newburn, 1895 Henry, Hugh, 1905 Herlihy, Kathleen, 1910 Hertzberg, Marcus, 1906 Heydon, George A. M., 19076 Hewitt, Thomas Cotgrave, 1904 Hicks, Alick Walter, 1908 Higgins, Michael A., 1879

Higgins, Percy Reginald, 1893 Hill, Ethel Letitia, 1911 Hill, Evelyn M., 1895 Hill, James Henry Fraser, 1900 Hill, John Goodwin Watson, 1901 Hilliard, Arthur Vaughan, 1890 Hilliard, William George, 1910 Hinder, Robert John, 1889 Hinton, William Samuel, 1902 Hipsley, Alice Ellen, 1898 Hobbs, Edwin, 1897 Hobbs, John William, 1894 Hodge, Ernest Arthur, 1895 Hodge, Sydney Trevillian, 1902 Hodgkins, Amy Alice, 1895 Hogg, Kate Emily, 1894 Holden, Florence Mackenzie, 1906 Holliday, Andrew, 1898 Hollingdale, Bernard Austin, 1906 Holloway, Eirene Anna, 1904 Holme, John Barton, 1893 Holmes, William Frederick, 1894 Holt, Arthur Christian, 1895 Holt, Edith Jane Catherine, 1902 Hood, Dannina, 1894 Hooke, Richard Watkins, 1909 Hooton, John Russell, 1910 Hope, Percival, 1903 Hopkins, Francis Irvine, 1893 Hopman, John Henry, 1894 Horniman, Alexander, 1866 Houison, Andrew, 1869 Houison, James, 1863 Houison, Stephen James, 1893 Howard, George Charles, 1909 Howard, John Bruton, 1895 Howard, Vera, 1907 Huggart, Alfred Theodore, 1892 Huggart, William Charles, 1898 Hughes, Charles Michael, 1886 Hughes, Hugh Jason, 1897 Hughes, James O'Donoghue A., 1894 Hughes, John, 1905 Hughes, Michael O'Gorman, 1890 Hughes, Roger Forrest, 1911 Hungerford, Hedley Heber, 1886 Hunt, Digby St. Clair W., 1895 Hunt, Hugh Alton Stanislaus, 1897 Hunt, William Edwin, 1908 Hunter, Mary Alison Miles, 1895

Hunter, Thomas Brown, 1898 Hutchison, George Thomas, 1900 Hynes, Sarah, 1891 Jackson, Elizabeth, 1907 Jackson, Frederick Charles, 1897 Jacobs, James, 1894 James, Arthur Henry, 1893 James, Augustus G. F., 1888 James, George Alfred, 1893 James, Thomas, 1896 Jamieson, George Wellington, 1893 Jamieson, Sydney, 1884 Jaques, Harold Vivian, 1904 Jarrett, Marjorie Kate, 1901 Jarvie, Bennie, 1898 Jenkins, Charles J., 1887 Jerrems, Richmond, 1911 Johnson, Martin Luther, 1893 Johnston, Ella Russell, 1895 Johnston, John, 1887 Johnston, Mary Eleanor, 1896 Johnston, Stephen Jason, 1894 Johnstone, Henry Thomas, 1885 Jones, Eric David Lloyd, 1906 Jones, Grace Eveline, 1907 Jones, John Russell, 1908 Jones, Thomas, 1895 Jones, Thomas E., 1884 Jones, Ernest Trevor, 1884 Jones, Evan John, 1894 Jopling, Mildred Hilda, 1908 Jordan, Frederick Richard, 1904 Joseph, Horace B., 1887 Kaeppel, Andrée Adelaide, 1906 Kaeppel. Carl Henry, 1910 Kelynack, Arthur James, 1889 Kelynack, Harold Leslie, 1893 Kemmis, William Henry, 1890 Kemp, Laura Mildred King, 1902 Kemp, Richard Cyril King, 1903 Kendall, Frank Louis, 1893 Kendall, Theodore M., 1876 Kenna, Patrick, 1882 Kennedy, Annie Augusta, 1893 Kennedy, Emily Clara, 1895 Kershaw, Joseph Cuthbert, 1894 Kidston, Robert Matthew, 1892 Kilgour, Alexander James, 1894 King, George C., 1887 King, Oro Romilda Z. Z., 1909 King, R. W., 1884 Kinross, Robert Menzies, 1889

Lafferty, Terence Matthew, 1899 Laird, Henry Herman, 1907 Lamrock, Arthur Stanton, 1891 Lane, Frederick George, 1895 Lane, John Bayly, 1909 Lane, Laura Elizabeth, 1909 Langley, Isabella Edwardes, 1897 Langton, Frederick W., 1887 Larcombe, Ernest Richard, 1902 Larkins, Frank Joseph Moore, 1902 Latreille, Meta Gertrude Emily, 1905 Laurence, Raymond Lister 1908 Layton, John Edward, 1893 Leahy, John Patrick Daunt, 1890 Leaver, John, 1910 Lee, Amos John, 1909 Lee, Herbert Ernest, 1886 Leeson, Ida Emily, 1906 Leibius, G. Hugo, 1888 Lennard, Wallace, 1911 Lennox, Edith, 1906 Lenthall, Ellen Melicent, 1893 de Lepervanche, Eustace Mézières, 1900 Leroy, Alfred Ernest, 1911 Leverrier, Frank, 1884 Levick, Alfred Manning, 1904 Levy, Daniel, 1893 Lewis, Enid de Save, 1910 Lewis, Errington, 1910 Lewis, Henry Clyde, 1893 Lichtscheindl, Rosa, 1894 Liggins, Jessie Hunsdon, 1899 Lindsay, William Carlow, 1903 Linsley, William H, 1880 Light, Hilda Vera, 1908 Lilley, Kathleen Mitford, 1911 Lillingston, Jessie Mary Grey, 1911 Little, Edy, 1909 Littlejohn, Edward S., 1887 Lloyd, Alan Stredwick, 1911 Lloyd, Thomas, 1878 Lodder, Nellie, 1908 Logan, George, 1903 Longmuir, George Fraser, 1909 Lord, Frank Colbran Turner, 1903 Loudon, Bertha Winifred, 1904 Lovell, Mildred, 1909 Loxton, Frederick Ewen, 1906 Lowick, Clara Warne, 1904

Lucas, Cecil Rodwell, 1911

Lumsdaine, Keith Broughton Frederick, 1910 Lydall, John French, 1907. Lydon, James, 1894 Lynch, Michael D., 1870 Lynch, William, 1863 Lyon, Pearson, 1890 Lyons, Ettie, 1904 Lyons, Richard Jenkins, 1906 MacCallum, Isabella Renton, 1904 MacCallum, Mungo Lorenz, 1906 Macansh, Andrew W., 1885 McAdam, Francis Victor, 1911 McAulay, Mary, 1910 MacCarthy, Herbert T. S., 1860 McCarthy, Arthur W., 1881 McCaulay, Joseph Francis, 1910 McCook, Adam Stuart, 1895 McCook, William Henry, 1900 McCoy, William Taylor, 1894 McCredie, Jessie, 1911 McCredie, Gladys Ethel, 1911 McCulloch, Percy V., 1881 McDermott, Vesian B., 1887 McDonagh, John M., 1879 MacDonald, Fannie Elizabeth, 1895 McDonald, Timothy George, 1903 MacDonald, William A., 1907 McDonnell, Randal C. W., 1888 McElhone, Frank Eric, 1908 McEvilly, Augustus, 1886 McEvilly, Ulric, 1883 McEvoy, Bertie Patrick, 1899 MacFarlane, Laurie Moreton, 1906 McGill, Alec. Douglas, 1908 McGlynn, Rebecca Mary, 1898 McGuinn, Denis, 1884 McIlwraith, John, 1911 McIlwraith, William Daniel, 1911 MacInnes, Angus, 1901 MacInnes, Isabel Mary, 1904 McIntosh, Alexander Menzies, 1906 McIntosh, Harold, 1889 McIntyre, Aug. T., 1879 McIntyre, Duncan A., 1888 Mack, Sidney, 1890 McKay, James, 1896 Mackay, Iven Giffard, 1904 McKean, Alexander, 1908 McKean, Leslie John, 1907

Macken, James Victor, 1909 McKeown, Frederick Maurice, 1907 McKeru, Albert Stanley, 1911 McKibbin, Rachael, 1908 Mackie, Harold Douglas, 1910 McKie, Ernest Norman, 1906 Mackinnon, Malcolm, 1909 Mackintosh, Bertha Adeline Hilda, Mackness, Constance, 1902 Maclardy, Duncan St. Clair, 1911 Maclardy, Margaret McIntyre St. Clair, 1907 McLaren, John Gilbert, 1895 McLaughlin, Daniel, 1890 MacLaurin, Henry Normand, 1899 McLean, Archie Lang, 1906 Maclean, Chas. Hector Roderick, 1901 McLean, Constance, 1910 MacLean, Frederick S., 1887 Maclellan, Annette, 1909 McLelland, Hugh, 1881 McLeod, James, 1879 McLintock, William Colin Scott, 1900. McMahon, Gregan, 1896 MacManamey, James Frazer, 1881 MacManamey, John Frazer, 1889 MacManamey, William Frazer, 1892 MacMaster, Donald Æneas D., 1894 McMinn, Wilfred, 1909 McNeil, Andrew, 1889 McNevin, Arthur Joseph, 1895 McNevin, Thomas Butler, 1893 Macphee, Isabel, 1909 MacPherson, Peter, 1889 McWilliam, Neville Gilbert, 1903 Macrossan, Hugh Denis, 1902 Maffey, Reginald William H., 1896 Maguire, Michael Joseph, 1911 Maher, Charles H., 1877 Maher, Matthew E., 1867 Maher, Thomas Francis, 1893 Maiden, Acacia Dorothy, 1911 Main, John, 1892 Makin, William, 1902 Malcolm, Olive, 1908 Mallett, Thomas Richmond, 1911 Maloney, Andrew William, 1893 Maloney, John Thomas, 1899 Mann, James Elliott Furneaux, 1909

Mannell, Francis Worthington, 1892 Manning, Henry Edward, 1900 Manning, Hugh Eldred, 1905 Manning, Reginald K., 1887 Manning, William Ernest, 1892 Marchant, Arthur Dudley Bathgate, Markell, Horace Francis, 1905 Marks, Gladys Hope, 1908 Marks, Hyam, 1892 Marks, Percy J., 1887 Marks, Florence, 1893 Marks, Leah, 1893 Markwell, Gladys Emilie, 1911 Marr, Fannie Augusta, 1899 Marsh, Alison Mary, 1908 Martin, Laura Margaret, 1907 Martin, Lewis Ormsby, 1893 Martyn, Sydney Charles, 1889 Massey-Makinson, Arthur, 1903 Mate, William H., 1864 Mathews, Hamilton Bartlett, 1899 Mathison, Walter, 1880 Maughan, David, 19066 Maxted, Henry Louis, 1902 Maxwell, Allen Victor, 1909 Maxwell, Henry Francis, 1895 Maxwell, William, 1904 Maynard, Ethel Margaret, 1894 Mayne, J. O'Neill, 1884 Maze, William Archibald A., 1892 Meagher, Louis Felix, 1889 Meares, Hercules, 1893 Meek, Herbert Arthur, 1903 Meek, Hubert Kingsley, 1910 Meillon, Joseph, 1863 Mell, Cecil Newton, 1894 Melville, Hector Pope, 1905 Merewether, Edward A. M., 1884 Merewether, Hugh H. M., 1894 Merewether, William D. M., 1895 Miles, James Albert, 1894 Millard, Alfred Charles, 1885 Miller, James W., 1896 Miller, Richard J., 1885 Mills, Archibald Joseph, 1907 Mills, Percy Harcourt, 1893 Minter, Clifford, 1907 Mitchell, Clarice, 1908 Mitchell, Ernest Meyer, 1896 Mitchell, Ethel Robertson, 1898 Moftitt, Herbert William, 1910

Moffitt, William Heath, 1909 Moloney, Thomas Patrick, 1885 Molster, Eliza, 1897 Monahan, William Willis, 1897 Monro, John Patterson, 1909 Montefiore, Hortense Henriette, 1896 Montgomerie, John, 1889 Moody, Colin, 1910 Moore, Charles Henry, 1911 Moore, David C., 1883 Moore, Edith Elizabeth. 1910 Moore, Frank Joseph Sarsfield, 1883 Moore, Henry Edington, 1907 Moore, John, 1883 Moore, Verner, 1884 Moore, Walter Albert, 1894 Morgan, Frederick A., 1888 Morgan, Thomas H. D., 1892 Morley, Irene Madeline, 1904 Morrice, John, 1874 Morris, John James, 1895 Morris, Robert N., 1870 Morrish, Francis, 1882 Mote, Arnold Rudolph, 1902 Mott, Olive Lenore, 1905 Mottershead, Arthur, 1906 Moulton, James Egan, 1892 Moustaka, Orea Emma Hellas, 1897 Mowbray, Rupert Wallace, 1903 Moylan, William Patrick, 1906 Mugliston, Madeleine Lucy, 1904 Mulholland, John Joseph, 1899 Mulholland, William James, 1911 Mullens, Arthur Frank Macquarie, 1896 Murphy, Peter Lawrence, 1910 Murray, Charles O'Connor, 1904 Murray, Mercy M. H., 1897 Murray-Prior, Dorothea Katherine, Murray-Prior, Robert Sterling, 1905 Murray-Prior, Ruth Angela, 1906 Muscio, Bernard, 1910 Mussmann, Carl Ernst Gottlieb, 1897 Mutton, Isaiah, 1900 Myers, David M., 1866 Nelson, Duncan John, 1895 Nettleship, Edward, 1895 Newman, George Hine, 1887 Newman, Kelsey Illidge, 1894 Newsham, Alice Isabel, 1900

Newton, Henry, 1889 Newton, Roland George, 1906 Nicholls, William Hunt Ward, 1891 Nicholson, George Gibb, 1899 Nimmo, William Muir, 1907 Noad, Emma Alison, 1907 Noake, Reginald, 1877 Noake, Reginald Robert, 1904 Noake, Stephen Charles, 1906 Noakes, Mabel Alicia, 1896 Norman, Keith Dixon, 1910 Norris, Mabel, 1909 North, Frederick, 1907 Northcott, Clarence Hunter, 1905 Nowlan, Joseph Gabriel, 1910 Nutman, Robert Ernest, 1910 Oakes, Arthur Wellesley, 1911 Oakes, Florence Isabelle Mantell, O'Brien, Agnes Gertrude, 1895 O'Brien, Kathleen Moira, 1894 O'Brien, Lucius, 1865 O'Brien, Ormond, 1876 O'Brien, Patrick Daniel, 1894 O'Conor, Broughton B., 1892 O'Donohue, John P. Markham, 1895 O'Keefe, John A., 1887 Olden, Percy Penrhyn, 1910 O'Neill, James Bernard, 1895 O'Reilly, Hubert de Burgh, 1892 O'Reilly, Walter Creswell, 1903 Osborne, Henry Stuart, 1896 O'Sullivan, Daniel Roche, 1901 O'Sullivan, Eugene Francis, 1901 Oswald, Alfred William, 1903 Page, Arthur Ernest, 1899 Page, Reginald Arthur, 1910 Page, William Robert. 1910 Pain, Allan Franklyn, 1894 Pain, Arthur Wellesley, 1884 Paine, Bennington Haille, 1893 Paine, George Henry, 1894 Palmer, Allan Burnet, 1907 Palmer, Charles Herbert, 1909 Palmer, Selina Elizabeth, 1901 Paris, Jane Elizabeth, 1897 Parker, William Arthur, 1892 Parkinson. Kathleen Alvena, 1910 Parsons, Emily Waugh, 1899 Parsons, Florence Louey, 1906 Patison, Irene Mary, 1911

Paton, Arthur T., 1887 Paton, Mary Paterson, 1902 Pattinson, Anthony Walton, 1894 Paul, Alfred, 1905 Paxton, Grace, 1907 Pearce, William Thomas Louis Archdall, 1907 Peden, John Beverley, 1892 Penman, John Edwards Foggon, 1897 Penman, Leslie Ethelbert, 1906 Perkins, Joseph Abraham R., 1892 Perry, Irene Frances, 1909 Perské, Hermann, 1887 Petrie, Edith Maud, 1901 Phillips, Catherine Agnes, 1896 Phillips, Frederick George, 1902 Phillips, Reginald Bede, 1902 Philp, Doris Margaret, 1911 Pickburn, James Prosper, 1892 Piddington, Albert Bathurst, 1883 Pilcher, Charles E., 1865 Pilcher, George de Vial, 1859 Pilcher, Norman George Stafford, 1898 Pincombe, Torrington Hawke, 1890 Pitt, Arthur Gladstone Matcham, Poidevin, Leslie Oswald Sheridan, 190ó Poolman, Arthur Edward, 1883 Pope, Roland James, 1885 Porter, George, 1911 Porter, Wilfred Ernest Thomas, 1909 Portus, Garnet Vere, 1906 Potts, Cutlibert, 1898 Power, Percy Horne, 1901 Powell. James William Garnet, 1904 Pratt, Walter Henry, 1901 Prentice, Arthur James, 1892 Price, Benjamin John, 1910 Pridham, Alice Margaret, 1908 Priestley, Louie, 1911 Pritchard, Alice, 1895 Pritchard, William C., 1888 Purcell, Philip Francis, 1898 Purcell, Winifred Dalton, 1895 Purnell, Frank, 1910 Purnell, Lily Clara, 1911 Purser, Cecil, 1885 Quaife, William F., 1879 Quigley, James, 1890

Quinn, John Joseph, 1905 Ralston, Alexander Windeyer, 1907 Ramsay, James, 1885 Ramsay, Muriel Berry, 1909 Ranson, Joseph Robert, 1908 Raves, George Alfred, 1897 Redshaw, George, 1895 Read, Elizabeth Jane, 1899 Real, Edward Thynne, 1905 Redgrave, Harold Wilfrid, 1906 Redgrave, Leslie A fred, 1905 Reid, Roberta Jane Sinclair, 1904 Reid, Violet Margaret, 1902 Reidy, John James Gralton, 1896 Rennie, George Edward, 1882 Renwick, Herbert John, 1893 Reynolds, Alfred John, 1907 Reynolds, Arthur J. P. G., 1890 Rhodes, Alice Olivia Raybould, 1906 Rich, Charles Ellison, 1911 Richardson, Charles Noel D., 1893 Richardson, Henry A., 1867 Rickard, Jonathan Charles, 1907 Riley, Patrick William, 1894 Riley, Spencer George Birkenhead, 1897 Riley, Valentine B., 1872 Rishworth, Henry Shiers, 1908 Roberts, Mabel Beatrice, 1911 Roberts, William, 1909 Robertson, Theodore Gordon, 1910 Robinson, Charles H. P., 1893 Robinson, George Frederick 1890Robinson, Katherine, 1907 Robinson, Mabel Fuller, 1890 Robinson, Mabel Hawthorne, 1907 Robjohns, Leonard, 1894 Robson, William Elliott V., 1889 Rofe, Ruth Irene, 1904 Roger, Robert, 1876 Rogers, Percival Halse, 1905 Rooney, William James, 1892 Roseby, Clara, 1908 Roseby, Gertrude Amy, 1895 Roseby, Minnie, 1895 Roseby, Sarah Mabel, 1900 Rossiter, Florence Annie, 1898 Roth-Schmidt, Frederica, 1897 Roughton, Gladys Muriel, 1905 Rourke, Ernest John, 1893 Rourke, George Augustus, 1893

Rourke, Lillie Agnes, 1895 Rowland, Norman de Horne, 1895 Roxburgh, Norman William, 1911 Rudder, Sydney Llewellyn, 1891 Russell, Charles Townsend, 1891 Russell, Ethel Albinia, 1893 Russell, Harry Ambrose, 1887 Russell, Lillian, 1891 Russell, William Patrick, 1907 Rutherford, Constance Muriel, 1903. Rutherford, Florence Marion, 1900 Rutherford, Geo. Washington, 1900 Rutledge, William F., 1871 Ryan, Gerald, 1893 Ryan, James William, 1901 Rygate, Charles D. H., 1883 Rygate, Henry Bertram, 1885 Saddington, Arthur G., 1887 Sadler, Alexander, 1900 Salting, George, 1857 Sandford, Blanche Vavasour, 1902 Sands, John Marshall, 1889 Saunders, Arthur, 1893 Saunders, Eva Florence, 1897 Saunders, Florence Louisa, 1903 Saunders, Pearl Muriel, 1911 Saxby, George Campbell, 1891 Saywell, Thomas Stanley, 1900 Scarvell, Edric Sydney, 1893 Schleicher, Dorothy Caroline Mary, 1911 Scott; Rupert King. 1910 Scoular, David, 1895 Scroder, Aphra Frances, 1907 Scrutton, Caroline Maude, 1900 Seaward, William T., 1892 Seldon, Florence Mary, 1894 Sellors. Richard Pickering, 1890 Sendall, Alfred E., 1888 Serisier, Lavigne Ernest, 1891 Shand, Alexander B., 1884 Sharp, Percival John, 1911 Sharp, Walter Alex. Ramsay, 1897 Sharpe, Ernest, 1865 Sharpe, William George, 1897 Shaw, John A. K., 1885 Sheppard, Edmund Haslewood, 1882 Sheridan, Francis B., 1874 Sheridan, John Patrick, 1890 Sheridan, Muriel Eulalie Bingham, Sherlock, John Bolt, 1895

Shewcroft, Alfred John, 1893 Short, Frederick, 1908 Shortland, Edith, 1909 Shortland, Leslie John, 1911 Simonds, Eugene Francis, 1910 Simpson, Edward Telford, 1911 Simpson, Robert Ian, 1911 Sinclair, Callander Wade, 1911 Sinclair, Colin Archibald, 1899 Sinclair, George Wade, 1908 Skillen, Elizabeth, 1904 Skillman. Jessie, 1905 Slack, Ella Mary, 1905 Slade, Oswald Carev, 1903 Sloman, Charles Wansbrough, 1893 Sloman, John, 1872 Smee, Reginald, 1901 Smith, Allan Malcolm, 1910 Smith, Archibald, 1889 Smith, Charles Percy, 1908 Smith, Eleanor Rose, 1910 Smith, Enma Isabel, 1893 Smith, Nellie May, 1906 Smith, Norman, 1894 Smith, Stanley Clifton, 1906 Smith, William, 1902 Smithers, Ada Margery, 1907 Snow, Stuart Bishop, 1908 Solomon. Keneth Maurice Halgren, 1911 Somerville, George B., 1882 Sparling, Lilian Grace, 1906 Spence, Jeanie Lockhart, 1910 Spence, John, 1904 Sproule, Robert, 1907 Sproule, Margaret, 1903 Squire, Hilton Bell, 1893 Stacy, Bertie Vandeleur, 1911 Stacy, Fitzroy Somerset, 1897 Steel, James Barnet Victor, 1911 Stephen, Edward Milner, 1891 Stephen, Henry Montagu, 1900 Stephen, John Newton, 1910 Stephen, John William Farish, 1897 Stephen, Montague Consett, 1909 Stephenson, Anita Leila, 1901 Stewart, Donald Grant, 1896 Stewart, Dorothea Leila, 1911 Stewart, James Robert, 1903 Stewart, William Kelvey, 1910

Stewart, William Pentleton, 1907

Stoney, Edmund Haighton, 1898 Stonham, Kathleen, 1895 Street, Kenneth Whistler, 1911 Street, Philip Whistler, 1883 Studds, Harold Augustus, 1900 Studdy, Albert John, 1888 Studdy, Annie Avice Matilda, 1891 Sullivan, Denis Joseph, 1899 Sullivan, Henry, 1872 Sullivan, James, 1867 Sullivan, James, 1894 Sullivan, Reginald, 1892 Sutherland, Elmina Louise, 1891 Sutherland, Peter, 1890 Sutton, Mabel Harriett, 1904 Swanwick, Kenneth ffoulkes, 1896 Swain, Edith Muriel M., 1909 Swynny, William Frank, 1899 Symonds, Bertha Violet, 1897 Symonds, Daisy, 1893 Tait, Ernest Waldegrave, 1911 Tange, Charles L., 1880 Tarplee, William F., 1884 Tarrant, Thomas Ambrose, 1907 Taylor, Margaret Helen, 1909 Taylor, Robert Challis, 1909 Taylor, Sarah, 1893 Taylor, Thomas Manning, 1901 Teasdale, Charles Andrew, 1909 Teasdale, Frederick Vass, 1911 Tebbutt, Arthur Hamilton, 1905 Teece, Ashley Howard, 1907 Terry, Frank, 1906 Thallon, James B., 1876 Thom, James Campbell, 1910 Thomas, Richard Weld, 1893 Thompson, Alexander, 1895 Thompson, Robert Alfred, 1891 Thompson, Sydney A., 1887 Thomson, Alec, 1891 Thomson, Edith Moginie, 1909 Thorburn, James Thomas, 1886 Thorne, George, 1865 Thornton, Septimus, 1896 Tietkens, Emily Mary, 1907 Tighe, William, 1892 Tivey, John Proctor, 1902 Todd, Frederick Augustus, 1901 Tole, Joseph, 1868 Tom, Wesley, 1860 Tomkinson, William, 1908

Tomlinson, George Leigh, 1905 Toose, Stanley Vere, 1908 Townley, Percy L., 1886 Townshend, Samuel Edward, 1905 Tozer, Seymour Darvall, 1899 Tremlett, Frank Cecil Glazebrook, 1906 Trindall, Richard B., 1885 Tugwell, Frederic William, 1910 Turner, Annie Elizabeth, 1899 Uther, Allan Hammill, 1891 Uther, Jennie Bertha, 1894 Utz, Harold Stewart, 1908 Veech, Louis Stanislaus, 1890 Verge, John, 1899 Vickers, Leslie, 1908 Vickery, Ebenezer Frank, 1901 Waddell, Annie, 1895 Waddy, Ernest Frederick, 1905 Waddy, Percival Richard, 1891 Wade, Charles Gregory, 19056 Wade, Robert Thompson, 1905 Waldron, Thomas W. King, 1893 Waley, Robert G. K., 1909 Walker, Arthur Dight, 1906 Walker, Clifton Claude Parton, 1906 Walker, Edward Bell, 1909 Walker, James Ernest, 1894 Walker, Samuel Herbert, 1894 Walker, William A., 1888 Wallace, Frank Ernest, 1889 Wallach, Henriette, 1907 Walsh, John James, 1899 Walton, Geo. Henry Montague, 1899 Ward, Bertha Raymond, 1907 Ward, Leonard Keith, 1900 Ward, Ruby Estelle, 1897 Ward, Thomas W. C., 1884 Wardrop, Gabriel, 1893 Wardrop, Maggie Robertson, 1903 Waring, Herbert Raymond 1906 Warren, Ernest William, 1898 Waterhouse, Eben Gowrie, 1903 Watkins, Hubert Lance, 1907 Watson, Evelyn Annie, 1911 Watson, Herbert Frazer, 1903 Watson, Lindsay Geo, Herbert, 1907 Watson, Robert S., 1887 Watt, Andrew Robert James, 1893 Watt, Charles Prosper, 1893 Watt, Thomas Evans, 1906 Watts, Ethel Lucy, 1908

Watts, Percy Richard, 1904 Wearne, Amy Isabel, 1893 Wearne, Richard Arthur, 1895 Webb, Bernard Linden, 1906 Webb, James Eli, 1908 Weigall, Harold Walter, 1895 Wellisch, William Montague, 1903 West, Edith Annie, 1900 West, William M., 1909 Weston, Claude Alfred, 1909 Wheaton, Ruby, 1910 Wheeler, Arthur Russell, 1904 Wheeler, Harold Chas. Fearon, 1902 White, Charles Alfred, 1895 White, Charles Josiah, 1908 Whitfeld, Eleanor Madeline, 1895 Whitfeld, Hubert Edwin, 1897 Whiting, Joseph, 1895 Whyte, Henry William, 1908 Widmer, Frederick Edward, 1911 Wilkinson, Henry L., 1880 Wilkinson, Ida Beatrice, 1903 Wilkinson, W. Camac, 1878 Williams, Alfred James, 1898 Williams, James Leslie, 1892 Williams, John Alfred, 1894 Williams, Leslie Ballesat, 1899 Williams, William, 1891 Williams, William, 1895 Williams, William Henry, 1894 Williamson, Percy Leyden, 1899 Willis, Carlyle Gordon, 1907 Wilson, Frederick James, 1893 Wilson, George Harry, 1901 Wilson, Gwendolene Lilian, 1900 Wilson, Jessie Leila, 1910 Wilson, Roger, 1877 Wilton, Edward Nowill, 1900 Windeyer, Richard, 1891 Windeyer, William Archibald, 1893 Wise, Bernhard R., 1885§ Withers, Phyllis Livingston, 1910 Withycombe, Ernest John, 1899 Wolstenholme, Harry, 1890 Wood, Frederick Ernest, 1890 Wood, Frederick William, 1894 Wood, Harrie Dalrymple, 1893 Woodd, Henry A., 1887 Woodlands, Mabel Rose, 1908 Woodward, Frederick P., 1892 Woolcock, John L., 1883 Wootton, Ernest, 1892

Wright, Stewart, 1882 Wyndham, Eliua Margaret, 1908 Yarnold, Isabel May, 1899

Yates, Malcolm Edwin, 1905 Young, Hilda May, 1907 Young, James, 1900

#### DOCTORS OF LAW.

H.M. the King, 1901§ Coghlan, Charles A., 1885 Cullen, William P., 1887 Donovan, John J., 1867 Green, Arthur V., 1887 Jefferis, James, 1885 Manning, J. Napoleon, 1892 Marden, John, 1890 Morris, Robert Newton, 1886 Reseby, Thomas, 1873 Sly, George J., 1878 Sly, Joseph D., 1873 Sly, Richard M., 1877 Waddell, George Washington, 1903 White, W. Moore, 18823

#### BACHELORS OF LAW.

Abigail, Ernest Robert, 1899 d'Apice, Antoine William M., 1904 Armstrong, Laurens F. M., 1890 Arnold, Austin Guerry de Lauret, 1903 Barraclough, Francis Egerton, 1899

Barraclough, Francis Egerton, 1899 Bathgate, Donald Gordon, 1906 Bavin, Thomas Rainsford, 1897 Baxter-Bruce, Arthur Chambers, 1909

Beckenham, John George, 1908 Bloomfield, William John, 1899 Bonney, Reginald Schofield, 1907 Boyce, Francis Stewart, 1896 Breckenridge, Charles Campbell Poole, 1906

Brierley, Frank Nunan, 1897 Broderick, Cecil Thomas Hawkes, 1902

Brown, George Edward, 1906
Browne, Joseph Alexander, 1904
Butler, Spencer Joseph St. Clair, 1896
Chapman, Alfred Ernest, 1903
Christie, George, 1911
Clark, Francis George, 1902
Clayton, Hector Joseph Richard, 1910
Clegg, William Carnegie, 1901
Clines, Peter Joseph, 1898
Coen, Francis, 1908
Coffey, Francis Louis Verhulst, 1896
Cohen, Alroy Maitland, 1905
Collins, Clifford Malua, 1910
Craig, Charles, 1900
Creagh, William John, 1897

Cullinane, John Aloysius, 1897 Curlewis, Herbert Raine, 1892 Curtis, William John, 1904 Davidson, Colin George Watt, 1901 Davies, Arthur Bernard, 1897 Davies, Wyndham John E., 1895 Denham, Howard Kynaston, 1906 Dibbs, Leonard Burton, 1910 Ebsworth, Samuel Wilfred, 1908 Edmunds, Walter, 1881 Edwards, David Sutherland, 1899 Edwards, Henry George, 1911 Elphinstone, James Cooke, 1898 Evans, Ada Emily, 1902 Evans-Jones, David Pentland, 1904 Fahey, Bartley Francis, 1:04 Ferguson, John Alexander, 1905 Fisher, Arthur Donnelly W., 1907 Flannery, George Ernest, 1894 Forsyth, Walter George, 1900 French, Bernard Russell, 1910 Gerber, Edward W. T., 1894 Gill, Alfred Chalmers, 1895 Green, Henry Mackenzie, 1905 Haigh, Victor, 1909 Halloran, Aubrey, 1894 Hammond, John Harold, 1898 Harris, George, 1893 Harris, Lewis Alexander, 1908 Henry, Hugh, 1907 Hertzberg, Marcus, 1908 Higgins, Percy Reginald, 1895 Hinton, William Samuel, 1904 Hodge, Sydney Trevillian, 1905

Holliday, Andrew, 1903 Hollingdale, Bernard Austin, 1908 Holme, John Barton, 1895 Hooke, Richard Watkins, 1911 Hughes, John, 1909 Jaques, Harold Vivian, 1906 Jones, Albert E., 1889 Jordan, Frederick Richard, 1907 Kelynack, Arthur James, 1892 Kemp, Richard Cyril King, 1905 Kershaw, Joseph Cuthbert, 1896 Kilgour, Alexander James, 1904 Knox, Adrian, 1895 Laird, Henry Herman, 1911 Lamond, Harold Lewis, 1911 Larkins, Frank Joseph Moore, 1906 Laurence. Raymond Lister, 1911 Legge, James Gordon, 1890 Lehane, Thomas Joseph, 1903 Levy, Daniel, 1895 Lindsay, William Carlow, 1905 Lowe, Matthew Henry, 1910 Mack, Sidney, 1892 Macken, James Victor, 1911 McLaren, Alexander Duncan, 1903 McWilliam, Neville Gilbert, 1906 Manning, Henry Edward, 1902 Manning, Hugh Eldred, 1907 Markell, Horace Francis, 1911 Martin, Lewis Ormsby, 1895 McKean, Leslie John, 1911 Meares, Hercules, 1894 Meillon, John, 1892 Merewether, Hugh Hamilton Mitchell, 1898 Merewether, William David Mitchell, 1898 Merrick, John, 1909 Mills, Percy Harcourt, 1897 Minter, Clifford, 1910 Mitchell, Ernest Meyer, 1900 Monahan, William Willis, 1900 Moore, Henry Edington, 1909 Murray, Charles O'Connor, 1906 Nathan, Edward Alleyne, 1891 O'Brien, Patrick Daniel, 1897 O'Conor, Broughton B., 1895 O'Donohue, John P. Markham, 1902 O'Reilly, Hubert de Burgh, 1894 Parker, William Arthur, 1898 Peden, John Beverley, 1898

Pickburn, James Prosper, 1894 Pilcher, Norman George Stafford, 1901 Pitt, Arthur Gladstone M., 1904 Quick, John, 1881 § Quinn, John Joseph, 1908 Ralston, Alexander Windeyer, 1909 Real, Edward Thynne, 1907 Richardson, C. Noel Derwent, 1900 Rickard, Jonathan Charles, 1911 Rogers, Francis E., 1867 Rogers, William Arnott Halse, 1903 Rowland, Norman de Horne, 1906 Rutherford, George Washington, 1902 Saywell, Thomas Stanley, 1902 Scarvell, Edric Sydney, 1896 Scoular, David, 1899 Sinclair, Colin Archibald, 1905 Slade, Oswald Carey, 1911 Spence, John, 1909 Stacy, Fitzroy Somerset, 1901 Stephen, Henry Montagu, 1903 Sullivan, Reginald, 1900 Swanwick, Kenneth ffoulkes, 1905 Taylor, John Michael, 1893 Teece, Richard Clive, 1903 Teece, Roy Noel, 1906 Thompson, Edmund Harvie, 1909 Thompson, Joseph, 1869 Thomson, Alec, 1894 Tighe, William, 1894 Tole, Joseph, 1869 Townshend, Samuel Edward, 1909 Tozer, Seymour Darvall, 1901 Uther, Allan Hammill, 1893 Varley, Charles Grant, 1902 Veech, Louis Stanislaus, 1893 Vickery, Ebenezer Frank. 1904 Waddy, Percival Richard, 1893 Waldron, Thomas W. King, 1895 Wallace, Frank Ernest, 1899 Walker, James Ernest, 1896 Walton, Geo. Henry Montague, 1902 Waring, Herbert Raymond, 1909 Warren, Ernest William, 1900 Watson, Herbert Frazer, 1905 Watt, Andrew R. J., 1894 Watt, Thomas Evans, 1908 Watts, Percy Richard, 1907 Williams, Keith, 1909

Wilson, David, 1906 Wilson, George Harry, 1904 Wheeler, Arthur Russell, 1908 Wood, Harrie Dalrymple, 1896 Yarrington, W. H. H., 1887 Young, James, 1902

### DOCTORS OF MEDICINE.

Bennet, Francis Alexander, 1896 Barret, James, 1873 Belgrave, T. B., 18826 Blackburn, Charles Bickerton, 1903 Blair, John, 1877 Brennand, H. John Wolferton, 1908 Chisholm, William, 1887 Cleland, John Burton, 1902 Corlette, Cyril Ernest, 1895 Davis, James Shedden, 1905 Flashman, James Froude, 1897 Gillies, Sinclair, 1905 Griffiths, Frederick Guy, 1911 Hall, Edwin Cuthbert, 1904 Hipsley, Percy Leslie, 1907 Houison, James, 1870 Jenkins, Edward Johnstone, 1886 Jones, Richard T., 1874 Knaggs, Samuel T., 1882 Lloyd, Frederick, 1872 Lyden, Michael John, 1892 MacCormick, Alexander, 1888 §

McDonnell, Æneas J., 1896 McMurray, Wahab, 1892§ Magarey, Frank William Ashley, 1903 Maher, W. Odillo, 18849 Moore, George, 1872 Morton, Selby, 1877 Mullins, George Lane, 18906 Nash, John Brady, 19038 Oram, Arthur Murray, 18826 O'Reilly, Walter William J., 1882 Ross, Chisholm, 1886 Rowan, Thomas, 1882 Sandes, Francis Percival, 1903 Smith, Grafton Elliott, 1895 Stacy, Harold Skipton, 1901 Stewart, Charles, 1872 Stuart, T. P. Anderson, 1889 Taylor, Charles, 1872 Wade, Robert Blakeway, 1904 Warren, William Edward, 1882¢ Wilson. Thomas George, 1904 Worrall, Ralph, 1888¢

## BACHELORS OF MEDICINE.

Abbott, George Henry, 1891 Adams, Francis Charles, 1904 Affleck, Ada C., 1898 Aiken, Percy Norman, 1903 Allen, Hugh George, 1908 Ambrose, Theodore, 1902 Anderson, Arthur, 1902 Anderson, Hugh Miller, 1902 Andrews, William, 1887 Archdall, Mervyn, 1908 Armstrong, William G., 1888 Arnold, Aldous Campbell, 1909 Aspinall, Archibald John, 1906 Aspinall, Jessie Strahorn, 1906 Bancroft, Peter, 1888 Baret, Henri Victor D., 1908 Barling, James Eric Vernon, 1900 Barnes, Edmund Horatio, 1897 Barron, George Moncrieff, 1908 Barrow, Isaac Manly, 1910 Barton, Alan Darvall, 1909 Barton, John à Beckett Darvall, 1901

Beatty, Harold Ramsay, 1909 Bell, George, 1906 Bell, Henry Charles Rikard, 1904 Benjafield, Vivian, 1904 Bennetts, Harold Graves, 1896 Berge, Charles Gustav, 1910 Biffin, Harriett Eliza, 1898 Binney, Constance Clarice, 1906 Binney, Edward Harold, 1893 Binns, William Johnstone, 1907 Blaney, Henry Patrick, 1903 Bligh, Erasmus A. R., 1905 Blue, Archibald Irwin, 1901 Blumer, George Albert, 1910 Böhrsmann, Gustav Hall, 1898 Böhrsmann, Rudolph Hermann, 1894 Boelke, Paul, 1893 Bond, Lionel Wilfred, 1904 Bottrell. Edwin Horace, 1908 Bourne, Eleanor Elizabeth, 1903 Bowker, Cedric Victor, 1898 Brade, Gerald Francis, 1899

Bradley, Clement Henry Burton, 1907 Brearley, Edwin Andrew, 1908 Brierley, Frank Sheppard, 1909 Broadbent, Percy Lewis, 1902 Broinowski, Gracius Herbert, 1897 Brookes, George Arthur, 1908 Brooks, William Seymour, 1909 Browne, Elsie Forrest, 1908 Browne, Claude Seccombe, 1904 Buchanan, George Arthur, 1904 Buchanan, Joseph David, 1905 Bullock, Howard, 1908 Burfitt, Mary Boyd, 1909 Burfitt, Walter Fitzmaurice, 1900 Burge, Stephen Bruce, 1900 Burkitt, Edmund Henry, 1896 Busby, Hugh, 1900 Butler, Arthur Graham, 19088 Cahill, Arthur Charles, 1907 Cahill, John Hampton, 1903 Cameron, Donald Allan, 1900 Campbell, John Stuart, 1907 Candlish, Robert Smith, 1908 Cargill, William Duthie, 1899 Carlile-Thomas, Julia, 1898 Challands, Frederick, 1892 Chapman, Herbert Owen, 1907 Chenhall, William Thomas, 1897\$ Child, Sophia Ruth, 1909 Chisholm, Edwin Claude, 1904 Clarke, Gother Robert Carlisle, 1902 Clarke, Philip Sylvester, 1903 Clayton, Harry John, 1910 Clifford, James Percy, 1906 Clipsham, William Brooks, 1910 Clouston, Thomas Bennett, 1905 Coen, Bernard Joseph, 1908 Coen, Joseph, 1905 Coghlan, Iza Frances Josephine, 1893 Collier, Frederick William Dean, 1908 Colvin, Arthur Edmund, 1908 Combes, Edgar William Anthony, 1902

Conlon, William Aloysius, 1896 Connolly, Thomas Patrick, 1904 Conolly, Henry Willans, 1909 Conroy, Lionel Bigoe Henzell, 1903 Cook, Sydney Leicester, 1908 Cooley, Percy Glover, 1898 Cope, Hubert Roger, 1898 Corbin, Albert George, 1900 Corfe, Anstruther John, 1903 Cosh, John Inglis Clark, 1897 Cotton, George Reginald Cope, 1908 Cowlishaw, Leslie, 1906 Cox, Frederick Henry, 1895 Cox, Harrie, 1900 Craig, Francis Brown, 1907 Craig, Robert Gordon, 1894 Crawley, Aubrey Joseph C., 1896 Croll, David Gifford, 1909 Crothers, Charles Alexander, 1909 Culpin, Ernest, 1905 Dalyell, Elsie Jean, 1909 Dansey, St. John Warburton, 1903 D'Arcy, Constance Elizabeth, 1904 Davies, Reginald Laidlaw, 1901 Davidson, Leslie G., 1888 Davis, Neville John, 1910 Day, Edward James, 1906 Deakin, John Edward Ferdinand, 1907 Deck, George Henry Baring, 1896 Deck, John Northcote, 1900 Delohery, Henry Charles, 1899 Dev. Lindsay Alexander, 1909 Dey, Robert, 1898 Dick, Robert, 1892 Dickinson, Evelyn Elizabeth, 1908 Diethelm, Oscar Albert Anton, 1907 Dight, William Billingsley, 1902 Dixon, Graham Patrick, 1897 Docker, Ernest Noel Brougham, 1909 Donovan, Harrie Caresfort Edmond. 1906 Doyle, William Oscar, 1906 Dunlop, Leslie William, 1909 Dunn, Archibald Jamieson, 1909 Dunlop, Norman John, 1896 Durack, William Joseph, 1900 Edwards, James George, 1907 Edye, Benjamin Thomas, 1910 Eichler, Wm. Otto Heldmuth, 1900 Ellis, Lawrence Edward, 1898 Elwell, Laurence Bedford, 1908 Elworthy, William Henry, 1903 English, Robert Joseph, 1909 Ewing, Thomas, 1909 Fahy, James Francis, 1908 Fairfax, Edward Wilfred, 1899 Farrell, Robert Meredith, 1897Finckh, Alfred Edmund, 1905 Finselbach, Friedrich William August, 1906 Fitzgerald, Maurice, 1910 Fitzhardinge, John Fortescue Grantley, 1909 Fitzpatrick, Edward Bede Lucien, 1903 Flashman, Charles Ernest, 1903 Flecker, Hugo, 1908 Flecker, Oscar Sydney, 1902 Fordyce, Henry St. Clair, 1895 Forster, Redmond Clarence Hall, 1901 Fox, Arthur Wesley, 1908 Fox, Edith Emily, 1910 Fox, Hedley Ebenezer, 1903 Foy, Leslie Harold, 1910 Fraser, Donald, 1909 Freshney, Reginald, 1892 Furber, Robert Iggulden, 1908 Garde, Henry Lee, 1901 Giblin, William Eric, 1908

Gibson, Dnncan David, 1906

Gillespie, Arthur Paul, 1907 Godsall, Robert Spencer, 1904

Gilchrist, James Joseph, 1907

Ferguson, Eustace W., 1908

Ĩ905 Goldsmid, Joseph Albert, 1895 Golledge, Kenneth Alfred, 1909 Graham, David Harrison, 1908 Graham, James, 1886 Graham, Mabel Jessie, 1900 Grant, William, 1905 Green, Terence Albert, 1893 Greenham, Eleanor Constance, 1901 Grey, William Charles, 1903 Griffiths, John Neville, 1905 Grigor, William Ernest, 1908 Gullett, Lucy Edith, 1900 Halcombe, Charles Digby, 1902 Hall, George Reginald Percy, 1895 Halliday, John Charles W., 1896 Hamilton-Browne, Elizabeth Isabel, 1909

Goergs, Karl Randolph Wilhelm,

Hammand, Kendall, 1907 Handcock, Charles Lancelot, 1894 Hansard, Norman William, 1907 Hardman, Robert, 1900

Harper, Margaret Hilda, 1906 Harris, Henry Joseph, 1908 Harris, John Solomon, 1906 Harris, Samuel Henry, 1906 Harris, Walter Eli, 1900 Harris, Lawrence Herschell Levi, 1896 Harris, William Henry, 1897 Harrison, Bede James Michael, 1910 Harrison, Edgar Selwyn, 1906 Hart, Basil Lloyd, 1900 Haynes, Arthur Richard, 1910 Heaslop, James William, 1908 Heggaton, Rupert Dufty, 1900 Henry, Arthur, 1889 Heydon, George Aloysius Makinnon, 1908 Higgins, Frederick Charles, 1897 Hill, Douglas Bayly, 1908 Hill, John Goodwin Watson, 1906 Hinder, Henry V. C., 1889 Hoets, John W. van Rees, 1908 Holland, John Joseph, 1905 Holmes, Harry Glennie, 1900 Holmes â Court, Alan Worsley 1910 Holt, Arthur Christian, 1901 Horton, William Henry, 1902 Huggart, William Charles, 1906 Hughes, James Charles, 1908 Hughes, Michael O'Gorman, 1895 Humphery, Esca Morris, 1903 Humphries, Herbert Gordon, 1910 Hunt, Claude Leopold W., 1891 Hunter, William Allen, 1902 Jackson, John William, 1895 Johnston, Herbert Huff, 1908 Johnston, Langloh Parker, 1906 Jones, Philip Sydney, 1900 Jones, Sydney Evan, 1910 Kater, Norman William, 1898 Kay, Stuart, 1905

Kendall, Herbert William, 1905

Kinross, Robert Menzies, 1894 Lancaster, Llewellyn Bentley, 1896

Langton, William Digan, 1903 Larkins, Nicholas Clement, 1909

King, Aubrey Arthur, 1900

Latham, Oliver, 1903 Lawes, Charles H. E., 1892

Leahy, John P. D., 1892

Lee, Henry Herbert, 1901 Lees, Geoffrey John, 1900 Leslie, James Robert, 1905 Lethbridge, Harold Octavius, 1904 Lightoller, G. Henry Standish, 1906 Lindeman, Grant Brauhall, 1910 Lipscomb, Thomas Walter, 1898 Litchfield, William Frederick, 1893 Lister, Henry, 1892 Llewellyn, Rees Frank, 1902 Luddy, John Joseph, 1909 Ludowici, Edward, 1899 Luker, Donald, 1894 Lyons, Ettie, 1909 Macartney, George William, 1910 McClelland, Reginald Eustace, 1910 McClelland, Walter Cecil, 1896 MacCreadie, John Laing Martin, 1894 McCredie, Robert William, 1901 MacCulloch, Harrington Thomas Cuthbert, 1906 McDowall, St. Andrew William Logan, 1905 McDowall, Valentine, 1905 McEncroe, James Michael, 1905 McEvoy, John Joseph Stuart, 1900 Macfarlane, John Stuart, 1908 McIntosh, Alexander Menzies, 1910 Macintosh, Alexander Hay, 1901 Macintosh, Cyril Leslie Stewart, 1909 Macintosh, George Donald, 1909 McKay, William John S., 1891 McKelvey, John Lawrence, 1905 MacInnes, Angus, 1907 Mackenzie, Arthur Joseph, 1907 Mackenzie, Donald Stewart, 1909 Mackenzie, John, 1899 McKillop, Archibald, 1906 McKillop, Lachlan M., 1908 Mackinnon, Roger Robert S., 1894 Maclean, Lillian Alexia, 1909 McLean, Archibald Lang, 1910 McLean, George, 1900 MacMaster, Donald Æneas Dunlop,

McPhee, Vincent Joseph, 1908 MacPherson, John, 1898 Maffey, Reginald William H., 1900 Maher, Charles Weston, 1907 Maitland, Herbert L., 1892 Mansfield, Walter Charles, 1905

Markwell, Norman Walter, 1910 Marr, Gordon William Singer, 1901 Marsden, Ernest Ambrose, 1901 Marsh, Harold Seaward, 1903 Marsh, Harold Theodore, 1909 Martin, Walter Wallace, 1910 Mason, Thomas William, 1903 Matthews, Henry Delahunt, 1908 Matthews, Walter Frederick, 1909 Mawson, William, 1904 Menzies, Guy Dixon, 1896 Millard, Reginald Jeffrey, 1891 Miller, Robert Christy, 1908 Mills, Arthur Edward, 1889 Mobbs, Athol Walter, 1909 Molesworth, Edmund Harold, 1906 Moran, Herbert Michael, 1907 Morton, Gavin, 1890 Morton, John, 1890 Moseley, Arthur Henry, 1906 Murray, George Lathrop, 1894 Muscio, Allan, 1902 Newton, Alice Sarah, 1898 Newman, Ernest Ludlow, 1903 Newton, Wm. Thomas Joseph, 1900 Nolan, Herbert Russell, 1890 Norrie, George, 1910 Nowland, Horace Henry, 1910 Oakes, Arthur, 1881 O'Connor, Arthur Charles, 1896 O'Halloran. Charles Michael, 1908 O'Keefe, John James, 1898 O'Reilly, Susannah Hennessy, 1905 O'Reilly, Theophilus Linnell, 1906 Old, George Greensil, 1900 Olver, William Reath, 1900 Ormiston, Martha Isabel, 1907 Osborne, John King, 1903 Oxenham, Humphrey Bede, 1908 Page, Earle Christmas Grafton, 1902 Pain, Ernest Maynard, 1897 Palmer, Charles Reginald, 1906 Palmer, Henry Wilfred, 1906 Park, Joseph, 1892 Parker, Leslie Richard, 1909 Parker, Reginald Arthur, 1907 Parker, Thomas Eric, 1911 Parkinson, Henry Hallam, 1909 Parnell, Ethel Caroline, 1909 Parry, Edward Lloyd Davenport,

Paton, James Wright, 1900 Patterson, Mervyn Stuart, 1908 Paul, Charles Norman, 1910 Paul, George Augustus, 1907 Paul, James Hogg, 1910§ Perkins, Alfred E., 1888 Perkins, Richard, 1904 Petherbridge, Walter Charles, 1909 Phillips, Arthur Bradridge, 1904 Pittman, Ernest Ellis, 1910 Plomley, Morris James, 1903 Poate, Hugh Raymond Guy, 1907 Pockley, Eric Osbaldiston, 1900 Pockley, Francis Guy Antill, 1910 Pockley, Frank Antill, 1888 Powell, James William Garnet, 1910 Power, John Wardell, 1905 Prevost, Richard Lewis de Teissier, 1909 Pridham, Harold Ernest, 1907 Priestley, Henry, 1909 Pritchard, Alice, 1906 Pulleine, Robert Henry, 1898 Purser, Cecil, 1890 Purves, Allan Melrose, 1909 Quaife, Cyril, 1909 Quaife, Walter Thorold, 1906 Ramsden, Edward Maxwell, 1908 Read, William Henry, 1898 Rees, Walter Llewellyn, 1902 Renwick, Charles Saunders, 1907 Richards, Samuel J., 1893 Riley, Spencer George Birkenhead, 1906 Ritchie, Harold John, 1908 Roberts, Alfred John Spencer C., 1905 Robertson, Lionel Joseph, 1903 Robertson, Norman Keith, 1910 Robinson, Grace Fairley, 1893 Robison, Erskine Hugh, 1896 Roe, James Martin, 1900 Roger, Robert, 1909 Rogers, Francis Cecil, 1908 Rogers, Leslie Halse, 1908 Rorke, Sydney Norman, 1909 Roseby, Edmund Rupert, 1900 Rutherford, Constance Muriel, 1908 Rutledge, Edward Hamilton, 1908 Sadler, Henry Frank, 1903 Sapsford, Clinton Pelham, 1906

Savage, Edward Joseph, 1900 Savage, Vincent Wellesley, 1901 Sawkins, Frederick John T., 1892 Schenk, Theodor William George Henry, 1909 Schlink, Herbert Henry, 1907 Schmidt, Egmont Theodore Carl, 1909 Scott, Edward Henry, 1893 Sear, Herbert Roy, 1910 Seldon, William, 1902 Sharp, Granville Gilbert, 1904 Sharp, W. Alexander Ramsay, 1902 Shaw, Frederick C. S., 1892 Sheehy, William, 1906 Sheldon, Herbert, 1898 Sheldon, Stratford, 1896 Shellshear, Cyril, 1905 Shellshear, Joseph Lexden, 1907 Shellshear, Walter Guy, 1910 Sheppard, Arthur Murray, 1890 Shirlow, Sydney Stewart, 1892 Shirlow, William John, 1892 Shorter, Herbert Leopold Ashton, 1899 Simpson, Francis George Macneill, 1905 Sinclair, Archibald Fletcher, 1909 Smith, Clara Rebecca, 1909 Smith, Clive Nigel, 1909 Smith, Gerald Keith, 1908 Smith, Kenneth, 1908 Smith, Hilton Charles G., 1908 Smith, Percy Edward Walton, 1905 Smith, Stewart Arthur, 1903 Smyth, John Sands, 1910 Spark, Ernest James T., 1895 Stacy, Valentine Osborne, 1908 Stanley, George Percival, 1891 Steele, Andrew Buchanan, 1907 Stephen, Edgar Horatio Milner, 1902 Stephens, Frederick Glover Neason, 1908 Stevens, William Woodburn, 1898 Stewart, Colin Percival, 1908 Stiles, Bernard Tarlton, 1906 Stokes, Edward Sutherland, 1891 Stokes, Frank Oliver, 1907 Storey, John Colvin, 1909 Stuckey, Francis Seavington, 1902

Studdy, William Bradridge, 1895 Suckling, Frank Martin, 1903 Sweet, Geoffrey Bruton, 1893 Tait, Leslie Gordon, 1910 Talbot, Ethel, 1908 Tange, Frank Septimus, 1902 Tarleton, John Willington, 1902 Taylor, Charles James, 1900 Tebbutt, Arthur Hamilton, 1908 Terrey, Hedley, 1897 Thomas, George Bowen, 1901 Thomson, Ewing George, 1910 Thomson, Jack Mowbray, 1903 Thomson, Jean Graeme, 1906 Tidswell, Frank, 1892 Throsby, Herbert Zouch, 1898 Tomlinson, George Leigh, 1908 Townley, Percy Langford, 1890 Trindall, Richard B., 1889 Tudor-Jones, Evan, 1902 Turner, Trevor Armstrong, 1910 Ure, Edith, 1902 Ure, Sarah Louisa, 1905 Vallack, Arthur Styles, 1893 Veech, Michael, 1894 Veech, Michael Stanislaus, 1909 Verco, Clement Armour, 1901 Verco, Sydney Manton, 1900 Verge, Arthur, 1905 Verge, Cuthbert Arnold, 1910 Vernon, Geoffrey Hampden, 1905 Vernon, Murray Menzies, 1904 Vickers, Wilfred, 1907

Vivers, George Arthur, 1904 Waddy, Richard Granville, 1908 Walker, Allan Seymour, 1910 Walker-Smith, Hugh Bell, 1907 Wallace, Donald, 1902 Walton, William Bain, 1898 Walton, John Francis, 1903 Ward, Hugh Kingsley, 1910 Wassell, Joseph Leathom, 1897 Watson, James Frederick, 1903 Waugh, Richard A. P., 1903 Weedon, Cyril James, 1908 Weedon, Stephen Hertford, 1910 Welch, John Basil St. Vincent, 1906 Welch, Kenyon St. Vincent, 1908 West, Francis William, 1900 Wherrett, Ernest Albert, 1906 White, Wilfrid James, 1907 Whiteman, Reginald John Nelson, 1905 Whiting, Keith Moore, 1909 Willis, Charles St. Leger, 1906 Willis, Charles Savill, 1899 Windeyer, John Cadell, 1899 Withers, Oscar Edgar Bruce, 1907 Woodburn, James John, 1909 Woolnough, Robert Edmund, 1903 Wooster, Frank Cowper, 1910 Wylie, Mary Wilhelmina, 1906 Young, Edgar Harold, 1905 Sobieski Zlotkowski, Frederic Wladimir, 1896

## MASTERS OF SURGERY.

Abbott, George Henry, 1891 Affleck, Ada C., 1898 Atlen, Hugh George, 1909 Ambrose, Theodore, 1902 Anderson, Arthur, 1902 Anderson, Hugh Miller, 1902 Armstrong, William G., 1888 Arnold. Aldous Campbell, 1910 Aspinall, Archibald John, 1906 Aspinall, Jessie Strahorn, 1906 Bancroft, Peter, 1888 Barling, James Eric Vernon, 1901 Barnes, Edmund Horatio, 1897 Barron, George Moncrieff, 1909 Barton, Alan Darvall, 1910 Barton, John a' Beckett Darvall, 1901 Beatty, Harold Ramsay, 1910

Bell, George, 1910 Bell, Harry Charles Rikard, 1904 Benjafield. Vivian. 1904 Bennetts, Harold Graves, 1896 Berge, Charles Gustav, 1910 Biffin, Harriett Eliza, 1898 Binney, Edward Harold, 1893 Blackburn, Charles Bickerton, 1899 Bligh, Erasmus A. R., 1905 Blue, Archibald Irwin, 1901 Blumer, George Albert, 1910 Böelke, Paul, 1893 Böhrsmann, Gustav Hall, 1898 Böhrsmann, Rudolph Hermann, 1894 Bond, Lionel Wilfred, 1904 Bottrell, Edwin Horace, 1908 Bourne, Eleanor Elizabeth, 1903

Brade, Gerald Francis, 1911 Bradley, Clement Heury Burton, 1907 Brearley, Edwin Andrew, 1908 Brennand, Henry John W., 1899 Brierley, Frank Sheppard, 1910 Broadbent, Percy Lewis, 1902 Browne, Claude Seccombe, 1904 Browne, Elsie Forrest, 1908 Buchanan, George Arthur, 1904 Buchanan, Joseph David, 1905 Bullock, Howard, 1909 Burfitt, Mary Boyd, 1910 Burfitt, Walter Fitzmaurice, 1900 Busby, Hugh, 1900 Cahill, Arthur Charles, 1909 Cameron, Donald Allan, 1901 Candlish, Robert Smith, 1909 Cargill, William Duthie, 1899 Carlile-Thomas, Julia, 1898 Challands, Frederick, 1892 Chapman, Herbert Owen, 1907 Chisholm, Edwin Claude, 1904 Clarke, Gother Robert Carlisle, 1902 Clarke, Philip Sylvester, 1903 Cleland, John Burton, 1900 Coghlan, Iza Frances Josephine, 1893 Colvin, Arthur Edmund, 1908 Combes, Edgar Wm. Anthony, 1902 Conlon, William Aloysius, 1898 Connolly, Thomas Patrick, 1904 Cooley, Percy Glover, 1898 Corbin, Alfred George, 1900 Corfe, Anstruther John, 1904 Corlette, Cyril Ernest, 1892 Cosh, John Inglis Clark, 1897 Cowlishaw, Leslie, 1906 Craig, Robert Gordon, 1894 Crawley, Aubrey Joseph C., 1896 Dalyell, Elsie Jean, 1910 Dansey, St. John Warburton, 1903 D'Arcy, Constance Elizabeth, 1904 Davidson, Leslie G., 1888 Davies, Reginald Laidlaw, 1901 Davis, James Shedden, 1903 Day, Ernest James, 1906 Deakin, John Edward Ferdinand, Deck, George Henry Baring, 1901 Deck, John Northcote, 1902 Dey, Robert, 1898 Dick, Robert, 1892 Dickinson, Evelyn Elizabeth, 1910 Dight, Wilfred Billingsley, 1902

Dixon, Graham Patrick, 1897 Dunlop, Leslie William, 1910 Dunlop, Norman John, 1896 Durack, William Joseph, 1905 Edwards, James George, 1907 Eichler, Wm. Otto Heldmuth, 1900 Ellis, Lawrence Edward, 1898 Elwell, Laurence Bedford, 1890 Elworthy, William Henry, 1903 English, Robert Joseph 1910 Ewing, Thomas, 1910 Fairfax, Edward Wilfred, 1899 Farrell, Robert Meredith, 1897 Ferguson, Eustace William, 1909 Fitzpatrick, Edward Bede L., 1903 Flashman, James Froude, 1894 Flecker, Hugo, 1908 Flecker, Oscar Sydney, 1902 Fordyce, Henry St. Clair, 1895 Forster, Redmond Clarence Hall, 1901 Fox, Hedley Ebenezer, 1905 Foy, Leslie Harold, 1910 Fraser, Donald, 1909 Freshney, Reginald, 1892 Furber, Robert Iggulden, 1908 Garde, Henry Lee, 1901 Gibson, Duncan David, 1906 Gilchrist, James Joseph, 1907 Godsall, Robert Spencer, 1904 Goergs, Karl R. W., 1907 Golledge, Kenneth Alfred, 1909 Graham, Mabel Jessie, 1902 Greenham, Eleanor Constance, 1901 Grey, William Charles, 1903 Griffiths, Frederic Guy, 1911 Grigor, William Ernest, 1909 Gullett, Lucy Edith, 1901 Hall, Edwin Cuthbert, 1898 Hall, George R. P., 1895 Halliday, John Charles W., 1896 Hamilton-Browne, Elizabeth Isabel, 1910 Handcock, Charles Lancelot, 1894 Hansard, Norman William, 1906 Harper, Margaret Hilda, 1906 Harris, Henry Joseph, 1908 Harris, John Solomon, 1906 Harris, Lawrence Herschell L., 1896 Harris, Samuel Henry, 1906 Harris, William Henry, 1897 Harris, Walter Eli, 1900 Harrison, Edgar Selwyn, 1906

Hart, Basil Lloyd, 1901

Haynes, Arthur Richard, 1910 Henry, Arthur, 1889 Heydon, George Aloysius Makinson, 1908 Higgins, Frederick Charles, 1897 Hill, Douglas Bayly, 1909 Hill, John Goodwin Watson, 1906 Hinder, Henry V. C., 1889 Hipsley, Percy Leslie, 1903 Hoets, John William van Rees, 1909 Holmes, Harry Glennie, 1900 Hughes, James, 1909 Humphery, Esca Morris, 1903 Humphries, Herbert Gordon, 1910 Hunt, Claude Leopold W., 1891 Jackson, John W., 1895 Johnston, Herbert Hough, 1909 Johnston, Langloh Parker, 1906 Jones, Philip Sydney, 1901 Kater, Norman William, 1898 Kay, Stuart, 1905 King, Aubrey Arthur, 1900 Kinross, Robert Menzies, 1894 Lancaster, Llewellyn Bentley, 1901 Langton, William Digan, 1903 Larkins, Nicholas Clement, 1910 Latham, Oliver, 1905 Lawes, Charles H. E., 1892 Leahy, John P. D., 1892 Lee, Henry Herbert, 1901 Leslie, James Robert, 1905 Lethbridge, Harold Octavius, 1904 Lightoller, George Henry Standish, Lipscomb, Thomas Walter, 1898 Ludowici, Edward, 1899 Luker, Donald, 1894 McClelland, Walter Cecil, 1896 MacCreedie, John Laing Martin, 1894 McCredie, Robert William, 1901 MacCulloch, Harrington Thomas Cuthbert, 1906

McDonnell, Æneas J., 1889
McEncroe, James Michael, 1905
MacInnes, Angus, 1907
Macintosh, Alexander Hay, 1901
Macintosh, Cyril Leslie Stewart, 1910
Macintosh, George Donald, 1910
McKay, William John S., 1891
McKelvey, John Lawrence, 1911
Mackenzie, Arthur Joseph, 1907
Mackenzie, John, 1899

McKillop, Lachlan Martin, 1909 Mackinnon, Roger R. S., 1894 McLean, George, 1900 MacMaster, Donald Æneas D., 1899 MacPherson, John, 1898 Magarey, Frank William A., 1899 Maher, Charles Weston, 1907 Maitland, Herbert L., 1892 Mansfield, Walter Charles, 1906 Marsden, Ernest Ambrose, 1901 Marsh, Harold Theodore, 1910 Mawson, William, 1904 Menzies, Guy Dixon, 1896 Millard, Reginald Jeffrey, 1891 Mills, Arthur Edward, 1889 Mobbs, Athol Walter, 1911 Molesworth, Edmund Harold, 1906. Moncrieff, Edward Woods, 1902 Morton, Gavin, 1890 Morton, John, 1890 Moseley, Arthur Henry, 1906 Murray, George Lathrop, 1894 Newton, Alice Sarah, 1898 Nolan, Herbert Russell, 1903 Norrie, George, 1911 O'Connor, Arthur Charles, 1896 Olver, William Reath, 1901 O'Reilly, Susannah Hennessy, 1907 O'Reilly, Theophilus Linnell, 1906 Osborne, John King, 1903 Oxenham, Humphrey Bede, 1909 Page, Earle Christmas Grafton, 1902 Pain, Ernest Maynard, 1897 Palmer, Charles Reginald, 1906 Palmer, Henry Wilfred, 1906 Park, Joseph, 1892 Parker, Leslie Richard, 1910 Parker, Reginald Arthur, 1907 Parkinson, Henry Hallam, 1909 Parnell, Ethel Caroline, 1910 Parry, Edward Lloyd Davenport, 1909

Patterson, Mervyn Stuart, 1909
Paul, Charles Norman, 1910
Paul, George Augustus, 1908
Perkins, Alfred E., 1888
Perkins, Richard, 1904
Petherbridge, Walter Charles, 1910
Phillips, Arthur Bradridge, 1904
Plomley, Morris James, 1903
Poate, Hugh Raymond Guy, 1907
Pockley, Eric Osbaldiston, 1901

Power, John Wardell, 1905 Pridham, Harold Ernest, 1909 Priestley, Henry, 1910 Pritchard, Alice, 1906 Purser, Cecil, 1890 Purves, Allan Melrose, 1909 Quaife, Walter Thorold, 1907 Read, William Henry, 1898 Rees, Walter Lewellyn, 1902 Renwick, Charles Saunders, 1907 Richards, Samuel J., 1896 Riley, Spencer George Birkenhead

Riley, Spencer George Birkenhead, 1906 Ritchie, Harold John, 1908 Roberts, Alfred John Spencer C., 1905 Robinson, Grace Fairley, 1893 Robison, Erskine Hugh, 1896 Roger, Robert, 1910 Rogers, Francis Cecil, 1908 Rogers, Leslie Halse, 1909 Rorke, Sydney Norman, 1910 Roseby, Edmund Rupert, 1902 Rutledge, Edward Hamilton, 1908 Sandes, Francis Percival, 1899 Sapsford, Clinton Pelham, 1906 Savage, Edward Joseph, 1901 Savage, Vincent Wellesley, 1901 Sawkins, Frederick John T., 1892 Schenk, Theodor W. G. H., 1910 Schlink, Herbert Henry, 1907 Schmidt, Egmont Theodore Carl, 1910 Scott, Edward Henry, 1893 Sharp, Granville Gilbert, 1904 Sharp, Walter Alex. Ramsay, 1902 Shaw, Frederick C. S., 1892 Sheehy, William. 1906 Sheldon, Herbert, 1898 Sheldon, Stratford, 1896 Shellshear, Cyril, 1905 Shellshear, Joseph Lexden, 1907 Sheppard, Arthur Murray, 1890 Shirlow, Sydney Stewart, 1892 Shirlow, William John, 1892 Simpson, Francis G. M., 1905 Smith, Gerald Keith, 1911 Smith, Grafton Elliott, 1893 Smith, Hilton Charles Garnet, 1909 Smith, Kenneth, 1909 Smith, Percy Edward Walton, 1905 Smith, Stewart Arthur, 1903 Smyth, John Sands, 1910

Spark, Ernest J. T., 1895 Stacy, Harold Skipton, 1898 Stanley, George Percival, 1891 Stephen, Edgar Horatio Milner, 1904 Stephens, Frederick Glover Neason, 1910 Stevens, William Woodburn, 1900 Stewart, Colin Percival, 1909 Stiles, Bernard Tarlton, 1906 Stokes, Edward Sutherland, 1891 Storey, John Colvin, 1910 Stuckey, Francis Seavington, 1902 Studdy, William B., 1895 Suckling, Frank Martin, 1903 Sweet, Geoffrey Bruton, 1893 Talbot, Ethel, 1909 Tange, Frank Septimus, 1902 Taylor, Charles James, 1900 Terrey, Hedley, 1900 Thomas, George Bowen, 1901 Thomson, Jack Mowbray, 1903 Thomson, Jean Graeme, 1906 Tidswell, Frank, 1892 Tomlinson, George Leigh, 1908 Townley, Percy Langford, 1890 Trindall, Richard B., 1889 Tudor-Jones, Evan, 1902 Ure, Edith, 1902 Ure, Sarah Louisa, 1906 Vallack, Arthur Styles, 1893 Veech, Michael, 1894 Verco, Sydney Manton, 1900 Verco, Clement Armour, 1901 Verge, Arthur, 1905 Verge, Cuthbert Arnold, 1910 Vernon, Geoffrey Hampden, 1907 Vernon, Murray Menzies, 1904 Vickers, Wilfred, 1907 Vivers, George Arthur, 1904 Waddy, Richard Granville, 1908 Wade, Robert Blakeway, 1907 Wallace, Donald, 1909 Walton, William Bain, 1898 Wassell, Joseph Leathom, 1897 Watson, James Frederick, 1903 Weedon, Cyril James, 1908 Welch, John Basil St. Vincent, 1906 Welch, Kenyon St. Vincent, 1908 West, Francis William, 1900 Wherrett, Ernest Albert, 1906 Whiteman, Reginald J. Nelson, 1905

Willis, Charles Savill, 1899 Wilson, Thomas George, 1899 Windeyer, John Cadell, 1899 Woolnough, Robert Edmund, 1903 Wylie, Mary Wilhelmina, 1906 Young, Edgar Harold, 1905 Zlotkowski, Frederic S. W., 1896

#### BACHELORS OF DENTAL SURGERY.

Anderson, Edward Sinclair, 1909 Atwill, Milton Spencer, 1909 Barnes, Margaret Estelle, 1906 Bond, Harold Henry, 1906 Boulton, Keith Roy, 1911 Bradley, John Houghton, 1906 Broughton, Frank Wm. Walford, 1908 Burne, Alfred Dangar, 1908 Bush, Richard Bolitho, 1911 Capper, Lisle Hyne, 1907 Cozens, George Charles, 1907 Crouch, Frederick Richard, 1906 Deck, Norman Cathcart, 1907 Dolan, Alfred Pearson Berkeley, 1906 Douglass, Arthur, 1911 Gattenhof, Wm. Vincent, 1908 Grosse, Edward Henry, 1907 Hardie, Howard Gordon, 1906 Hardwick, Frederick George, 1909 Hawkins, Ernest Vale, 1910 King, Norman Strevens, 1910 Kirchner, Edward Ruvane, 1907 Lane, Alan Philip Reade, 1908 Love, William Arnold, 1907 MacTaggart, Edgar Alexander, 1906 Marshall, Frank, 1906 Marshall, William Henry, 1908 Moxham, Cecil George, 1906 Neave, Bevan Walter, 1906 Noble, Harold Ewens, 1910 Praed, Annie, 1906 Pridham, Edward, 1907 Punch, James Steenson, 1907 Richards, Samuel Alexander, 1909 Riley, Edwin Bloomfield Gerard, 1907 Ruse, Byron Brace, 1909 Starkey, John Norman, 1906 Starkey, William Augustus, 1907 Stockwell, Leslie George, 1906 Traill, Francis Windeyer, 1910 Walker, John Albert Basil, 1910 Watson, Edward Oliver, 1909

## LICENTIATES IN DENTAL SURGERY.

Boys, Reginald Septimus, 1905 Burkitt, Cyril Theodore, 1905

Hicks, Harold Frank, 1908

Clark, John James, 1905 Neale, James Harold, 1905

## DOCTORS OF SCIENCE.

Goddard, Ernest James, 1910 Jensen, Harold Ingemann, 1908 Johnston, Thomas Harvey, 1911 Kesteven, Hereward Leighton, 1911 Petrie, James Matthew, 1905 Pollock, James Arthur, 1905 Woolnough, Walter George, 1904

### BACHELORS OF SCIENCE.

d'Apice, John Edmund F., 1900 Armstrong, Harriet Ethel Mary, 1907 Bateman, John Edwin, 1908 Bennett, Agnes Elizabeth L., 1894 Benson, William Noel, 1908 Blume, Bertha Elizabeth, 1908 Birks, Lawrence, 1901§ Blumer, Reginald Charles, 1911 Booth, Frederick Athal, 1909 Boyd, Arthur, 1901 Breakwell, Ernest, 1908 Brearley, Joseph Henry Draper, 1894 Brennan, Sarah Octavia 1898 Browne, William Rowan, 1910 Burfitt, Mary Boyd, 1908 Burfitt, Walter Fitzmaurice, 1898 Burrows. George Joseph, 1910 Close, John Campbell, 1903 Cohen, Fanny, 1909 Corbin, Albert George, 1895 Cotton, Carl Max, 1909 Cotton, Leo Arthur, 1908 Crane, John T., 1887 Davis, Agues Marianne Harrison, 1898 Deer, Margaret, 1908 Dunlop, Norman John, 1895 Edwards, Rowland Campbell, 1908 Ewing, Thomas, 1906 Farran-Ridge, Clive, 1908 Flashman, James Froude, 1893 Fletcher, Archibald W., 1888 Flint, Arthur Carson, 1911 Flynn, Theodore Thomson, 1907 Forde, James, 1893 Free, Mary Grace, 1907 George, Sydney, 1909 Gray, George James, 1905 Grey, Egerton Charles, 1910 Griffiths, Edward, 1909 Hall, George Reginald Percy, 1893 Hallman, Edward Francis, 1906 Halloran, Garnet Reginald, 1910 Hammond, Walter Leslie, 1907 Harker, George, 1899 Harris, Marian, 1902 Heden, Ernest Charles Burgess, 1901 Herbert, Douglass Philips, 1909 Holloway, Rupert Arthur, 1910 Horton, Marion Charlotte, 1897 Hosking, Richard, 1905¢ Hughes, Michael O'Gorman, 1893 Hunt, Fanny E., 1888 Hunter, John George, 1909 Hyde, Ellis, 1905 Jacob, Grace Elizabeth, 1910 Johnston, Stephen Jason, 1902 Jordan, Geo. Edward Gustavus, 1901 Leverrier, Frank, 1885 Little, Elaine Marjory, 1911 Lloyd, Arthur Crawley, 1909 MacMaster, D. Æneas Dunlop, McClelland, Walter Cecil, 1894 McKay, William J. S., 1887 Mackinnon, Ewen, 1907

Mackington, Malcolm, 1909 McLaughlin, Beryl Mary, 1910 MacPherson, John, 1896 Madsen, John Percival Vissing, 1900 Mason, William Henry, 1905 Mawson, Douglas, 1905 Meldrum, Henry John, 1907 Morison, Marian Wilhelmina, 1910 Mort, Harold Sutcliffe, 1901 Norman, Edward Philip, 1909 O'Reilly, Susannah Hennessy, 1903 Paul, Alfred, 1907 Peterson, Arthur James, 1901 Powell, James William Garnet, 1907 Priestley, Henry, 1906 Ranclaud, Archibald B. B., 1908 Robison, Erskine Hugh, 1894 Ross, Allan Clunies, 1910 Ross, William John Clunies, 1891 Sharp, Granville Gilbert, 1902 Sharp, Lewis Hey, 1906 Sheldon, Stratford, 1894 Sherring, Beatrice Alice Sophia, 1908 Shirley, John, 1887 Simonds, Eugene Francis, 1911 Slv. Eileen Meares, 1910 Sly, Marion Constance Meares, 1910 Smith, Catherine Drummond, 1911 Smyth, Marjorie Kane, 1910 Swain, Herbert John, 1910 Taylor, Thomas Griffith, 1904 Tivey, John Proctor, 1907 Vonwiller, Oscar Ulric, 1902 Walkom, Arthur Bache, 1910 Waterhouse, Gustavus Athol, 1899 Watkins, Dorothy Margaret, 1910 Watt, John Alexander, 1894 Weatherburn, Charles Ernest, 1905 Weston, Percy Leonard, 1901 White, Charles Josiah, 1907 Wilson, Richard Cunliffe, 1901 Wood, E. Clarence, 1885

## MASTERS OF ENGINEERING.

Boyd, Robert James, 1907 Bradfield, John Job Crew, 1896 Cook, Walter Edmund, 1899; Dare, Henry Harvey, 1894 MacTaggart, John Norman C., 1905 Vicars, James, 1892

#### BACHELORS OF ENGINEERING.

(Civil Engineering.)

Amphlett, Edward Albin, 1889
Amphlett, Henry Martin, 1897
Arnott, Robert Fleming, 1895
Barraclough, Samuel Henry, 1892
Beaver, William Richard, 1899
Birch, William John, 1891
Bowman, Archer, 1889
Boyd, Arthur, 1902
Brearley, Joseph Henry D., 1895
Bucknell, Louis Geoffrey, 1891
Colyer, Moreton John Godden, 1896
Corfe, Duncan Bertram, 1903
Corlette, James Montagu Christian, 1902

1902
Cowdery, George Eric, 1909
Craig, Alexander Donald, 1895
Deane, Henry James, 1897
Doak, Walter James, 1895
Donkin, William Dalkeith, 1907
Fitz, Norman, 1888
Frew, Alison Eavis Harding, 1908
Hawken, Roger William H., 1900
Hayley, Perey Edmund Llewellyn, 1893

Henning. Edmund Tregenna, 1903 Hole, William Francis, 1896 Jackson, Clements F. V., 1895 Ledger, William Henry, 1893 Maclean, Alister Grant, 1910

Mallarky, Stephen Raymond, 1911 Martyn, Athelstan Markham, 1905 Massie, Hugh Hamon Ingoldsby, 1910 Mathison, Walter Charter, 1899 Merewether, Edward A. M., 1885 Morrison, Archibald, 1908 Myers, Harold Walter, 1901 Platt, Cecil Percival, 1905 Poole, William, 1900 Roberts, James Waller, 1892 Ross, Colin John, 1891§ Rowlands, Harold Berkeley, 1897 Rygate, Philip W., 1885 Sawyer, Basil, 1896 Smail, Herbert Stuart Inglis, 1897 Smail, John Alexander Moore, 1905 Stephens, Charles Thomas, 1892 Strickland, Tom Percival, 1897 Thompson, William Mann, 1886 Vincent, William Frederick, 1911

Madsen, John Percival Vissing, 1901.

Ward, Thos. Wm. Chapman, 1886 Warren, Ernest William, 1897 White, Norman Frederick, 1894 Wood, Ebenezer Clarence, 1885 Wood, James Patrick, 1895 Woore, John Morris Simeon, 1896

Wallach, Bernard, 1897

(Mining and Metallurgy.)

Anderson, William Thomas, 1911 Armstrong, John Nicholas, 1904 Atkinson, John, 1907 Ball, Lionel Clive, 1900 Barker, Nigel Chase, 1909 Barker, Reginald Frederick, 1900 Barr, James, 1904 Bedford, Max Ehrensvard, 1910 Bennett, Vyvyan Christopher, 1904 Black, Reginald Austin Wm., 1898 Boyd, William Sprott, 1901 Boydell, Wm Guy Broughton, 1905 Bridge, John Morrice, 1906 Burgess, John Henry, 1905 Butler, Angus Leicester, 1909 Caddy, James Pascoe, 1903 Cameron, Colin Bowman, 1902

Campbell-Brown, George Frederick, 1905
Caro, Phillip, 1904
Clayton, Cyril Henry Joseph, 1903
Clayton, Horace Edward, 1910
Cohen, Arthur Francis, 1904
Coldham, John Cockburn, 1906
Corlette, James Montagu Christian, 1903
Coward, William Beresford, 1909
Cropper, Cecil Howe, 1906
Dart, Riverine Norman, 1904

Dart, Riverine Norman, 1904 Davies, Harry Warlow, 1903 Debenham, Arthur John, 1903 Delohery, Ernest Cecil, 1903 Dight, Arthur Hilton, 1905 Dixon, James Thomson, 1895 Docker, Alfred Brougham, 1903
Foxall, Henry George, 1906
Foy, Leslie Harold, 1903
Freeman, Ambrose William, 1904
Freeman, Charles Cuthbert, 1902
Garde, Henry Thomas, 1903
Garry, John Joseph Patrick, 1905
Giblin, Norman Ernest, 1903
Gibson, Charles George, 1900
Gorringe, Lloyd Septimus, 1901
Gould, Hubert John, 1902
Gray, George James, 1903
Gregson, William Hilder, 1901
Grut, Charles Frederick de Jersey, 1901

Haigh. Victor Arnold, 1910
Hall, Ernest Kingsbury, 1903
Hanton, Thomas Gladstone, 1911
Harris, Herbert Theodore Rawson,

1907 Hill, James Henry Fraser, 1904 Heden, Ernest Charles Burgess, 1902 Howatson, George, 1909 Isaacs, Robert McIntosh, 1904 Jack, Robert Lockhart, 1899 Jackson, Clements Frederick V., 1900 Jackson, Frederick Henry, 1903 Jenkins, Charles Warren B., 1895 Johnson, Norman Russell, 1908 McArdle, Frederick Owen, 1904 McBryde, James, 1909 McCrae, Arthur Gordon, 1903 Mack, Augustus Charles, 1902 Mawson, Douglas, 1902 More, George Allan, 1901 Morris, Albert Colin, 1909 Mort, John Laidley, 1910. Mort, Selwyn Robert, 1900 Mulligan, Edric Noel, 1911 Nardin, Ernest Willoughby, 1894 Nardin, Collis Carleton, 1905 Newman, James Malcolm, 1901 Niall, Kenneth Mansfield, 1909 Owen, Tom Mackellar, 1905 Palmer, Thomas Henry, 1898 Patterson, Benjamin Gilmore, 1904

Piddington, Francis Llewellyn, 1898 Phippard, Frederick George, 1910 Poole, William, 1900 Rae, Thomas Robert, 1905 Reid, Norman, 1898 Reid, Robert Stewart, 1905 Richardson, Rosslyn James Dalyell,

1903 Robertson, James William, 1904 Roe, Charles William, 1910 Saunders, George Joseph, 1904 Sewell, Leonard Greville, 1909 Shellshear, Wilton, 1904 Simpson, Edward S., 1895 Skerritt, Alfred William, 1906 Skuthorpe, Garnett Stemyn, 1905. Slee, Richard Thilthorpe, 1901 Smith, Harold Hardy, 1911 Spier, Reginald Vincent, 1902 Stanley, Frederick Vernon, 1902 Stephen, James Farish, 1905 Stewart, Alexander Hay, 1902 Taylor, Thomas Griffith, 1905 Thomas, David, 1902 Try, John Cowley, 1902 Twynam, Henry, 1896 Verge, John, 1903 Waine, Victor Joseph, 1906 Walker, Hugh, 1903 Walker, John Stuart Dight, 1907 Ward, Leonard Keith, 1903 Waterhouse, Gustavus Athol, 1900 Waterhouse, Leslie Vickery, 1910 Waterhouse, Lionel Lawry, 1909 Waugh, Keith Cameron, 1908 Webb, Sydney Douglas, 1905 Weigall, Arthur Raymond, 1894 Weigall, Henry Stuart, 1903 Whiteman, Woodleigh Dowling, 1906

Whitfeld, Hubert Edwin, 1902 Williams, Leslie Ballesat, 1902 Williams, Owen Beresford, 1910 Winton, Louis Joseph, 1901 Wilson, John Bowie, 1897 Wilson, Richard Cunliffe, 1903 Wood, Henry, 1903 Woodburn, Joseph William, 1903

(Mechanical and Electrical.)

Ada, William Leslie, 1909 Beeston, Samuel Lievesley, 1911

Peterson, Arthur James, 1903

Penman, Arthur Percy, 1906

Bellemey, Sidney James, 1906 Brooks, Harold Arthur, 1905

Burn, Alan, 1911 Burnell, John Gurner, 1908 Carleton, George Brabazon, 1909 Carter, Edward Moore, 1909 Carter, Herbert Gordon, 1908 Clayton, Frank Herbert, 1907 Clift, Guy Chalmers, 1909 Cowlishaw, Roy Gratton, 1906 Davidson, George Frederick, 1909 Dennis, Spenser, 1909 Doyle, Alec Broughton, 1911 Flashman, Horace West, 1907 Forster, Alfred David John, 1911 Fry, Harold Willoughby, 1910 Hebblewhite, William Rayner, 1911 Herbert, Douglass Phillips, 1911 Houston, Robert, 1911 Hudson, John Macansh, 1909 Ireland, Oscar Arthur, 1910 Jones, Stephen William, 1908 Knight, Oscar Le Maistre, 1911 Larkins, Harold Matthew, 1907 Lloyd, Arthur Sydney, 1910

McKeown, Eric Waverley, 1910
May, Hubert Walter, 1908
Mort, Harold Sutcliffe, 1908
Myers, Harold Walter, 1903.
Norman, Edwin Philip, 1911
Norman, John Lupton, 1907
Ogilvie, Charles, 1910
Power, Reginald, 1908
Prescott, William Arnold, 1907
Rauclaud, Archibald Boscawen Boyd, 1910

Roberts, Harold Ashfield, 1909
Royle, John MacDiarmid, 1910
Sachs, Walter John, 1911
Sharp, Lewis Hey. 1908
Smith, Reginald George. 1910
Thompson. Harold Lindsay, 1908
Tivey, John Proctor, 1907
Wardrop. Robert Davidson, 1909
Weston, Percy Leonard, 1904
Wilkins, Thomas, 1911
Woodcock, Lancelot Richard, 1905
Wright, Charles Edward, 1910

BACHELOR OF VETERINARY SCIENCE. Stewart, James Douglas, 1911.

# DIPLOMAS.

#### DIPLOMA IN PUBLIC HEALTH.

Harris, John James, M.B., 1910

Suckling, Frank Martin, M.B., Ch.M., 1910

### DIPLOMA IN MILITARY SCIENCE.

Anderson, William Thomas, 1910 Charlton. James Robert, 1911 Cohen, Harold Francis, 1911 Crichton, William Jocelyn, 1911 Davidson, George Frederick, 1908 Denham, Howard Kynaston, 1909 Edwards, Henry George, 1909 Lloyd, Arthur Sydney, 1910 Mort, Harold Sutcliffe, 1910 Phippard, Frederick George, 1910 Ralston, Alexander Windeyer, 1908 Roberts, George Arthur, 1911 Shannon, Martin Rowland, 1911 Smith, Reginald George, 1910 Wootten, William Frederick, 1911

### DIPLOMA IN ECONOMICS AND COMMERCE.

Bateman, Stanley Bearby, 1910 Beardmore, Frederick Joshua, 1911 Beach, Henry, 1910 Brown, Robert Leslie, 1910 Campbell, Charles Norman, 1910 Cane, John Beecroft, 1910 Carson, Alfred Decimus, 1910 Comyn, Francis James, 1910 Docker, Frederick Joseph, 1911 Eade, Henry Arthur, 1911 Ewing, William Cunningham, 1910 Ferguson, John William, 1910 Glassford, David Murray, 1910 Goddard, Robert Edward Grounds, 1910 Hancock, Edward Cooper, 1911 Hattersley, George, 1910

Herlihy, Francis Joseph, 1911

Hicks, George Collyer, 1911

Lacey, Walter Cecil, 1910 Leiferman, Charles Henry, 1911 Mace, William Ralph, 1910 McDonald, Herbert Leslie, 1911 Moore, Walter Albert, 1910 Oakes, Arthur Wellesley, 1910 Robinson, Arthur Evelyn, 1910 Selby, Ernest, 1910 Sharp, Arthur Sylvester Ramsay, 1910

Stevenson, Arthur Edward, 1910 Street. Henry Eastwood, 1910 Sutherland, John Joseph Oliver, 1910

Swain, Edith Muriel Maitland, 1911 Symonds, James Garfield, 1910 Waddington, William Robert, 1910 Walcot, Edward Octavius, 1910 Wylie, Allan Dixon Pollock, 1910

# UNDERGRADUATES. FACULTY OF ARTS.

FIRST YEAR.

\*Arthur, Beatrice Sinclair \*Arthur, Jessie Gwendolin Barton, Francis Maxwell \*Bates, Albert Edward Baynes, Richard Henry Beindge Beaver, Edmund Beavis, Alice E. Bell. Russell Moncrieff Bertram, Kathleen Mary Beveridge, Thomas William Blackwell, Clive de la Tour Bogle, James Bray, Irene Mabel Bromley, Myrtle Sperrey Brown, Rosina Muriel Browne, Wallace James Richard Butterworth, Nineveh Rose Byrne, Elizabeth Martha Cade, May Teresa Carrothers, Pearl Childe, Gordon Clinch, Eric John Coatsworth, Kathleen Beryl Currey, Mabel Daly, Minnie De Putron, Irene Marion Dixson, Athole Storie Donnellan, Gregory Duckworth, Reginald Kaye Dunn, William Douglas Dwyer, Sydney Keith Edwards, George Munro †Ferguson, Ernest Adie Firkin, Caleb Lawry Flynn, Michael Richard \*Froggatt, Gladys Harding Fisher, William Graham Duncan Furnival, Cicely Gallagher, John Vincent Gibson, Thomas Kinloch Godfrey, Gordon Hay Hadley, Esme Lilian Hall, Ina Muriel Stanley Hamilton, Ellice Ettie Peden Hawke, Allan Jackson Heath, Leo Barclay Henderson, Stewart Hamilton

Henson, Marjory Bernard Herd, Mona Dorothea Hewitt, Catherine Mary Hillcoat, William George Vincent Howie, Robert John Hudson, James John Hutchinson, Lloyd Chase Jones, Frank Harold Kelly, Arthur William Kent, Geoffrey Maule Leask, Eric Graham Little, Cicely Enid \*Lloyd, Mollie \*McCarthy, Elwyn McCloy, Samuel Millar MacKeuzie, Donald William Morison McMahon, Lilian Macneil, Alexander Rutherford Mann, Osric Alwyn Manton, Irene Muriel Millar, Norman Stuart Mitchell, Alan David Moulsdale, Lucy Marion Nield, John Roscoe \*Nosworthy, Madge O'Rourke, Kathleen Mary Owen-Harris, Jean Margaret Owens, William Partridge, Kingsley Foster Pulling, Charles Willoughby Lee Pugh, Constance Mary Rabett, Noel Boden Lee Racklyeft, Robert Claude Reid, Harry Lansbury Urguhart Richardson, Alexander Evelyn Roper, M. Teresa Ross, Henry Egerton Clunies Saunders, Septima Ethel Small, Hubert Arthur Steel, Edward Victor Street, Laurence Whistler Tranter, Frederick William James Wade. Charles George Watt, Raymond Gosford \*Waugh, Christian Windeyer, Marian Miller Woodriff, Allan Tingcombe

Henry, Harry Andre

<sup>\*</sup> Unmatriculated.

<sup>+</sup> Not passing through the regular course.

#### SECOND YEAR.

Abbott, Joseph Palmer Armstrong, Mary Enid Arnold, Geoffrey Penrose Atkins, Mary De la Hunt Barr, Dorothy May Barrington, Mary Blanchard, Julian Ralph Bootle, Bertha Caroline Boyce, Raymond Charles Manning Boyer, Richard James Fildes Campbell, Annie Elsie Innes Cockett, Charles Bernard Conolly, Emily Sylvia Colville, Andrew Bayley Cummings, Victor George Desmond, Austin Thomas Dew, Mildred Rose Erhard, Elsa Fergusson, Margaret Wilsie Fitz-Herbert, John Aloysius Flannery, Francis Leonard Fredriksen, Selina Beatrice May Hall, Hessell Duncan Harrison, Charles Henry Herbert, Constance Isabelle Herd, Mary Agnes Hill, Eleanora Douglas Hubble, Georgina Temperlev Hughes, Randolph William Jenkins, Gwendolen

Jones. John Henry Jones, Richard John Edward Victor Kidston, Roderick Robert Lesslie, Mary Elizabeth Lewers, Rachael Dylis Lyons, Kathleen Grace McDonald, Kenneth David McLellan, William McNamara, Marion Macneil, Hugh Sutherland \*Meares, Lorna Devenish Moir, Catherine Margaret Nash, Agnes Mary Orr, Mabel Norwood Page, Clarence Garfield Patrick, Robert Alexander Paradise, Ilma Margaret Perkins, George William Herbert Ritchie, Herbert Alexander Simpson, Brian George Cassan Sherwin, Margaret Adèle \*Steinlechner. Marie Therese Stephen, Adrian Consett Summers, Charles Parnell Swan, Amy May Thompson, Vivian Ward Wallace, Marv Walsh, Ivy Marie Waterhouse, Doris Emmie Wingrove, Alice Mary

#### THIRD YEAR.

Beresford, Marcus Jervis de la Poer Burgmaun, Ernest Henry Carter, Beatrice Frances Crago, Violet Ethel Crawford, Edward William Crawford, Robert James Wentworth Glasgow
Currey, Charles Herbert
De Low, Nellie Daphne
Docker, Constance Isabella Brougham
Donaldson, Charles Bernard
Dunstan, Dorothy Frances
Eldridge, Frank Burgess
Gale, Kathleen Windeyer

Austin, Elsie Myra

Barber, Minnie

Bardon, Richard

Gasteen, Elsie Frances Gombert, Renée Gray, William John Grieve, Dora Hadley, Enid Lesley Hollingdale, Eustace Thomas Houison, Laura Osborne Joseph, Marie Frances Lewis, Martha Jane Lodder. Ida Lonsdale. Lionel Marcellus Macdonald, Flora Aimée Mackay, Helen Elisabeth McTiernan, Edward Aloysius Francis Meares, Nellie Devenish Meek, Rupert Wallace Miller-Hermes, Rachel Rittenburg

<sup>\*</sup> Unmatriculated.

Mulvey, Roy Dadson
Oakey, Dorothy Margaret
Packham, Cecily Florence
Pauss, Olga Marian
Petrie, Horace William
Pitt, William McIntyre
Prescott, Kathleen Margaret
Robinson, Oovey Jessie
Rofe, Wyndham John Fulton
Richardson, Sydney Robert Wilkins
Slade, Clive Stuart
Smith, Duncan Malcolm

Smith, William Henry
Smyth, Sybil Rosamond
Saunders, May Annie
Stephenson, James Hunter
von Hagen. Conrad James
Watsen. Constance Emily
White, Constance Emily
Williams. Dudley
Wilson, Jane Elizabeth Margaret
Lorrain
Wise, Dorothy
Young, James Rarity

#### EVENING STUDENTS.

#### FACULTY OF ARTS.

#### FIRST YEAR.

Allen, Herbert Daniel Aston, Frances Emma Atkins, Walter Ball, Frank \*Barber, Reginald Barnetson, Alexander John Barlow, Richard Cyril Bartrop, William Ewart Gladstone Blanchard, Alfred George Buchan, William Champion, George Stephen Christie, Charles Grant Campbell Christopherson, Hans Clinch, George Waverley Cocks, Herbert Stanley Collings, Edith \*Cragg, Mabel Elizabeth Crapp, Peter Francis \*Desailly, Helen \*Dixson, Thomas Meiklejohn Drew, Alice Beauchamp Clarice Dryer, Albert Thomas Benedict Durn, William Douglas \*Everingham, Amos Leonard \*Farnsworth, Henry Gordon Fox, Oliver Stanton Harkness, Bertie Clarence \*Hansen, Peter Harney, James Augustine Harrison, Francis Daniel \*Hetherington, Alfred Robert Hodge, Rov Selwyn

Horniman, Lancelot Vicary James, Norman Lionel Johnson, Leslie Alexander Johnson, Millicent Jonas, Reginald John \*Kearney, James Lecky, Charles Stuart Lecky, Joseph \*Luke, Alfred Vincent MacGregor, Donald Neil \*McReady, Philip Martin \*Macnee, James \*Meldrum, Thomas Alfred \*Murphy, George Francis \*Newton, William Page, Harold Hillis \*Perrin, Alice Proudfoot, Stella Elizabeth Sarah Pulsford, Frank Edgar Racklyeft, Robert Claude \*Reid, Marian \*Reilly. William Joseph Ryan, Kevin Joseph Short, Edith Elsie Simmonds, Clive Charles Stanger, Norman Alfred Telfer, Buchan Fraser Francis \*Tierney, Owen Tonkin, Henry Lawrence \*Willock, William Joseph \*Wilson, George Millar

SECOND YEAR.

Blacklock, Lydia Cantello, George Alfred \*Cameron, Elizabeth Cavell, Elsie Mildred Chalmers, George Clark-Duff, William George Cummings, Victor George Cusack, Margaret Flannery, Francis Leonard Hannay, Keith Harrison, Charles Henry Hodge, Roy Selwyn Johns, George Esmond Keller, Leo Francis Kendall, Louis Gordon Kelly, Francis Parnell Keys, Sidney George \*Killip, Elsie Margaret Killip, James Hubert Lacey, Edward Francis Laws, James Henry Leaver, Harry

Andrew, Gertrude Bergin, Evangeline Annie Bourke, Cecil Austin Regis Cahalan, Edward Bernard Cameron, Robert George Clough, Hedd Lloyd Clyne, Thomas Joseph \*Davies, Ethel Eldridge, Frank Burgess Fischer, Ernest Frederick Gallagher, Francis Joseph Emmet Gormley, Ella May Greaves, John William Harris, Harold Lark Heinrich, James Oscar Layh, Lilian Lewis, Martha Jane

Baker, Harold Napier
Baxendale, James, B.A.
Bentley, Ernest Grafton, B.A.
Bowden, Robert John, B.A.
Brady, Vincent John Joseph, B.A.
Brown, William Vernon, B.A.
Burns, Dorothy, B.A.

Levy, Michael Charles Ivan Lipscomb, Winifred Haughton Lusby, John Macintosh McCrory, John Manns, John Wills Montgomerie, Frederick Nixon Morling, George Henry Moore, Olive Vera Murray, James Edward Palazzi, Victoria Leonie Parker, Edwin Henry William Peterson, Vivian Woodward Ridley, Jessie Isabel Selle, Walter Albert Shield, Richard Victor Smith, Arnold Leslie Spaull, George Thomas Taylor, Gladys Esme \*Walpole, George Anderson Waugh, John Wilby, William Woodward, Harold Mosman

### THIRD YEAR.

Machin, Jonathan
McDarra, Gerald
McKenzie, John Gordon
MoNiven, Ronald James
McNiven, William Sutherland
Meldrum, Henry John, B.Sc.
Mulvey, Roy Dadson
Munro, William
Neville, John
Owen, Thomas Alexander
Potter, Fred
Ranson, Marion
Sheehy, Theophilus
Thomas, George Ross
Tonkin, William Henry
Willcocks, Herbert Percy

### Graduates.

Cakebread, William Jowers, B.A. Cantrell, Sidney William, B.A. Collings, Edith, B.A. Collins, Clarence Richard, B.A. Connell, Marion Agnes, B.A. Davies, Edith Warlow, M.A. Davies, William Grafton

<sup>\*</sup> Unmatriculated.

Deffell, Alice Hibbert, B.A.
Dunnicliff, Mary Clifton, B.A.
Francis, Irene Isabel, B.A.
Gallagher, James Lawrence, B.A.
Hill, Ethel Letitia, B.A.
McCredie, Gladys Ethel, B.A.
McIlwraith, John, B.A.
McIlwraith, William Daniel, B.A.
Mulholland, William James, B.A.
Perry, Irene Frances, B.A.
Raves, Helen Alice, M.A.

Ross, Allan Clunies, B.Sc.
Schleicher, Bernard Michael John,
M.A.
Schleicher, Dorothy Caroline Mary,
B.A.
Skillen, Elizabeth, B.A.
Slack, Ida Leslie, M.A.
Tarrant, Thomas Ambrose, B.A.
Taylor, Robert Challis, B.A.
Teasdale, Frederic Vass, B.A.

#### DEPARTMENT OF MILITARY SCIENCE.

Baynes, Richard Henry Beindge Bushell, Edward Harry Buttner, Adolph Rudolf William Colyer, Moreton John Godden, B.E. Concannon, George Lewis Blake de Low, Harold Charles Gibson, Thomas Kinloch Gill, George Edward Griffith Hamilton, John Hayne, Robert Hyman, Arthur Wellesley Lucas, Herbert Sammons
McDonald, Charles George
Murphy, George Francis
Nixon, Robert James
Parker, Benjamin Frederic
Saunders, William Henry
Smith, Clarence Gervaise
Townshend, Samuel Edward, B.A.,
LL.B.
Wall, Hugh Alton A
Wardlaw, Henry Sloane Halcro

### FACULTY OF LAW.

### INTERMEDIATE EXAMINATION.

Abbott, Joseph Palmer \*Abrahams, Leonard Sydney Baldick, George Leslie Bell, Ernest Hastings Dillon Beresford, Marcus Jervis de la Poer Biddulph, Lindon Helton, B.A. Blanksby, Harold Robertson, B.A. Bourke, Cecil Austin Regis Burns, Philip Harry Carveth Cahalan, Edward Bernard Chedgey, Hubert Victor Collier, Clarence Timbrell Compton, Albert Zarenne, B.A. Crawford, Thomas Simpson, M.A. Donaldson, Charles Bernard Ferguson, Bernard Hall Flannery, Francis Leonard \*Florance, Victor Aikman Gibson, Fenton Manifold Hardwick, Charles Aubrey Hollingdale, Eustace Thomas Howard, George Charles, B.A.

Kidston, Roderick Robert Lacey, Edward Francis Lloyd, Alan Stredwick, B.A. Lucas, Cecil Rodwell, B.A. MacDougall, Gould John Campbell Macneil, Hugh Sutherland Makin, William, B.A. McLelland, Henry Wellsteed McTiernan, Edward Aloysius Mose, Reginald John Henry Mullins, John Thomas Nimmo, William Muir, B.A. Patrick, Robert Alexander Perdriau, Ralph Joseph Petrie, Horace William Ranson, Joseph Robert, B.A. Rich, Charles Ellison, B.A. Rofe, Wyndham John Fulton Sheppard, Wilfrid Joseph Simpson, Edward Telford B.A. Simpson, Robert Ian, B.A. Slade, Clive Stuart

O Unmatriculated.

Smith, Arthur Charles
Solomon, Keneth Maurice Halgren,
B.A
Stacy, Bertie Vandeleur, B.A.
Stacyhen, Adrian Consett
Stephenson, James Huuter
Street, Kenneth Whistler, B.A.
Summers, Philip Lee

Tait, Ernest Waldegrave, B.A Terrey, Lisie Chiene Thom, Alexander Osborne Von Hagen, Conrad James Wall, William Thomas Stanislas Williams, Dudley Young, Charles Throsby

#### FINAL EXAMINATION.

Bender, Edwin Cormack, B.A.
Bland, Francis Armand, B.A.
Cohen, Cecil Hope, B.A.
Cordell, John Charles Stanley
Cullen, George Francis
D'Arcy-Irvine, Malcolm Mervyn,
B.A.
Eldershaw, Philip Sheridan, B.A.
Fuller, Bryan Cecil. B.A.
Gellatly, Francis Mephan
Grahame, George Frier, B.A.
Lane, John Bayley, B.A.
Little, Edy, B.A.
Mason, Harold Harvey

Maxwell, Allan Victor, B.A.
McDonald, Eugene Francis
McElhone, Frank Eric, B.A.
McMinn, Wilfrid, B.A.
Moylan, William Patrick, B.A.
Olden, Percy Penrhyn, B.A.
Rishworth, Henry Shiers, B.A.
Sproule, Robert, B.A.
Stewart, William Kelvey, B.A.
Swan, William John
Toose, Stanley Vere, B.A.
Utz, Harold Stewart, B.A.
Weston, Claude Alfred, B.A.
Wray, Charles Douglas Waller

#### ECONOMICS AND COMMERCE.

### FIRST YEAR.

Barnes, Walter Bosward, Thomas Henry Bowen, Norman Forster Clarke, Francis George Cotton, Lionel Frederick Burnaby Crook, Vivian Ebenezer Dale, Geoffrey Dalwood, Harold Pettman Fetherston, Richard Arthur Flockart, Keith Waverley Fullerton, James Alexander Harradine, Stanley Harrison, Keith Hellmrich, John Forbes Henriques. Claude Augustus Hughes, Joseph Sidney Hughes, Thomas Robert Hurcombe, Alfred Josiah Kimberley Ireland, John Bede Judd, Everard Leroy, Alfred Ernest

Middleton, Ernest John Eathem.
Moloney, Frederick Michael
Murray, William
Nutman, Robert Ernest, B.A.
Peterson, Vivian Woodward
Priest, Herbert Charles
Richardson, Alexander Evelyn
Rogers, Christopher John
Rolfe, John Joseph
Rouse, Claude Martin
Rust, Arthur
Shannon, Ernest
Simpson, Horace Henry
Spence, John
Stiepewich, Angelo
Taylor, Robert C.
Watts, Henry Percival
Weston, William
Wilson, Horatio Alfred
Young, Arthur

#### SECOND YEAR.

Anderson, Samuel Thomas Bartlett, Harold James Brierley, Alan Nunan, B.A. Casson, Arthur John Tarrant Cox, Percy Parkes George, Raymond Ferris Jones, Frederick Walker Kennedy, Hugh Lancaster, John Edward Lee, John George Marx, Rudolph Alfred Rickard, Thomas Nathaniel Rodgers, Frederick Francis Xavier Salmon, Noel Leslie Sharland. William Stanley Cockburn Sheehy, Eugene Joseph Smith, Frank Lewis Staples, Eric Hope Titchen. John Henry Williams, Frederick Argyle Wheaton, Frank Forest

#### THIRD YEAR.

Christie, Allan Clifford, Claude William Percy Craigie, Wallace Dawson, Ross Campbell Day, William Oscar Campbell Donaldson, Charles Bernard Doyle, William Samuel Hall Eldridge, John C. Golledge, Halford Williams Goodman, George Cornelius Haigh, Victor, Harbutt, Richard Edward Henderson, Alfred George Merrett, Joseph Moffitt, Thomas Wilkiuson Murphy, John J. Perrignon, Henry Butler Scrutton, Robert Le Neve Stillman, Wilfred Henry Trotter, John Waites, Thomas Webb, Alan Mayo

### FACULTY OF MEDICINE.

#### FIRST YEAR.

Allen, Theophilus George Aspinall, William Robert Barr, George Barriskill, John Robert Barrow, Richard Selwyn Bateman, Charles Danbery Beale, Hector Llewellyn Beale, John George Morris Bechtel, Friedrich Carl Beith, Bruce McNeil Benjafield, Cleon Braby, Arthur Bradfield, Edward Ventris Bray. Charles Wynwood Braye, Helen Margaret Inglis Brown, John Harold Balfour Brown, John Stanley Brown, William Douglas Burfitt, Charles Aloysius Burnett-Bruce, Herbert George Butler, Sylvester Winter Cameron, Gavin Holme Cameron, William Wallace

Campling, Campbell Roy Clark. Harold Picton Cook, William Henry Coppleson, Victor Marcus Courtney, Placid Crawford, Andrew Pinkerton Daniel, Phillip Lisle Denham, Howard Kynaston, B.A., LL.B. Douglas, Stephen Farrar, Frank Martindale Finlay, Mervyn Finlayson, Malcolm Robert Flook, William Keith Walker Franklin, Samuel De Vere Frecker, Eric Wilfrid Hamilton, John Simpson Harris, Walter Terence Joseph Harrison, John Leslie Harrison, Nellie Atkinson Hill, Norman Fitz Howard, Arthur John de Size Howell, David Leslie

Hudson, Alfred Roy Jefferis, Robert Elbury Kidston, Thomas Arthur King, Stanley William Milton Kirkland, Hugh Edward Lamb, Robert Carlyle Lamrock, John James Campbell Lance, Arnold Llewellyn Leeds, Robert Harvey Loxton, Edward Hamilton McAllister, Thomas Leo Keith McDonald, Charles George McKelvey, Stephen John McKensey, Harold Morell McKenzie, Arthur Duncan Maclean, Jonathan Murray McLeod, Hector Reginald Mack. Brian Hamilton Maher, Herbert Odillo Marks, Horace Owen Matheson, Christopher Norman Minty, Cyril Charles Mitchell, John Alan Roy Monie, Roy Douglas John Moreau, Samuel Joseph Henry Murphy, John Romanus Murray, Cedric Walter Murray, Gerald Aubrey Noble, Ralph Athelstane Oakeley, William Graham O'Halloran, Oscar John Wolfetone

O'Neill, Vennard Francis Parker, Keith Shelley Parr, Thomas Liddon Postle, William Lovel Quilty, William Joseph Quinn, Roy Francis Reye, Albert James Rich, Harold Strathfield Robinson, Clive Frederic Rooney, Thomas William Samson, Cedric Murray Short, Frederick, B.A. Sinclair, Callander Wade, B.A. Small, Dudley Stewart Smith, Clarence Gervaise Smith, John William Sölling, Fritz Peter Max Stevenson, Walter Frederick Symonds, Hyman Talbot. Edith Templeman, Colin Gordon Traill, Alan James Troy, Richard Joseph Uren, Cecil van Someren, Bertram Voss, Paul Ernest Williams, Grosvenor John Wong, Reginald Woolnough, Sydney James Young, William Rae

### SECOND YEAR.

Allen, Cecil Walter Gordon Anderson, John Thomson Aspinall, Andrew Eric Bamber, Leo Barbour, Eric Pitty Blashki, Eric Phillip Brown, Keith Sigismund Macarthur Browne, Denis John Buss, Roy Cecil Stanley Burton, Russell Nelham Byrne, Kevin Carruthers, Bruce Maitland Coghlan, Cecil Charles Curtis-Elliott, Frederick Clissold Dark, Eric Payten Davidson, Arthur Madgwick Davis, David Aubrey Arnot Dean, Arnold William Digby, John Lloyd

Donovan, Charles Owen Gregory Douglas, Clifford Norval Edwards, William Angwin Farranridge, Clive, B.Sc. Fenwick, Wilmot Gardiner, Samuel Stoops Gordon, George Acheson, B.A. Gregg, Norman McAlister Grey, Egerton Charles B.Sc. Grey, Francis Temple, B.A. Harris, Charles Montagu Haynes, Raymond James Henderson, John Keith Hill, Gordon Fitz Hunter, Lancelot John Huxtable, Charles Reginald Ralston Jones, John Thomas Jeffrey, Eric Laing, John Kidd Collier

Langan, Alfred Meillon Lowe, Gordon Bradley McCaffrey, Ernest Moore MacCulloch, John Roberts Marshall, Thomas Edward Morgan, Idris Morris, Percy Alexander Murphy, Peter James Murray, Archibald Warden Graves Nalder, Gordon Frederick Nisbet, Alwyn Tom Hays North, Harry Mander Nott, Lewis Windermere Nowland, Reginald Edward Nye, Leslie John Jarvis O'Regan, Stanislaus Vincent O'Reilly, Olive Kelynack Page, William Robert, B.A. Parkinson, Philip Sidney Rae, Robert Keith Railton, Stanley Arthur Randall, William Henry Norman Ratcliff, Sydney Wm. Gardiner

Renwick, Wilmot Raymond, Arthur Wilmot Richards, Russell William Ridler, Henry Absalom Rivett, Amy Christine Roberts, Alan Thomas Sanbrook, Ebenezer Alexander Sandford, Elma Linton Saunders, James Leslie Silberthau, Robert Joseph Shand, John Cappie Shaw, Richard Glyn Vallack Stewart, James Tanko, Cecil Taylor, Marguerite Doloris Tooth, Henry Laurence Trindall, Roy Buckingham Thomas, Alfred Charles Voss, Dorothy Muriel Wade, Burton Gregory Wall, Hugh Alton Chandos Winn, Roy Coupland Zions, Norman

#### THIRD YEAR.

Adams, Charles Goldsbrough Alcorn, Alfred Alcorn, Robert Mandeville Alexander, Nathan Marcus Adler Anderson, Colin Armitage, Charles Horsfall, B.A. Balls, Raymond Barlow, Charles Dight Barton, Oswald Beith, John Robert McNeil Broughton, Norman Walford Blomfield, Cecil Richard Blumer, Sydney John Brown, Wolfe Solomon Buchanan, August Lyle Butler, Thomas Carter, Robert Burnside Chapman, Clement Lorne Clark, Charles Augustus Fraser Clipsham, Sidney Bowker Clowes, Ainslie Stalham Cohen, Cedric Keith Cuthbertson, Arthur Daly, Terence Aubrey Davenport, Percival Arthur Clive Davis, Thomas Richard Earls

Donald, William Henry Duhig, James Joseph Vincent Duncan, George Meston Elworthy, Robert Ernest Evans, Wilfred Exton, Harriette Martha Farrar, John William Fitzhardinge, Richard Grantley Flett, Percival Herbert Crofton Flower, Willoughby Fox, Otho Parkes Fowler, Enoch Franki, Noel Halford Gaden, Keith Burton Gearin, Clifford Graham, Stuart Millard Greaves, Frederick Wallscourt Blake Grieve, Keith Harvey Grieve, Percy Neil Hawthorne, William Stuart Hay, George Mervyn Henry, Clifford Hudson, Richard Hastings Hunter, John George, B.Sc. Jamieson, James Ian Munro Jekyll, Arthur Cyril Albert

Jensen, Frederick Jorgen Jones, Maude Sydney Kennedy, Hans McMurdie Kesteven, Hereward Leighton, D.Sc. Kirkwood, Noel Edmund Barton Lane, Raymond Charles Lilley, Charles Mitford Lovejoy, Roy Arnold McCarthy, Francis Justin Macdonald, William Joseph Machin, Arthur Edward McIntyre, Fergus Macnamara, Leslie Osborne McMaster, Robert Maxwell Malcolm, John Manery, William Joseph Marshall, Thomas Edward Martin, Robert May, Leonard Meehan, Arthur Vincent Mellor, Ernest James Meyers, Errol Solomon Millett, William Leonard Minnett, Roy Baldwin Mitchell, Paul Wanostrocht Murphy, Arthur James . Nixon, Robert James O'Riordan, Sydney Packer, Norman Edward †Panting, Arthur Ernest Parkinson, Charles Kingsley Parry, Ernest Kent Pattinson, William Frederick Paul, Alfred, B.A., B.Sc. Pinhey, Eustace Townley

Pockley, Brian Colden Antill Potts, Theodore Kenneth Power, John Joseph Quessy, Antoine Louis Léon Rayson, Hugh Rosenthal, Cecil Philip Roughley, Theodore Cleveland Royle, Norman Dawson Sinclair, George Wade, B.A. Smith, Donald Ian Robertson Snow, Leonard Leslie Stack, Walter Jaques Stafford, Albert Leslie Stafford, Stanley Roy Stephen, Gladys Vera Strange, Clifford Resolute Sutton, Arthur Fraser Sutton, Mordaunt Graham Taylor, Robert Joseph Thomas, Frederick Samuel Thomas, Harold Evan Thomson, Ronald Moginie Todd, Arthur Charles Robert Tozer, Claude John Waine, Jack Grenville Waldron, George Dibbs King Walker, Gordon James Welch, Herbert Locksley St Vincent-Wesley, Charles Herbert Whiting, Cedric William Wiley, Courtenay James Willis, Henry Hastings Wilson, Benjamin Gilmore Yeates, Walter Francis Stewart Young-Wai, Joshua

#### FOURTH YEAR.

Ardill, Katie
Bateman, John Edwin, B.Sc.
Benjamin, Alva
Bray, Gordon Wolseley
Brünnich, Karl Ferdinand Christian
Burkitt, Arthur St. George Neville
Handcock
Byrne, George Cumming
Church, James Vivian
Coleman, Amos Hubert
Collins, Archibald John
David, William Edgeworth

Dunlop, Albert Tange

Fallon, Cyril Joseph, B.A.
Fetherston, Leslie, B.A.
Finlay, Donald Francis
Fisher, Eric Mortley
Fitzherbert, keginald Aloysius
Forbes, Arthur Duncan
Gallagher, Michael Joseph
Giblin, Eric Louis
Gibson, Norman Maxwell
Graham, Roy Vesevs
Green, Raymond Alfred Robert
Hair, James Manning
Hardie, John

Harris, Hubert Richard Joseph Hawthorne, Harold Lester Holloway, Edward Spencer Jackson, Claude Phillip Kelly, Patrick James Kennedy, Basil Carlyle Kirkland, William Duncan Lloyd, Charles Humphrey Lilley, Edwyn Mitford McGregor, Roy Stanley McLelland, Hugh Sylvester McLennan, Simon Macqueen, Frederic Lindsay Manning, Garnet Eric Molesworth, Cecil Stanley Norrie, Harold Francis Joseph Norrie, James North, Robert Bell O'Reilly, Merrick Fletcher

Pigott, Louis Michael Plant, Harold Frederick Hood Rattray, Ronald Harley Renwick, Gordon Alick Ross, Colin Chisholur Scott, John Henry Victor Simmons, William Foster Single, Clive Vallack Slattery, Matthew Joseph Stanton, Arthur Mark Teece, Lennox Graham Thompson, Clive Wentworth Van Epen, Theodore William Walsh, Harvey Sylvester Ward, Arthur Charles Wassell, Charles Ernest Webb, James Eli, B.A. Willcocks, George Charles

### FIFTH YEAR.

Abernethy, Cecil William Aspinall, Arthur Martel Blaxland, Falkner Beazley, Raymond Northfield Booth, Fred Stanley Boulton, Nigel Philip Bourne, Harold Thornton Bowman, Reginald McDougall. Brettingham-Moore, Edward Bridge, Norbert Henry Bridge, Reginald Harold Bridges, Frederick John Buckley, Emma Albam Burke-Gaffney, Aylmer Edward Burke-Gaffney, Florence Charles Chapple, Alexander Tennant Chapman, Arthur James Partridge Clatworthy, Charles Herbert Curtin, Austin Sydnev Curtis, George Cyprian Curtis, Percy Murray Dawson, Arthur Lacy Dawson, James Donaldson, John Ebenezer Finlay, Cecil Hubert Fletcher, Wallis Mervyn Alfred Fowler, Cosmo William Freeman. Margherita Mary Frizell, Thomas James Furber, Thomas Maynard Gibson, Alfred John

Glissan, Denys Joseph Goddard, Thomas Herbert Griffiths, Neville Halloran, Garnet Reginald, B.Sc. Herlihy, John Daniel Redmond Hodgkinson, Henry Richard Hittmann, Frederic Charles Bruce Hughes, Laurence Hugh Hunt, Gladstone Montague Inglis, William Keith Jame₄, John Alexander Kay, William Elphinstone Kenny, Joseph Patrick Kenny, John Lentaigne, John Gerald Macdonald, Enid Craig McDonald, William Alphonsus McDonnell, Randal McKee, James Walter Stewart McKenzie, John Bernard Francis Macqueen, Reginald Alan Archibald Maguire. Frederick Arthur Mason, George William Metcalfe, James Beverley Mollison, Arthur John Morris, Emanuel Sydney Murphy, John Joseph Murray-Prior, Mabel Newton, Adam John Northcott, Charles Henry Pascoe, Elise Vivian

Paton, James Thomson
Payne, Percy Herbert
Pitt, Clive Nelson
Poulton, Reginald Lancelot
Pye, Cecil Robert Arthur
Rich, Vivian Morris
Rorke, Frederick Charles
Sabiel, Frederick Herman
Shearman, Cyril Howard
Sherwin, Thomas Aylwin
Skirving, Archibald Waller Scot
Smith, Muir Paul

Stafford, Herbert Leslie
Tansey, John Thomas Patrick
Thompson, Francis Clarke
Thompson, William Barbar
Tivey, Eric Alfred
Vance, Edmund Bruce Mortimer
Vickery, Kenneth Firth
Waddell, Harry James
Walker, Clifton Claude Parton, B.A
Wallace, Robert Allez Rotherham
Watson, Francis Hilton

### DEPARTMENT OF DENTISTRY.

FIRST YEAR.

Barker, Gladys Winifred Beckett, Leonard Sothern Clark, Albert Edgar

SECOND YEAR.

| Butler

Abbott, Gordon Brown, Walter Benjamin | Butler-Wood, Irene Violet | Murphy, Claude Vincent

Crouch, Edwin Cleveland

Grosse, Benjamin Melville

Scholes, Llewellyn Robert

Clifford, William Patrick Douglass, George Goodall, Alfred Arthur Kendall, Robert Clifton Lane, Reginald Percy THIRD YEAR.

Magee, Eva Kennedy \*Moxham, Doric Scott, Charles Frederick Wallace, Ernest Stanley

### FOURTH YEAR.

Callaghan, Auriel Albert Christiansen, Frederick Ernest | McMaster, William | Sutton, Arthur Fraser

### \* Dental Board Students.

Arnold, Henry Richard
Blackshaw, W.
Bolton, Frederick
Brown, Daniel George
Cocks, Walter North
Cunningham, James Forrest Turnbull
Doudney, Albert Arthur
Golsby, Frederick G.
Hogg, Owen Stanley Byjames
Hugill, Harold Ernest
Hunter, Milton Dunreath

Jennings, Hugh Donald King, John Emery Marshall, Allan Wiseman Murphy, Joseph Francis Nalder, Gordon Frederick Oatley, Keith Petherick, Percival Harold Redman, Percy Quinton Robberds, William Henry Whitchead, John Herbert Woolcott, Eric Stainer

### \* Pharmacy Students.

Anderson, Leslie Baker, Alfred James Stanley Bissaker, James Dominic Blackall, Horace Manning Bull, Edmund Ernest Crain, Jack Richardson

<sup>\*</sup>Unmatriculated.

Dickson, Horace Stanley Dunbar, Leslie Roy Earngey, Thales Livingstone Elliott, Edward Goodman Fletcher, Maurice Percival Fogarty, Patrick Fountain, Jack Alban Gearin, Michael Gibson, Robert Charles Gissing, Henry Ernest Gray, Charles James Green, Thomas Elston Hanlon, William John Hearne, Frederick Holmes, John George Irvine, William Armour Kelly, Francis William Lancaster, George Ernest McGirr, James T. McHugh, Christopher Joseph Mackenzie, Allan Kenneth Malone, Laurence Miller, Horace Richard Molloy, John Murphy, James Patrick Parkes, Frederick William Peck, Dorothy Mabel Pye, Eric John Dunstan Rose, Harry Clifford Samuell, Dorian Eric Lewis Schwinghammer, Clarence Arthur Sinclair, Frederick James Knight Sinclair, Thomas Spencer, John Benjamin Spicer, Norman George Stevenson, Stirling Stewart, Thomas Ralfe Vesper, John Peter Vincent, John Arthur Williams, Sidney James

\*Massage Students.

Allan, Jeanette
Butler, Marjory
Farrell, Pleasance Katharine
Gunn, Catherine Alexandrina
Jamieson, Doris
Kirkcaldie, Katherine Vida Methuen
Lane, Mary
Minter, Edith

Moxham, Rita Mildred Salek, Minnie Pridham, Catherine Augusta Sly, Enid Smith, Lily Sturgeon, Florence Woodd, Joan Montgomery Yates, Elizabeth

### FACULTY OF SCIENCE.

#### FIRST YEAR.

Aurousseau, Marcel Back, John, B.A. \*Bendeich, Joseph Henry Best, Charles Frederick \*Bretnall, Reginald Wheeler Brown, Janet Forrest McGillivray Cayzer, Albert Clinch, Eric John \*Coleman, Hedley Lawry Crane, Clifford \*Drake, David \*Finckh, Pearl Ray \*Fry, Dene Barrett Grace, Walter Henry Hadley, Enid Lesley Harrison, Lancelot Hellstrom, Carl Oscar Hinder, Eleanor M.

Joseph, Marie Frances Kellick, Arthur Charles Tapley \*King, James McEwan Lennox, Frank Wentworth McClean, James Robert McDonald, Kenneth David McKay, Frances Christina Burrell McQuiggin, Harold George \*Mearns, Norman Ross Neale, Marie Angrave Pattinson, May Payne, Warren Roy Porter, Laura Eleanor Irene \*Rouse, Edgar John Sandford, Frederick Esk \*Steele, Spencer Carlisle \*Troughton, Ellis Le Geyt

<sup>\*</sup>Unmatriculated.

#### SECOND YEAR.

Badham, Charles
Cotton, Frank Stanley
Dunkley, Arthur Macleay
Froggatt, John Lewis
\*Gallop, Lena Frances Winifred
Gardner, Robert Augustin
Hunter, Lancelot John
Joseph, Marie Frances
Lennox, Frank Wentworth
\*Martin, George

\*Moore, Harold John
\*Plowman, Ashley
Rice, Charles Thomas
\*Schleicher, Ruth Constance
Smith, Esther Lilian
\*Spencer, Annie Julia
Taylor, Frank Henry
Tearne, Donna Mary
Wardlaw, Henry Sloane Halcro

#### THIRD YEAR.

Briggs, Edward Alfred
\*Coombs, Frank Andrew
Davis, Sydney James George
Hanton, Thomas Gladstone
\*Harding, Henry George Alan
Lewis, Adelaide Emily
Little, Elaine Marjory
\*North, David Shepherd

Pierce, Sidney Ernest

Panting, Arthur Edward
Perry, Mary Catherine
Shand, John Cappie
Southee, Ethelbert Ambrook
Robson, Alfred James
Taylor, Harold Burfield
Watson, Andrew Dougal

### Research Students.

Hebblewhite, William Rayner, B.E. Petrie, James Matthew, D.Sc.

Smith, Catherine Drummond, B.Sc.

### DEPARTMENT OF VETERINARY SCIENCE.

#### FIRST YEAR.

Bourke, John Joseph Dowling, Rowland Arthur Geyer, Friedrich Christian Emil Lucas, Herbert Sammons MacLaurin, Hugh Anthony Hoskins Ridley, William John

#### SECOND YEAR.

Cunningham, Andrew Twynam Davis, Vivian Everard Hogarth Finiay, Gerald Fonstin Hindmarsh, William Lloyd James, Edward Stewart Patten, Robert Authony Stewart John Roy Veech. Bertie Claude Walters. Cecil Julian Manning

#### THIRD YEAR.

### Baker, Horace Morgan

#### DEPARTMENT OF AGRICULTURAL SCIENCE.

#### FIRST YEAR.

Downing, Reginald George Murray, Jack Keith Waterhouse, Walter Lawry

#### SECOND YEAR.

Heinrich, James Oscar Southee, Ethelbert Ambrook Stephens, Harry Wenholz, Harold

<sup>•</sup> Unmatriculated

#### DEPARTMENT OF ENGINEERING.

#### FIRST YEAR.

Booth, Edgar Harold Brett, Herbert Victor Callender, Geoffrey Gordon Connell, George Weir Cuninghame, William Fairlie Fry, Arthur Ernest Hain, Leslie Thomas Harden, Guy Baldwin Horne, Tom Copley Irving, Rupert Charles Clark Litchfield, Francis Raymond McGrath, Michael Joseph \*Manning, Nugent Unga Milner, James Stokes Murray, David Macleay Pelly, Joseph Hyacinth Sinclair, Walter Robert Stafford, Frank Douglas Tandy, Percy Ellis Thorne. Harold Henry Tiddy, Hector Kingsley Portus Wallace, Cecil Denver Webb, Kenneth Edward Wilkinson, John Charles

### SECOND YEAR.

#### Civil Engineering.

Clerke, Alexander Wilberforce Corbett, Lovick Hall, George Edward Lahey, Romeo Watkins \*Lewis, Selwyn McMahon, John Terence Massie, Robert John Allwright Pennefather, Clarence Arthur Potts, William Elmhirst

Mining and Metallurgy. Blumer, Cecil Herbert

#### Mechanical and Electrical.

Cowlishaw. Thomas
Dowling. Bruce Sheen
\*Edwards, Arthur Rowland
Gibbes, Frederic William
Gibson, William Hope Harnett
Hamilton, John
Hooper, Geoffrey Herbert
Hope, Bertram Cedric

James, Harry Fuller MacKinnon, John Younger Pike, William Edward Smith, Reginald George Tidswell, Frederick Auld Whitfeld, Geoffrey Ashford Watt, Herbert Cecil

#### THIRD YEAR.

### Civil Engineering.

Bonrne, Cecil Alfred Calvert, Francis James De Burgh, Thomas Hubert Macartney Fry, Hugh Guyon Lancaster, Edgar Edmund Macintosh, Harold Vernon

### Mining and Metallurgy.

Alexander, Hubert Cran, Charles Robert Deane, Cedric Hinder, Ronald Butler \*Loring, Edward Amos McKern, James Gordon Nielsen, Malcolm McIntosh

o Unmatriculated.

### Mechanical and Electrical.

Campbell, Arthur Lang, B.A. Hebblewhite, Frederick Simpson Maxwell, Marcuswell Roper, William Hugh

### FOURTH YEAR.

### Mining and Metallurgy.

Adamson, Robert Wilson Best, George Hubert Thomas. Desgrand, Vincent Aimée Grainger Foxall, John Stuart Lloyd, Arthur Crawley, B.Sc.

### Mechanical and Electrical.

Bridge, Clarence Walter Dennis, Cleon England, John Hollingdale, Gerald Francis Holloway, Rupert Arthur Reynolds, Lionel John Roberts, Loris Maynard Rorke, Harold Augustus Taylor, Evan Percy

# AFFILIATED COLLEGES.

By the Act 18 Victoria, No. 37, superseded by Act 64 Victoria, No. 22, provision is made for the Foundation of Colleges within the University in connection with the various religious denominations, in which students of the University may enjoy the advantages of residence, instruction in the doctrine and discipline of their respective Churches, and tuition supplementary to the lectures of the University Professors.

No student can be admitted to any such College unless he immediately matriculates in the University, submits to its discipline, and attends the statutory lectures; nor can he continue a member of the College longer than his name remains upon the University books.

### ST. PAUL'S COLLEGE.

Incorporated by an Act 18 Victoria, in connection with the Church of England. In the terms of the Act the Visitor is the Archbishop of Sydney. The Corporation consists of a Warden, who must be in Priests' Orders, and eighteen Fellows, six of whom must be in Priests' Orders, and the remainder must be laymen. The Fellows, with the Warden, form the Council in which the Government of the College is vested.

VISITOR.

THE LORD ARCHBISHOP OF SYDNEY.

WARDEN.

The Rev. Lewis B. Radford, M.A., D.D., formerly Fellow of St. John's College, Cambridge,

SUB-WARDEN.

F. M. McKeown, B.A.

LECTURERS.

Resident:

Divinity, History and Philosophy—The Warden. Classics—The Warden and Sub-Warden. Mathematics and Science—J. E. Bateman, B.Sc.

Non-Resident:

French-W. H. W. Nicholls, B.A. Medicine-H. J. Ritchie, M.B., Ch.M.

BURSAR.

F. B. Wilkinson, M.A.

ACCOUNTANT.

J. Hunter Stephenson, M.A.

FELLOWS.

Backhouse, His Hon. Judge, M.A. Corlette, C. E., M.D. Flower, Rev. W., M.A. Günther, Ven. Archdeacon, M.A. Hodges, C. H., M.A. Merewether, W. D. M., LL.B. Peden, Prof. J. B., B.A., LL.B. Purves, W. A., M.A. Russell, F. A. A., M.A.

Saumarez Smith, Rev. H., M.A.
Stretch, Right Rev. J. F., D.D..
Bishop of Newcastle
Taylor-Young, H. C.. M.D.
Uther, A. H., B.A., LL.B.
Waddy, Rev. P. Stacy, M.A.
Weigall, A. B., M.A.
Wilkinson, F. B., M.A., Bursar
Williams, J. L., B.A.

#### GRADUATES.

(Continuing on the Books.)

M.A.

Faithfull, W. P.
Purves, J. M.
Faithfull, H. M.
Pring, Mr. Justice R. D.
Powell, T.

Dawson, A. F.
Taylor, Rev. H. W.
Campbell, Ven. J.
Hills, H.
Russell, F. A. A.

Millard, G. W. Perkins, Rev. F. T. Roseby, T. E. Abbott, Ven. T. K. Chambers, Rev. G. A

Stephen, H. M.

Sharpe, E. Blacket, A. R. Noake, Rev. R. Bundock, F. F. Buckland, T. Elder, Rev. F. R. Bundock, C. W. Feez. A. Tange, C. Morrish, Rev. Canon F. Piddington, A. B. Baylis, H. M. Street, P. W. Merewether, E. A. M. Clarke, Rev. F. W. Millard, A. C. Jenkins, Rev. C. J. Woodd, Ven. H. A. Bode, Very Rev. A. G. H. Britten, H. E. Newton, Rev. H. D'Arcy-Irvine, M. M. McIntosh, H. Uther, A. H. Stephen, E. M.

Windever, R. Russell, C. T. Peden, J. B. Helsham, C. H. Tighe, W. Williams, J. L. Abbott, H. P. Dowe, Rev. P. W. Thomas, Rev. R. W. Waldron, T. W. K. Merewether, H. H. M. Cakebread, Rev. W. J. Rowland, N. de H. Merewether, W. D. M. Holt, A. C. Maxwell, H. F. Barton, J. A'B. D. Hobbs, E. Blaxland, H. C. Houison, Rev. S. J. Gregson, W. H. Pilcher, N. G. S. Evans-Jones, D. P. Brown, Rev. G. E.

Mutton, I. Rutherford, G. W. Harris, Rev. R. A. Gregson, E. J. Slade, O. C. Cranswick, Rev. G. H. Docker, Rev. W. B. Barry, D. R. Manning, H. E. Waddy, E. F. Futter, V. S. Portus, G. V. French, B. R. McKeown, F. M. Archdall, H. K. Ash, Rev. F. L. Consett-Stephen M. Waley, R. G. K. Biddulph, L. H. Brierley, A. N. Street, K. W. Roxburgh, N. W. Rich, C. E. Simpson, E. T.

Uther, A. H. Waldron, T. W. K. Tighe, W. Peden, J. B.

Doak, F. W.

Merewether, H. H. M. Merewether, W. D. M. Pilcher, N. G. S. Rutherford, G. W.

Verge, J.

Evans-Jones, D. P. Slade, O. C. Rowland, N. de H. French, B. R.

# M.D. Chisholm, W.

#### M.B.

Armstrong, W. G.
Bancroft, P.
Hunt, C. L. W.
Millard, R. J.
Kater, N. W.
Ludowici, E.
Barton, J. A'B. D.
Stuckey, F. S.
Marsh, H. S.
Sharp, G. G.
<u> </u>

Lethbridge, H. O. Simpson, F. G. McN. Verge, A. Brearley, E. A., B.A. Ritchie, H. J. Rutledge, E. H. Rogers, F. C. Stewart, C. P. Waddy, R. G. Docker, E. N. B. Barton, A. D.
Brierley, F. S.
Dunlop, L. W.
Verge, C. A.
Lindeman, G. B.
Macartney, G. W.
Pockley, F. G. A.
Ward, H. K.
Weedon, S. H.

Merewether, E. A. M. White, N. F.

McCrae, A. G.

Sharp, L. H., B.Sc. Verge, J. Butler, A. L. Hudson, J. M. Niall, K. M.

Crane, J. T. Stuckey, F. S. B.Sc. Sharp, G. G.

| Sharp, L. H.

Abbott, J. P. Beresford, M. J. de la P. Browne, D. J.

Browne, D. J.
Burgmann, E. H.
Cameron, G. H.
Cuninghame, W. A. F.
Cunningham, A. J.
Dunlop, A. T.
Fitz-Hill, G.
Heath, L. B.
Hutchinson, L. C.

STUDENTS.

James, H. F.
Macneil, A. R.
Macneil, H. S.
Massie, R. J. A.
Maxwell, M.
Metcalfe, J. B.
Nisbet, A. T. H.
Oakeley, G.
Pockley, B. C. A.
Pulling, C. W. L.
Rabett, N. B. L.

Reynolds, L. J.
Ross, C. C.
Shaw, R. G. V.
Simpson, B. G. C.
Stephen, A. C.
Street, L. W.
Tozer, C. J.
Voss, P. E.
Watt, H. C.
Williams, D.
Young, J. R.

#### ENDOWMENTS AND PRIZES.

### A.—Open Scholarships.

 The Kemp.—Principal, £400. Founded by the late. Mrs. C. Kemp in memory of her husband, the Rev. C. Kemp.

1911-C. W. L. Pulling.

- (2) THE EDWARD ASPINALL.—Principal, £500.
- (3) THE CANON STEPHEN.—Principal, £761. Founded by subscription in memory of the late Rev. Canon Alfred H. Stephen.

1911-C. J. Tozer.

The Kemp, Edward Aspinall and Canon Stephen Scholarships are awarded respectively to a student commencing the first, second or third year after his matriculation in the University. To be eligible for one of the above Scholarships the candidate must have taken at least second class honours or equivalent distinction in his last preceding University examination. If a student in one of the other Faculties, and of the requisite standing from matriculation, shall have taken honours or distinctions which in the opinion of the Council are higher than those of any corresponding candidate in the Faculty of Arts, the Scholarship will be awarded to him. In case of equality a candidate in the Faculty of Arts will have preference.

B.—The Burton Exhibition.

This Exhibition is awarded to a student proceeding from the King's School to St. Paul's College. It is tenable for three years, the value not exceeding £40 per annum. The holder is required to produce at the end of each term a certificate of residence in College, and of good conduct, signed by the Warden.

1910—D. J. Browne.

- C.—FOUNDATIONS FOR RESIDENT STUDENTS WHO INTEND TO TAKE HOLY ORDERS.
  - (1) The Augusta Priddle Memorial.—Principal, £600. Founded by the late Rev.C. F. D. Priddle. Tenable for three years by the son of a clergyman licensed in New South Wales.

1910-Not Awarded.

- (2) THE STARLING.—Principal, £1100. 1911—J. R. Young.
- (3) THE HENRY WILLIAM ABBOTT. Principal, £1000. Founded by the late T. K. Abbott, Esq.

1910-E. H. Burgmann.

# D.—THE MITCHELL PRIZE.

This Prize was founded by the late Hon. James Mitchell, and is awarded to the Bachelor of Arts of the College who shall, within twelve months after taking that Degree, pass the best examination (of sufficient merit) in the Doctrines and History of the Church of England.

1910-Not Awarded.

A PROSPECTUS giving further information may be obtained on application to the Warden.

### ST. JOHN'S COLLEGE.

Incorporated by Act 21 Victoria, in connection with the Roman Catholic Church. In the terms of the Act, the Visitor is the Roman Catholic Archbishop of Sydney. The Corporation consists of a Rector (who must be a duly approved Priest), and eighteen Fellows, of whom six must be duly approved Priests, and twelve Laymen. These eighteen Fellows, with the Rector, form the Council, in which the government of the College is vested.

#### VISITOR.

THE ROMAN CATHOLIC ARCHBISHOP OF SYDNEY.

1907-His Eminence Cardinal Moran.

THE PRESENT SOCIETY.

RECTOR.

The Right Rev. Monsignor O'Brien.

#### FELLOWS.

Butler, F. J., B.A.
Byrne, Rev. P.
Coffey, F. L. V., B.A., LL.B.
Coonan, Very Rev. P. L.
Donovan, J., K.C.S.G., LL.D.
Flannery, G., B.A., LL.B.
Flynn, J. E., M.A.
Gallagher, Right Rev. J.
Ginisty, Rev. A.

Heydon. Judge Louis, P. H., B.A. Maher, W. Odillo, M.D. Manning, Sir W. P. McEvilly, U., B.A. Moynagh, Rev. J. Mullins, J. L., M.A. Watt, A. R. J., LL.B.

M.D.

Maher, W. Odillo.

м.в.

Blaney, H. P.
Burfitt, W.
Clifford, P.
Coen, J.
Coen, B.
Conuolly, T. P.
Crawley, A. J. C.
Crothers, C. A.

Diethelm, O.
Elworthy, W. H.
Fitzpatrick, E. B.
Godsall, R.
Haynes, A. R.
Holland, J. J.
Luddy, J. J.
Maher, C.
Woodburn, J. J.

O'Halloran, C. M. McKelvey, J. L. O'Keefe, J. A. Newell, B. A. Schlink, H. H. Savage, E. J. Veech, M. Veech, M. S.

M.B.

Durack, W. J.

Lister, H.

Marsden, E. A.

B:Sc.

Leverrier, F.

MINING-B.E.

Garry, J. J. P.

Power, R.

LL.D.		
Coghlan,	C.	A.

	LL.B.	
Coen, F.	Flannery, G.	Real, E. T.
Coffey, F. L. V.	Lehane, T. J.	Tole, J. A.
Fohor P E	O'Brien, P. D.	Veech, L.,
Fahey, B. F.		
Edmunds, W.	O'Donohue, J. P. M.	Watt, A. R. J.
	M.A.	
Brennan, F. P.	Flynn, J. E.	Mullins, J. L.
	Flynn, J. A.	O'Connor, Richard E.
Butler, F.	Freehill, F. B.	O'Mara, M.
Coghlan, C. A.		
Clune, M. J.	Healy, P. J.	Quirk, Rev. D. P.
Dalton, G. T.	Louis, P. H.	Walsh, W. M. J.
	B.A.	
Browns W C	Higgins, M. A.	Meagher, L. F.
Browne, W. C.	Toller T	Meillon, J.
Butler, T.	Kelly, T.	
Butler, F. J.	Kenna, P. J.	Moloney, T. P.
Carroll, W. J.	Leverrier, F.	Morris, J. M.
Callachor, Rev. H. B.	Leahy, J. P.	O'Brien, P. D.
Casey, M.	Lehane, T. J.	O'Donohue, J. P. M.
Coen, F.	Louis, P. H.	O'Keefe, J. A.
Connellan, J.	Lynch, W.	Phillips, R. B.
Corbett, W. F.	Lloyd, T.	Power, P. H.
Coffey, F. L. V.	Macnamara, P. B.	Real, E. T.
Cullinane, J. A.	Macrossan, H. D.	Sheridan, F. B.
		Shorthill, J. R.
Daley, F. H.	McNevin, T.	
Douglass, R. J.	Maher, M. E.	Sullivan, H.
Durack, J. J. E.	Maher, C. H.	Sullivan, J. J.
Enright, W. J.	Mayne, J.	Swanson, E. C.
Fahey, B. F.	Mayne, W. M.	Tole, J. A.
Flynn, W. F.	McDonagh, J.	Veech, L. S.
Fitzpatrick, B.	McEvilly, A.	Watt, A. R. J.
Fitzpatrick, T. J. A.	McEvilly, U.	Walsh, J. J.
Gorman, J. R.	McGuinn, D.	
Gorman, or 200	UNDERGRADUATES.	•
70 11 7 T		1 Manage TP D
Duhig, J. V.	Kelly, P.	Moore, E. B.
Fitz-Herbert, R.	Kelly, A. F.	Murphy, J. J.
Fitz-Herbert, J.	Kenny, Jos.	O'Neill, V. F.
Gallagher, M. J.	Kenny, John	Power, J.
Hawthorne, H. L.	Logan, C. D.	Slattery, M. J.
Haynes, R. I.	McNamara, L. O.	Troy, R. I.
Haynes, A. R.	,	
	TECTUPERS	1
g	LECTURERS.	t Dor Douter
SACRED SCRIPTURE		t Rev. Rector
Logic	<u>Kev.</u>	L. Murphy, S. J.
CLASSICS	., ., <u>j.</u> Q	arlos, B.A., LL.B.
Mathematics	H. d	e B. O'Reilly, B.A., $\mathbf{LL.B}$ .
	SCHOLARSHIPS, 1911.	
O'CONNELL	O'N	eill. V. F.
C COMMEND	0 200	, · - <del>-</del> •
O'CONNELL		eill, V. F.
	•	

### ST. ANDREW'S COLLEGE.

Incorporated by Act of Parliament, 31 Victoria, in connection with the Presbyterian Church of New South Wales. The Moderator for the time being of the General Assembly of the Presbyterian Church in the State of New South Wales is Visitor. The Corporation consists of a Principal, who must be a duly ordained Presbyterian Minister, holding and prepared to subscribe (when called upon to do so) the standards of the Presbyterian Church of New South Wales, and twelve Councillors, of whom four, but not more, must be ordained Ministers of the same Church. These twelve Councillors, with the Principal, form the Council, in which the government of the College is vested.

#### VISITOR.

THE MODERATOR OF THE GENERAL ASSEMBLY.
The Right Rev. Robert Kay, M.A.

PRINCIPAL.

The Rev. Andrew Harper, M.A. (Melb.), D.D. (Edin.)

VICE-PRINCIPAL.

R. C. Teece, M.A., LL B.

\* HUNTER-BAILLIE PROFESSORS.

ENGLISH LANGUAGE AND LITERATURE (IN RELATION TO RELIGION)—Ronald C. Macintyre, M.A., B.D.

ORIENTAL AND POLYNESIAN LANGUAGES-Andrew Harper, M.A., D.D.

#### LECTURERS.

English				B. Muscio, B.A.
Mathematics				Wyndham J. E. Davies, B.A., LL. B.
Classics				The Vice-Principal. P. Halse Rogers, B.A., B.C L.
Science				Biology—J. G. Hunter, B.Sc. Physics and Chemistry—A. Paul, B.A., B.Sc.
Medicine Law		• •		H. S. Stacy, M.D., Ch.M. P. Halse Rogers, B.A. (Sydney),
24,	••	••	••	B.C.L. (Oxon.), formerly Rhodes Scholar.
Philosophy			٠.	B. Muscie, B.A.
HON. TREA	SUR	ER.		SECRETARY.
Senator J. T.	. Wa	lker.		William Wood.

Hunter-Baillie Professorships established under a bequest for the foundation of Professorships in the College.

#### COUNCILLORS.

Bowman, Arthur, B.A.
Bowman, E., M.A., LL.B.
Bruce, Rev. D., D.D.
Clouston, Rev. T. E., B.A., D.D.
Ferguson, Rev. John
Fuller, Hon. G. W., M.A., M.H.R.

Garland, Hon. John, M.A., LL.B., M.L.C. Goodlet, John Hay Hood, A. Jarvie, M.D. McCormick, A., M.D. Macintyre, Rev. R. G., M.A., B.D. Walker, Hon. J. T., Senator

#### TRUSTEES.

Anderson, H. C. L., M.A. MacLaurin, Hon. Sir Normand, M.D., LL.D. Bowman, Arthur, B.A. . Thomson, The Hon. Dugald, M.P. Walker, J. T., Senator

#### GRADUATES.

#### M.A.

Jackson, Rev. R. Anderson, H. C. L. Kay, Rev. Robert Chapman, B. B. Cohen, J. J. Mann, W. J. G. Crawford, T. S. Marrack, J. R. M. Cribb, J. G. Merrington, E. N. Edwards, Rev. J. Moore, S. Flint, C. A. Nolan, J. H. M. Fuller, G. W. Paterson, Rev. J. Gill, A. C. Perkins, A. E. Hill, Rev. Thomas Ralston, A. G.

R. Rygate, P.W. Smairl, J. H. Stacy, H. S., M. D. M. Steel, Rev. Robert Teece, R. Clive Teece, R. N. Thompson, J. A. Waddell, G. W. Waugh, Rev. Robert

# M.D. Stacy, H. S.

M.B.

Aspinall, A.
Blue, A. J.
Bond, L. W.
Browne, C. S.
Cameron, D. A.
Clayton, H. J.
a'Court, A. Holmes
Davidson, Leslie G.
Davies, R. L.
Dick, Robert
Freshney, Reginald
Fitzhardinge, J. F. G.
Griffiths, F. G., B.A.
Griffiths, J. N.

Heaslop, J. W.
Henderson, J.
Jones, P. Sydney
King, A. A.
Kinross, R. M.
Lightoller, G. H. S.
Macintosh, G. D.
MacDowall, St. A. W.
MacDowall, V.
Macintosh, G. D.
McKenzie, A. J.
Markwell, N. W.
Matthews, W. F.
Norrie, Geo.
LL.D.

Phillips, A. B.
Perkins, A. E.
Purser, C.
Roberts, A. S. C.
Savage, Vincent W
Sear, H. R.
Sheppard, A. M.
Stokes, Edward S.
Storey, J. C.
Thomson, J. M.
Thomson, E. G.
Townley, Percy L.
Whiteman, R. J. N

G. W. Waddell, M.A.

LL.B.

Hertzberg. M., Parker, W. A. Teece, R. N.

Teece, R. C. Tozer, S. D. Walker, J. E.

Edwards, D. S. Gill, A. C. Minter, C.

B.A.

Allen, Carleton Kemp Anderson, Rev. W. A. S. Auld, Rev. J. H. G. Barnet, Rev. Donald Barton, W. A. Beegling, D. H. Bowman, Alister S. Bowman, Arthur Bowman, Ernest Brown, W. R. Byth, G. L. Campbell, A. L. Campbell, C. R. Cameron, Rev. A. P. Castlehow, S. Cohen, C. H. Copland, F. F. Cosh, Rev. J., B.D. Craig, A. D. Crane, Rev. C. Dettmann, H. S. Dick, J. A. Dick, W. T. Dixson, T. S. Doig, Rev. A. J. Dudley, J. T. Duff. V. C. Edwards, D. S. Edwards, E. E. Elphinstone, James Farran-Ridge, C. Ferguson, D. Fuller, B. C. Gordon, Rev. G. A.

Griffiths, F. G. Halliday, G. C. Henderson, R. G. Hertzberg, W. M. Hooton, J. R. Hope, P. Hunt, Harold W. G. Hunter, T. B. Jamieson, S. Johnston, J. Kinross, R. M. Lane, J. B. Linsley, W. H. Lyon, Pearson Munro, W. J. Nelson, D. J. Nimmo, W. N. Paine, Bennington H. Parker, W. A. Paterson, J. Perkins, Rev. J. A. R. Perské, H. Poidevin, L. O. S. Pope, Roland J. Powell, J. W. G. Prentice, A. J. Purser, Cecil MacCallum, M. L. McCook, Rev. A. S. McGill, A. D. Mackay, I. G. Mackie, H. D. McKie, E. N. McLelland, Hugh

McManamev, James F. McNeil, A. Manning, R. K. Miller, Rev. R. Minter, C. Moore, J. Mowbray, R. W Quigley, J. Ramsay, J. Robson, R. N. Rogers, P. H. Rygate, C. D. H. Rygate, H. B. Shand, A. B. Sheppard, E. H. Sinclair, G. W. Somerville, G. B. Stacy, F. S. Stewart, W. P. Swanwick, K. ff. Solomon, K. M. H. Steel, J. B. V. Thorburn, Rev. J. T. Townley, Percy L. Tozer, S. D. Utz, H. S. Vickers, L. Walker, E. B. Walker, J. E. Walker, S. H. Webb, B. L. White, Rev. C. A Whitfeld, H. E. Woodward, F. P.

M.E

Bradfield, John J. C.

B.E.

Barker, N. C. Bedford, M. E. Bowman. Archer Burn. Alan Cameron, C. B. Carter, E. M. Carter, H. G. Craig, A. D., B.A. Freeman, A. W., B.A. Haigh, V. A. Jack, R. L. Norman, E. P. Owen, T. M.

Rowlands, H. B. Stanley, F. V. Waterhouse, L. V. Webb, S. D. Whitfeld, H. E. Williams, O. B.

B.SC.

Holloway, R. A.

Norman, E. P.

#### STUDENTS IN RESIDENCE.

Arnold, G. P. Barbour, E. P. Bardon, R. Barriskill, J. R. Barton, O. Bates, J. H. Bateman, C. D. Beith, J. R. M. Beith, B. McN. Bourne, H. T. Bowman, R. McD. Boyce, R. C. M. Bradley, W. G. Brown, J. H. B. Callender, G. G. Callaghan, A. A. Campbell, A. L., B.A. Carter, A. G., B.A. Clatworthy. C. H. Cohen, C. Keith Coppleson, V. M. Crawford, R. W. G.

Davis, T. R. E. Duff, W. Clark Duncan, C. M. Finlayson, M. Fuller, B. C. Grieve, A. C., B.A. Hardie, J. Holloway, R. A., B.Sc Howie, R. J. Jeffrey, E. Jones. J. H. Kay, W. E. Kennedy, H. M. Kirkland, W. D. Kirkland, H. E. Lane, J. B., B.A. McAlpine, G. Mann, D. Minnett, R. B. Mitchell, A. D. Morris, P. A. Neild, J R.

Nye, L. J. J. Page, C. Pitt, C. N. Plant, H. F. H. Reid, H. L. U. Richardson, S. R. W. Roberts, A. T. Rofe, W. J. T. Saunders, J. L. Smith, W. H. Stafford, A. L. Stafford, H. L. Stafford, S. R. Steel, J. B. V., B.A. Sutton, M. C. Teece, L. G. Utz, H. S., B.A. Waddell, H. J. Walker, G. J. Wassell, C. E. Willcocks, G. C. Wilson, B. J.

#### ENDOWMENTS AND PRIZES.

### I.—Scholarships.

1. Bowman Scholarship.—A sum of £1000 was bequeathed in 1873 by the late Robert Bowman, Esq., M.D., of Richmond, for the foundation of a Scholarship.

2. Frazer Scholarship.—In 1884, a sum of £1000 was bequeathed by the late Hon. John Frazer, M.L.C., for Scholarship.

1911-S. R. W. Richardson.

3. The Gordon Scholarship.—A sum of £1000 was given in 1882, by the late S. D. Gordon, Esq., M.L.C., for the foundation of a Scholarship for students who have taken the B.A. Degree, or first class in Classics.

1911 - { R. C. M. Boyce. A. C. Grieve.

4. The Lawson Scholarship.—A sum of £1000 (in bank shares) was bequeathed in 1882, by the late George Lawson, Esq., of Yass, for the foundation of a Scholarship for students who have taken the B.A. Degree.

Not awarded.

5. The Struth Scholarship.—A sum of £1000 was given in 1884, by J. Struth, Esq., for the foundation of a Scholarship.

6. The Horn Scholarships.—In 1883, the late Mr. John W. Horn, of Corstorphine, Edinburgh, bequeathed eighty shares of the A. G. Co., to found three Scholarships.

7. The Coutts Scholarship.—In 1884, the sum of £1000 was bequeathed by the late Rev. James Coutts, M.A., of Newcastle, for the foundation of a Scholarship. A student of the name of Coutts to have preference.

8. The late Rev. Colin Stewart, M.A., in 1886, bequeathed his property to the College in trust for (among other objects) the founding of Scholarships.

9. The Alexander Gordon Ross Scholarship (£50) for one year, open to students in Divinity.

10. The Fullerton Scholarship (£40) for Medicine or Divinity.

#### II .- PRIZES.

- 1. The Dean Prize.—A sum of £100 was given in 1879, by Alexander Dean, Esq., for the foundation of an Annual Prize for General Excellence.
- 2. The Jarvie Hood Prize (£10), for proficiency in the subjects of the First Year Examination in Medicine.

3. Frazer Prize of £25, for Modern History.

4. Bowman Prize (£5) for proficiency in Debating.

I.—A. S. Grieve, B.A. II.— $\begin{cases} A. L. \text{ Campbell, B.A.} \\ B. C. \text{ Fuller, B.A.} \end{cases}$ 

Of the above Scholarships, the Frazer, the Lawson and the A. G. Ross are restricted to students for the Ministry of the Presbyterian Church. A first class at the University Examinations is a necessary qualification for the Gordon, but not for any of the other Scholarships.

### THE WOMEN'S COLLEGE.

Incorporated by Act 53 Vict., No. 10, and not attached to any religious denomination. In the terms of the Act the Visitor is the Chancellor of the University, or in his absence the Vice-Chancellor. The Corporation consists of the Principal, who must be a woman, and twelve elected Councillors, of whom four at least must be women, and two ex-officio Councillors, nominated by the Senate of the University. The Councillors, with the Principal, form the Council in which the government of the College is vested.

According to the Act of Incorporation, the Women's College is a College within the University of Sydney, wherein may be afforded residence and domestic supervision for women students of the University, with efficient tutorial assistance in their preparation for the University Lectures and Examinations. All students in the College not already matriculated shall, as soon as shall be practicable, matriculate in the University, and shall thereafter be required duly to attend the lectures of the University in those subjects, an examination and proficiency in which are required for Degrees, with the exception, if thought fit by any such student, of the Lectures on Ethics, Metaphysics, and Modern History.

The Women's College is strictly undenominational, the Act of Incorporation providing "That no religious catechism or formulary which is distinctive of any particular denomination shall be taught, and no attempt shall be made to attach students to any particular denomination, and that any student shall be excused from attendance upon religious instruction or religious observances on express declaration that she has conscientious objections thereto."

The College fees are as follow:—

Resident Students.—£21 for each University Lecture Term, with £2 2s. a week for residence during vacation.

The fee of £21 for the Lecture Term covers all College dues,

including fire and light.

The Council provides all necessary furniture, but each student may arrange and add to the furniture in her room as she pleases.

Non-Resident Students.—Term fee, £4 4s., or £12 12s. per

annum.

#### VISITOR.

#### THE CHANCELLOR OF THE UNIVERSITY.

PRINCIPAL.

### Miss L. Macdonald, M.A. (London).

COUNCILLORS.

Barff, Mrs., M.A.
Cohen, Mrs. G. J.
Fairfax, Miss
Hughes, Hon. T.
Jones, Sir P. Sydney, M.D. (ex afficio)
Kater, Mrs. H. E.
Leverner, Frank, B.Sc., B.A.
(ex afficio)

Windeyer, Miss M., Hon. Secretary.

M.A.

B.A. Donnelly (née Wilkin-

Bowman, M. Cordingley, Grace Cribb, Estelle Dunlop, M. L. S. Fitzhardinge, J. G. Fitzhardinge, Maude Y. Jensen, Clio Lance, E. A. Lion, Rosine Wark, F. H. Watson, Eleanor

Owen, Mrs. Langer

Sly, Mrs. R. M.

Rich, G. E., M.A., K.C.

Macdonald, Miss, M.A. (Principal), McMillan, Sir W., K.C.M.G.

Stuart, Prof. Anderson, M.D., LL.D Walker, Senator J. T. (Chairman and

Armstrong, H. D.
Armstrong, M. H.
Ashton (née Anderson),
Maud E.
Ballantine, M.
(in residence)
Beith, J.
Bourne, Ida
Brown, M. A. M.
Brownlie, E. A. D.
Brownlie, E. A.
Clark, M. D.
Curren, Ethel
Darket (née Hill), Evelyn

Dawes, M. M.

son), Ida B. Drinkwater (née Stephenson), A. L. Densley, N. L. Dunnicliff, Mary C. Edwards, D. Fitzhardinge (nėe Rutherford), F. M. Harker, Constance E. Jones, G. E. Lilley, K. Markwell, G. E. Montefiore, Hortense H. Morgan (née Holt), Edith

Noad, E. A. Parkinson, K. A. Philp, D. M. Read, Elizabeth J. Roseby, Minnie Rutherford, C. M. Saunders, E. F. Skillman, Jessie Uther, J. B. Watson, E. A. Watson (née Armstrong), I.B.H. Wilson, G. L. Wood (née Whitfeld), Eleanor M. Wood (née Fell), C. I.

M.B.

Aspinall, J.	Leonard (née Browne),	Ormiston, Isabel
Binney, C. C	E. F.	Parnell, E. C.
Bourne, E. E.	Greenham, Eleanor C.	Rutherford, C. M.
Browne, J. H.	Günther (née Thomson),	Smith, C. R.
Child, S. R.	J. G. `	White, M. I. (deceased)
Dalyell, E. J.	Maclean, A. L.	

B.Sc.

Little, E. M. White (née Horton), Marion C.

Watkins, D. M.

,, .....

# UNDERGRADUATES IN RESIDENCE. .

Braye, H. M. J.	[ Houison, L.	Porter, L.
Bray, I.	Lewers, R.	Sandford, E. L.
Buckley, E. A.	Little, C. E.	Smith, L. E.
Coatsworth, K. B.	Macdonald, F. A.	Voss, D.
Exton, H. M.	Meares, N. D.	Watson, C.
Frederiksen, S.	Moir, C. M.	Windeyer, M. F.
Gasteen R	<b>,</b>	1

### EXHIBITIONS.

The Walker Exhibition.—An Exhibition of the value of £25, presented by Mrs. J. T. Walker, given to the student who on entering the College shows evidence of the highest attainments, provided that no student shall be eligible for the Exhibition unless she shall make it appear to the satisfaction of the Principal that she cannot, without such assistance, pay the expenses of residence in the College.

1892—Harker, Constance E.	1894—Saunders, Eva Florence
1893—Montefiore, H. H.	1895—De Lissa, Ethel N.

### GRACE FRAZER SCHOLARSHIP.

The Grace Frazer Scholarship, of the value of £30 (being the interest of £1000 invested in New South Wales Government Funded Stock), presented by Mrs. C. B. Fairfax, in memory of her late sister. Awarded upon conditions settled from time to time by the Council, but hitherto tenable for three years.

1892-Whitfeld, Eleanor Madeline	1905—Maclean, A.
1895—Lance, Elisabeth A.	1906—Maclean, A.
1898—Armstrong, Ina Beatrice H.	1907-Maclean, A.
1899—Armstrong, H. D. H.	1908—Watson, E. A.
1900—Murray-Prior, D. K.	1909—Watson, E. A.
1901-Not awarded.	1910-Watson, E. A.
1902—Skillman, Jessie	1911—Windeyer, M. F.

### COUNCILLORS' SCHOLARSHIPS.

Two Scholarships, of £25 each, tenable for one year, presented by the Councillors, were awarded in Lent Term, 1893, on the results of the University Examinations.

1893—Harker, C. E. Broad, A. W.

One Scholarship, of £25, tenable for one year, awarded on the same terms as the Walker Exhibition.

1895-Saunders, Eva F. 1905-Jones, Grace 1896—Dunnicliff, Mary 1897—Read, E. J. 1907-Smith, Clara 1908-Not awarded. 1909 - Dalyell, E. J. 1898—Bourne, Eleanor Hamilton-Browne, E. 1899 - Stephenson, A. L. 1900-Brownlie, E. A. 1910-Watson, C. 19:1-Frederiksen, S. B. & eq. 1901—Saunders, F. L. Moir, C. M. 1903—Curren, Ethel 1904—Clark, M. D.

A Scholarship, of the value of £50, tenable for one year, presented by Miss Walker, of Yaralla, given on similar terms to the Walker Exhibition.

1896—Read, Elizabeth J.
1897—Bourne, Eleanor E.
1898—Divided between Holt, E. J.
K., and Stephenson, A. L.
1899—Divided between Brownlie,
E. A., and Loudon, B. W.
1900—Saunders, F. L.
1901—Mugliston, M.
1902—Divided between Curren, Ethel
and Mugliston, M.
1903—Divided between Bourne, Ida,
and Watson, Eleanor

1895-Dunnicliff, Mary

1904—Jones, Grace E.

1905—Divided between Perry, Irene, and Smith, Clara R. 1906—Divided between Norris, Mabel

1906—Divided between Norris, Mabel and Smith, Clara R.

1907—Divided between Armstrong, M. H., and Beith, J.

1908—Divided between Armstrong,
 M. H., and Parkinson, K. A.
 1909—Divided between Houison,

L., and Watson, C.
1910—Divided between Fredriksen.

S., and Moir, C. M.

1911-Porter, L.

A Prize of Books to the value of £5, presented by the Kambala Girls' Union, given on similar terms to the Walker Exhibition.

1898—Divided between Holt, E. J. | 1900—Murray-Prior, D. K. K., and Stephenson, A. L. | 1901—Mugliston, M. 1899—Loudon, B. W. | 1902—Skillman, Jessie

A Prize of Books, presented by the Alliance Française.
White, M. I.

#### THE HOLT SCHOLARSHIP.

A Scholarship, of the value of £25, presented by Mrs. Holt, Parramatta, given on similar terms to the Walker Exhibition.

Clark, Marjorie D.

#### THE JANET COUTTS BURSARY.

The sum of £600 was given by Mrs. Janet Coutts in November, 1907, the interest to be from time to time applied for the assistance of meritorious students who shall have completed at least one year's residence in the College, and shall be unable, without assistance, to finish their course in residence.

1908—Parnell, E. C. | 1909—Parnell, E. C. | 1910—Houison, L. 1911—Watson, C. E.

# THE MARIE WALLIS MEMORIAL PRIZE FOR GERMAN.

A Prize of Books to the value of £2 12s., presented by the former students of "Ascham" to be awarded annually to the Second Year Student who does best in the German Honours Examinations.

1908—Ramsay, Muriel B. | 1909—Parkinson, K. A. 1911—Watson, C. E.

### THE LODGE SCHOLARSHIP.

A Scholarship, of the value of £30, for one year, presented by an anonymous donor, to be awarded in 1907 on similar terms to the Walker Exhibition.

Ballantine, M.

## ROYAL PRINCE ALFRED HOSPITAL.

Established and maintained in accordance with the provisions of the "Prince Alfred Hospital Act," 36 Vic., and the "Prince Alfred Memorial Hospital Site Dedication Act," 36 Vic., No. 28.

The Hospital was framed as a general Hospital and Medical. School for the instruction of students attending the Sydney University, and for the training of nurses for the sick.

The design was adapted to the site dedicated to the Hospital by the Government, aided by the co-operation of the Sydney University.

The Hospital is managed by a Board of fifteen Directors. The Chancellor of the University and the Dean of the Faculty of Medicine are Directors ex officio; three Directors are appointed by the Government, and the remaining ten are elected by the Governors and subscribers.

The Medical Officers are all appointed by a conjoint Board, consisting of the Senate of the University and the Directors of the Hospital.

The University Lecturers in Medicine and Clinical Medicine are Honorary Physicians, the Lecturers in Surgery and Clinical Surgery are Honorary Surgeons, the Lecturer in Ophthalmic Medicine and Surgery is Honorary Ophthalmic Surgeon, and the Lecturer on Diseases of Women is Honorary Surgeon for Diseases of Women at the Royal Prince Alfred Hospital.

All Physicians and Assistant Physicians must be Graduates in Medicine of the University of Sydney, or of some University recognised by the University of Sydney.

All Surgeons and Assistant Surgeons must possess a Degree in Surgery, or a Surgeon's diploma from some University or College of Surgeons recognised by the University of Sydney.

Clinical Lectures are delivered in accordance with the  $\mbox{\it University curriculum}.$ 

Patrons:

H.M. the King. H.M. the Queen.

#### Directors:

The Chancellor of the University of Sydney.

The Dean of the Faculty of Medicine (Chairman).

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M.L.A.

Dr. Cecil Purser

Sir P. Sydney Jones, M.D. The Hon. C. K. Mackellar,

Col. Macarthur Onslow,

M.B., M.L.C.

R. M. McC. Anderson, Esq. Hugh Dixson, Esq.

Sir James Fairfax

Moritz Gotthelf, Esq.

Senator the Hon. A. J. Gould Sir James Graham, M.D.,

M.L.A.

The Hon. H. E. Kater, M.L.C. | Senator the Hon. J. T. Walker

Honorary Treasurer: The Hon. H. E. Kater. Secretary: William Epps.

Honorary Consulting Physician.—1887, Sir P. Sydney Jones, M.D. (Lond.).

Honorary Consulting Surgeon—1908, Chas. P. B. Clubbe, L.R.C.P., M.R.C.S.

Honorary Physicians.—1889, Robert Scot-Skirving, M.B., Ch.M. (Edin.); 1898, Cecil Purser, B.A., M.B., Ch.M. (Syd.); 1906, G. E. Rennie, B.A., M.D., M.R.C.S., F.R.C.P. (Lond.); 1910, A. E. Mills, M.B., Ch.M. (Syd.): 1911, Sinclair Gillies, M.A., M.D. (Lond.).

Honorary Surgeons.—1890, Alexander MacCormick, M.D., Ch.M. (Edin.), F.R.C.S. (Eng.); 1899, H. V. C. Hinder, M.B., Ch.M. (Syd.); 1906, Chas. MacLaurin, M.B., Ch.M. (Edin.); 1908, G. H. Abbott, B.A., M.B., Ch.M. (Syd.); 1911, R. Gordon Craig, M.B., Ch.M. (Syd.).

Honorary Gynæcological Surgeons.—1895, Jos. Foreman, L.R.C.P. (Edin.), M.R.C.S. (Eng.); 1896, Edward T. Thring, F.R.C.S. (Eng.), L.R.C.P. (Lond.).

Honorary Ophthalmic Surgeon.—1889, F. Antill Pockley, M.B., Ch.M. (Edin.), M.R.C.S. (Eng.).

Honorary Physician for Diseases of the Skin.—1898, F. A. Bennet, M.A., M.D.

HONORARY SURGEON FOR DISEASES OF THE EAR, THROAT, AND Nose.—1906, H. Russell Nolan, M.B., Ch.M.

Honorary Medical Officer in charge of the Medical Gymnastics Department.—1906, Reuter E. Roth, M.R.C.S. (Eng.).

Honorary Radiographer. -- Herschel Harris, M.B., Ch.M. (Syd.).

- Honorary Assistant Physicians.—1903, C. Bickerton Blackburn, B.A., M.D., Ch.M. (Syd.); 1903, E. W. Fairfax, M.B., Ch.M. (Syd.); 1906, J. I. C. Cosh, M.B., Ch.M. (Syd.), D.P.H. (Cantab.); 1910, J. Froude Flashman, B.A., B.Sc., M.D., Ch.M. (Syd.); 1910, S. A. Smith, M.B., Ch.M. (Syd.); 1911, Granville G. Sharp, B.Sc., M.B., Ch.M. (Syd.).
- Honorary Assistant Surgeons.— 1906, J. Morton, M.B., Ch.M. (Syd.); 1908, F. P. Sandes, M.D., Ch.M. (Syd.); 1909, St. J. W. Dansey, M.B., Ch.M.; 1911, John L. McKelvey, M.B., Ch.M. (Syd.); 1911, Hugh G. Poate, M.B., Ch.M. (Syd.), F.R.C.S. (Eng.).
- Honorary Assistant Surgeons, Diseases of Women.—1903, H. C. Taylor Young, M.D.; 1906, Fourness Barrington, M.B., M.S. (Edin.).
- Honorary Assistant Ophthalmic Surgeons.—1902, H. Guy S. Warren, M.R.C.S. (Eng.), L.R.C.P. (Lond.); 1906, J. C. Halliday, M.B., Ch.M. (Syd.), F.R.C.S. (Eng.), D.P.H. (Cantab.).
- HONORARY ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN.—1911.—E. H. Molesworth, M.B., Ch.M. (Syd.).
- Honorary Assistant Surgeon for Diseases of the Ear, Nose and Throat.—1906, Herbert W. Marks, M.A., M.D., B.C., M.R.C.S.; 1911, W. C. Mansfeld, M.B., Ch.M. (Syd.).
- Honorary Pathologist.—1902, Professor Welsh, M.A., B.Sc., M.D., M.R.C.P. (Edin.).
- Honorary Pathological Chemist.—1908, H. G. Chapman, M.D., B.S.
- HONORARY ASSISTANT PATHOLOGISTS.—1908, J. E. V. Barling, M.B., Ch.M. (Syd.); W. F. Litchfield, M.B., Ch.M. (Syd.).
- MEDICAL TUTOR.—1910, Sinclair Gillies, M.A., M.D. (Lond.).
- Surgical Tutor.—1908, R. B. Wade, M.D., Ch.M. (Syd.).
- HONORARY SECRETARY OF THE MEDICAL BOARD.—A. E. Mills, M.B., Ch.M. (Syd.).
- MEDICAL SUPERINTENDENT.—1911, H. H. Schlink, M.B., Ch.M.
- Assistant to Medical Superintendent.—1911, Kenneth Smith, M.B., Ch.M.

Surgical Registrar and Anæsthetist—1911, J. C. Storey, M.B.

Medical Registrar.—1911, D. S. Mackenzie, M.B.
Resident Pathologist.—1911, Mary B. Burfitt, M.B.
Radiographer.—1911, C. Verge, M.B.

Junior Resident Medical Officers.—B. T. Edye, M.B.; A. S. Walker. M.B.; H. J. Clayton, M.B.; N. J. Davis, M.B.; I. M. Barrow, M.B.; F. G. Wooster, M.B.; S. H. Weedon, M.B.; W. B. Clipsham, M.B.; H. R. Sear, M.B.; S. E. Jones, M.B.; T. A. Turner, M.B.; N. K. Robertson, M.B.

JUNIOR RESIDENT PATHOLOGIST.—C. Norman Paul, M.B., Ch.M.

#### ROYAL PRINCE ALFRED HOSPITAL.—MEDICAL SCHOOL.

Rules and Regulations for the Clinical Study and Training of the University
Students of Medicine.

The Hospital shall be open to students for Clinical work from 9 a.m. to 5 p.m. throughout the year.

In order to obtain the certificate of hospital practice necessary to qualify for admission to the Final Examination for the Degrees of Bachelor of Medicine and Master in Surgery of the University of Sydney, students are required to pass through the hospital curriculum of study and practice in the various departments, according to the following scheme and time table of Clinical work.

The respective duties of all students, under the time table, shall be apportioned by the Medical Superintendent, and the necessary certificates will only be issued to those students who have shown punctuality, diligence, and efficiency in the performance of the duties assigned to them.

The Registrars shall report in writing to the Medical Superintendent each month as to the work done in their departments by each Clinical Clerk and Surgical Dresser, and the Medical Superintendent shall obtain reports from the members of the Honorary and Resident Medical Staff concerning the character of the work done by the students under supervision.

The Medical Superintendent shall report to the House Committee upon the character of the work done by each fourth and fifth year student, at the first or second meeting after the end of each term.

Students attending the Hospital shall be arranged by the Medical Superintendent in four divisions in each year, A, B, C and D respectively, and a list of the names thus appointed to the various departments shall be hung up in the Entrance Hall of the Hospital.

The Hospital vacation shall be from the end of the third week in November to the commencement of the second week in January, during which time the Hospital shall be closed to students other than those under examination.

# CLINICAL WORK TABLE. FOURTH YEAR.

LONG VACATION TERM.

MICHAELMAS TERM.

GROUP.

A. B. C. D.	Casualty and Surgical Out Patients. Surgical Ward Dressing. Surgical Ward Dressing. Surgical Ward Dressing.	Surgical Ward Dressing. Casualty and Surgical Out Patients. Surgical Ward Dressing. Surgical Ward Dressing.				
GROUP.	LENT TERM.	TRINITY TERM.				
A. B. C. D.	Surgical Ward Dressing. Surgical Ward Dressing. Casualty and Surgical Out Patients. Surgical Ward Dressing.	Surgical Ward Dressing. Surgical Ward Dressing. Surgical Ward Dressing. Casualty and Surgical Out Patients.				
	FIFTH YE	CAR.				
Group.	First Michaelmas Term	LONG VACATION TERM				
Α.	Clinical Clerkship, Medical Wards. Tutorial Medicine (Ward).	Clinical Clerkship, Medical Wards. Tutorial Medicine (Out Patients). Medical Out Patients' Attendance.				
В.	Clinical Clerkship, Medical Wards Tutorial Medicine (Ward).	Clinical Clerkship, Medical Wards. Tutorial Medicine (Out Patients). Attend Gynecological Out Patients. Attend Diseases of the Skin, Out Patients.				
· C.	Clinical Clerkship, Medical Wards. Tutorial Medicine (Out Patients).	Clinical Clerkship, Medical Wards. Tutorial Medicine (Wards). Clinical Clerkship, Gynæcological Wards.				
ъ.	Clinical Clerkship, Medical Wards. Tutorial Medicine (Out Patients).	Clinical Clerkship, Medical Wards. Tutorial Medicine (Wards). Clinical Clerkship, Ophthalmic Wards. Attend Diseases of the Eye and Diseases of the Ear, Nose, and Throat (Out Patients).				

FIFTH YEAR—continued.

GROUP.	LENT TERM.	cological Wards,					
<b>A</b> .	ClinicalClerkship, Medical and Ophthal- mic Wards. Attend Diseases of the Eye, and Diseases of the Ear. Nose, and						
В.	Throat (Out Patients). Clinical Clerkship, Medical Wards, Medical Out Patients' Attendance.	Clinical Clerkship, Medical and Oph- thalmic Wards.  Attend Diseases of the Eye and Diseases of the Ear, Nose, and Throat (Out Patients).					
C.	Clinical Clerkship, Medical Wards, Attend Gynæcological, Out Patients. Attend Diseases of the Skin, Out Patients.	Clinical Colerkship, Medical Wards. Medical Out Patients' Attendance.					
D.	Clinical Clerkship, Medical and Gynæ- cological Wards.	Clinical Clerkship, Medical Wards. Attend Gynecological Out Patients. Attend Diseases of the Skin, Out Patients.					
GROUP.	SECOND MICH	AELMAS TERM.					
A	Attend Gynæcological Out Patients.						
B C	Attend Diseases of the Skin, Out Patients. Clinical Clerkship, Gynecological Wards. Clinical Clerkship, Ophthalmic Wards. Attend Diseases of the Eye, and Diseases of the Ear, Nose, and Throat						
Œ	Out Patients. Medical Out Patients' Attendance.						

It shall be the duty of each Clinical Clerk to take the history of every patient admitted to the beds placed under his charge within forty-eight hours of admission, and to make all needful periodical reports upon the progress, symptoms, treatment, and results of each case.

It shall be the duty of each Surgical Dresser to take the history of every patient under his charge within twenty-four hours of admission, and to make all needful periodical reports upon the progress, symptoms, treatment and results of each case.

## THE SYDNEY HOSPITAL.

The Hospital was founded in 1811 and has for its three main objects:—(a) The affording of medical and surgical relief to the poor; (b) the education of medical students; (c) the training of nurses for attendance on the sick.

The Hospital is situated in Macquarie Street, City, and the number of beds available is 332, besides which there are

large casualty and out-door departments.

The Hospital is managed by a Board of Directors, and the Clinical School is under the direction of a Board of Medical Studies.

The Medical Officers are appointed by the Board of Directors, and the Resident Medical Officers are chosen from the most distinguished graduates each year by alternate

selection with the Royal Prince Alfred Hospital.

The Honorary Medical Officers are appointed for a period of four years, and are eligible for, but not entitled to, re-election for a subsequent period; no Honorary Medical Officer shall hold office after attaining the age of sixty years, except as an Honorary Consulting Medical Officer.

All Physicians and Assistant Physicians must be graduates in medicine of the University of Sydney, or of some

University recognised by the University of Sydney.

All Surgeons and Assistant Surgeons must possess a degree in surgery or a diploma in surgery from the University of Sydney, or from some University or College of Surgeons recognised by the University of Sydney.

The Sydney Hospital Clinical School affords a full course of instruction in accordance with the time table and regulations laid down by the University Senate, c.f. pp. 462-464.

All Clinical Lecturers and Tutors are appointed by the Board of Directors subject to the approval of the Senate of the University of Sydney.

PATRON.—His Excellency Lord Chelmsford, Governor of the State of New South Wales.

PRESIDENT.—John Pope, Esq.

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TUTOR IN CLINICAL SURGERY.—B. J. Newmarch, F.R.C.S.I., L.R.C.P. (Lond.), M.R.C.S. (Eng.).

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HON. SURGEONS.—Wm. Chisholm, B.A., M.D. (Lond.), M.R.C.S. (Eng.);

R. Steer Bowker, L.R.C.P. (Edin.), M.R.C.S. (Eng.); Thomas Fiaschi, M.D., M.Ch. (Pisa); H. L. Maitland, M.B., Ch.M. (Syd.).

Hon. Assistant Physicians.—Fred W. Hall, M.D., M.S. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.), A. Murray Will, M.B., C.M. (Glas.); H. Hamilton Marshall, M.B., M.S. (Edin.), ; John Harris, B.A. (Syd.), M.D., B.S. (Durham), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H. (Lond.); Harold Ritchie, M.B., Ch.M. (Syd.).

- HON. OPHTHALMIC SURGEONS.—Roland Pope, M.D., F.R.C.S. (Edin.); C. Gordon MacLeod, M.B., C.M. (Edin.).
- HON. GYNÆCOLOGICAL SURGEON.-Ralph Worrall, M.D., Ch.M., Q.U.I.
- HON. ASSISTANT GYNÆCOLOGICAL SURGEONS.—George Armstrong, M.B., Ch.B. (Melb.); C.V. Bowker, M.B., Ch.M. (Syd.).
- HON. ASSISTANT SURGEONS.—B. J. Newmarch, F.R.C.S. I., L.R.C.P. (Lond.), M.R.C.S. (Eng.); C. E. Corlette, M.D., Ch.M. (Syd.), D.P.H. (Camb.); L. Herschel Harris, M.B., Ch.M. (Syd.); H. Skipton Stacy, M.D., Ch.M. (Syd.); E. H. Binney, M.B., Ch.M. (Syd.).
- Hon. Assistant Ophthalmic Surgeons.—R. H. Jones, M.B., B.S. (Melb.); A. G. Corbin, M.B., Ch. M. (Syd.); E. A. D'Ombrian, M.B., B.S. (Melb.); Cyril Shepherd, M.R.C.S. (Eng.), L.R.C.P. (Lond.),
- Hon. Aural Surgeons.—A. J. Brady, L.K.Q.C.I., L.R.C.S.I.; T. S. Kirkland, M.B., M.S. (Glas.).
- Hon. Assistant Aural Surgeons.—P. J. Kenna, M.B., M.S. (Edin.); Richard Arthur, M.D., C.M. (Edin.).
- DIRECTOR OF THE PATHOLOGICAL DEPARTMENT.—Sydney Jamieson, M.B., Ch.M. (Edin.).
- Hon. Assistant Pathologists.—C. E. Corlette, M.D., Ch.M. (Syd.), D.P.H. (Camb.); Alfred Finckh, M.B., Ch.M. (Syd.).
- DIRECTOR OF THE DEPARTMENT OF SPECIAL THERAPEUTICS:—Thomas S. Dixson, M.B., C.M. (Edin.).
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## OTHER HOSPITALS.

RECOGNISED BY THE UNIVERSITY AS PLACES WHERE STUDY MAY BE CARRIED ON IN CONNECTION WITH THE FACULTY OF MEDICINE.

ST. VINCENT'S HOSPITAL.
THE ROYAL HOSPITAL FOR WOMEN.
THE HOSPITAL FOR SICK CHILDREN.
THE GLADESVILLE HOSPITAL FOR THE INSANE.
THE CALLAN PARK HOSPITAL FOR THE INSANE.
THE WOMEN'S HOSPITAL.

### UNITED DENTAL HOSPITAL OF SYDNEY.

This Hospital was established in 1901 for the purpose of providing dental attendance for persons unable to pay the fees of ordinary dentists, and also to provide facilities for the instruction of the students attending the University Dental School. The business of the Hospital is carried on in a building at the corner of George and Bathurst Streets, opposite St. Andrew's Cathedral. It amalgamated with the Dental Hospital of Sydney on June 1st, 1905.

The Hospital is open for the treatment of patients from 10 to 5 p.m. daily, Saturdays excepted.

The Honorary Dental Surgeons are appointed by the Hospital Board.

The University Lecturers in Surgical and Mechanical Dentistry are ex officio Honorary Dental Surgeons of the Hospital.

The fee payable by students for the dental practice of the Hospital is £10 10s. per annum.

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Mr. H. C. L. Anderson
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Mr. W. R. Fitzimons
| Hon. Auditor—David Fell, F.C.P.A.

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Mr. Donald Smith
Mr. A. A. Wilson

Dental Superintendent-1910-Mr. E. V. Hawkins.

# **BENEFACTIONS**

## BESTOWED BY PRIVATE PERSONS.

Date.	Donor.	Amoi	mt.		Object of Foundation.				
1853	Solomon Levey, Esq	£ 500	s. 0	d. 0	Scholarship—Originally for education of Orphans in the Sydney College; now for Natural Science in Second Year in				
	Thomas Barker, Esq	1,000	0	0	the University. For Proficiency in Mathematics.				
1854	Hon. Sir E. Deas-Thomson, C.B., K.C.M.G	1,000	0	0	,, For Proficiency in Chemis- try and Experimental Physics.				
1857 1858	W. C. Wentworth, Esq. Sir D. Cooper, Bart S. K. Salting, Esq	200 1,000 500		0	Annual Prize—For English Essay. Scholarship—For Proficiency in Classics. Exhibition—For a Student from the Sydney Grammar School.				
1862	W. C. Wentworth, Esq.	445	0	0	Fellowship—For a Travelling Fellowship (unuount to accumulate sufficiently).				
1864 1867	W. Lithgow, Esq. Sir C. Nicholson, Bart. Educational Fund, de- vised by Dr. Gilchrist, of Sydney.	1,000 200		0	Scholarship. Annual Prize—For Latin Verse. The right of the Presentation every other year to a Scholarship of £100 per annum, tenable for three years, and to be held at the University of London or of Edinburgh. Withdrawn by the Gilchrist Trustees in 1882.				
1870 1872	Earl Belmore Hon, John Fairfax	300 500	0	0	Annual Prize—For Agricultural Chemistry. For Females at the Public Examinations.				
1874	Mrs. Maurice Alexander		0	0	Bursary				
1880 1874	", ", Subscribers to testimo-	1,000	0	0	,, To assist young men in entering a Learned Profession.  Annual Prize—At Public Examinations.				
	nial to Rev. John West Edwin Dalton, Esq	8,000	0	0	Scholarships-In memory of the Rev. Dr. Woolley.				
1876	Hon. John Frazer	2,000	0	0	Bursaries-In memory of his deceased				
	Fitzwilliam Wentworth Esq	2,000	0	0	sons. ,, In honour of his father, William Charles Wentworth.				
	Mrs. Burdekin	1,000	0	0	Bursary,				
1877	Mrs. Hunter-Baillie	1,000 1,000		0	". For sons of Ministers of Religion.				
1877 1888 1889	Hon. J. B. Watt	3,000	0	0	Exhibitions-For Students from Primary Schools.				
1877	Professor Smith Sir Arthur Renwick,	350 1,000		0	Lectureship In Geology. Scholarship In the Faculty of Medicine.				
10/1	M.D menwick,	1,000	٠.	v	schwarship—in the executly of Medicine.				

Date.	Donor.	Amo	unt		Object of Foundation.			
1877	Andrew R. Cameron,	1,100	s. 0	d. 0	Scholarship-For General Proficiency.			
	Esq., M.D. Mrs. Hovell	6,000	0	0	Lectureship-Geology and Physical Geo- graphy.			
1878	Hon. George Allen Sir Charles Nicholson, Bart.	1,000	0	0	Scholarship—For Mathematics. Collection of Egyptian Antiquities, etc.			
	J. H. Challis, Esq	750	0	0	For Great Northern Window in University - Hall.			
	Sir Charles Nicholson, Bart.	500	0	0	For Great Western Window.			
	Sir Daniel Cooper, Bart.	500	0	0	For Great Eastern Window.			
	Henry O'Brien, Esq	100	0	0	,			
	Charles Newton, Esq	100	0	0				
	Edward Knox, Esq	100	0	0				
	William Long, Esq	100		0	11			
	John Dobie, Esq Robert Fitzgerald, Esq.	100 100		ŏ	11			
	A. Moses, Esq	100		ŏ	For Side Windows in the Hall.			
	John Reeve, Esq	100		ŏ	11			
	Thomas Barker, Esq	100	ō	Ō	i l			
	Henry and Alfred Dem- son, Esqs.	100		0				
	Thomas W. Smart, Esq.	100		0	l'			
	Sir P. A. Jennings	1,100		0	Towards an Organ for the Great Hall.			
	Sir A. Renwick, M.D	125	0	0	For purchase of book, "Lepsius' Antiqui-			
	Thomas C Mont For	91=	0	0	ties of Egypt and Æthiopia."			
-	Thomas S. Mort, Esq Thomas Walker, Esq	315 700		ŏ	For a Travelling Fellowship. Being the amount paid by him for the Library of the late Mr. Stenhouse, pre- sented to the University.			
	Freemasons under the English Constitution	1,000	0	0	Scholarship—For the sons of Freemasons.			
1880	J. H. Challis, Esq	250,000	0	0	Request—Property of the estimated value of £250,000, to be applied to the general purposes of the University.			
1881	Thomas Walker, Esq Fitzwilliam Wentworth	500 415			Towards an Organ for the Great Hall. To provide a Screen for the Organ Gallery.			
	Esq. James Aitken, Esq	1,000	0	0	Bursary or Scholarship.			
	Thomas Walker, Esq	5,000		ŏ	Rureavies			
1882	Sir G. W. Allen	1,000		ŏ	Scholarship-In the Faculty of Law.			
1883	Sir G. W. Allen John Struth, Esq	1,000		Ō	Echibition-In the Faculty of Medicine.			
1885	Thomas Fisher, Esq	30,000		0	For establishing and maintaining a Library in the University.			
1886	Subscribers to Testi- monial of Rev. Dr.	143	12	6	Annual Prize-For Mathematics.			
	Norbert Quirk. Professor Smith	100	0	0	For Physics.			
1887					Scholarship—In Chemistry.			
1001	G. S. Caird, Esq. Subscribers to Memo- rial to Late Professor	1,000			Bursary.			
	Badham. G. P. Slade, Esq	250	0	0	For the Advancement of Science.			
1888	William Roberts, Esq	4,000			Scholarship—In memory of Mr. James King, of Irrawang, Ray- mond Terrace.			
	Hon, Sir W. Macleay Hon, Sir W. Macleay	6,000		0	Museum of Natural History.			

Date.	Donor.	Amo	un	t.	Object of Foundation.
	·	£		d.	
1888	John Harris, Esq Lady Renwick	1,000 202	0	0	Scholarship-In the Faculty of Medicine.
	P. S. Jones, Esq., M.D. G. Bennett, Esq., M.D.	220 140			For Windows in the Medical School.
1889	The Trustees of the Council of Education Scholarship Fund.	290	10	1	Scholarship—For Sons of Officers of th Department of Public In struction.
	John Harris, Esq	120			For a Window in the Medical School, i memory of the late Dr. Harris.
	F. J. Horner, Esq., M.A.	200		0	Exhibition—In Mathematics.
1690	The Trustees of the Will of the Hon. John Frazer, M.L.C.	2,000	0	0	Scholarship—In History.
	George Bennett, Esq., M.D.				John Gould's Works on Ornithology.
1891	William Grahame, Esq.	100	0	0	Annual Prize—In the Senior Public Examination.
1892	Rev. R. Collie, F.L.S	100		0	Annual Prize-For Botany.
1896 1904	P. N. Russell, Esq	50,000 50,000		0	For the endowment of the P. N. Russe School of Engineering and for Scholar ships.
1898	Thomas Garton, Esq	2,050		0	Scholarships-In French and German.
1900	Henry Wait, Esq Mrs. George Harris Cecil Darley, Esq	1,000 1,700		0	Bursary—In the Faculty of Medicine. Scholarship—In the Faculty of Law. An Astronomical Equatorial Telescope and Accessories.
1901	Earl Beauchamp Mrs. Jessie E. Duncan	625 808		0 6	Prize for an English Essay.
1909		105		5	Bequest for Bursary.
1903	George Masters, Esq	200			A Natural History Collection.
1904 1905	Kambala Girls' Union Queen Victoria Scho- larship.	250 547		9	Annual Prize—For Girls at Matriculation. Scholarship—For Girls at Matriculation.
	Mrs. Janet Coutts		0	0	Two Scholarships.
1906	Mrs. William Grahame Subscribers to Frederick	1,000			Prizes or Scholarship.
1907	Lloyd Memorial Prize Subscribers to Dr. F. Norton Manning Me- morial Prize	110 125		0	Prize for Latin Essay. Prize in Psychological Medicine.
1909	Hugh Dixson, Esq	7,050	0	0	For purchase of Aldridge Collection o Minerals from Broken Hill.
1910	Subscribers to Parkin- son Memorial Fund	223	15	7	Prize in Pathology.
{	Executors of the Will of the late Miss Frances Mary Busby	500	0	0	Musical Scholarship.
	Subscribers to the Pitt Cobbett Prize	176	8	6	Prize in Law.

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APRIL, 1910, TO MARCH, 1911.

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Proceedings, Transactions, etc.. from the following Societies, etc.:—
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Acts of the Parliament of Victoria and Report of the Minister of Public Instruction, by the Government of Victoria.

Commonwealth of Australia, Publications.

Statutes of New Zealand, by the Government of New Zealand; Journal of the House of Representatives; Examination Papers of the Department of Education; Department of Mines.

Victoria, Department of Mines.

Meteorological Observations, by the Government Astronomers of South Australia and Western Australia, and publications of Geological Survey of Western Australia.

Parliamentary Papers by the Governments of South Australia and New Zealand.

Report of the Royal Observatory, Cape of Good Hope, by the Government Astronomer of South Africa.

Publications of the Government of New South Wales, by the Government of New South Wales.

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# REPORT

OF THE

# SENATE OF THE UNIVERSITY OF SYDNEY

FOR THE YEAR ENDED 31st DECEMBER, 1910.

- 1. The Senate of the University of Sydney, in pursuance of the provisions of Section 16 (i) of the "University and University Colleges Act 1900," has the honour to transmit the account of its proceedings during the year 1910 for the information of His Excellency the Governor and Executive Council.
- 2. The number of students admitted to matriculation in March, 1910, with a view to proceeding with the curriculum in one of the various Faculties was 207.

#### Attendance at Lectures.

3 The following table shows the number of students in the several faculties:—

the several faculties.—		Degree Courses.			Special Courses and Individual Subjects.			
	M	en.	Women.	Total.	Men.	Women.	Tot	al.
Faculty of Arts	. 1	18 17 14	86 17 12	204 134 26	5 21	2 7	7 28	
Faculty of Law		71 17	. 11	364 71 428	6		_	35 6
	•	1	-	1 429		7		. 7
Department of Dentistry	•	22	2	24 — 24	37			37
Post Graduate		38 2 .	9	47 2 —— 49		1 .		1
Department of Engineering Department of Veterinary Science. , Agriculture		77 16 4		77 16 4	6			6
Less 15 students attending two c	legre	e co	urses	1034 15				
	D:-	-1		1019				
35'1'4 TT'-4 3 C-1	: '	75 78 74	a Course 2 2	77 78 76 —— 231				
				1250			1	92 1 <b>250</b>

1342

## Annual University Examinations.

4. The number of students who attended and passed the Annual Examinations in December, 1909, and March, 1910, after attending the prescribed courses of lectures, is shown in the following table:—

	FAC	ULTY OF	ARTS				
	First Year Examination				110	97	
	Second Year Examination				89	81	
	Third Year Examination				71	65,	
	DEPARTMENT OF	Есопом	ICS AN	ю Сом	MERCE.		
	First Year Examination				25	23	
٠٠.	Second Year Examination				10	10 🗈	
	Third Year Examination				30	27	•

In addition to the students passing through the regular curriculum, 26 evening students and students of special subjects passed the examination in individual subjects after attendance upon the prescribed courses.

DEPARTMENT OF MILITARY STUDIES	
	didates. Passed.
Military Science I. (Military History and Strategy) .	23
Military Science II. (Military History and Imperial De-	fence) 12
Military Engineering	14
Military Topography	28
FACULTY OF LAW.	
Intermediate Examination—Section I	18 12
Section II	14 14
Final Examination—Section I	10 9
Section II	1 1
Sections I. and II	6 4
FACULTY OF MEDICINE.	
	25 94
	81 60
	55 52
Final Examination	5 <b>4</b> 46
FACULTY OF SCIENCE.	
First Year Examination	11 11
Second Year Examination	-4 4
Third Year Examination	15 15
FACULTY OF SCIENCE—DEPARTMENT OF ENGIN	EERING.
First Year Examination	22 20
Second Year Examination—Civil	3 1
Mining and Metallurgy	6 6
Mechanical and Electrical	17 6

Third Year Examination-0	Civil			2	2
, , <u>, , , , , , , , , , , , , , , , , </u>	Aining an	d Meta	allurgy	7	5
Ŋ	<b>lechanic</b> a	al and	Electric	al 12	10
Fourth Year Examination-	-Mining a	nd Me	tallurgy	7 6	7
	Mechani				11
Schoo	r. of De	NTISTR	Y.		
First Year Examination				10	10
Second Year Examination			·	3	3
Third Year Examination				4	3
Fourth Year Examination				7	5

In the Faculty of Science and the Department of Engineering 9 students of special subjects passed in the Final Examination of their subjects.

In Pharmacy 81 students seeking a qualification presented themselves for the University examinations at the conclusion of the courses of lectures which they had attended; 66 passed in individual subjects, 8 completing the whole course.

#### Degrees Conferred.

- 5. The following degrees were conferred after examination:—
  - Master of Arts (M.A.): —Harrie Norman Clayton Barlex, Myril MacDougall Bowman, Benjamin Burgoyne Chapman, Alan William Cusbert, John George, Mary Elizabeth Florence Gourlay, Joseph Lynch, Vivian James Miles, Frederick Charles Philip, Thomas Taylor Roberts, William Henry Webster Stevenson.
  - Bachelor of Arts (B.A.):—Carleton Kemp Allen, Millicent Sylvia Armstrong, Mabel Alice Ballantine, Lindon Hilton Biddulph, Harold Robertson Blanksby, Reginald Charles Blumer, Alan Nunan Brierley, Frederick Bussmann, Paul Francis Calow, Maggie Campbell, Cecil Hope Cohen, Norman Connal, Edith Madge Cotton, Eleanor Theresa Davis, Herbert Debenham, Thomas Storie Dixson, Evan Gustave Severa Evans, Una Lucy Fielding, William Forsyth, Irene Isabel Francis, Alexander Dale Fraser, Bryan Cecil Fuller, Percy William Hallett, William Frederick James Hatfield, Kathleen Herlihy, William George Hilliard, John Russell Hooton, Carl Henry Kæppel, John Leaver, Enid de Save Lewis, Errington Lewis, Keith Broughton Frederic Lumsdaine, Mary McAulay, Joseph Francis McCaulay, Harold Douglas Mackie, Constance Mary McLean, Arthur Dudley Bathgate Marchant, Hubert Kingsley Meek, Herbert William Moffitt, Colin Moody, Charles Henry Moore, Edith

Elizabeth Moore, Peter Lawrence Murphy, Bernard Muscio-Keith Dixon Norman, Joseph Gabriel Nowlan, Robert Ernest Nutman, Percy Penrhyn Olden, Reginald Arthur Page, William Robert Page, Kathleen Alvena Parkinson-Benjamin John Price, Frank Purnell, Theodore Gordon Robertson, Rupert King Scott, Eugene Francis Simonds, Allan Malcolm Smith, Eleanor Rose Smith, Jeanie Lockhart Spence, John Newton Stephen, William Kelvey Stewart, James Campbell Thom, Frederic William Tugwell, Ruby Wheaton, Jessie Leila Wilson, Phyllis Livingston Withers.

Bachelor of Laws (LL.B.):—Hector Joseph Richard Clayton, Clifford Malua Collins, Leonard Burton Dibbs, Bernard Russell French, Matthew Henry Lowe, Clifford Minter.

Bachelor of Medicine (M.B.):—Isaac Manly Barrow, Charles Gustav Berge, George Albert Blumer, Harry John Clayton, William Brookes Clipsham, Neville John Davis, Benjamin Thomas Edye, Maurice Fitzgerald, Edith Emily Fox, Leslie Harold Fox, Bede James Michael Harrison, Arthur Richard Haynes, Alan Worsley Holmes-a-Court, Herbert Gordon Humphries, Sydney Evan Jones, Grant Bramhall Lindeman, George William Macartney, Alexander Menzies Archibald McLean, Lang Reginald Eustace McClelland, Norman Walter Markwell, Walter Wallace Martin, George Norrie, Horace Henry Nowland, Thomas Eric Parker, Charles Norman Paul, Ernest Ellis Pittman, Francis Guy Antill Pockley, James William Garnet Powell, Norman Keith Robertson, Herbert Roy Sear, Walter Guy Shellshear, John Sands Smyth, Leslie Gordon Tait, Ewing George Thomson, Trevor Armstrong Turner, Cuthbert Arnold Verge, Allan Seymour Walker, Hugh Kingsley Ward, Stephen Hertford Weedon, Frank Cowper Wooster.

Master of Surgery (Ch.M.):—Aldous Campbell Arnold, Alan Darvall Barton, Harold Ramsay Beatty, Charles Gustav Berge, George Albert Blumer, Mary Boyd Burfitt, George Bell, Frank Sheppard Brierley, Elsie Jean Dalvell, Evelyu Elizabeth Dickinson, Leslie William Dunlop, Robert Joseph English, Thomas Ewing, Leslie Harold Foy, Elizabeth Isabel Hamilton-Browne, Arthur Richard Haynes, Nicholas Clement Larkins, George Donald Macintosh, Cyril Leslie Stewart Macintosh, Harold Theodore Marsh, Leslie Richard Parker, Walter Charles Petherbridge, Ethel Caroline Parnell, Charles Norman Paul, Henry Priestley, Alan Melrose Purves, Robert Roger, Sydney Norman Rorke, Theodor William George Henry Schenk, Egmont Theodore Carl Schmidt, John Sands Smyth, Frederick Glover Neason Stephens, John Colvin Storey, Cuthbert Arnold Verge.

Bachelor of Dental Surgery (B.D.S.):—Ernest Vale Hawkins, Norman Stevens King, Harold Ewens Noble, Francis

Windeyer Traill, John Albert Basil Walker.

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Bachelor of Engineering (B.E.):—Marcus Ehrensvard Bedford,
Horace Edward Clayton, Harold Willoughby Fry, Victor
Arnold Haigh, Oscar Arthur Ireland, Arthur Sydney Lloyd,
Hugh Hamon Ingoldsby Massie, John Laidley Mort, Eric
Waverley McKeown, Alister Grant Maclean, Charles Ogilvie,
Frederick George Phippard, Archibald Boscawen Boyd
Ranclaud, Charles William Roe, John McDiarmid Royle,
Reginald George Smith, Leslie Vickery Waterhouse, Owen
Beresford Williams, Charles Edward Wright.

Doctor of Science :- Ernest James Goddard.

Bachelor of Science (B.Sc.):—William Rowan Browne, George Joseph Burrows, Egerton Charles Grey, Rupert Arthur Holloway, Garnet Reginald Halloran, Grace Elizabeth Jacob, Malcolm Mackinnon, Beryl Mary McLaughlin, Marion Wilhelmina Morison, Allan Clunies Ross, Marion Constance Meares Sly, Eileen Meares Sly, Marjorie Kane Smyth, Herbert John Swain, Arthur Bache Walkom, Dorothy Margaret Watkins.

6. The following degrees were conferred in accordance with the regulations governing admission to degrees, ad eundem gradum:—

Master of Arts:—His Excellency the Right Honourable Frederick John Napier. Baron Chelmsford, K.C.M.G., M.A. (Oxon.): James Oswald Fairfax, M.A. (Oxon.).

Bachelor of Medicine: - James Hogg Paul, M.B. (Glasgow).

- 7. The total number of degrees conferred during the year was as follows:—M.A., 13; B.A., 66; LL.B., 6; M.B., 42; Ch.M., 34; D.Sc., 1; B.Sc., 16; B.E., 19; B.D.S., 5. Total, 202.
- 8. The degrees conferred by the University from its foundation to the end of 1910 are:—M.A., 381; B.A., 1,576; LL.D., 25; LL.B., 172; M.D., 51; M.B., 534; Ch.M., 349; D.Sc., 5; B.Sc., 111; M.E., 6; B.E., 221; B.D.S., 40; L.D.S., 30. Total, 3,501.

## University Examinations.

8. The results of the annual University examinations held in December, 1909, and March, 1910, including the award of annual prizes and scholarships, will be found appended to this report.

## Bursaries, &c.

10. The number of students permitted to attend lectures without paying fees was 257, including 48 State Bursars and

holders of the University bursaries, 179 students and exstudents of the Training College, and 78 in Military Science. The payments to bursars, other than State bursars, amounted to £838, and to scholars, £2,383 16s 4d.

11. The following bursaries were awarded, each consisting of a payment to the student of a certain sum per annum for three years, together with exemption from the payment of lecture fees in the Faculty of Arts or that of Pure Science:—

The Maurice Alexander Bursary (one-half), the Hunter-Baillie Bursary, No. I. and No. II. (one-half): the Duncan Bursary, the John Ewan Frazer Bursary (one-half), the Wentworth Bursaries, No. I. (one-half) and No. 2: the Walker Bursary No. IV.: and the J. B. Watt Exhibition.

#### Public Examinations.

12. The Junior Public Examination was held in the month of June in Sydney and at the following local centres:—

New South Wales.—Albury, Armidale, Bathurst, Bega, Bourke, Braidwood, Broken Hill, Carcoar, Catherine Hill Bay, Cooma, Dubbo, Forbes, Frederickton, Glen Innes, Goulburn, Grafton, Hay, Inverell, Lismore, Lithgow, Maitland, Milton, Moss Vale, Mudgee, Narromine, Newcastle, Orange, Parkes, Parramatta, Penrith, Port Macquarie, Queanbeyan, Scone, Singleton, Tamworth, Taree, Tenterfield, Tumut, Wahroonga, Wagga Wagga, West Kempsey, Windsor, Wingham, Wollongong, Yass, Young.

QUEENSLAND.—Brisbane, Bundaberg, Charters Towers, Childers, Geraldton, Gympie, Ipswich, Maryborough, Rockhampton, Southport, Toowoomba, Townsville.

The number of candidates was 1513, and of these 1082 gained certificates.

13. The Senior Public Examination was held in November concurrently with an examination for Matriculation Honours and Scholarships in Sydney and at the following local centres:—

NEW SOUTH WALES.—Armidale, Bathurst, Goulburn, Inverell, Lithgow, Mudgee, Newcastle, Wahroonga.

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QUEENSLAND.—Brisbane, Ipswich, Rockhampton.

The number of candidates was 178, and of these 148 were successful.

#### Examinations for Articled Clerks.

14. Two Law Examinations were held for candidates for Articles of Clerkship with Solicitors; 43 candidates attended and 25 passed.

#### The Senate.

15. The Senate held 11 ordinary meetings, 2 adjourned, and 1 special meeting, in addition to the annual commemoration. There were also 2 meetings of the Conjoint Board, consisting of the Senate of the University and the Directors of the Royal Prince Alfred Hospital.

The attendances of the various Fellows were as follow:— MacLaurin, the Hon. Sir Normand, M.A., M.D., LL.D., Chancellor 16 The Hon. Mr. Justice W. P. Cullen, M.A., LL.D., Chief Justice of New South Wales, Vice-Chancellor Anderson, H. C. L., Mr., M.A. 13 Backhouse, His Honour Judge, M.A. 16 Barton, the Right Hon. Sir Edmund, G.C.M.G., P.C., M.A., LL.D. Butler, Professor T., B.A. .. 12 Griffith, the Right Hon. Sir Samuel W., M.A., G.C.M.G., 8 P.C. -Jones, Sir Philip, M.D. 13 Knox, E. W., Mr. 12 Leverrier, F., Mr., B.A., B.Sc. 14 MacCallum, Professor M. W., M.A., LL D. 16 O'Connor, the Hon. Mr. Justice R. E., M.A. 7 Peden, Professor J. B., B.A., LL.B. ... 14 TPiddington, A. B., Mr., B.A. 5 Purser, Dr. Cecil 8 Rogers, His Honour Judge, M.A., LL.B. .. 10 Simpson, the Hon. Mr. Justice A. H., M.A. 12 . . +Stephen, C. B., Mr., M.A. 2 Stuart, Professor T. P. Anderson, M.D., LL.D. 14 Teece, Richard, Mr. F.I.A., F.F.A. ... 13 Warren, Professor W. H., M. Inst. C. E. 15

<sup>\*</sup> Absent on leave through ill-health.

<sup>†</sup> Deceased, July 3rd, 1910.

<sup>‡</sup> Elected, 13th August, 1910.

At the various meetings of the Sub-Committees of the Senate for Finance, Grounds, and other matters held during the year, the attendances of members were as follow:—The Chancellor (the Hon. Sir Normand MacLaurin), 31; the Vice-Chancellor (the Hon. Dr. W. P. Cullen), 4; Mr. H. C. L. Anderson 4; His Honour Judge Backhouse, 24; Sir Philip Jones, 18; Mr. E. W. Knox, 11; Mr. F. Leverrier, 4; Mr. A. B. Piddington, 1; Dr. Ceeil Purser, 5; the Hon. Mr. Justice A. H. Simpson, 3; Mr. R. Teece, 9.

#### Vice-Chancellor.

16. The annual election of Vice-Chancellor in the month of April resulted in the re-appointment of the Honourable Mr. Justice W. P. Cullen, M.A., LL.D., Chief Justice of New South Wales.

## Vacancy in Senate.

- 17. The Senate has to report with deep regret the death of Mr. Cecil Bedford Stephen, M.A., K.C., who had been a Fellow of the Senate since the year 1888. The following resolution was passed by the Senate at a meeting held on the 4th of July:—
  - "The Senate desires to place on record its sense of the great loss sustained by the University through the death of Mr. Cecil Bedford Stephen, M.A., K.C., a distinguished graduate of the University and a fellow of the Senate for a period of twenty-two years, and an expression of sympathy with his widow and family in their bereavement."

#### Convocation.

18. A Convocation for the election of a Fellow to fill the vacancy caused by the death of Mr. C. B. Stephen, M.A., K.C., was held in the Great Hall of the University on Saturday, the 13th of August and resulted in the election of Mr. Albert Bathurst Piddington, B.A.

## Professorial Board.

19. The triennial election to the office of Chairman of the Professorial Board was held in the month of December, and resulted in the re-election of Professor J. T. Wilson, M.B., Ch.M., for a period of three years from the 1st of January, 1911.

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#### Deans of Faculties.

20. In the month of September, in accordance with the by-laws, the Senate selected the following branches of learning, the professors in which should be ex officio members of the Senate and Deans of the Faculties of Arts, Law, Medicine and Science respectively for a period of two years, viz.:—Modern Literature—Professor M. W. MacCallum, M.A., LL.D.; Law—Professor J. B. Peden, B.A., LL.B.; Physiology—Professor T. P. Anderson Stuart, M.D., Ch.M., LL.D.; Engineering—Professor W. H. Warren, Wh.Sc., M. Inst. C.E..

## Professor Emeritus.

21. Under a resolution of the Senate passed in the month of March, Mr. Pitt Cobbett, M.A., D.C.L., who in 1909 resigned the Professorship of Law, which he had held for 19 years, was appointed Professor Emeritus of Law.

## Chair of Education.

22. Under arrangement with the Department of Public Instruction, Mr. Alexander Mackie, M.A., the Principal of the Training College, has been appointed Professor of Education in the University. Professor Mackie entered upon his duties at the commencement of Lent Term.

## Changes in the Staff.

23. In addition to those mentioned elsewhere, the following appointments or changes in the staff have been made:—

Mr. W. G. Armstrong, M.B., Ch.M., was re-appointed Lecturer in Public Health from the 1st of January, 1911; Mr. C. Badham, Junior Demonstrator in Biology; Assistant Professor Barraclough, B.E. (Sydney), MM.E. (Cornell), was re-appointed Lecturer in Mechanical Engineering from the 1st of January, 1911; Captain C. H. Brand, Lecturer in Military Topography; Dr. Alfred Burne, Lecturer in Mechanical Dentistry has resigned; Miss Elsie Jean Dalyell, M.B., Ch.M., Junior Demonstrator in Pathology, from the 1st of March, 1911; Mr. St. J. W. Dansey, M.B., Ch.M., Acting-Tutor in Surgery for six months in the room of Mr. R. B. Wade, M.B., Ch.M., absent on leave; Mr. S. Dodd, F.R.C.V.S., Lecturer in Veterinary Anatomy, from the 1st of January,

1911, and Lecturer in Pathology and Bacteriology from the 1st of January, 1912; Mr. E. W. Ferguson, M.B. Ch.M., Junior Demonstrator in Pathology from the 1st of March, 1911; Mr. D. G. Ferguson, B.A., was re-appointed to the Lecturship in the Law of Procedure, Pleading and Evidence for three years from the 1st of January, 1911; Mr. W. W. Froggatt. F.L.S., Lecturer in Economic Entomology, from the 1st of January, 1911: Mr. H. W. Fry, B.E., Junior Demonstrator in Mechanical Engineering; Mr. Sinclair Gillies, M.A., M.D., Tutor in Medicine: Mr. E. C. Grev. B.Sc.. Physiology; Assistant Lecturer and Demonstrator in Mr. E. Griffiths, B.Sc., Junior Demonstrator in Chemistry, to include Organic Chemistry; Mr. Sydney Jamieson, B.A., M.B., Ch.M., Lecturer in Medical Jurisprudence, has resigned; Mr. H. C. Jeffreys, B.A., M.R.C.S., L.R.C.P., Assistant Lecturer and demonstrator in Physiology (Mr. Jeffreys resigned before the end of the year to take another appointment); Mr. A. C. T. Kellick, Junior Demonstrator in Chemistry; Mr. I. G. Mackay, B.A., Assistant Lecturer and Demonstrator in Physics; Mr. V. J. McPhee, M.B., Honorary Demonstrator in Anatomy; Mr. E. W. McKeown, B.E., Junior Demonstrator in Engineering, Drawing and Design (Mr. McKeown has been appointed Assistant Lecturer and Demonstrator in Mechanical Engineering from the 1st of January, 1911); Mr. A. E. Mills, M.B., Ch.M., Lecturer in Principles and Practice of Medicine (Mr. Mills resigned his office as Tutor in Medicine); Mr. Frank Marshall, B.D.S. (Syd.), D.D.S., Lecturer in Mechanical Dentistry; Mr. E. M. Mitchell, B.A., LL.B., has been reappointed Lecturer in the Law of Status, Civil Obligations, and Crimes for three years from the 1st of Jgnuary, 1911; Mr. H. R. G. Poate, M.B., Ch.M., F.R.C.S. (Eng.), Demonstrator in Anatomy; Mr. A. B. B. Ranclaud, B.Sc., B.E., Junior Demonstrator in Physics; Mr. G. E. Rich, M.A., Lecturer in Equity, Probate, Bankruptcy and Company Law, has resigned; Mr. H. A. Roberts, B.E., Assistant Lecturer and Demonstrator in Civil Engineering from the 1st of January, 1911; Mr. J. McD. Royle, B.E., Junior Demonstrator in Civil Engineering: Mr. R. H. Todd, B.A., M.D., Ch.B., Lecturer in Medical Jurisprudence; Mr. G. W. Waddell, M.A., LL.D., Lecturer in Roman Law for 1910; Mr. A. B.

Walkom, B.Sc., Junior Demonstrator in Geology; Mr. W. Camac Wilkinson, B.A., M.D., F.R.C.P., Lecturer in Principles and Practice of Medicine, has resigned; Mr. C. E. Wright, B.E., Junior Demonstrator in Electrical Engineering.

Leave of absence for the year was granted to Professor W. A. Haswell, D.Sc. His duties were carried out by Mr. S. J. Johnston, B.Sc., who was accorded the title of Acting-Professor of Biology; Mr. S. George, B.Sc., taking Mr. Johnston's duties as Assistant Lecturer and Demonstrator in Biology.

Leave of absence for Michaelmas Term was granted to Professor D. A. Welsh, M.A., M.D., Professor of Pathology, his duties being carried out by Mr. J. F. Flashman, M.D., with the title of Acting-Professor of Pathology, and Mr. J. E. V. Barling, M.B., Ch.M.

Leave of absence for two terms was granted to Mr. G. E. Rich, Lecturer in Equity, Probate, Bankruptcy and Company Law. Mr. J. A. Browne, B.A., LL.B., and Mr. F. R. Jordan, B.A., LL.B., were appointed to deliver the lectures in that subject during his absence.

## Kindergarten Union of New South Wales.

24. Professor A. Mackie, M.A., Professor of Education, has been appointed as the University's representative on the Council of the Kindergarten Union of New South Wales, in lieu of Professor Anderson, M.A., resigned.

#### Matriculation Examination.

25. The regulations for the examination for matriculation in the various faculties and departments have been revised, and several alterations have been introduced, chief of which are the following:—

For the Faculties of Arts and Science a student may now substitute the subject of English History for one of the languages taken at the Lower Standard. The nomenclature, under which the examination had been divided into two Divisions (A and B), has been abolished, as it has been found that serious misconceptions as to the intention of the University by-laws have resulted from it. A candidate is now

required to pass in all the prescribed subjects of the examination at one and the same examination unless he has previously passed the Junior or Senior Public Examination, in which case he may complete his qualification at the Matriculation Examination in November or in March. His qualification must be completed at not more than two examinations.

Regulations for Advanced Students in Arts and Science.

26. Regulations have been made for the admission as advanced students of persons of the age of twenty-one years, or upwards, not graduates of this or any other University, who give such evidence of general education and special qualification for advanced study and research as may be approved by the Faculty with which their proposed course of study and research is most nearly connected. students will be required to pursue a course of study or research under the direction and supervision of one or more of the professors. After two years the student may submit to his Faculty a dissertation containing an account of, and embodying the results of his research or researches, and if the Faculty, after hearing the report of the referees, is of opinion that the work submitted is of distinction as an original contribution to learning, or is a record of original research, the student may be admitted to the degree of Bachelor of Arts or Bachelor of Science as the case may be.

#### Curriculum in Medicine.

27. The curriculum in the Faculty of Medicine has been revised and a number of improvements have been introduced. In order that students may have more time for clinical instruction, it has been decided in future to hold the final examination for the degrees of M.B. and Ch.M. after the long vacation at the end of the fifth year instead of in the month of December as heretofore. Under this arrangement students will devote an additional period of three months to clinical study in the wards of the hospitals.

An intermediate examination in Anatomy and Physiology has been instituted at the end of Trinity Term of the second year, and a course of lectures on Materia Medica and Therapeutics has been introduced into the third year. A Tutor in Midwifery is to be appointed and Boards of Studies have been constituted with the view of co-ordinating the work in the Departments of (a) Medicine, (b) Surgery, and (c) Midwifery and Gynæcology. These Boards will meet once in each term to discuss all matters relating to instruction in their several departments, and generally to co-ordinate the teaching.

A tutor is also to be appointed to give instruction in Practical Materia Medica and Pharmacy, to supplement the instruction in Practical Pharmacy given in the dispensaries.

Arrangements have been made with the authorities of the Royal Alexandra Hospital for Children under which students will obtain clinical instruction in the medical and surgical diseases of children at that institution. The Board of the Hospital has appointed lecturers in these subjects who have been approved by the Senate. The University lectureship in Diseases of Children, hitherto held by Dr. Mills, has been abolished.

## Faculty of Science.

28. Amended by-laws have been adopted for the reconstitution of the Faculty of Science and the establishment of Boards of Studies for its several departments. Hitherto the Faculty of Science has had charge of the curriculum and studies of students proceeding to the degrees in Pure Science and of those in Engineering, but as the new departments of Veterinary Science and Agriculture are now added to the Faculty of Science, it has become necessary to establish separate Boards of Studies.

Under the amended by-laws, the Faculty of Science has been remodelled so as to include the professors in the subjects required for the degrees in the four branches of science, together with representatives from the several Boards of Studies. These Boards of Studies have been constituted in (a) Pure Science, (b) Engineering, (c) Veterinary Science, (d) Agriculture, and have a wider basis than the Faculty, including all the independent lecturers, assistant professors, and assistant lecturers and demonstrators in each department. The Boards of Studies report to the Faculty.

#### Curriculum in Agriculture.

29. A curriculum in the newly created Department of Agriculture leading to the degree of Bachelor of Science in Agriculture has been drawn up, and the courses of instruction were commenced in Lent Term.

The curriculum covers a period of four years, in the first of which the subjects of study are almost the same as in the first year of the Faculty of Science.

In the second year the subjects of Chemistry, Botany, and Geology are pursued to a further stage, and students are also instructed in the principles of agriculture and economic-entomology.

In the third year they receive instruction in Agricultural Chemistry and Botany, Plant Pathology, Veterinary Pathology, and other veterinary subjects; and in the fourth year they have further instruction in Agriculture, in the principles of Fruit Culture and Viticulture and Forestry; in Economic Science as applied to agriculture, in Agricultural Engineering, Veterinary Parasitology and Agricultural Bacteriology.

Besides affording the opportunity of a University education specially suited to those who wish to obtain a livelihood from the land, and training teachers for agricultural schools and colleges, and experts in the different branches of agricultural science, it is the aim of the school to carry out research work in connection with agricultural problems and to disseminate the information gained thereby.

During the year the Professor of Agriculture, whose couses of instruction commence in the second year of the curriculum; has been engaged in a practical investigation of agricultural conditions and problems in practically all the agricultural districts of New South Wales, and he has delivered lectures or courses of lectures at thirty-four centres. These lectures have been free. He has also been engaged in consultation with the Government Architect in the preparation of plans for a building for the Department of Agriculture, which is to be erected on the University grounds on a site near-the School of Veterinary Science.

#### School of Veterinary Science.

30. During the year plans, which were being prepared by the Government Architect, for a building for the School of Veterinary Science have been completed. A tender has been accepted for the work and the building has been commenced. It is hoped that it will be sufficiently completed for the work of the School by the beginning of March, 1911.

Leave of absence has been granted to the Professor of Veterinary Science for a portion of the coming year to enable him to visit the principal veterinary schools of Europe with a view to obtaining as complete an equipment for the school as is possible.

During his absence the School will be in charge of Dr. Sydney Dodd, who, as stated elsewhere, has been appointed lecturer in Veterinary Anatomy for the year 1911, but who will subsequently give instruction in Veterinary Pathology and Bacteriology.

#### Diploma in Education.

31. By-laws have been adopted for the institution of a Diploma in Education. Candidates for the diploma will be required, before admission to the curriculum, to produce evidence of having graduated in Arts or in Science. They will then be required to attend courses of instruction upon the mental and physical life of school children; the principles of education, the history of educational theory and practice, and the principles of school teaching and management. The student must also produce satisfactory evidence that he has pursued a course of practice in teaching; observation of class teaching; continuous practice in the schoolroom, and the observing and giving of special lessons and taking part in discussions upon them. The curriculum may be completed in one year by those who devote their whole time to the work of the course.

## Department of Military Science.

32. A regulation has been passed by the Senate under which the lectures in Military Science, Military Engineering, Military Topography and Military Administration and Law will be free to all undergraduates of the University.

## Nicholson Museum of Antiquities.

33. The collection of antiquities forming the present Nicholson Museum is in process of transference from the main building to the new rooms provided for it on the ground floor of the Fisher Library. Considerable additions have been made to the collection during the past year by the purchase of a number of casts of statues, busts and other objects from the British Museum and the Museums of Paris and Berlin. These casts, when suitably arranged, will enable the Curator (Professor W. J. Woodhouse) to give systematic courses of lectures on Greek art, which will be carried out under the authority of the Senate, and will be open to attendance on the part of the public.

The Australian Institute of Tropical Medicine.

34. A meeting of the Committee of Management of the Australian Institute of Tropical Medicine, which consists of one representative from each of the Universities of Sydney, Melbourne and Adelaide, and a representative of the Commonwealth Government, was held in the month of November in the University of Melbourne.

The Committee made arrangements with the Government of Queensland, under which the Director (Dr. Anton Breinl), with the aid of assistants provided by the Queensland Government, will carry out certain special investigations on behalf of that Government.

## Union Building for Students.

35. A contract has been accepted by the University for the erection of a Union Building for the use of students and other members of the University. The building is being placed on the site of the old engineering school near the Parramatta Road. It will contain common rooms, committee rooms for the various students' societies, a large hall for debates and meetings, as well as recreation rooms and other necessary accommodation. The plan has been prepared in such a way as to allow of an extension at some future time to include a dining-room and kitchen, when the present refectory in the basement of the Fisher Library becomes insufficient for all requirements.

## University Extension Board.

36. The University Extension Board reports that regular courses of lectures were delivered at the following centres during the past year:—

Northern line and branches.—Newcastle (2 courses), Maitland, Singleton (2 courses), Muswellbrook, Scone, Tamworth, Armidale, Glen Innes, Inverell, Moree, Narrabri.

North Coast line.—Casino, Murwillumbah.

Southern line.—Goulburn, Albury,

South Coast line.—Helensburgh, Woonona, Balgownie, Wollongong.

Western line and branches.—Katoomba, Blackheath (2 courses), Blayney, Orange (2 courses), Wellington (2 courses) Coonamble,

Sydney and suburbs.—At the following centres: Killara, Parramatta, the Railway Institute and the Trades Hall. Three special courses were also delivered under the direct management of the Board in Sydney by Professor David, Professor Skeats of Melbourne, and Professor Woodhouse.

In Victoria, Professor David delivered a lecture under the auspices of the Board on the British Antarctic Expedition.

In Queensland, lectures were delivered at Brisbane by Professor MacCallum and Mr. H. E. Barff, and a lecture was also delivered at Ipswich by Professor MacCallum.

In Western Australia Professor David delivered a number of lectures at Perth and at Kalgoorlie and Boulder.

In addition to the ordinary courses a number of lectures have been delivered by the lately appointed Professor of Agriculture, who has been engaged in making an investigation into the agricultural conditions of New South Wales. These lectures were delivered at 34 centres and were open to the public without charge.

A full report of the work of the University Extension Board during the year is published in a separate form.

Congress of Universities of the Empire.

37. The Senate has received an invitation from the University of London in association with the Universities of

Oxford and Cambridge to take part in a Congress of the Universities of the Empire to be held in London in the year 1912 by appointing four representatives of the University to attend the Congress.

# Widening of Parramatta Road.

38. Representations having been made to the University by the Lord Mayor of Sydney and the City Council that it would be desirable to widen the Parramatta Road along that portion which adjoins the University grounds, an agreement has been made under which, subject to the approval of the Governor-in-Council, a strip of land not exceeding 30 feet in width will be given up by the University for this purpose, as well as a small portion at the corner of the Parramatta Road and the City Road where the traffic is becoming somewhat congested. The woodblocking of the Parramatta Road, which is now being carried out, will be of great advantage to the University in diminishing the quantities of dust which, under existing circumstances, not only cause inconvenience, but damage, to books and delicate instruments.

# Expedition to View Eclipse of the Sun.

39. In the month of May, Mr. E. M. Moors, M.A., Assistant Professor of Mathematics, was granted permission to visit Tasmania for the purpose of assisting in the Australasian Scientific Expedition which had been arranged to observe an eclipse of the sun visible in that Island. Mr. Moors has also been granted permission to take part in an expedition which has been arranged by the Commonwealth of Australia to view an eclipse of the sun which is to take place early in 1911, and which will be visible at one of the South Sea Islands.

# Post-graduate Scholarships.

40. Up to 1909 the Royal Commissioners for the Exhibition of 1851 have granted to this University in alternate years a nomination to a Science Research Scholarship of £150 a year for two years. An additional nomination was offered by the Commissioners for 1910 as well as the usual nomination for 1911, and the Commissioners are considering an application made by this University for the privilege of an annual nomination as in the case of British Universities.

Mr. G. F. Davidson, B.E., was nominated for 1910, and Mr. W. N. Benson, B.Sc., for 1911.

Other post-graduate scholarships were awarded as follows:—

The John Coutts Scholarship for Science, Mr. G. J. Burrows, B.Sc.; the William and Jane Grahame Scholarship for Research in Mechanical Engineering, Mr. E. W. McKeown, B.E.; the James King of Irrawang Travelling Scholarship, Mr. C. K. Allen, B.A.; the Cooper Graduate Scholarship for Classics, Mr. C. H. Kaeppel, B.A.

Mr. D. G. Macintosh, M.B., Ch.M., has been nominated by the University for appointment to the Imperial Naval Medical Service under regulations made by the Admiralty whereby such appointments are open to graduates of Australian Universities.

# Deas-Thomson Mineralogy Scholarship.

41. A third scholarship has been established by means of the fund provided by Sir Edward Deas-Thomson, K.C.M.G., in 1854 for the foundation of scholarships for the encouragement of Natural Science. The deed of gift provided for the accumulation of certain portions of the fund for this purpose. The Scholarship is to be awarded for proficiency in Mineralogy to a student graduating in the Faculty of Arts or the Faculty of Science, who proposes to continue his studies in Mineralogy in a way satisfactory to the Faculty.

# Assistants in French and Prussian Schools.

42. Under arrangements made with the British Board of Education whereby a limited number of graduates of the University of Sydney are permitted to share in the benefits of the agreement made between the British Government and the Prussian and French Governments for placing Assistants in the schools of the respective countries, one graduate, Miss Meta G. E. Latreille, B.A., has been appointed temporary assistant in a French School for the year 1910-11.

# The Fisher Library.

43. During the past year 2,149 volumes have been added to the Library, made up as follows:—Books, 1,359; perio-

dicals, 790, which were derived from the following sources:—By purchase, 1,114; by donation, 973—by the terms of the Copyright Act, 62.

The Library now contains 92,000 volumes. Among the donations for the year were:—A collection of 34 volumes dealing with Hebrew literature and language, presented by the late Samuel Elyard; six volumes of antiquities, including a valuable facsimile of an Egyptian Hieratic papyrus of the reign of Rameses III., by Josiah Mullens, Esq.; also a valuable old Bible, the gift of Lady Windeyer.

The Fisher Library is especially indebted to the following amongst other donors, for the presentation of extensive collections of publications:—The Lords of His Majesty's Treasury, the Trustees of the British Museum; the Carnegie Institution of Washington; the Smithsonian Institution, Washington.

For the convenience of evening students, the Library has this year been opened two or three evenings a week during vacation in addition to being open every week-night during term.

The Fisher Library has now completed its first year in the splendid new building provided for it by the Government of New South Wales. The spacious accommodation it provides both for readers and books, together with its modern equipment for the shelving and handling of books, has enabled the Fisher Library to enter upon a new era of usefulness. This has already been amply demonstrated in the phenomenal increase in the number of students frequenting the readingroom, and also in the increased use the teaching staff has made of the Library.

# Benefactions.

- 44. The following benefactions, in addition to a large number of donations to the library and the various museums, are gratefully acknowledged:—
  - (a) A donation from Messrs. H. Gardiner and Company to the Engineering School of a Motor Generator for experimental and educational purposes. The donation was made through Count Mörner, the Consul for Sweden.

- (b) A sum of £175 from subscribers for the foundation of a prize in honour of Professor Pitt Cobbett, who lately retired from the Chair of Law. It has been determined that the prize shall be awarded annually in the subject of Constitutional Law.
- (c) A portrait of Professor Archibald Liversidge, M.A., F.R.S., Emeritus Professor of Chemistry, by Sir John Collier, R.A., has been presented by subscribers and hung in the Great Hall.
- (d) A bequest of £500 from Miss Frances Mary Busby for the foundation of a musical scholarship. The amount of the legacy has been invested and instructions have been given for the interest to be added to the principal until such time as a school of music shall have been established.
- (e) A sum of £225 from subscribers to a memorial of the late-Thomas Carlyle Parkinson, M.B., Ch.M. (Sydney), who died at the Lister Institute from plague-pneumonia whileengaged in research upon bubonic plague.
- (f) An additional sum of £50 from Venour Nathan, Esq., to be awarded as prizes for Imperial History and Geography.
- (g) A donation from the Cape Explosive Works, South Africa, of a valuable piece of machinery—a Quinan Crusher Gauge, to be used for educational purposes in the Department of Engineering.
- (h) The sum of five guineas from the Sydney Chamber of Commerce, to be given as a prize for the best pass amongst the candidates in the third year of the course on Economicsand Commerce.

# Bibliographical Record.

45. A list of the literary and scientific publications issued by the University and members of the staff during the year is appended to this report.

#### Accounts.

46. The annual statements of receipts and expenditure showing the position of the various funds of the University at the 31st of December duly certified by the Auditor are appended to this report.

· H. E BARFF, Registrar. FINANCIAL STATEMENTS.

# RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

		GENE	RECEI				£	s.	d	£	ş.	a
	in Commercial Banl					1909	~	· ·	ч.	2,053		
The	from the Governme Statutory Endowme	ent of New	South	waies	:		10,000	0	0			
Towa	ards Evening and E	xtension Le					2,000	0	0			
Towa	ards reduction of L	ecture Fees			14		2,500	0	. 0			
101	the establishment Veterinary Science	or Chairs				and	2,500	٨	0			
Fron	n Vote for Addition	s, Repairs s	nd Fu	mitur	e		300			٠.		
For	Scientific Apparatu	s			•••		1,500	0	0	10 000	^	
Received	Lecture Fees			13	5,830	6 0				18,800	0	
	Less paid to Profe	essors, Lect	urers, e	etc. 2	,100	9 0						
	Matriculation Fees						13,729 928		0			
"	Degree Fees				•••	•	1,506	ó	Ğ			
3-1	University Examin	ation Fees					862	19	0			
**	Testing Fees Fines							15		-		
**	rines		•••		•••			5		17,063	3	
٠,,	Library Deposits									57	ŏ	
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	Testing Timber for Sale of Medical	s Redves	•••	•••						200 2		
,,											10	
,,	Microscope Fees			•••			289					
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,,	from Challis Fund	1. towards	Admir	istrat	ion. 4	500			_	35	U	
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Sydne	ey, 27th January	r, 1911.—	Audit	ed an	d for	md c	orrect.					
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	PUB	LIC EXA	LANIN	ION	S ACC	COUN	Т.					
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teceived	Candidates' Fees,	Junior and	Senior	Public	Exa	minati	ons			1,710		
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										£2,289	8	

Sydney, 27th January, 1911.—Audited and found correct.

DAVID FELL, Auditor.

# SYDNEY FOR THE YEAR ENDED 31st DECEMBER, 1910.

Grounds, including £100 grant to University Oval Organ   152 19 Organ   25 0 0   2												Q	Ĺ
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Printing & Stationery		Examiners' Fees						454	11	0			
Printing & Stationery	•••										28,779	2	
Repairs and Alterations, Fittings, &c.   696		Printing & Stationery						1 261	19	10	,	_	
Fuel and Lighting	•			ora Arc		• • • •	٠٠.						
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Water and Sewerage Rates   559 17 9   7   9   8   7   9   9   8   9   9   9   9   9   9   9	,			Come									
Fire Insurance Premiums   380   2   2   3   3   4   5   5   5   5   5   5   5   5   5	,	Water and Community Date	att for	Comm	Temorac	тоц							
Supervision and Attendance at Examinations	,	water and sewerage nate	es .		• • • • • • • • • • • • • • • • • • • •	•••	'						
Cleaning				٠	:								
Uniforms	•		nce at	Exam	ination	3	•••				•		
Postage	,												
Grant to University Rifle Club	,							20					
Grant to University Rifle Club		Postage						88	0	0			
Law Costs		Grant to University Rifle	Club.					15	0	0			
Grant to University Women's Society		T O						17	19	6			
Expenses re Appointments   12 5 6   Miscellaneous Expenses   3,907 12   3,907 12   3,913 8   Scientific Apparatus, and Maintenance of Departments   5cientific Apparatus—P. N. Russell School of Engineering—Special Vote   598 11   152 19   152 19   152 19   152 19   152 19   152 19   152 19   153 19   154 19   155 19			nen's			• • • • • • • • • • • • • • • • • • • •	• •						
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Scientific Apparatus, and Maintenance of Departments   3,907 12													
Scientific Apparatus, and Maintenance of Departments   Scientific Apparatus   N. Russell School of Engineering—Special Vote   598 11   26 14   26 14   26 14   26 14   26 14   26 14   26 14   26 14   27 0	,	ALISCERARIEOUS Expenses	٠			• • • • • • • • • • • • • • • • • • • •		30	U	1	9 007	19	
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School of Agriculture—Salaries	,	ing—Special Vote University Prizes and Me Grounds, including £100 Organ	dals grant	to Un	iversity	Oval					26 152 25	14 19 0	
Expenses	,	ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec	dals grant tures-	to Un	iversity	Oval	=				26 152 25	14 19 0	
1,171 18   1,100 0 0 0   1,171 18   Expenses	,	ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec	dals grant tures-	to Un	iversity	Oval		762	6	6	26 152 25	14 19 0	
School of Veterinary Science—Salaries	,	ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec School of Agriculture—Si	dals grant tures- alaries	to Un	iversity Fees rec	Oval					26 152 25	14 19 0	
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Testing Fees - Expenses of Timber Tests against Government Vote	,	ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec School of Agriculture—Se E	dals grant tures- alaries xpens	to Un Less	iversity Fees rec	Oval		409	11	1Ï	26 152 25 412	14 19 0 3	
Testing Fees - Expenses of Timber Tests against Government Vote		ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec School of Agriculture—Se E	dals grant tures- alaries xpens	to Un  Less s ses	iversity Fees rec	Oval		1,100	11	11	26 152 25 412	14 19 0 3	
March   Marc		ing—Special Vote University Prizes and Me Grounds, including £100 Organ University Extension Lec School of Agriculture—Se E	dals grant tures- alaries xpens	to Un  Less s ses	iversity Fees rec	Oval		1,100	11	11	26 152 25 412 1,171	14 19 0 3	
Unexpended balance of Government Vote 1909-10   191 2 9   351 0	,	ing—Special Vote University Prizes and Me Grounds, including £100 organ University Extension Lec School of Agriculture—School of Veterinary Science	dals grant tures- alaries xpens	to Un  Less s ses Salarie Expen	Fees rec	Oval eeived	5	1,100	11	11	26 152 25 412 1,171	14 19 0 3	
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# PUBLIC EXAMINATIONS ACCOUNT. EXPENDITURE. EXPENSIVE EXAMINATIONS ACCOUNT. EXPENSIVE EXAMINATIONS

# RECEIPTS AND EXPENDITURE OF THE UNIVERSITY

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	CH.	ALLIS F		COUN	T.						
		RE	CEIPTS.			£	s.	d.	. £	8.	d.
Received from In	vestments:— Fovernment Del	hautures e	nd Funds	A Stoo	l,	168	0	0			
	Bank Deposits		runue		n		5	ŏ			
	dortgages					5,703	2	1			
H	Rents of Propert	ies					-3	7			
. · · · · ·	hallis House				10 6	;					
	Les transfe								2.44		
	Capital	Account		1,076		5.132		G			
						- 5,102			13,638	15	2
,, from In	vestment Accou	int, being	amount o	over in	vested	i			1,000		
at 31	st December, 19	ໜ່ ັ			٠				9,486	15	0
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•		INVESTAL	ASI ACCO			£	6	d.	. £∵	s.	a
*						. ~		٠.	. ~	٠.	٠.
Received Princip	al Sums – Mortę	gage .				35,000	0	0			
	Bank	Deposits .				1.500	0	0			
				•••	•••	1,000	•	•		^	^
									36,500	<u> </u>	_•
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Sydney, 27t	h January, 1	DAV					-				-
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Sydney, 27t	<u> </u>	DAV									
Sydney, 27t	h January, 1	DAV									-
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	STRALIAN IN	DAVI	E OF TREEFIELD	rropi	CAL.	MED:	ICI s.	đ. 0	£		
AUS	STRALIAN IN	DAVI	E OF TECEIPTS.	rropi	CAL.	MED:		đ. 0	£		
AUS	. 31st December com Queensland	DAVI	E OF Teceives.	rropi	CAL.	£ 500 550		đ. 0 0	£ 499	3	2
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AUS Balance in Bank Received Vote to	, 31st December om Queensland Commonwe Adelaide U Melbourne k Deposits	DAVI	E OF Teceives.	rropi	CAL.	MED:		<b>d</b> .	£ 499 1,200 49	3 0 9	2
AUS Balance in Bank Received Vote to	, 31st December om Queensland Commonwe Adelaide U Melbourne k Deposits	DAVI	E OF Teceives.	rropi	CAL.	MED:		<b>d</b> .	£ 499	3 0 9	2
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DAVID FELL, Auditor.

# OF SYDNEY FOR THE YEAR ENDED 31st DECEMBER, 1910.

	CHALLIS FUND ACCOUNT.				Cr
Balance due Commercial Ba Paid Salaries ,, Annuity Premiums	EXPENDITURE.  nking Co. of Sydney, 31st Dec., 1909  9.458 6 6	£	s. d	. £ 9,007	s. d 5 10
,, Maintenance of Challis		10,744 19	4 10 12 3		
£500, Scientific App ,, Electric Battery for Fi	ıratus £1.000	1.500 328	0 0 12 0	12,592	9.
Balance in Commercial Ban	xing Co. of Sydney, 31st Dec., 1910	-		1,525	
				£23,125	10
	INVESTMENT ACCOUNT.				
Paid for Investment - Prope				£ 27,013	s d
December, 1909	rsements Account amount over inve	ested a		9,486	15

# ROBERT A. DALLEN, ACCOUNTANT.

# AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE. Expenditure.

							£	s.	d.
Paid Salaries					 	 	700	0	0.
Scientific Apparatus					 	 	54	4	4.
General Maintenance I	Expen	ses of	Labor	atory	 	 	150	0	0.
Travelling Expenses of	Dire	ctor			 	 	62	9	0
Miscellaneous					 	 1	2	15	10
Bank Deposit-Tempor	тыгу І	nvesti	ment		 	 	250	0	0.
Balance in Bank, 31st Decem						 	531	5	1

£1,750 14

# RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

₿r.									
	PRIVATE FOUNDAT	SKOL	ACC0	UNT	<b>'.</b>				
	Receiv	TS.							
					£	s. d.	£		
alance in (	ommercial Banking Co. of Sydney	, ist Ja	n., 19	10			678	17	-
received it	om the Trustees of the Dalton I	state,	Dalanc	eor					
	interest on investments after payi Woolley Scholarship	ng ann	uities,	IOF			172	9	
fre	om the subscribers to the Parkinson	n Mamo	rial F	und			11-2	•	
,. 110	for the Foundation of a Prize in P						223	15	
,, fro	om the Executors of the Will o	f the l	ate I	Iiss					
	Frances Mary Busby for a Musical	Schola	rship				500	0	
,, fr	om the subscribers for the foundat		Prize	in.					
	Law to be called the Pitt Cobbett	Prize					176	8	
fre	om the following for Annual Prizes	:			_	- 0			
	om the following for Annual Prizes Sydney Chamber of Commerc V. V. Nathan, Esq E. K. White, Esq Professor G. Arnold Wood, M.	e e	•••	• • • •		5 0			
	V. V. Nathan, Esq	•••	•••		50 10 1				
	Professor G. Arnold Wood, M	Δ	• • •	•••	5				
	, T. W. Edgeworth Da	vid R	EF	è S	10 (				
	,, Francis Anderson, A	f. A.	,			0 0			
	Pitt Cobbett, M.A.	D.C.L.			5	ŌŌ			
	W. A. Haswell, M.	A . D.Sc	F.I	R.S.	12 1	2 0			
	W. A. Haswell, M., Professor M. W. MacCallum,	M.A., L	Ĺ,D.	••:	10				
	W. G. Woolnough, Esq., D.S.	2			2	00			
_	•			_			125	7	
,, Do	mation to Union Building, transf		ı Gen	eral					
	Fund	•••	•••				100	0	
eceived In	come from Investments on account	of the	follow	ring					
	Foundations:—								
	Levey Scholarship		•••		41				
	Barker Scholarships Deas-Thomson Scholarships Cooper Scholarships Lithgow Scholarship Renwick Scholarship				342 1 162				
	Cases Cabalanabing	•••	•••	•••	350				
	Lithgory Scholarship	• •			107				
	Ranwick Scholarshin	• • • •	•••		43 1				
	Bowman Cameron Scholarshir	٠٠.	•••			i ii			
	Bowman Cameron Scholarship George Allen Scholarship				41				
	Freemasons' Scholarship				51	69			
	James Aitken Scholarship				53				
	G. Wigram Allen Scholarship				71 1				
	Freemasons' Scholarship James Aitken Scholarship G. Wigram Allen Scholarship Caird Scholarship				72 1				
				ship	184				
•	John Harris Scholarship			•••	41 3				
	Council of Education Scholars	nıp	•••	• • • •	27	6 5			
	Frazer Scholarship		•••	•••	100 53	2 4 5 0			
	Woolley Travelling Scholarsh Garton Scholarships	ıp	•••	•••	96	35			
	George and Matilda Harris Sci	holarahi	n		73				
	Queen Victoria Memorial Scho				21	7 11			
	Busby Scholarshin				7 1				
	Busby Scholarship Coutts Scholarships				111	1 0			
	William and Jane Grahame &				39	5 11			
	Salting Exhibition	٠			69	5 11 4 8			
	I R Watt Exhibitions				160	06			
	Horner Exhibition Struth Exhibition Maurice Alexander Bursary Levey and Alexander Bursary				.8				
	Struth Exhibition			• • • •	49				
	Maurice Alexander Bursary			•••	44 ]				
	Levey and Alexander Bursary	•••		•••	45 1				
	Ernest Manson Frazer Bursar John Ewan Frazer Bursary	y		•••	119 1 115 1				

Cr,

# SYDNEY FOR THE YEAR ENDED 31st DECEMBER, 1910.

#### PRIVATE FOUNDATIONS ACCOUNT. EXPENDITURE. £ s. d. Paid Scholarships, Bursaries, Prizes, etc., as follow: -Levey Scholarship ... ... 40 Barker Scholarships ... 175 2 Deas-Thomson Scholarships 50 0 Cooper Scholarships ... ... 250 12 ... ... Lithgow Scholarships 100 0 Renwick Scholarship 45 0 0 - - . Bowman-Cameron Scholarship 40 0 ... George Allen Scholarship ... 40 ... . ... Freemasons' Scholarship ... 50 0 ... 50 0 0 James Aitken Scholarship ... ... G. Wigram Allen Scholarship ... 50 0 ... Caird Scholarship ... ... 50 0 o ... ... John Harris Scholarship ... 40 ... Frazer Scholarship ... Woolley Travelling Scholarship ... 52 10 90 50 ... Queen Victoria Memorial Scholarship ... 20 Courts Scholarships William and Jane Grahame Scholarship P. N. Russell Scholarships 100 40 675 James King of Irrawang Travelling Scholarships 300 J. B. Watt Exhibitions .... 40 ... ... Salting Exhibition ... 25 ... Struth Exhibitions ... 50 ... Horner Exhibition .... Maurice Alexander Bursary 8 ... . . . 45 ... ... Levey and Alexander Bursary 50 Ernest Manson Frazer Bursary ... 50 John Ewan Frazer Bursary ... W. C. Wentworth Bursary No. 1 50 No. 2 Burdekin Bursary ... 40 Hunter-Baillie Bursaries ... - 70 Thomas Walker Bursaries ... Badham Bursary ... ... 35 Henry Wait Bursary 40 , . . ... Duncan Bursary 35 ... Wentworth Prize Medal ... 10 35 John Fairfax Prizes ... ... . . . John West Prize ... 5 10 ... ... Smith Prize ... Slade Prizes 10 ... Grahame Prize Medal 8 ... Collie Prize ... ... Wood Prize 2 10 13 David Prize MacCallum Prizes ... Anderson Prizes Cobbett Prize ... 15 5 • • • ... ... Woolnough Prize Nathan Prizes... ... . . . . . . Parkinson Memorial Prize ... 5 ... Haswell Prizes 6

Carried forward .. £3,373 10 1

# RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

								•		
PRIVATE FOUND	TIONS	3 ACC	CUNI	' Ce	ntinue	d.				
	RECRIE	1'S.			£	8	d.	£	s.	d
	,	Brought	t forma	ort	2,741	13	4	1.976	17	10
eived Income from Investments on a					-,		-		•••	-
Foundations:—				0						
W. C. Wentworth Burs	sary No.	. 1			39	4	L			
22	Ma				38	13	3			
,, ,,	37.		•••		52	19	2			
James King of Irrawar					7	17	7			
Burdekin Bursary					45	13	ı			
Hunter-Baillie Bursari					105	15	7			
Thomas Walker Bursan					204	7	4			
Badham Bursary					36	9	11			
Henry Wait Bursary				•••	40	13	11			
Duncan Bursary				•••	42	2	5			
Wentworth Prize Meda					28	ž	8			
Nicholson Medal					35	ō	6			
Belmore Medal ·					35	ŭ	6			
John Fairfax Prizes	•••					14	ž			
John West Prize				•••	9	ĩ	ī			
Norbert Quirk Prize					6	10	6			
Smith Prize					4	3	8			
Slade Prizes					13	2	2			
Grahame Prize Medal		• • • •	• • • •		4	3	9			
Collie Prize		• • • •	•••		4	8	4			
75 1 m. 1	• • • •		• • • •	•••	30		4			
Pr 1 1 5 1	• • • •			•••						
				• • •	11	15	4			
Frederick Lloyd Memo					4	5	9			
Dr. F. Norton Mannin		rial Pi	rıze	• • • •	5	6				
Parkinson Memorial P	rize				- 3	9	6		•	
Pitt Cobbett Prize					4	3	6			
Wentworth Fellowship			• • •		123	2	5			
Hovell Lectureship					108	4	10			
Macleay Curatorship	***				234	2	5			
Fisher Estate					1,645	15	ñ			
P. N. Russell Fund					3.886	16	0			
	Sinking	z Fund	l		240.	15	4			
J. G. Ruphael Foundat		• • • • • • • • • • • • • • • • • • • •			5	3	7			
Union Building			•••			15	5			
			•		<u> </u>		_	9,842	9	٤
								-,	-	

# INVESTMENT ACCOUNT.

Received from Receipts and Disbursemen ,, Principal Sum of Bank Deposit		vestm		£ 2,491 3,500	5	6
		-		£5,991	5	6

Sydney, 27th January, 1911.—Audited and found correct.

DAVID FELL, Auditor.

# SYDNEY FOR THE YEAR ENDED 31st DECEMBER, 1910.

	PRIVATE FOUNDATIONS A	CCOUNT	'C	ntinue	d,			-	
	Expenditur					d.	£	8.	đ
	Brought	forward		3,373	10	1			
Paid Scholarshi	ps, Bursaries, Prizes, etc., as follow	w:-							ż
	Carslaw Prize		٨.,	2	2	0			
	J. G. Raphael Foundation Sydney Chamber of Commerce Pr	rize		5	2 2 5	0			
to General	Account towards Salaries :				_	—	3,388	19	. 5
,, to General				98	9	5			
	Macleay Curatorship			208		7	306	10	٠
" on accoun	t of Fisher Estate:—					_	306	13	'
,,	Librarians' Salaries, &c Purchase of Books, Binding, etc.			531 1,243					
	of D. M. Buggell Endowment in od	ldition to	Q <sub>a</sub> ba	lamahi		_	1,775	4	:
" ou accoup	t of P. N. Russell Endowment, in ad				-				
	Salaries, etc Instalment towards Sinking Fu	nd, to de	fray	2,893			٠.		
	Premium on Funded Stock.			140					
•	Scientific Apparatus £125, Law C	osts £2/2/	<b>/-</b>	127	2	0	9 160	14	
Investmen	at Account for Investment				_		3,160 2,491		
	mercial Banking Co. of Sydney, 3	at Dec.	1910				696	11	

£11,819 7 6

#### TAISCUSCIPACUATOR A COCCUTATO

Paid Investment-Property ... .. ... ... ... ... ...

£ 8. d. 5,991 5 6

£5,991 5

# PRIVATE FOUNDATIONS-ORIGINAL ENDOWMENTS AND CREDIT BALANCES AT 31st DECEMBER, 1910.

Name of F	OUNDATIO	x.		Original . of Endo	Amount wment.	Ledger Account Cr. Balance.
				£	s. d.	£ s. d.
evey Scholarship		•••	}	500	0 0	1,047 1 4
arker Scholarships			}	1,000	0 0	4,074 15 10
eas-Thomson Scholars				1,000	0 0	2,772 1 1
Ventworth Prize Medal				200	0 0	739 11 11
ooper Scholarships	•••	•••	••••	1,000	0 0	4,223 15 3 1.034 18 9
alting Exhibition	•••			500		
Ventworth Fellowship		•••	1	445	0 0	3,255 9 1 2,742 3 11
ithgow Scholarship	••	•••	[	1,000 200	0 0	
icholson Medal elmore Medal	•••	•••		300	0 0	922 18 6 923 3 1
ohn Fairfax Prizes	•••	•••	• • • •	500	0 0	526 15 0
laurice Alexander Burs		•••	•••	1,000	0 0	1,143 15 6
ever and Alexander Bus	x11 y	• • •		1,000	0 0	1,163 19 6
evey and Alexander Bu ohn West Prize	11001)			200	ŏŏ	1,163 19 6 231 16 0
rnest Manson Frazer B	nreary			1,250	0 0	1,825 0 10
ohn Ewan Frazer Burs			[	1,250	ŏŏ	1,723 9 6
V C Wentworth Burse	re No 1			1,200		1,000 0 0
V. C. Wentworth Bursa V. C. Wentworth Bursa V. C. Wentworth Bursa	re No 2			2,500	0 0	1,000 0 0
V C Wentworth Bursu	ry No 8			2,500	• •	1,368 6 6
urdekin Bursary				1,000	0 0	1,171 10 2
lunter-Baillie Bursarie	· · ·			2,000	ŏŏ	2,732 17 4
B. Watt Exhibitions				3,000	ŏŏ	4,190 7 3
	1			1,000	ŏŏ	1,118 2 4
owman-Cameron Schol	arship			1,000		907 0 5
lovell Lectureship	шр		}		0 0	6,020 9 6
eorge Allen Scholarshi	n			1,000	0 0	1,054 3 7
reemasons' Scholarship		•••		1,000	ŏŏ	1.281 2 11
G. Raphael Foundation				43	0 4	130 0 0
ames Aitken Scholarsh	in			1,000	0 0	1,368 0 1
homas Walker Bursari				5,000	0 0	5,219 17 11
. Wigram Allen Schola	rship	•	]	1,000	0 0	1,844 7 1
truth Exhibition				1,000	0 0	1,252 0 10
isher Estate	***			30,000	0 0	40,430 17 1
orbert Quirk Prize	•••			143		173 9 0
mith Prize				100	0 0	106 5 1
adham Bursary				1,000	0 0	938 11 11
lade Prizes			}	250	0 0	336 19 6
aird Scholarship			1	1,000	0 0	1,8,6 7 1
ames King of Irrawang	Scholarsl	hip		4,000	0 0	4,487 9 2
,, ,, ,,	Bursary			881	0 0	224 2 1
lacleay Curatorship				6,000	0 0	5,975 18 10
ohn Harris Scholarship	:		[	1,000	0 0	1,065 19 3
Iorner Exhibition			{	200	0 0	217 0 6
ouncil of Education Scl	olarship.		}	290	10 I	721 16 1
razer Scholarship				2,000	0 0	2,608 13 2
rahame Prize Medal				100	0 0	89 14 10
ollie Prize			[	100	0 0	113 10 9
Voolley Scholarship			]	1,530		1,499 0 3
. N. Russell Fund			1	100,000	0 0	96,914 6 1
" Sink	ing Fund				_	2,703 12 7
arton Scholarships				2,050	0 0	2,460 18 4
enry Wait Bursary				1,000	0 0	1,039 10 2
eorge and Matilda Har			]	1,700	0 0	1,888 0 2
nion Building (Miss W	/alker's I)	onation)	[	100	0 0	107 15 5
uncan Bursary					18 11	1,080 16 7
eauchamp Prize		•••		625	0 0	797 4 4
ambala Prize				250	0 0	309 17 4
ueen Victoria Prize			}	547		547 4 7
outts Scholarships			•••	2,700	0 0	2,944 11 0
Villiam and Jane Graha	me Schola	rship		1,000	0 0	997 10 0
usby Scholarship		*		500	0 0	507 13 0
arkinson Memorial Pri	ze			223	15 7	222 5 1
itt Cobbett Prize				176	8 6	180 12 0
	Maranial '	Prize	1	125	0 0	140 6 8
r. F. Norton Manning	иещопат.	11100				
rederick Lloyd Memori	al Prize		}	110	0 0	112 18 10
r. F. Norton Manning l rederick Lloyd Memori hallis Fund	al Prize		- 1			

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FOR THE

# YEAR 1910:

Note.—The entries marked with an asterisk were accidentally omitted from last year's list.

#### T.

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- 2. Manual of public examinations held by the University of Sydney. Sydney, Angus and Robertson, Ltd., 1910, 8vo. [Annual.]

#### H.

# PUBLICATIONS OF UNIVERSITY OFFICERS.

PERCY A. ASH, D.D.S.

Lecturer in Surgical Dentistry, 1901----.

 President's address: N.S.W. Society of Dental Graduates. Australian Jour. of Dentistry (Melb.), 1910, xiv, no. 5, pp. 156-161.

# J. E. V. BARLING, M.B., Ch.M.

Demonstrator in Pathology, 1907——.

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# H. Y. BRADDON, Esq.

Lecturer on Business Methods, etc., 1907-

\*1. Business principles and practice; Australia. Sydney, William Brooks and Co., Limited, 1909, 8vo. Pp. xi [inc. 4 blank], 1 blank, 299, 2 blank.

# J. LE GAY BRERETON, B.A.

#### Assistant Librarian, 1902----.

 Tomorrow. Sydney, Angus & Roberton Ltd., 1910, 18mo. Paper wrapper, pp. viii [inc. 3 blank], 55, 1 blank. [Wrapper bears subtitle: "A dramatic sketch of the character and environment of Robert Greene."

# JOHN HAYDON CARDEW, Assoc. M.Inst.C.E., L.S.

# Russell Lecturer in Surveying, 1906-.....

- \*1. Prize essay on the best system of educating and training surveyors.

  The Surveyor, 30 Nov. 1909, xxii, no. ii, pp. 215-219. [Winner of prize offered by the Inst. of Surveyors, N.S.W.]
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  - HORATIO SCOTT CARSLAW, M.A. Camb., D.Sc. Glasgow, Sc.D. Camb., F.R.S.E.

# Professor of Mathematics, Pure and Applied, 1903-

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- The Bolyai-Lobatschewsky non-Euclidean geometry: an elementary interpretation of this geometry, and some results which follow from this interpretation. Proc. Edinb. Math. Soc., 1910, xxviii, pp. 95-120.
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# HENRY GEORGE CHAPMAN, M.D., B.S.

#### Demonstrator in Physiology, 1903——.

- Concerning snake venom. Aus. Med. Gaz., 20 July 1910, xxix, no. 7 (whole no. 346), pp. 344-349. [With D. A. Welsh.]
- On the weight of precipitate obtainable in precipitin interactions. Proc. Roy. Soc. Lond., 21 July 1910, Blxxxii, no. 557, pp. 398-406.
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- 4. A contribution to the study of the precipitins. Proc. Linn. Soc. N.S.W., 16 Nov. 1910, xxxv, pt. 3 (no 139), pp. 526-554.
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# PITT COBBETT, M.A., D.C.L.

Professor of Law, 1890-1909: Emeritus Professor, 1910---

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foreign reports, official documents, and other sources: with notes containing the views of the text-writers on the topics referred to, supplementary cases, treaties and statutes. Part I. Peace. Third edition. London, Stevens and Haynes, 1909, 8vo. Pp. xxiv [inc. 1 blank], 385, 1 blank.

2. The Declaration of London: general character and probable effects; Sydney Morning Herald, 16, 17 and 19 Dec. 1910.

# THOMAS FIASCHI, M.D., Ch.D.

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Junior Demonstrator in Physiology, 1909---.

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# E. GRIFFITHS, B.Sc.

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# F. B. GUTHRIE, F.I.C., F.C.S.

- Acting Professor of Chemistry, 1896-97, 1904-05, 1908-09: Lecturer in History and Technology of Commercial Products, 1908---.
- 1. Note on the occurrence of manganese in soil, and its effect on grass.

  Agric. Gaz. N.S.W., 2 March 1910, xxi, pt. 3, pp. 219-222. [With L. Cohen.]
- Injurious substances in the soil: bare patches, etc. Agric. Gaz. N.S. W., 2 May, 1910, xxi, pt. 5, pp. 434-441.
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# WILLIAM A. HASWELL, M.A., D.Sc., F.R.S.

# Professor of Biology, 1890----.

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# H. V. CRITCHLEY HINDER, M.B., Ch.M.

# Lecturer in Clinical Surgery, 1895---.

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# W. SEPTIMUS HINDER, D.D.S. (Phila.).

Lecturer on Mechanical Dentistry, 1901----

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# F. R. JORDAN, B.A., LL.B.

Acting Lecturer in Equity, Probate, Bankruptcy and Company Law, for 1910.

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MUNGO W. MACCALLUM, M.A., LL.D.

Professor of Modern Literature, 1887 ----

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# ALEXANDER MACKIE, M.A.

Professor of Education, 1910----.

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# J. ARTHUR POLLOCK, D.Sc.

Professor of Physics, 1899----.

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# F. A. A. RUSSELL, M.A.

Lecturer on Commercial Law, 1908----.

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James A. Schofield, A.R.S.M., F.I.C.

Demonstrator and Evening Lecturer in Chemistry, 1892-1908: Assistant

Professor in Chemistry, 1908----.

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# R. Scot Skirving, M.B., Ch.M. (Edin.). Lecturer in Clinical Medicine, 1889——.

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# T. P. ANDERSON STUART, M.D., Ch.M., LL.D. (Edin.). Professor of Physiology, 1883—

 The organs of speech. First principles of French pronunciation, by E. Saillens and E. R. Holme, Lond., 1909, pp. 13-33.

# JOHN SULMAN, F.R.I.B.A.

Lecturer in Architecture, 1887----.

 Federal capital of Australia. Trans. Town-planning Conference, held in London, Oct. 1910. [Details of publication not to hand.]

# FREDERICK AUGUSTUS TODD, B.A., Ph.D.

Assistant Lecturer in Latin, 1903-; Acting-Professor for 1909.

- Roman life and manners under the early Empire; by Ludwig Friedländer [: a review]. Class. Rev., June 1910, xxiv, no. 4, pp. 123-124.
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#### WILLIAM H. WARREN, Wh.C., M. Inst. C.E.

Professor of Engineering, 1884----.

 Engineering construction in steel and timber; second edition. London, Longmans, Green and Co., 1910, 8vo. (Longmans' Civil Engineering series.) Pp. xv, 1 blank, 472, plates I—Vb (i.e., 9 in all).

# ROBERT DICKIE WATT, M.A., B.Sc., F.C.S.

# Professor of Agriculture, 1910----.

- The conservation of soil moisture [: lecture delivered on 18 July 1910].
   Depart. of Agric. N.S.W: Farmer's Bulletin no. 42: Conference of wheat-growers, with special reference to dry farming, Sept. 1910, pp. 7-29, 14 text-figs.
- Agricultural education. Aus. Jour. of Educ., 15 Dec. 1910, viii, no. 6, pp. 9-11. [Paper read before Teachers' Guild of N.S.W., 26 Nov. 1910.]

DAVID ARTHUR WELSH, M.A., B.Sc., M.D., M.R.C.P. (Edin.).

Professor of Pathology, 1902——.

- 1. Concerning snake venom. Aus. Med. Gaz., 20 July 1910, xxix, no. 7 (whole no. 346), pp. 344-349. [With H. G. Chapman.]
- A symptom-complex in ruptured abdominal hydatid. Aus. Med. Gaz., 20 July 1910, xxix, no. 7 (whole no. 346), pp. 349-350. [With J. E. V. Barling.]
- 2a. —— Lancet, 1 Oct. 1919, elxxix (ii of 1910), no. 4544 (no. 14 of vol. ii). p. 1001.
- On the differentiation of proteins of closely related species by the precipitin reaction. Jour. of Hygiene, 20 Sept. 1910, x, no. 2, pp. 177-183. [With H. G. Chapman.]
- On the prevention of tuberculosis. Aus. Med. Gaz., 20 Oct. 1910, xxix, no. 10 (whole no. 349), pp. 523-527.
- On the interpretation of the precipitin reaction. Brit. Med. Jour., 12 Nov. 1910, no. 2302, pp. 1510-1513. [With H. G. Chapman.]

James T. Wilson, M.B., Ch.M. (Edin.), F.R.S.

Professor of Anatomy, 1890----.

- Improved methods of utilising organised structures as directing marks
  for plastic reconstruction, and other notes on microscopical technique. Zeit. f. Wissen-chaftliche Mikroskopie u. f. Mikroskopische
  Technik, 30 August 1910, xxvii. Heft 2, pp. 227-234, 2 text-figs.
- 2. Note on a new expedient for improving the colour-injection of dissection cadavera. Jour. of Anat. and Physiol., Oct. 1910, xlv, pt. 1, pp. 1-2.
- On a method of mounting and exhibiting frozen sections of the cadaver in the anatomical museum. Jour. of Anat. and Physiol., Oct. 1910, xlv, pt. 1, pp. 3-6.

W. G. WOOLNOUGH, D.Sc.

Assistant Lecturer in Mineralogy and Petrology, and Demonstrator in Geology, 1905——.

 A geologist's slide rule and sundry problems in preparation of geological maps and sections. Rept. Aus. Assoc. Adv. Sci. for 1909; 1910, xii, pp. 244-249, 5 text-figs., 1 plate.

#### III.

# PUBLICATIONS OF RESEARCH SCHOLARS.

LEO ARTHUR COTTON, B.A., B.Sc.

Junior Demonstrator in Geology, 1908. Macleay Fellow of the Linnean Society, 1909.

 The ore deposits of Borah Creek, New England, N.S.W. Proc. Linn. Soc. N.S.W., 17 Sept. 1910, xxxv, pt. 2 (no. 138), pp. 496-520, plates xy-xvi. JAMES MATTHEW PETRIE, D.Sc., F.I.C.

Linnean Macleay Fellow in Bio-Chemistry, 1907---.

\*1. The rôle of nitrogen and its compounds in plant-metabolism. Proc. Linn. Soc. N.S.W., 11 March, 1909, xxxiii, pt. 4, pp. 801-844.

IV.

PUBLICATIONS OF UNIVERSITY CLUBS.

SYDNEY UNIVERSITY MEN'S CHRISTIAN UNION.

 University of Sydney students' handbook. Sydney, George B. Philip and Son, 1910, 18mo. [Illus. annual.]

SYDNEY UNIVERSITY UNDERGRADUATES' ASSOCIATION.

d. Hermes, vol. xvi [6 numbers.]

# UNIVERSITY CLUBS, ETC.

# SYDNEY UNIVERSITY UNDERGRADUATES' ASSOCIATION. OFFICE BEARERS FOR 1911-12.

PRESIDENT-H. S. Utz, B.A.

VICE-PRESIDENTS—N. W. Broughton, C. C. P. Walker, BA, J. B. Lane, B.A., A. L. Campbell, B.A. (ex officio), G. C. Byrne (ex officio).

Hon. Secretaries—W. M. Pitt, 105 Newington Road, Marrickville; R. J. Taylor, "Woonona," McMahon's Point, North Sydney

HON. TREASURER-E. P. Barbour.

General Committee—J. C. Lamrock, V. M. Coppleson, N. M. Gregg, A. C. A. Jekyll, C. J. Wiley, L. G. Teece, J. A. James, A. S. Lloyd, W. K. Stewart, B.A., F, D. Stafford, R. J. A. Massie, C. Dennis, C. A. Bourne, J. C. Nield, L. B, Heath, H. A. Ritchie, C. S. Slade, V. Davis, T. Sheehy, R. Harkness, W. A. Selle, F. J. E. Gallagher, A. F. Sutton.

# SYDNEY UNIVERSITY SPORTS UNION.

The Union now comprises the following Clubs:—Football, Cricket, Boat, Athletic, Lawn Tennis, Baseball and Hockey. Such other Clubs as may from time to time be approved of by the Committee shall be admitted.

Membership.—Any person who shall have matriculated according to the by-laws of the University of Sydney, and shall be proceeding to a degree at such University, and any graduate of the said or any other recognised University, and any unmatriculated student of the University of Sydney, who shall be in attendence at lectures and bona fide proceeding to a certificate, diploma, or license, in respect of which he is required by the Regulations for the time being of the said University to attend lectures during a period of not less than nine terms, or any member of Convocation of the University of Sydney, shall be eligible for membership. Any undergraduate who has attended lectures for at least six (6) consecutive terms shall be entitled to continue his membership, and nothing in this rule shall affect any member at the date of the passing thereof (April 6th, 1903).

Annual Subscription.—The annual subscription to the Sports Union for full active members is £2 2s., and for honorary members £1 1s. Ladies who comply with the provisions of the above rule as to membership may become members on payment of an annual subscription of £1 1s. Any person eligible for membership may become a life member on payment of £15 15s.; a life honorary member on payment of £10 10s. Any member who shall have paid the aggregate sum of 15 guineas in annual subscriptions shall forthwith become entitled to life membership.

Members' badges are in the form of enamelled inedallions.

The Oval.—The Oval is controlled and managed by a Ground Committee of five (5), appointed annually by the General Committee.

#### OFFICE BEARERS FOR 1911-12.

PATRON—The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

PRESIDENT-A. G. de L. Arnold, LL.B.

VICE-PRESIDENTS—Judge Backhouse, M.A., H. E. Barff, M.A., F. D. Kent, M.A., I. G. Mackay, B.A., H. Marks, B.A., J. B. Lane, B.A., T. de C. Armstrong, B.A., Dr. J. W. Hoets, Professor David, A. B. S. White.

Hon. TREASURERS—Geo. Christie, LL.B., H. J. R. Clayton, B.A., LL.B., B. C. Fuller, B.A., R. J. Taylor.

HON. SECRETARY-H. S. Utz, B.A., St. Andrew's College.

GENERAL COMMITTEE—L. J. Reynolds, A. S. Lloyd, B. C. A. Pockley, W. K. Inglis, A. J. Robson, K. W. Street, B.A., C. J. Tozer, E. P. Barbour, G. C. Willcocks, W. J. Stack, A. L. Campbell, L. C. Terrey, C. V. Single, T. C. Roughley.

GROUNDS COMMITTEE-H. S. Utz., B.A. (Chairman); R. B. Minnett Secretary), Dr. A. J. Aspinall, B. R. French, B.A., LL.B., E. M. Fisher.

#### SYDNEY UNIVERSITY ATHLETIC CLUB.

#### OFFICE BEARERS FOR 1911.

PATRON-Sir Normand MacLaurin, M.A., M.D., LL.D, M.L.C., Chancellor.

PRESIDENT—B. R. French, B.A., LL.B.

VICE-PRESIDENTS — Professor David, Professor Anderson, Professor Pollock, Professor Stewart, F. G. A. Pockley, M.B., Ch.M., W. H. Savigny, H. J. R. Clayton, B. A., LL. B., R. Coombes.

HON. SECRETARY-W. J. F. Rofe, St. Andrew's College.

HON. TREASURER-B. C. A. Pockley.

Delegates to S.U. Sports Union-B. C. A. Pockley., W. K. Inglis.

DELEGATES TO N.S.W.A.A.A.—H. J. R. Clayton, B.A., LL.B., B. R. French, BA., LL.B., A. S. Lloyd, B.A.

GENERAL COMMITTEE—W. K. Inglis, R. J. Taylor, E. M. Fisher, J. C. Lamrock, G. P. Arnold, A. S. Lloyd, B. A., H. S. Macneil, J. K. Henderson.

#### SYDNEY UNIVERSITY BASEBALL CLUB.

#### Founded 1904.

# Office Bearers for 1911.

PRESIDENT-H. R. G. Poate, M.B., Ch.M.

VICE-PRESIDENTS—Professor Pollock, T. E. Parker, M.B., Ch.M., D. S. McKenzie, M.B., Ch.M., F. D. Kent, M.A., H. G. Allen, M.B., Ch.M., H. H. I. Massie, B.E., R. S. Candlish, M.B., Ch.M.

ж,

HON. SECRETARY-C. V. Single.

HON. TREASURER-H. McM. Kennedy.

DELEGATES TO N.S.W.B.A.—F. E. McElhone, B.A., J Farrar.
DELEGATES TO S.U.S.U.—C. V. Single, B. C. Kennedy.

GENERAL COMMITTEE—F. E. McElhone, B.A., J. Farrar, A. D. Watson, R. B. Minnett, E. P. Barbour. L. J. Hunter, and ex officio C. V. Single and H. McM. Kennedy.

SELECTION COMMITTEE-F. E. McElhone, B.A., C. V. Single, and A. D. Watson.

# SYDNEY UNIVERSITY BOAT CLUB.

OFFICE BEARERS FOR 1911.

PATRON-His Honour Judge Backhouse, M.A., Vice-Chancellor.

PRESIDENT-F. Coen, B.A., LL.B.

VICE-PRESIDENTS—Professor Pollock, T. S. Dixson, B.A., V. V. Nathan, R. R. P. Hickson, W. T. Coyle, B.A., I. G. Mackay, B.A., A. Consett Stephen, A. Morrison, B.E., H. K. Ward, M.B., Ch.M.

Captain-J. E. Donaldson.

VICE-CAPTAIN—H. T. Cunningham.

HON. SECRETARY-K. W. Street, B.A.

HON. TREASURER-A. J. Robson.

COMMITTEE—C. B. Donaldson, A. B. Doyle, E. T. Simpson, Geo. Christie, D. Williams, A. T. Dunlop.

TRUSTEES-H. E. Barff, M.A., Robert Smith, M.A.

DELEGATES TO N.S.W. R.A.—A. G. de L. Arnold, LL.B., F. Coen, B.A., LL.B., J. E. Donaldson.

Delegates to Sports Union—A. J. Robson (ex officio), K. W. Street, B.A.

HON. MEDICAL OFFICER-A. Holmes à Court, M.B., Ch.M.

# SYDNEY UNIVERSITY FOOTBALL CLUB.

Office Bearers for 1911.

PATRON-The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

PRESIDENT-Hyam Marks, B.A.

VICE-PRESIDENTS-Professor David, James Hughes, M.B., Ch.M., J. W. Hoets, M.B., Ch.M., John Hughes, B.A., LL.B., H. J. Clayton, M.B., Ch.M., F. Coen, B.A., LL.B., I. G. Mackay, B.A., H. M. Moran, M.B., Ch.M.

Hon. Treasurer-L. J. Reynolds.

Hon. Secretaries—First XV.: Alan Lloyd. Second XV.: P. A. Morris. Third XV.: W. D. Kirkland.

DELEGATE TO SPORTS UNION-Alan Lloyd.

DELEGATES TO METROPOLITAN RUGBY UNION—H. J. R. Clayton, B.A.; LL.B., F. Coen, B.A., LL.B., L. J. Reynolds.

Delegates to City and Suburban Association-A. E. Aspinall, W. D. Kirkland.

REPRESENTATIVE ON COMMITTEE OF METROPOLITAN RUGBY UNION-F. Coen; B.A., LL.B.

GENERAL COMMITTEE-B. C. A. Pockley, E. M. Fisher, E. W. McKeown, B.E., J. B. Metcalfe. N. W. Broughton.

# SYDNEY UNIVERSITY HOCKEY CLUB.

Affiliated 1909.

OFFICE BEARERS FOR 1911.

Patron-Professor Pollock, D.Sc.

PRESIDENT-F. A. Eastaugh.

VICE-PRESIDENTS-Professor Wilson, T. de C. Armstrong, A. B. S. White, J. T. Paton, I. G. Mackay, Dr. N. K. Robertson.

HON. TREASURER-A. L. Campbell.

HON. SECRETARY-W. McI. Pitt.

Delegates to S. U. Sports Union-A. L. Campbell, L. C. Terrey.

DELEGATES TO N.S.W. A. H. A.—A. L. Campbell, L. C. Terrey.

COMMITTEE—W. K. Inglis, L. C. Terrey, C. O. G. Donovan, R. A. R. Green, D. F. Finlay, R. J. Taylor, J. B. Lane.

# SYDNEY UNIVERSITY LAWN TENNIS CLUB.

OFFICE BEARERS FOR 1911-12.

PATRON-The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

PRESIDENT-T. de C. Armstrong, B.A.

VICE-PRESIDENTS—H. E. Barff, M.A., Dr. H. C. Hinder, K. M. Niall, B.E., Professor Pollock, D.Sc., G. W. Waddell, M.A., LL.D., Professor Stewart, Dr. A. I. Blue, P. B. Colquhoun.

Hon. Secretary—B. C. Fuller, B.A.

HON. ASSISTANT SECRETARY-E. P. Barbour.

HON. TREASURER-C. J. Tozer.

DELEGATES TO N.S.W.L.T.A.—Geo. Christie, LL.B., B: V. Stacy, B.A.

Delegates to S.U.S.U.—C. J. Tozer, E. P. Barbour.

GENERAL COMMITTEE-W. J. Stack, L. G. Teece, N. M. Gregg, J. C. Lamrock, H. S. Utz, B.A., B. V. Stacy.

#### THE SYDNEY UNIVERSITY SCOUTS.

This Corps of Volunteers was founded at the end of 1900, but has now been converted into Militia. The authorised establishment is two companies of 60 men each, who must be past or present University students, and, by the Commonwealth Military Regulations, eighteen years of age, 5 ft. 6 in. in height, and 34 inches chest measurement. Men engage to serve for at least three years, and if they fail to be efficient for that time are liable to a fine, and to be discharged.

There is no entrance fee or subscription. Drills are held chiefly at the University, at times convenient to Undergraduates. Uniform, arms and accountrements are provided.

The following Trophies are offered for Competition in the  $\operatorname{Corps}:$ —

For Companies :-

1. The Denham Shield for Musketry.

For Half Companies :-

- The Half Company Cup (presented by Major R. C. Simpson), for drill, attendance, and general efficiency.
- 3. The Liversidge Cup for field firing.

For Sections : -

- The Visitors' Cup (presented by His Excellency the late Sir H. H. Rawson), for service shooting.
- Silver Whistles (presented by Major R. C. Simpson), to efficient section commanders.

For Recruits :-

The Edgley Cup (presented by Mr. H. D. Edgley), for the most efficient recruit of the year.

All the above, with the exception of No. 5, are Challenge Trophies.

Major J. F. Flashman, commanding. Captains H. K. Denham, B.A., I.L.B., H.S. Mort, B.Sc., B.E., seconded: Lieutenant A. E. Finckh, M.B.; Second Lieutenauts, S. E. Townshend, B.A., I.L.B., H. G. Carter, B.E., V. Waine, B.E., M. MacKinnon, B.Sc., O. U. Vonwiller, B.Sc.; Staff Company Sergeant Major W. Foley; Signalling Sergeant M. P. Smith; Orderly Room, Macleay Museum.

# SYDNEY UNIVERSITY SCOUTS RIFLE CLUB.

The Club was formed in connection with the Sydney University Scouts. The object of the Rifle Club is to promote rifle shooting amongst the members of the Sydney University Scouts. Members of Sydney University Scouts are eligible for membership, also University officials and such honorary members as may be elected by the committee. The subscription is 2s. 6d. per term, or 5s. per annum, in advance. The membership roll totals 105. There are three shoots per term. In 1907 Mr. Venour Nathan presented a valuable shield for competition among the Australian Universities. Four matches have been fired, three of which were won by Sydney University, the last being won by Melbourne University. The next match will be fired at Adelaide, probably in August.

OFFICE BEARERS FOR 1911.

PATRON-The Hon. Sir Normand MacLaurin, M.A., LL.D., M.D., M.L.C., Chancellor.

PRESIDENT-Major J. F. Flashman, commanding Sydney University Scouts.

VICE-PRESIDENTS—Brigadier-General Gordon, Colonels Foster, Lyster, Campbell and Mort, Lieutenants-Colonel Legge, Bartlett, Irving, Wilson, Holines and MacLagan, Majors Wallace Brown, Smail, and Simpson, Captains Mort, Corlette, Hanna, Ralston, Croll. Petherbridge, Denham, Patterson, and Storey, Lieutenants Barraclough, Gibson, Martyn, Smail, Hodge, Vine-Hall, Patterson, Edgley, Bedford, Whiting, McLean, Hewitt, Clift, Waine, and Carter, Professors MacCallum, David, Carslaw, Warren, Anderson, Pollock, Anderson Stuart, Woodhouse, Liversidge, and Cobbett, Messrs, H. E. Barff, M.A., R. A. Dallen, E. M. Mitchell, B.A., LL.B., V. V. Nathan, J. Atkinson, B.E., also Captain Heeker, A.M.C., Lieutenant McKean, 2nd A.L.H., Lieutenant Edwards, A.I.C., Lieutenant Bundock, R.A.A., Lieutenant Smyth, and Lieutenant Bates.

CAPTAIN-Lieutenant MacKinnon, B.Sc.

HON. SECRETARY-Corporal Nixon, Orderly Room, University.

HON. TREASURER—Corporal Lowe.

COMMITTEE - Colour-Sergeant Flower, Sergeant Green, Sergeant Willis, Lance-Sergeant Graham, Corporal Smith, Private Coghlan, Private Dark.

# IMPERIAL UNIVERSITIES' RIFLE MATCH.

This competition was instituted in 1909. It is open to teams of eight from any University in the British Empire, and is for a Perpetual Challenge Trophy, to be presented by the Australian Universities. Each team shoots on its own range on any day in May, June, or July. Seven teams competed last year. The competition is controlled by the following committee:— V. V. Nathan, Esq., hon. sec., Orderly Room, University of Sydney; Capt. H. S. Mort (Sydney); Capt. D. Bennett, Melbourne; Prof. Naylor (Adelaide); F. C. Green, Esq. (Tasmania). Local hon. secs.—S. F. Mort (British Isles), Queen's College, Oxford; Prof. Nobbs (Canada), Department of Agriculture, McGill University, Montreal. A copy of the regulations and conditions governing the match may be seen at the Orderly Room, Macleay Museum.

# SYDNEY UNIVERSITY MEN'S CHRISTIAN UNION.

The Sydney University Christian Union was founded on May 19th, 1896. This Union is a branch of the Australasian Student Christian Union, which in its turn is a branch of the World's Student Christian Federation. This federation includes over 2,000 associations, with an aggregate membership of over 103,000. The federation has made all the student movements of the world better acquainted with each other by establishing among them practical means of communication, such as world's conferences, intervisitation, correspondence, and interchange of publications.

Its objects may be gathered from Article II. of the Constitution:

"To strengthen the bonds of union among Christian students; to influence fellow-students to become followers of Christ; to deepen the spiritual life of students; to promote Christian work, especially by and for students; to lead students as they go forth from the University to place their lives where they will be most useful in extending the Kingdom of Christ."

Public meetings are held on Thursdays, from 1.25 p.m. to 2.10 p.m. Bible Classes are arranged weekly for the different years in the different faculties. There are several College Classes. Classes are also arranged fortnightly for studying the progress which Christianity is making throughout the world.

· The Sydney University City Lads' Club is conducted by the Union (for particulars see elsewhere).

The Union is in possession of a library, which contains many standard works on the religious problems of the day. It is situated in the lobby to Professor MacCallum's lecture room.

Membership—which is of two kinds, active and associate—is open to all members of the University. Subscription, 3s. per annum.

Until 1903 the Union included both the men's and women's branches; but at the annual meeting of October, 1904, these two branches were separated to form two distinct self-governing unions, each with its own constitution. The annual meeting of the Union is held in the second week of Third Term, at which the executive officers are elected to serve for one year.

OFFICE BEARERS FOR 1911.

PRESIDENT-E. A. Southee.

VICE-PRESIDENTS-N. D. Royle, R. G. Crawford.

Corresponding Secretary-I. Morgan.

ASSISTANT SECRETARY-R. M. Boyce.

RECORDING SECRETARY-R. J. Blanchard.

TREASURER—E. P. Barbour.

# SYDNEY UNIVERSITY CITY LADS' CLUB.

This Club, from the nature of its work, is under the auspices of the Men's Christian Union, affording ample room for philanthropic activity of an essentially practical nature, yet its workers are by no means confined to members of the S.U.C.U.

The Club carries on the work of the late Sydney University and City League formed in 1901. The object is to regularly influence boys who are not touched by any other organisation, to help them to fight against their evil surroundings, and to turn them out as useful citizens. The work was carried on for some years in Miller's Point. To allow for expansion, the Club was last year moved to Ultimo, and was open four evenings a week. It then amalgamated with Mrs. Vickery's Boys' Club in Bay Street, Glebe. This partnership was dissolved by mutual consent, and work was for some time carried on in Little Albion Street, Surry Hills. For fuller details see the S.U.C.U. Handbook, or interview the Secretary.

OFFICE BEARERS FOR 1910.

HON. SECRETARY-R. J. H. Moses.

HON. TREASURER-F. C. Philip, M.A.

COMMITTEE - R. J. H. Moses (chairman); F. C. Philip, M.A. (ex officio); A. L. McLean, B.A.; A. L. Campbell, B.A., (Graduate members); A. S. Walker, A. Benjamin, K. W.Street (Undergraduate members).

# SYDNEY UNIVERSITY DRAMATIC SOCIETY.

OFFICE BEARERS FOR 1911.

PATRON-The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., The Chancellor.

PRESIDENT—Professor MacCallum, M.A., LL.D.

VICE-PRESIDENTS—Professor Wilson, Professor Woodhouse, Assistant-Professor Holme, Miss G. Marks, M.A.

Hon. Secretaries-Enid Armstrong, A. Consett-Stephen.

Hon. Treasurers-Gladys V. Stephen, E. P. Barbour.

COMMITTEE—Misses M. Herd, J. Wilson, Pattinson, Messrs. L. Nott, McKeown, Dr. F. A. Todd.

#### SYDNEY UNIVERSITY ENGINEERING SOCIETY.

The object of the Society is to promote the welfare of the Department of Engineering by bringing into closer association the Graduates and Undergraduates in Engineering, by the reading of papers and the delivery of lectures on professional subjects, and by such other similar means as may be approved of by the Council of the Society. Membership is open to all students in the Faculty of Science, whether matriculated or not, to members of the teaching staff, graduates in Science and Engineering, and engineers in active practice, who may be approved by the Council. The subscription is one guinea for ordinary members and 7s. 6d. per annum for Undergraduate members (which includes a copy of the Society's Proceedings), payable at the beginning of April. The Society offers an annual prize of £2 2s. for the best paper on original research work or design, contributed by an undergraduate during the year.

PRIZE, 1909-No award.

Office Bearers for 1910.

PRESIDENT-W. E. Cook, M.C.E. (Melb.), M.E., M.I.C.E.

VICE-PRESIDENTS—A. J. Gibson, A.M.I.C.E., J. P. Tivey, B.A., B.Sc., B.E., J. P. V. Madsen, D.Sc., B.E. E. W. Nardin, B.E., A.M.I.C.E.

Hon. Secretary-F. A. Eastaugh, A.R.S.M., F.C.S., F.G.S., A.I.M.M., Metallurgical Department, The University.

HON. ASSISTANT SECRETARY—A. D. J. Forster, Engineering School, The University.

HON. TREASURER-H. M. Larkins, B.E.

ASSISTANT HON. TREASURER-T. Wilkins.

COUNCIL—H. S. Mort, B.Sc., B.E., F. D. Power, F.G.S., R. J. Boyd, M.E., E. W. McKeown, B.E., H. G. Carter, B.E., W. J. Sachs, E. P. Norman, J. S. Foxall, C. A. Bourne, W. E. Pike.

# SYDNEY UNIVERSITY EVENING STUDENTS' ASSOCIATION.

. This Association was founded in April, 1900, with the object of promoting social relations among Evening Students, past and present.

Office Bearers for 1911.

Patron-Assistant Professor Holme, M.A.

PRESIDENT - F. J. Berman, B.A.

VICE-PRESIDENTS—H. R. Blanksby, B.A., C. R. Collins, B.A., E. F. Hallman, B.Sc., W. K. Stewart, B.A.

Hon. Secretaries—Graduates: A. Cousins, B.A. Undergraduates:  ${\bf T}$ . Sheehy.

HON. TREASURER-G. A. Murphy.

REPRESENTATIVES.—Graduates: R. E. Nutman, B.A. Law School: W. J. Sheppard. Third Year: F. J. E. Gallagher. Second Year: W. A. Selle. First Year: B. C. Harkness. F. Telfer.

REPRESENTATIVE ON "HERMES" STAFF-C. R. Collins, B.A.

GENERAL COMMITTEE-J. Dunlop, B.A., F. C. Jackson, B.A., T. J. Clyne, J. H. Laws.

AUDITORS-G. R. Thomas, E. F. Fischer.

#### SYDNEY UNIVERSITY LAW SOCIETY.

This Society was formed in Lent Term, 1902.

Its object is to unite law students and members of both branches of the legal profession in a society which will bring them together for social intercourse and discussion of subjects of professional interest. The members meet at various gatherings throughout the year, and Moots are set and heard by the Lecturers and members of the Bar at frequent intervals. In addition to these set Moots, students may themselves bring matters before a Moot Court recently established, either by simply stating the facts and question at issue, or by adopting the procedure followed in the various jurisdictions of the State and Federal Courts. The society's rooms in Selborne Chambers have been elegantly furnished by the kindness of its past Patron, Professor Pitt Cobbett. The reading-room contains all the principal English and American Legal Magazines, as well as the more important magazines and reviews of general interest.

The following persons are eligible for membership on election by the Committee, and payment of an annual subscription of 5s.:—(1) Any Graduate in Law; (2) any Graduate of the University who is a Barrister or Attorney of the Supreme Court of New South Wales or Queensland, or an Articled Clerk or Student-at-Law in New South Wales; (3) any person attending lectures in the Faculty of Law.

Office Bearers for 1911-1912.

EMERITUS PATRON FOR LIFE.—Professor Pitt-Cobbett, M.A., D.C.L. PATRON—Professor J. B. Peden, B.A., LL.B.

PRESIDENT—A. J. Kelynack, B.A., LL.B.

VICE-PRESIDENTS—T. R. Bavin, B.A., LL.B., E. M. Mitchell, B.A., LL.B., H. R. Curlewis, B.A., LL.B., F. R. Jordan, B.A., LL.B., and R. S. Bonney, B.A., LL.B.

Hon. Secretaries—Undergraduates: W. K. Stewart, B.A., Crown Law Office, Macquarie Street. Graduates: H. G. Edwards, B.A., LL.B., Law School, Selborne Chambers

Hon. TREASURER-B. H. Ferguson.

COMMITTEE—J. A. Ferguson, B.A., LL.B., S. E. Townshend, B.A., LL.B., R. W. Hooke, B.A., LL.B., C. A. Weston, B.A., H. H. Mason, H. R. Blanksby, B.A. and F. E. McElhone, B.A.

Hon. Auditors-C. D. W. Wray, and E. C. Bender, B.A.

# SYDNEY UNIVERSITY MEDICAL SOCIETY.

Office Bearers for 1910.

PRESIDENT-K. Smith, M.B., Ch.M.

VICE-PRESIDENTS-Dr. Aspinall, Dr. Candlish, Dr. Ewing, Dr. Mobbs, Dr. Parker, A. L. McLean, E. B. M. Vance.

HON. SECRETARY—Graduate: Dr. Poate. Undergraduate: G. W. Macartney.

Assistant Hon. Secretary—J. B. Metcalfe.

Hon. TREASURER—E. A. Tivey.

HON. LIBRARIAN-W. K. Inglis.

Council—5th Year: S. H. Weedon. 4th Year: J. E. Donaldson. 3rd Year: W. J. Stack. 2nd Year: B. C. A. Pockley. 1st Year: E. P. Barbour. Editor-in-Chief—Dr. Hoets.

#### SYDNEY UNIVERSITY SCIENCE SOCIETY.

The objects of this Society, which was founded in August. 1904, are:

- 1. To promote the study of natural science for its own sake by means of papers, exhibits, discussions, and lectures on subjects of general scientific interest, and by geological, biological and other excursions which may be of assistance to students in their studies.
- 2. To encourage originality, and stimulate the spirit of research amongst students.
- 3. To give the students and the teaching staff an opportunity to meet on equal footing to discuss scientific knowledge for mutual benefit and instruction.

All students and ex-students of the Sydney University and all members of the teaching staff of the University are eligible for membership.

The subscription to the Society is 58 per annum, payable in March. All subjects taught in the curriculum of the faculty of Science (not including Engineering) fall within the scope of the Society. Papers may be read by any member of the Society, provided due notice has been given to the Council.

Monthly meetings are held on the third Wednesday of each month at 8 p.m., and monthly excursions are held on days fixed by the Council.

During the past year lectures bearing on Geology, Biology, Chemistry, and Physics were given, and excursions were held at intervals.

All students interested in any branch of Science are strongly recommended to join the Society.

# OFFICE BEARERS FOR 1910-1911.

PRESIDENT-O. U. Vonwiller, B.Sc.

VICE-PRESIDENTS-W. G. Woolnough, D.Sc., J. A. Schofield, A.R.S.M., H. G. Chapman, M.D., B.Sc., W. S. Dun, S. J. Johnston, B.A., B.Sc., F. A. Eastaugh, A.R.S.M.

Hon. Secretaries - E. Griffiths, B.Sc., N. Burkitt, B.Sc.

Hon. Treasurer—W. N. Benson, B.Sc.

COUNCIL—R. S. Bonney, B.A., LL.B., H. I. Jensen, D.Sc., F. A. Debenham, B.A., B.Sc., A. B. Walkom, B.Sc., G. J. Burrows, B.Sc., E. C. Grey, B.Sc., A. D. Watson, E. A. Briggs.

#### SYDNEY UNIVERSITY UNION.

The object of the Union, which was founded in 1874, is the promotion of the mental culture and fellowship of its members by means of Debates, Lectures, Reading of Papers, etc. The meetings are held at the University every Friday evening at 7.45 p.m. Past and Present Members meet at the Annual Dinner, which is held during Lent Term. The Professors, Lecturers, and Examiners of the Sydney University are ex officio Honorary Members. Any other member of the University, or student attending lectures, or fellow or councillor or student of an affiliated college, may become a member of the Union by paying his subscription to the Treasurer. Subscription, 2s. 6d per annum. Life Membership is obtained on the payment of four annual subscriptions. The Union year now begins in Trinity Term.

# OFFICE BEARERS FOR 1911.

PRESIDENT-Professor J. B. Peden, B.A., LL.B.

VICE-PRESIDENTS—Professor W. J. Woodhouse, M.A., Assistant-Professor E. R. Holme, M.A.

HON. TREASURER-S. V. TOOSE, B.A.

Hon. Secretaries—A. V. Maxwell, B.A., Law School, Philip Street; W. T. S. Wall, The University.

COMMITTEE—A. W. M. d'Apice, B.A., LL.B., R. S. Bonney, B.A., LL.B., C. H. Cohen, B.A., C. Donovau, H. G. Edwards, B.A., LL.B., R. W. Hooke, B.A., LL.B., R. S. Murray-Prior, B.A., LL.B., W. K. Stewart, B.A., R. Taylor, C. A. Weston, B.A.

#### UNIVERSITY CLUB.

The University Club was founded on 27th March, 1905. Club premises were opened at 13 Castlereagh Street, Sydney, 27th September, 1905, and 15 Castlereagh Street (new premises) on 19th October, 1908.

Among the objects for which the Club was founded are—The promotion of social intercourse and goodfellowship among University men; the promotion of literary, scientific and artistic culture and research.

The qualifications of members shall be that they are males over twentyone years of age, and are either:—(1) Persons who were elected members of
the Club prior to 15th December, 1998; or (2) Graduates of the University of
Sydney; or (3) Graduates of any University named in Ch. 19, Clause 1 of
the Bye-Laws of the University of Sydney or of any University to the
Graduates of which the Senate may have determined or may determine to
grant degrees ad eundem gradum, or of any University the degrees of which
the Directors, by a two-thirds majority of their whole number, are of
opinion they should recognise; or (4) Persons who have matriculated and

have actually attended six terms' lectures of a degree course at the University of Sydney, and who have bone fide entered on their seventh term, provided that no such person be nominated for membership if he shall have ceased to attend lectures at the University for a period of five years; (5) Permanent members of the Teaching Staff of the University of Sydney above the rank of Junior Demonstrator.

PATRON-The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

PRESIDENT—The Hon. Sir W. P. Cullen, M.A., LL.D., K.C., CHAIRMAN OF DIRECTORS—C. H. Helsham, B.A.

DIRECTORS—T. de C. Armstrong, B.A., A. G. de L. Arnold, LL.B., Dr. C. B. Blackburn, J. J. Cohen, M.A., M.L.A., J. S. D'Arcy, B.A., D. S. Edwards, B.A., LL.B., D. Maughau, B.A., E. M. Mitchell, B.A., LL.B., Dr. G. W. Waddell, L. Whitfeld, M.A., A. B. S. White, Assistant-Professor E. R. Holme and Dr. F. S. W. Zlotkowski.

SECRETARY—N. Heath.

#### SYDNEY UNIVERSITY GLEE CLUB.

The University Glee Club was formed in October, 1908. Its objects are to foster the love of vocal music in the University, and to train the ears and voices of its members.

Practices are held at 1.30 p.m. on Tuesdays and Fridays, in the Latin Lecture Room. Two concerts are given each year. The subscription is 7s. 6d. per annum.

OFFICE BEARERS FOR 1911.

PATRON—The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

PRESIDENT—F. A. Eastaugh, A.R.S.M.

VICE-PRESIDENTS-Miss Fidler, B.A., H. E. Barff, M.A., E. W. McKeown, B.E., A. B. B. Ranclaud, B.Sc., F. A. Todd, B.A., Ph.D.

HON. TREASURER-J. S. Foxall.

HON. LIBRARIAN-L. Corbett.

HON. SECRETARIES-Miss N. D. Meares, A. L. Lance.

COMMITTEE—Misses Gasteen and Wallace, Messrs. C. K. Cohen, W. H. Donald, and S. M. Graham.

SYDNEY UNIVERSITY WOMEN UNDERGRADUATES' ASSOCIATION.

OFFICE BEARERS FOR 1911.

President-Miss Dunstan.

SECRETARY-Miss Crago.

VICE-PRESIDENT-Miss Erhard.

College Vice-President-Miss Watson.

TREASURER-Miss Austin.

COMMITTEE—Miss Gale, Miss Bootle, Miss Hadley, Miss O'Reilly, Miss Lewis, and Miss Hamilton.

# SYDNEY UNIVERSITY WOMEN'S SOCIETY.

The Sydney University Women's Society is the only University Society which exists for the purpose of giving practical help to those in need of it.

Its work is divided into two branches, which are:-

- (i.) Visiting the old people at Newington Asylum, taking them presents, and organising entertainments for them.
- (ii.) Maintaining and developing the University Women's Settlement in Little Queen Street, Newtown, which exists for the purpose of providing an outlet for a first-hand study of social and economic conditions, and of striving to diffuse the benefits of University education and training.

Öffice Bearers for 1911.

PATRONESS—Lady Chelmsford.

PRESIDENT—Lady Cullen.

Vice-Presidents—Mrs. Ashburton Thompson, Mrs. Woodhouse, Mrs. Wilson, Mrs. Barff, M.A. Miss Fidler, B.A., Miss Macdonald, M.A.

HON. TREASURER-Miss E. I. Henry, M.A.

Hon. Organisme Secretary-Miss Atterton, B.A.

Hon. Corresponding Secretary-Miss Una Fielding, B.A.

HON. ASSISTANT SECRETARY-Miss Neale.

REPRESENTATIVES FOR SETTLEMENT-Miss Evans, B.A., Miss Morley, M.A.

COMMITTEE-Miss Watson, M.A., Miss Flower, M.A., Miss Golding, Miss Lodder, Miss Wise.

NEWINGTON REPRESENTATIVE - Miss Wallach, B.A.

# SYDNEY UNIVERSITY WOMEN'S TENNIS CLUB.

Office Bearers for 1910.

PRESIDENT-Mrs. MacCallum.

VICE-PRESIDENTS-Mrs. Wood, Miss Fidler, B.A., Mrs. Haswell, Mrs. Anderson, Mrs. Welsh, Mrs. Fawsitt.

Hon. Secretary—Kathleen M. Prescott, Newington College, Stanmore.

Hon. TREASURER-Janet A. Beith.

COMMITTEE—Enid C. Macdonald, Jessie M. G. Lillingston, May A. Saunders, Constance I. Docker, M. Enid Armstrong, Annie Laurie Edwards.

# SYDNEY UNIVERSITY WOMEN'S CHRISTIAN UNION.

OFFICE BEARERS FOR 1911.

PRESIDENT-Ida Lodder.

VICE-PRESIDENT-Dorothy Dunstan.

CORRESPONDING SECRETARY-Emily Conolly, Firth Street, Waverley.

ASSISTANT CORRESPONDING SECRETARY—Chrissie Rivett.
RECORDING SECRETARY—Elsie Gasteen.
TREASURER—Elsie Campbell.

# MISSIONARY SETTLEMENT FOR UNIVERSITY WOMEN. (SYDNEY UNIVERSITY BRANCH.)

The Missionary Settlement for University Women was founded in Bombay in 1895. Its aim is fourfold:—1. To reach the women students of India. 2. To reach the higher class Parsi women and girls who are not yet students. 3. To meet the growing demand for women's education in India by providing Christian and not merely secular teaching. 4. To arouse and foster more missionary interest among the women students of Great Britain, and to band them together in a united effort by providing a definite outlet for their interest.

Branches exist in each of the Australian Universities, each State having its State Secretary, while the whole movement in Australia is under the direction of a General Secretary elected by the State Executives. A number of branches have also been established in the Secondary Schools. The M.S.U.W. and Y.W.C.A. combined to send out in 1909, Miss Ada Carruthers, B.A., and Miss Nina Brentnall, B.A., both graduates of this University, who are now settled in Bombay and Calcutta respectively. The claims of the M.S.U.W. are urged upon new students as a movement which in its origin and aims must peculiarly appeal to them as students. The Undergraduate officers for 1910-11 are:

HON. SECRETARY—Cecily Packham. HON. TREASURER—Dorothy Wise.

#### UNIVERSITY CAMPS FOR GREAT PUBLIC SCHOOLS, N.S. W.

The above movement was organised in 1907, on the model of similar movements in various Universities of Europe and America, but especially that in connection with Oxford and Cambridge. Like them, it organises annual holiday camps for boys from the Great Public Schools, together with a small proportionate number of 'Varsity men, undergraduates and younger graduates. The latter seek by the attraction of vigorous personality rather than by word, and in so far as their companionship and friendship is acceptable, to help the boys in strong Christian manliness. The camps, which are held at the end of the Schools' Christians vacation, are recognised as an independent self-governing outgrowth of the work of the Australasian Student Christian Union. Further information may be had from the Secretary.

COUNCIL—His Grace the Archbishop of Sydney, Rev. Principal Harper M.A., D.D., Sir James R. Fairfax, Professor James T. Wilson, M.B., Ch. M., F.R.S., Professor D. A. Welsh, M.A., B.Sc., M.D., F.R.C.P., C. R. Walsh, and the Headmasters of the larger Great Public Schools.

GENERAL COMMITTER.—E. P. Barbour, Assistant-Professor S. H. Barraclough, F. E. Barraclough, M.A., J. E. Bateman, B.Sc., C. A. Brough, C. A. Buchanan, B.A., A. J. P. Chapman, Rev. D. Davies, M.A., C. B. Fidler,

B.A. (Chairman), A. J. Gibson, A.M.I.C.E., R. A. Holloway, B.Sc., F. M. McKeown, B.A., L. C. Mote, B.A., C. H. Northcott, B.A., M. F. O'Reilly, N. D. Royle, A. T. Roberts, Rev. H. Saumarez Smith, M.A., G. C. Saxby, B.A., E. A. Southee (ex afficio), Rev. W. H. W. Stevenson, B.A., L. V. Waterhouse, B.E.

EXECUTIVE—C. B. Fidler, B.A. (Chairman), F. M. McKeown, B.A., R. A. Holloway, B.Sc. Rev. H. Saumarez Smith, M.A. (Hon. Treasurer), C. A. Brough (Hon. Secretary).

### SYDNEY UNIVERSITY GOLF CLUB.

#### Office Bearers for 1911.

PRESIDENT—Sir Normand MacLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

VICE-PRESIDENTS—H. E. Barff, M.A., F. D. Kent, M.A., R. Smith., M.A., and Mr. Justice Sly.

JOINT HON. SECRETARIES AND TREASURERS—G. T. Balcombe and Keith Browne, University Club, Castlereagh Street.

COMMITTEE—Dr. R. G. Craig, Wm. Warren, W. A. Windeyer, C. A. Sinclair, B.A., LL.B., E. M. Stephen, B.A., A. H. Uther, B.A., LL.B., and F. J. Blaxland.

### SYDNEY UNIVERSITY WOMEN'S UNION.

The object of the S.U.W.U. is to provide an opportunity for both undergraduates and graduates to meet, and also for graduates to keep in touch with the University after they have ceased to attend lectures. The University Womens' Annual Reunion takes place under the auspices of this Union, and is arranged by a committee of members.

Office Bearers for 1911.

PRESIDENT-Miss E. Sutherland, B.A.

HON. GRADUATE TREASURER-Miss J. Debenham, B.A.

HON. UNDERGRADUATE ASSOCIATE TREASURER-Miss L. Purnell., B.A.

COMMITTEE—Dr. Aspinall, Miss Mallarky, M.A.. Miss Ida Slack, M.A. ex officio—Miss Fidler, B.A., Miss Macdonald, M.A., Miss MacCallum, B.A., and Miss Reid, B.A.

DELEGATES FROM AFFILIATED SOCIETIES.—Miss Evans, B.A., Miss Henry, M.A., Miss Turner, B.A., Miss R. Reid, B.A., and Miss Enid Macdonald.

Hon. Secretaries—Miss N. Brierley, B.A. and Miss G. H. Marks, B.A., Cambrian Villa, Potts Point.

### SYDNEY UNIVERSITY CRICKET CLUB.

This Club was established in the year 1865. All members of the Sports Union are Mcmbers of the Cricket Club. The Senate has granted to the Club the use of that portion of the University grounds known as the

"Oval." A considerable sum of money has been spent upon this ground, and a handsome pavilion has been erected upon it. Practice is carried on daily (Wednesdays excepted) from October to April (inclusive) on the Oval.

OFFICE BEARERS FOR 1910-11.

PRESIDENT-F. D. Kent, M.A.

VICE-PRESIDENTS—H. M. Stephen, B.A., LL.B., Dr. F. A. Todd, Dr. H. S. Stacy, C. A. Sinclair. B.A., LL.B., A. Blue, M.B., Ch.M., James Hughes, M.B., Ch.M., H. J. R. Clayton, B.A., LL.B., T. de C. Armstrong, B.A.

Hon. Secretary-L. C. Terrey, Edgecliffe House, Edgecliffe.

Assistant Hon. Secretary 2nd XI .- R. C. M. Boyce.

,, ,, 3RD XI.-B. V. Stacy.

,, ,, ,, VETERANS-F. M. McKeown, B.A.

HON. TREASURER-W. J. Stack.

DELEGATES TO S.U.S.U.-W. J. Stack, G. C. Willcocks.

DELEGATES TO N.S.W.C.A.—C. A. Sinclair, B.A., LL.B., J. B. Lane, B.A.

Delegates to C.S.C.A.—A. Blue, M.B., Ch.M., F. M. McKeown, B.A.

COMMITTEE—E. M. Fisher, J. C. Lamrock, N. W. Broughton, C. V. Single, F. E. McElhone, B.A., A. D. Watson, H. S. Utz, B.A., B. R. French, B.A.

PROVISIONAL SELECTION COMMITTEE-J. B. Laue, B.A., W. J. Stack, R. B. Minnett, R. W. Adamson, R. F. Hughes.

VETERAN XI.—A. Blue, M.B., Ch.M., T. De C. Armstrong, B.A., Hyam Marks, B.A.

### THE CLASSICAL ASSOCIATION OF NEW SOUTH WALES.

The Classical Association of New South Wales was founded to provide the students and friends of the classics with an organisation which hitherto they had lacked. Its objects, as set forth in the Rules, are to promote the development and maintain the well-being of classical studies, and, in particular—(a) to impress upon public opinion the claims of such studies; (b) to discuss the scope and methods of classical teaching; (c) to encourage investigation, and call attention to new discoveries; (d) to create opportunities for friendly intercourse among all lovers of classical learning in this country.

The Association meets at the University not less than four times a year. By arrangement with the Classical Association of England, to which the New South Wales Association is affiliated, each member receives annually "The Proceedings," and "The Year's Work," published in England about January of each year. The annual subscription is seven shillings and sixpence, due on the 1st July.

OFFICE BEARERS FOR 1910-1911.

PRESIDENT—The Hon. Sir William Cullen, Kt., M.A., LL.D.

HON. TREASURER-Professor W. J. Woodhouse, M.A.

HON, SECRETARY-F. A. Todd, B.A., Ph.D., University of Sydney.

ECONOMICS AND COMMERCE ASSOCIATION OF NEW SOUTH WALES.

The Economics and Commerce Association was registered under the Companies Act, on 1st March, 1911. Among the objects for which the Association was founded are:—

- (a) To stimulate interest and research in the Economics of Industry and Commerce by the granting of Fellowships, Prizes and Scholarships, by the reading of papers, and by the holding of lectures, and by such other means as may from time to time be determined.
- (b) To collect and diffuse information on all such subjects, and to print publish, issue and circulate such papers (other than newspapers) periodicals, books, circulars, and other literary matter as may seem conducive to this object.
- (c) To establish a library and reading room, to provide rooms and other facilities for holding of meetings of the members, and generally to promote the investigation and discussion of all economic questions.
- (d) To prolong and sustain the interest of students in Economics after the completion of their University course.

The qualification of members: -

- (a) Honorary Members—(i.) All the professors of the Sydney University.
   (ii.) Such other as the Council may from time to time admit.
- (b) Fellows—(i.) The professors and lecturers in the Department or Faculty of Economics and Commerce, University of Sydney. (ii.) Any Associate of two years' standing who has passed the Examination, if any, prescribed by the Council, or who, in the opinion of the Council, has contributed by research to the general stock of economic knowledge.
- (c) Associates—(i.) Any person who has undergone the course in Economics and Commerce prescribed by the University of Sydney, and obtained the Diploma or Degree of the University, provided that he presents certificates as to his good fame from two Associates or the Chief Lecturer in the Department of Economics and Commerce, Sydney University, and has such other qualifications as the Council may from time to time, or in any special case, require. (ii.) Any person who, in the opinion of the Council, has qualifications which fit him to be an Associate Member.
- (d) Student Members—Auy person, being a student in Economics and Commerce, University of Sydney, subject to the same conditions as Associates.

The first officers of the Association are: -

PATRON-Sir Normand McLaurin, M.A., M.D., LL.D., M.L.C., Chancellor.

President-R. F. Irvine, M.A.

VICE-PRESIDENTS-H. Y. Braddon, H. Dunstan Vane, F.C.P.A. J. Maitland Paxton, A. Wunderlich.

HON. SECRETARIES-Ernest Selby and Allan D. Wylie.

Hon. TREASURER-C. N. Campbell, A.C.P.A.

COUNCILLORS—W. Cunningham Ewing, H. E. Street, W. C. Lacey, E. O. Walcot, H. McDonald, J. Merrett, F. W. Jones.

# UNIVERSITY WOMEN EVENING STUDENTS' ASSOCIATION.

This Association was formed on 12th April, 1911. Its objects are to promote social relations among Women Evening Students, past and present, and to further the interests of Evening Students.

### Office Bearers for 1911.

PATRONESS-Mrs. Francis Anderson.

PRESIDENT-Ella Gormley.

VICE-PRESIDENTS-A. M. Fletcher, B.A., Leonie Palazzi.

HON. SECRETARIES—Graduate: Jessie McCredie, B.A.; Undergraduate: Marion Ranson.

HON. TREASURER--Elizabeth Cameron.

COMMITTEE—Edith Moore, B.A.; Third Year Representative: Gertrude Andrew; Second Year Representative: Winnie Lipscombe; First Year Representatives: Millicent Johnson and Elsie Killip.

# **EXAMINATION PAPERS\***

DECEMBER, 1910.

# FACULTY OF ARTS.

### LATIN I.—COMPOSITION AND UNSEEN.

# 1. Translate into Latin-

- (a) There are some who think it strange that Cicero attacked Verres so vehemently, after he had gone into exile.
- (b) Cicero speaks of statues and pictures in such a way as to show that the Romans generally cared nothing for such things.
- (c) Verres is said to have plundered the temples of all the images of the gods that were made of bronze, ivory, gold, or silver.
- (d) The Senate sent three envoys, sons of Fabius Ambustus, to warn the Gauls not to trouble further the men of Clusium. The barbarians took no notice of the message. and continued the war. Now it chanced that there was a battle fought while the three Fabii were still at Clusium, and they took part with the Clusians against the Gauls, and one of them was seen stripping the arms off a Gallic chieftain whom he had slain. The barbarians then demanded to be led straight against the city whose sons were so faithless, but the chiefs restrained them, and sent an embassy to Rome, demanding that the envoy should be given up. The Senate, not caring to decide so weighty a matter, referred it to the people; and so far was the people from listening to the demands of the Gaul, that, at the Comitia next ensuing, these very envoys were elected Military Tribunes. On hearing of this gross insult, Brennus broke up his camp at Clusium and marched southward for Rome.

<sup>\*</sup>The time allowed for each paper is three hours, except where otherwise stated.

# 2. Translate into English-

Delum venit; ibi ex fano Apollinis religiosissimo noctuclam sustulit signa pulcherrima atque antiquissima eaque in onerariam navem suam conicienda curavit. cum fanum spoliatum viderent ei, qui Delum incolebant, graviter ferebant; est enim tanta apud eos eius fani religio atque antiquitas, ut in eo loco ipsum Apollinemnatum esse arbitrentur; verbum tamen facere non audebant, ne forte ea res ad Dolabellam ipsum pertineret. tum subito tempestates coortae sunt maximae, iudices, ut non modo proficisci cum cuperet Dolabella non posset. sed vix in oppido consisteret; ita magni fluctus eiciebantur. hic navis illa praedonis istius, onusta signisreligiosis, expulsa atque eiecta fluctu, frangitur; in litore signa Apollinis reperiuntur; iussu Dollabellae reponuntur; tempestas sedatur; Dolabella Delo proficiscitur. non dubito quin tametsi nullus in te sensus humanitatis, nulla ratio umquam fuit religionis, nunc tamen in metu. periculoque tuo tuorum tibi scelerum veniat in mentem. potestne tibi ulla spes salutis commoda ostendi, cum recordaris in deos immortalis quam impius, quam sceleratus, quam nefarius fueris? Apollinemne tu Delium spoliare ausus es? illine tu templo, tam antiquo, tam sancto, tam religioso manus impias ac sacrilegas adferre conatus es?

### LATIN I.—AUTHORS.

- and 3. Translate into English, extracts from Cicero, The Fourth Verrine, and Virgil Georgics.
- 2. Translate, and comment on-
  - (a) Hic stupet attonitus rostris; hunc plausus hiantem Per cuneos geminatus enim plebisque patrumque Corripuit; gaudent perfusi sanguine fratrum.
  - (b) Mox tamen ardentes accingar dicere pugnas Caesaris et nomen fama tot ferre per annos, Tithoni prima quot abest ab origine Caesar.
  - (c) Sed me Parnassi deserta per ardua dulcis
    Raptat amor; iuvat ire iugis, qua nulla priorum
    Castaliam molli devertitur orbita clivo.

- 4. Translate, and comment on-
  - (a) Nemo fere vestrum est quin quem ad modum captae sint a M. Marcello Syracusae saepe audierit.
  - (b) Nemo suspicari debet, tam esse me cupidum, ut tot viros primarios velim, praesertim ex iudicum numero, qui Syracusis fuerint, qui haec viderint, esse temeritati et mendacio meo conscios.
  - (c) Apud eos autem, quos vectigalis aut stipendiarios fecerant, tamen haec [maiores nostri] relinquebant.

### LATIN II.—HORACE AND UNSEEN.

- 1. Translate, and comment on extracts from Horace, Epistles.
- 2. Translate-
  - (a) Verum ut ad te, Caecili, redeam, quam multa te deficiant vides; quam multa sint in te quae reus nocens in accusatore suo cupiat esse profecto iam intelligis. ad haec dici potest? non enim quaero quid tu dicturus sis: video mihi non te, sed hunc librum esse responsurum, quem monitor tuus hic tenet; qui si te recte monere volet, suadebit tibi ut hinc discedas neque mihi verbum ullum respondeas. quid enim dices? an id quod dictitas, iniuriam tibi fecisse Verrem? arbitror; neque enim esset veri simile, cum omnibus Siculis faceret iniurias, te illi unum eximium cui consuleret fuisse: sed ceteri Siculi ultorem suarum iniuriarum invenerunt; tu, dum tuas iniurias per te, id quod non potes, persequi conaris, id agis ut ceterorum quoque iniuriae sint impunitae atque inultae; et hoc te praeterit, non id solum spectari solere qui debeat, sed etiam illud qui possit ulcisci; in quo utrumque sit, eum superiorem esse, in quo alterum, in eo non quid is velit, sed quid facere possit quaeri solere.
  - (b) O mihi dilectos inter pars prima sodales,
    unica fortunis ara reperta meis,
    cuius ab alloquiis anima haec moribunda reuixit,
    ut uigil infusa Pallade flamma solet;
    qui ucritus non es portus aperire fideles
    fulmine percussae confugiumque rati;
    cuius eram censu non me sensurus egentem,
    si Caesar patrias cripuisset opes:

temporis oblitum dum me rapit inpetus huius, excidit heu nomen quam mihi paene tuum! tu tamen agnoscis tactusque cupidine laudis 'ille ego sum' cuperes dicere posse palam. certe ego, si sineres, titulum tibi reddere uellem, et raram famae conciliare fidem: ne noceam grato uereor tibi carmine neue intempestiuus nominis obstet honor. quod licet (hoc tutum est), intra tua pectora gaude meque tui memorem teque fuisse pium.

# LATIN II.-JUVENAL AND TACITUS.

- and 3. Translate into English, extracts from Juvenal (Selections) and Tacitus, Annals I.
- 2. Translate, and comment on-
  - (a) Plurimus hic aeger moritur vigilando, sed ipsum languorem peperit cibus inperfectus et haerens ardenti stomacho; nam quae meritoria somnum admittunt? magnis opibus dormitur in urbe. inde caput morbi. raedarum transitus arto vicorum inflexu et stantis convicia mandrae eripient somnum Druso vitulisque marinis.
  - (b) Habet Trebius propter quod rumpere somnum debeat et ligulas dimittere, sollicitus ne tota salutatrix iam turba peregerit orbem, sideribus dubiis aut illo tempore quo se frigida circumagunt pigri serraca Bootae.
    - (c) Curritur ad vocem iucundam et carmen amicae Thebaidos, laetam cum fecit Statius urbem promisitque diem; tanta dulcedine captos adficit ille animos tantaque libidine volgi auditur; sed cum fregit subsellia versu, esurit, intactam Paridi nisi vendit Agauen.
    - (d) Idem populus, si Nortia Tusco favisset, si oppressa foret secura senectus principis, hac ipsa Seianum diceret hora Augustum. iam pridem, ex quo suffragia nulli vendimus, effudit curas; nam qui dabat olim imperium fasces legiones omnia, nunc se continet atque duas tantum res anxius optat, panem et circenses.

- (e) Accipe quae contra valeat solacia ferre et qui nec cynicos nec stoica dogmata legit a cynicis tunica distantia, non Epicurum suspicit exigui laetum plantaribus horti. curentur dubii medicis maioribus aegri: tu venam vel discipulo committe Philippi.
- 4. Translate, and comment on—

(a) Inter quae senatu ad infimas obtestationes procumbente, dixit forte Tiberius se ut non toti rei publicae parem, ita quaecumque pars sibi mandaretur eius tutelam suscepturum. tum Asinius Gallus 'interrogo' inquit, 'Caesar, quam partem rei publicae mandari tibi velis.' perculsus improvisa interrogatione paulum reticuit.

(b) Audito fine Augusti vernacula multitudo, nuper acto in urbe dilectu, lasciviae sueta, laborum intolerans, implere ceterorum rudes animos: venisse tempus quo veterani maturam missionem, iuvenes largiora stipendia, cuncti modum miseriarum exposcerent saevitiamque

centurionum ulciscerentur.

(c) Cerni adhuc Germanorum in lucis signa Romana, quae dis patriis suspenderit. coleret Segestes victam ripam, redderet filio sacerdotium hominum: Germanos numquam satis excusaturos quod inter Albim et Rhenum virgas et

securis et togam viderint.

(d) Nomen patris patriae Tiberius, a populo saepius ingestum, repudiavit; neque in acta sua iurari quamquam censente senatu permisit, cuncta mortalium incerta, quantoque plus adeptus foret, tanto se magis in lubrico dictitans. non tamen ideo faciebat fidem civilis animi; nam legem maiestatis reduxerat, cui nomen apud veteres idem, sed alia in iudicium veniebant.

# LATIN II.—ROMAN HISTORY.

PASS—ONE AND A HALF HOURS. DISTINCTION—THREE HOURS.

#### Α.

### PASS ONLY.

Not more than FOUR questions to be attempted.

- 1. The political career and character of Cinna.
- 2. Explain the reorganisation of the army effected by Marius, and point out the political bearings of his military reforms.

- 3. Explain clearly the Sullan reorganisation of the Courts of criminal justice.
- Give a concise summary of events in Roman history from Cicero's return from exile in 57 B.C. to the beginning of the Civil War in 49 B.C.
- 5. "Cæsar was not a great statesman, but he was a great destroyer."—(Ferrero). Comment on this.
- 6. Gaius Gracchus "set precedents for monarchy, while he handed down to his successors ideas that remained the common stock of reformers, and from them passed to the Empire." Explain and justify.
- 7. Criticise the aims and methods of the Gracchi.

# В.

## DISTINCTION ONLY.

Not more than FIVE questions to be attempted.

- Gaius Gracchus "set precedents for monarchy, while he handed down to his successors ideas that remained the common stock of reformers, and from them passed to the Empire." Explain and justify.
- 2. Sketch the condition of parties at Rome immediately after the death of Sulla.
- 3. "Sulla hoped to establish on a formal basis the power of the Senate in the constitution, and of the upper classes in the Senate." What were the chief features of the reorganisation effected by Sulla?
- 4. "Cæsar was not a great statesman, but he was a great destroyer."—(Ferrero). Comment on this.
- 5. Explain clearly the relation to Rome of the communities possessing the ius Latinum, and of the civitates foederatae.
- 6. Criticise the Republican administration of the transmarine possessions of Rome.
- 7. Discuss the importance of Slavery as a factor in the economic and political history of Rome in your period.
- 8. What were the chief evils which contributed to the downfall of the Republic?

# LATIN III.—HORACE, CATULLUS, TERENCE, AND UNSEEN.

 and 3. Translate into English, extracts from Horace, Epistle, and Terence (Selections).

- 2. Translate, and comment on the underlined words-
  - (a) Nam Sestianus dum volo esse conviva,
    Orationem in Antium petitorem
    Plenam veneni et pestilentiae legi.
    Hic me gravedo frigida et frequens tussis
    Quassavit usque dum in tuum sinum fugi,
    Et me recuravi otioque et urtica.
    Quare refectus maximas tibi grates
    Ago, meum quod non es ulta peccatum.
    Nec deprecor jam, si nefaria scripta
    Sesti recepso, quin gravedinem et tussim
    Non mi, sed ipsi Sestio ferat frigus,
    Qui tum vocat me cum malum librum legi
  - (b) At pater, ut summa prospectum ex arce petebat,
    Anxia in assiduos absumens lumina fletus,
    Cum primum inflati conspexit lintea veli,
    Praecipitem sese scopulorum e vertice jecit,
    Amissum credens immiti Thesea fato.
    Sic funesta domus ingressus tecta paterna
    Morte ferox Theseus, qualem Minoidi luctum
    Obtulerat mente immemori talem ipse recepit.
    Quae tum prospectans cedentem maesta carinam
    Multiplices animo volvebat saucia curas.

### 4. Translate—

O mihi dilectos inter pars prima sodales, unica fortunis ara reperta meis, cuius ab alloquiis anima haec moribunda reuixit, ut uigil infusa Pallade flamma solet; qui ueritus non es portus aperire fideles fulmine percussae confugiumque rati; cuius eram censu non me sensurus egentem, si Caesar patrias eripuisset opes: temporis oblitum dum me rapit inpetus huius, excidit heu nomen quam mihi paene tuum! tu tamen agnoscis tactusque cupidine laudis 'ille ego sum' cuperes dicere posse palam. certe ego, si sineres, titulum tibi reddere uellem, et raram famae conciliare fidem: ne noceam grato uereor tibi carmine neue intempestiuus nominis obstet honor. quod licet (hoc tutum est), intra tua pectora gaude meque tui memorem teque fuissa pium.

# LATIN III.—JUVENAL AND TACITUS AND PROSE UNSEEN.

- and 3. Translate into English, extracts from Juvenal (Selections) and Tacitus, Annals I.
- 2. Translate, and comment on-
  - (a) Plurimus hic aeger moritur vigilando, sed ipsum languorem peperit cibus imperfectus et haerens ardenti stomacho; nam quae meritoria somnum admittunt? magnis opibus dormitur in urbe. inde caput morbi. raedarum transitus arto vicorum inflexu et stantis convicia mandrae eripient somnum Druso vitulisque marinis.
  - (b) Curritur ad vocem iucundam et carmen amicae Thebaidos, laetam cum fecit Statius urbem promisitque diem; tanta dulcedine captos adficit ille animos tantaque libidine volgi auditur; sed cum fregit subsellia versu, esurit, intactam Paridi nisi vendit Agauen.
  - (c) Idem populus, si Nortia Tusco
    favisset, si oppressa foret secura senectus
    principis, hac ipsa Seianum diceret hora
    Augustum. iam pridem, ex quo suffragia nulli
    vendimus, effudit curas; nam qui dabat olim
    imperium fasces legiones omnia, nunc se
    continet atque duas tantum res anxius optat,
    panem et circenses.
  - (d) Accipe quae contra valeat solacia ferre et qui nec cynicos nec stoica dogmata legit a cynicis tunica distantia, non Epicurum suspicit exigui laetum plantaribus horti. curentur dubii medicis maioribus aegri: tu venam vel discipulo committe Philippi.

# 4. Translate, and comment on-

- (a) Inter quae senatu ad infimas obtestationes procumbente, dixit forte Tiberius se ut non toti rei publicae parem, ita quaecumque pars sibi mandaretur eius tutelam suscepturum. tum Asinius Gallus 'interrogo' inquit, 'Caesar, quam partem rei publicae mandari tibi velis.' perculsus improvisa interrogatione paulum reticuit.
- (b) Audito fine Augusti vernacula multitudo, nuper acto in urbe dilectu, lasciviæ sueta, laborum intolerans,

implere ceterorum rudes animos: venisse tempus quo veterani maturam missionem, iuvenes largiora stipendia, cuncti modum miseriarum exposcerent saevitiamque centurionum ulciscerentur.

- (c) Cerni adhuc Germanorum in lucis signa Romana, quae dis patriis suspenderit. coleret Segestes victam ripam, redderet filio sacerdotium hominum: Germanos numquam satis excusaturos quod inter Albim et Rhenum virgas et securis et togam viderint.
- (d) Nec patrum cognitionibus satiatus iudiciis adsidebat in cornu tribunalis, ne praetorem curuli depelleret; multaque eo coram adversus ambitum et potentium preces constituta, set dum veritati consulitur, libertas corrumpebatur.

### 5. Translate—

Radamistus in amplexus eius effusus simulare obsequium. socerum ac parentem appellare; adicit ius iurandum, non ferro, non veneno vim adlaturum; simul in lucum propinguum trahit, provisum illie sacrificii paratum dictitans, ut diis testibus pax firmaretur. mos est regibus, quoties in societatem coeant, implicare dextraspollicesque inter se vincire nodoque praestringere: mox ubi sanguis in artus se extremos suffuderit, levi ictu. cruorem eliciunt atque invicem lambunt. id foedus Carcanum habetur quasi mutuo cruore sacratum. tunc qui ea vincla admovebat, decidisse simulans genua-Mithridatis invadit ipsumque prosternit; simulque concursu plurium iniciuntur catenae. ac compede, quod dedecorum barbaris, trahebatur; mox quia vulgus duro imperio habitum, probra ac verbera intentabat. erant contra qui tantam fortunae commutationem miserarentur; secutaque cum parvis liberis coniunx cuncta lamentatione complebat. diversis et contectis vehiculis abduntur, dum Pharasmanis iussa exquirerentur.

# LATIN III.—GENERAL PAPER.

Not more than SIX questions to be answered.

1. "The Government of the early Empire was divided between the Emperor and the Senate."

Explain this statement.

- 2. Describe the organisation of the Roman army by Augustus.
- Compare the constitution of the equestrian order in the later Republic, and under Augustus, and explain how knights were employed in state offices by Augustus and by later principes.
- Utterly unlike as Tiberius was to Augustus, yet, as the ruler of a great empire, he justified the latter's choice of a successor."—(Pelham).

Comment on this

- 5. Give an account of Trajan or Marcus Aurelius.
- 6. "The subjects of the early Roman empire were almost as heterogeneous in their political relations to their mistress as in race and language."

Explain this statement.

- 7. Describe the characteristics of the poetry of Catullus.
- 8. Compare Juvenal with Horace as a satirist.
- "Terence was content with the praise of a successful copyist."
   Comment on this.

### GREEK L-HISTORY AND UNSEEN.

A.

# Translate-

έπει δε οι μεν σκοποι έσημαινον από του Τρικαράνου ώς πολεμίων επιοντων, ή δε πόλις πρός τούτους τον νουν είχεν, εν δή τούτω οἱ προδόται ἐσήμαινον τοῖς ὑποκαθημένοις ὑπὸ τῷ τείχει ἀναβαίνειν. οἰςδ ἀναβάντες καὶ λαβόντες τῶν φρουρῶν τὰ ὅπλα ἔρημα εδίωκον τοὺς φύλακας ὄντας δέκα, καὶ ἕνα μεν έτι καθεύδοντα απέκτειναν άλλον δε καταφυγόντα προς επεί δε κραυγής είς την πόλιν άφικομένης τὸ "Ηραιον. έβοήθουν οι πολίται, το μεν πρώτον έπεξελθόντες έκ της άκροπόλεως οι πολέμιοι εμάχοντο εν τῷ πρόσθεν τῶν εἰς τἡν πόλιν φερουσών πυλών' έπειτα πολιορκούμενοι ύπὸ τών προσβοηθούντων έχώρουν πάλιν είς την άκροπολιν οι δέ πολίται συνεισπίπτουσιν αὐτοίς. το μέν οὖν μέσον τῆς ακροπόλεως εὐθὺς ἔρημον ἐγένετο ἐπὶ δὲ τὸ τεῖχος καὶ τοὺς πύργους αναβάντες οι πολέμιοι έπαιον και έβαλλον τούς ένδον οι δε χαμόθεν ημύνοντο και κατά τὰς ἐπὶ τὸ τείχος Φερούσας κλίμακας προσεμάχοντο.

### В.

### Not more than FIVE questions to be answered.

- Draw a sketch map, and describe briefly, but very clearly, any one of the following battles: —Marathon; Leuctra; Salamis; Mantineia.
- What do you know of the following:—Aegospotami; Koroneia; Aristagoras; Skione; Ephors; Theoric Fund?
- 3. Write a short account of the career of Brasidas, so far as he appears in your history.
- 4. What were the most characteristic features of the developed Athenian democracy under Perikles?
- 5. Give a short description of the Spartan constitution.
- A short account of the achievements of Alexander the Great from his first appearance in Asia.
- Draw a sketch map either of Boeotia or of Thessaly, marking all the sites which possess importance in your period.
- 8 Discuss the character of Kleon as a politician.
- 9. Distinguish the various Sacred Wars which occur in Greek history.

### GREEK I .- AUTHORS (EURIPIDES AND HERODOTUS.),

Translate—

Medea loquitur :

νῦν δ' ὅλωλε δή σφών γαρ έστερημένη γλυκεία Φροντίς. λυπρον διάξω βίστον άλγεινόν τ' έμοί. ύμεις δε μητέρ' ουκέτ' όμμασιν Φίλοις όψεσθ', ές άλλο σχίμι αποστάντες βίου. φεῦ φεῦ τι προσδέρκεσθέ μ' ὅμμασιν, τέκνα; τί προσηελατε τον πανύστατον ηέλιον; αλαίτ τί δρασω; καρδία γάρ οίχεται, γυναίκες, όμμα φαιδρόν ώς είδον τέκνων. οὺκ ἂν δυναίμην' χαιρέτω βουλεύματα τὰ πρόσθεν. ἄξω παίδας εκ γαίας εμούς. τί δεί με πατέρα τῶνδε τοίς τούτων κακοίς λυπουσαν αὐτὴν δίς τόσα κτᾶσθαι κακά; ου δήτ' έγωγε. χαιρέτω βουλεύματα. καίτοι τί πάσχω; βούλομαι γέλωτ' ύφλειν. έχθρους μεθείσα τους έμους άζημίους; τολμητέον τάδε.

- 2. Translate the following passages, and write notes on them, brief, but strictly to the point—
  - (a) μακρός δ' αἰων ἔχει πολλὰ μὲν ἀμετέραν ἀνδρῶν τε μοῖραν εἰπεῖν, σὺ δ' ἐκ μὲν οἴκων πατρίων ἔκπλευσας μαινομένα κραδία, διδύμους ὁρίσασα πόντου πέτρας, ἐπὶ δὲ ξένα ναίεις χθονί τᾶς ἄνανδρος κοίτας ὀλέσασα λέκτρων, τάλαινα, φυγάς τε χώρας ἄτιμος ἐλούνει.
  - (b) ὅπη τὰρ οὖν ιὄνησας, οὐ κακῶς ἔχει.
    μείζω τε μέντοι τῆς ἐμῆς σωτηρίας
    εἴληφας ἡ δέδωκας, ὡς ἐτὰ φράσω.
    πρῶτον μὲν Ἑλλάδ' ἀντὶ βαρβάρου χθονὸς
    ταίαν κατοικεῖς καὶ δίκην ἐπίστασαι
    νόμοις τε χρῆσθαι μὴ πρὸς ἰσχύος χάριν.
  - (c) ΜΗ. οὐ δῆτ', ἐπεὶ σφᾶς τῆδ' ἐγὼ θάψω χερί, φέρουσ' ἐς "Ημας τέμενος 'Ακραίας θεοῦ, ὡς μή τις αὐτοῦ πολεμίων καθυβρίση, τύμβους ἀνασπῶν' γῆ δὲ τῆδε Σισύφου σεμνὴν ἑορτὴν καὶ τέλη προσάψομεν.
- 3. Translate the following passages of Herodotus, and write appropriate notes on them. [N.B.—Six passages at least should be fully treated; but candidates are not restricted to that number.]
  - (a) Ίωνες δὲ πυνθανόμενοι ταῦτα ἔπε μπον προβούλους σφέων αὐτῶν ἐς Πανιώνιον. ἀπικομένοισι δὲ τούτοισι ἐς τοῦτον τὸν χῶρον καὶ βουλευομένοισι ἔδοξε πεζὸν μὲν στρατὸν μηδένα συλλέγειν ἀντίζοον Πέρσησι, ἀλλὰ τὰ τείχεα ρὐεσθαι αὐτοὺς Μιλησίους, τὸ δὲ ναυτικὸν πληρούν ὑπολιπομένους μηδεμίαν τῶν νεῶν, πληρώσαντες δὲ συλλέγεσθαι τὴν ταχίστην ἐς Λάξην προνανμαχήσοντας Μιλήτου.
  - (b) ὁ δὲ Διονύσιος ἀνάγων ἐκάστοτε ἐπὶ κέρας τὰς νέας, ὅκως τοῦσι ἐρέτησι χρήσαιτο διέκπλοον ποιεόμενος τῆσι νηυσὶ δι' ἀλληλέων καὶ τοὺς ἐπιβάτας ὁπλίσειε, τὸ λοιπὸν τῆς ἡμέρης τὰς νέας ἔχεσκε ἐπ' ἀγκυρέων, παρεῖχέ τε τοῦσι Ἰωσι πόνον δι' ἡμέρης.

- (c) 'Αθηναῖοι μὲν γὰρ δῆλον ἐποίησαν ὑπεραχθεσθέντες τῆ Μιλήτου ἀλώσι τῆ τε ἄλλη πολλαχῆ καὶ δὴ καὶ ποιήσαντι Φρυνίχω ἐρᾶμα Μιλήτου ἄλωσιν καὶ διδάξαντι ἐς δάκρυὰ τε ἔπεσε τὸ θέητρον καὶ ἐξημίωσάν μιν ὡς ἀναμνήσαντα ° οἰκήια κακὰ χειλίησι δραχμῆσι καὶ ἐπέταξαν μηκέτι μηδένα χρᾶσθαι τούτω τις δράματι.
- (d) οὖτος ὁ Μιλτιάόης κατήμενος ἐν τοῖσι προθύροισι τοῖσι ἐωυτοῦ, ὁρέων τοὺς Δολόγκους παριόντας, ἐσθῆτα ἔχοντας οὐκ ἐπιχωρίην καὶ αἰχμάς, προσεβώσατο καί σφι προσελθοῦσι ἐπηγηείλατο καταγωγὴν καὶ ξείνια. οἰ δὲ δεξάμενοι καὶ ξείνια σθέντες ὑπ' αὐτοῦ ἐξέφαινον πῶν οὶ τὸ μαντήιον, ἐκφήναντες δὲ ἐδέοντο αὐτοῦ τῷ θεῷ μιν πείθεσθαι.
- (e) Ούτος δη ο Κίμωνος Μιλτιάδης νεωστί μεν εληλύθει ες την Χερσόνησον, κατελάμβανε δε μιν έλθόντα ἄλλα των κατεχόντων πρηγμάτων χαλεπώτερα. τρίτω μεν γὰρ ἔτει τούτων Σκύθας ἐκφεύγει Σκύθαι γὰρ οὶ νομάδες ἐρεθισθέντες ὑπὸ βασιλέος Δαρείου συνεστράφησαν καὶ ἤλασαν μέχρι τῆς Χερσονήσου ταύτης. τούτους ἐπιόντας οὐκ ὑπομείνας ὁ Μιλτιάδης ἔφευγε ἐς ΰ οἴ τε Σκύθοι ἀπαλλάχθησαν καί μιν οὶ Δόλογκοι κατήγαγον ὀπίσω.
- (f) ή δὲ πρόσοδός σφι [Θασίοισι] ἐγίνετο ἔκ τε τῆς ἡπείρου καὶ ἀπὸ τῶν μετάλλων. ἐκ μέν γε τῶν ἐν Σκαπτησύλη τῶν χρυσέων μετάλλων τὸ ἐπίπαν ὀγδώκοντα τάλαντα προσῆε, ἐκ δὲ τῶν ἐν αὐτῆ Θάσῳ ἐλάσσω μὲν τούτων, συχνὰ δὲ οὔτω ὥστε τὸ ἐπίπαν Θασίοισι ἐοῦσι καρπῶν ἀτελέσι προσῆε ἀπό τε τῆς ἡπείρου καὶ τῶν μετάλλων ἔτεος ἐκάστου διηκόσια τάλαντα, ὅτε δὲ τὸ πλείστον προσῆλθε, τριηκόσια.
- (g) αλλ' ὅταν ἡ θήλεια τον ἄρσενα νικήσασα εξελάση καὶ κῦδος ἐν ᾿Αργείοισιν ἄρηται, πολλὰς Ἦγείων ἀμφιδρυφέας τότε θήσει. ὥς τοτέ τις ἐρέει καὶ ἐπεσσομένων ἀνθρώπων δεινὸς ὅφις τριέλικτος ἀπώλετο δουρὶ δαμασθείς.
- (h) μετὰ δὲ τοῦτον ἐνθεῦτεν ἐξαναχθέντα (8c. Δᾶτις) Δῆλος ἐκινήθη, ὡς ἔλεγον Δήλιοι, καὶ πρῶτα καὶ ὕστατα μέχρι ἐμέο σεισθεῖσα. καὶ τοῦτο μέν κου τέρας ἀνθρώποισι τῶν μελλόντων ἔσεσθαι κακῶν ἔφηνε ὁ θεός.
- (1) 'Αθηναίοισι δὲ πεταγμένοισι ἐν πεμένει Ἡρακλέος ἐπῆλθον βοηθέοντες Πλαταιέες πανδημεί καὶ γὰρ καὶ ἐδεδώκεσαν σφέας αὐτοὺς τοῖσι 'Αθηναίοισι οἱ Πλαταιέες, καὶ πόνους ὑπὲρ

- αὐτῶν οι ᾿Αθηναῖοι συχνοὺς ηρο ἀναραιρέατος ἔδοσαν δὲ ὧδε. πιεζόμενοι ὑπὸ Θηβαίων οι Πλαταιέες ἐδίδοσαν πρῶτα παρατυχοῦσι Κλεομένει τε τῷ ᾿Αναξανδρίδεω σφέας αὐτούς.
- (j) ώς δέ σφι διετέτακτο καὶ τὰ σφάγια ἐγίνετο καλά, ἐνθαῦτα ώς ἀπείθησαν οἱ ᾿Αθηναῖοι, δρόμω ἴεντο ἐς τοὺς βαρβάρους. ἡσαν δὲ στάδιοι οὺκ ἐλάσσονες τὸ μεταίχμιον αὐτῶν ἡ ὀκτώ.
- (λ) Θωμα δέ μοι καὶ οὐκ ἐνδέκομαι τὸν λόγον ᾿Αλκμεωνίδας ἄν κοτε ἀναδέξαι Πέρσησι ἐκ συνθήματος ἀσπίδα, βουλομένους ὑπὸ βαρβάροισί τε εἶναι ᾿Αθηναίους καὶ ὑπὸ Ἱππίη.
- (l) έτεσι δε κάρτα πολλοίσι ύστερον τούτων, ώς ή Χερσόνησος ή εν Έλλησπόντω έγενετο ύπο 'Αθηναίοισι, Μιλτιάδης ο Κίμωνος ετησιών ἀνέμων κατεστηκότων νηὶ κατανύσας εξ 'Ελαιοῦντος τοῦ ἐν Χερσονήσω ἐς τὴν Λῆμνον προηγόρευε ἐξιέναι ἐκ τῆς νήσου τοῖσι Πελασγοΐσι, ἀναμιμνήσκων σφέας τὸ χρηστήριον, τὸ οὐδαμὰ ἤλπισαν σφίσι οἱ Πελασγοὶ ἐπιτελεῖσθαι.

# GREEK II. AND III.—DEMOSTHENES (PRIVATE ORATIONS). PASS.

Translate, and comment on extracts from Demosthenes (Private orations).

A full commentary is expected on the legal and historical points in the passages selected.

GREEK II. AND III.—SOPHOCLES AND PLATO.

Translate, and comment on extracts from Sophocles, Electra; and Plato, Phaedo.

#### GREEK II AND III.—UNSEEN.

# Translate-

Οι δὲ περὶ τὸν 'Ανδροκλείδαν καὶ τὸν 'Ισμηνίαν ἐσπούδαζον ἐκπολεμῶσαι τὸ ἔθνος πρὸς τοὺς Λακεδαιμονίους, βουλόμενοι μὲν καταλῦσαι τὴν ἀρχὴν αὐτῶν ἴνα μὴ διαφθαρῶσιν ὑπ' ἐκείνων διὰ τοὺς λακωνίζοντας, οἰόμενοι δὲ ραδίως τοῦτο πράξειν ὑπολαμβάνοντες βασιλέα χρήματα παρέξειν, καθ' ἃ ὁ παρὰ τοῦ βαρβάρου πεμφθεὶς ἐπηγηέλλετο, τοὺς όδ Κορινθίους καὶ τοὺς 'Αργείους καὶ τοὺς 'Αθηναίους μεθέξειν τοῦ πολέμου, τοὺτους γὰρ ἐχθροὺς τοῖς Λακεδαιμονίοις ὄντας αὐτοῖς συμπαριακευάσειν τοὺς ὁπλίτας. διανοηθέντες δὲ ταῦτα περὶ τῶν πραγμάτων ἐνόμιζον ἀπὸ μὲν τοῦ φανεροῦ χαλεπῶς ἔχειν ἐπιτίθεσθαι τοὐτοις, οὐδέποτε γὰρ οὔτε Θηβαίους οὔτε τοὺς ἄλλους Βοιωτοὺς πεισθήσεσθαι πολεμεῖν Λακεδαιμονίοις

αρχουσι τής 'Ελλάδος, ἐπιχειροῦντες δὲ διὰ ταύτης τής ἀπάτης προάγειν εἰς τὸν πόλεμον αὐτούς, ἀνέπεισαν ἄνδρας τινὰς Φωκέων ἐμβαλεῖν εἰς τὴν Λοκρῶν τῶν 'Εσπερίων καλουμένων, οἶς ἐγένετο τῆς ἔχθρας αἰτία τοιαὐτη' ἔστι τοῖς ἔθνεσιν τούτοις ἀμφισβητήσιμος χώρα περὶ τὸν Παρνασσόν, περὶ ῆς καὶ πρότερον ποτε πεπολεμήκασιν, ῆν πολλάκις ἐπινέμουσιν ἐκάτεροι τῶν τε Φωκέων καὶ τῶν Λοκρῶν, ὑπότεροι δ' ἄν τύχωσιν αἰσθόμενοί ποτε τοὺς ἐτέρους συλλεγέντες πολλοὶ διαρπάζουσι τὰ πρόβατα πρότερον μὲν οῦν πολλῶν τοιούτων ἀβ' ἐκατέρων γιγνομένων ἀεὶ μετὰ δίκης τὰ πολλὰ καὶ λόγων διελύοντο πρὸς ἀλλήλους, τότε δὲ τῶν Λοκρῶν ἀνθαρπασάντων ἀνθ' ὧν ἀπέβαλον προβάτων εὐθὴς οἱ Φωκεῖς, παροξυνόντων αὐτοὺς ἐκείνων τῶν ἀνδριῶν οὺς οἱ περὶ τὸν 'Ανδροκλείδαν καὶ τὸν 'Ισμηνίαν παρεσκεύασαν, εἰς τὴν Λοκρίδα μετὰ τῶν ἄπλων ἐνέβαλον.

### GREEK III.—HOMER.

Translate, and write comments on extracts from Homer, Odyssey V.-X.

### ENGLISH I. A.

Not more than BIGHT questions to be attempted. Nos. I and 2 are compulsory.

1. Explain,

A, the underlined words in—

(a) I have y-loved yow ful many a daye,

And alder-moste desired yow to see.

- (b) Ye Troilus, now herkne, quod Pandare, Though I be nice!
- (c) Men maketh ofte a yerde With which the maker is himself ybeten.
- (d) The whiche righte sore wolde athinken me.
- (e) Till that deeth departe shal us tweyne.
- (f) But wikkidly he quytte her kyndenesse, And let her drenche in sorwe and distresse Nere that the goddys had of hir pite.
- B, the metre of-
  - (g) He taketh hir in his honde, and forth gooth he.

- (h) But if that it the bet governed be.
- (i) Hem liste nat to go to bedde sone.
- 2. Explain fully-
  - (a) This is a riddling merchant for the nonce.
  - (b) Now am I like that proud insulting ship Which Cæsar and his fortune bare at once.
  - (c) A statelier pyramis to her I'll rear Than Rhodope's or Memphis' ever was.
  - (d) Plan. Meantime your cheeks do counterfeit our roses: For pale they look with fear, as witnessing The truth on our side.

YIs not for fear but anger that thy cheeks
Blush for pure shame to counterfeit our roses
And yet thy tongue will not confess thy error

- (e) Now where's the Bastard's braves and Charles his gleeks?
- (f)All French and France exclaims on thee Doubting thy birth and lawful progeny.
- (g) My angry guardant stood alone, Tendering my ruin, and assail'd of none
- (h) There Minotaurs and ugly treasons lurk.
- "The life of Chaucer is a very dull record of very commonplace facts."
  - Show the interesting significance that the principal items in the record have when brought into relation with his art.
- Write a brief appreciation of the Prologue to the Canterbury Tales; OR, of any more dramatic scene in Troilus and Cressida; OR, of Chaucer's narrative style in the Legend of Ariadne.
- 5. "In Henry VI., Part 1, there are passages which appear beyond all controversy to be sealed with Shakespeare's signet."
  - Mention the passages presumably referred to, and give the impression you have formed of them in this regard.
- Discuss Shakespeare's treatment of Hotspur in Henry IV., particularly with reference to the attractive side of the character, and its use for interpretation of the history.

 "We have less sympathy with Falstaff as the second part of *Henry IV*. draws towards a conclusion; and we approve his downfall."

Justify or criticise this statament.

8 Dr. Johnson said of *Henry VIII.*, "The genius of Shakespeare comes in and goes out with Katharine." How far does more modern scholarship agree with him?

Or,

Examine the theory that *Henry VIIII*, is intended as a glorification of the new time.

- 9. If the Sonnets of Shakespeare have a biographical significance, what is their best interpretation?
- 10. What are the main results that follow from Shakespeare's inclusion of a serious element in his comedies?
- 11. Note the significance of the following passages-
  - (a) I shall be well content with any choice Tends to God's glory and my country's weal.
  - (b) If the young dace be a bait for the old pike, I see no reason in the law of nature but I may snap at him.
  - (c) I know you all and will awhile uphold The unyok'd humour of your idleness

I'll so offend to make offence a skill, Redeeming time when men think least I will.

- (d) Are these things then necessities?

  Then let us meet them like necessities.
- (e) By the Lord I knew ye as well as He that made ye....
  I was a coward on instinct.
- (f) I feel within me
   A peace above all earthly dignities
   A still and quiet conscience.
- 12. Discuss one of the following -
  - (a) "Chaucer lifted English literature out of its barbarous isolation and subserviency; and his successors let it slip back."
  - (b) "Shakespeare is the commanding peak of a vast group of mountains."

### ENGLISH I. B.

Not more than SEVEN questions to be attempted. Nos. 1 and 2 are compulsory.

- 1. Explain fully the underlined expressions—
  - (a) All mightie men and dreadfull derring-dooers.
  - (b) Soon after did the brethren three advance, In brave array and goodly amenance.
  - (c) Lo! faitour, there thy meede unto thee take, The meede of thy mischalenge and abet.
  - To darken all the hill, and smoke to roll
    In dusky wreaths, reluctant flames, the sign
    Of wrath awak't.
  - Part incentive reed Provide, pernicious with one touch to fire.
  - (f) A sudden horror seized his giddy head, And his ears tinkled, and his colour fled.
  - (g) For when the fair in all their pride expire,
    To their first elements their souls retire.
  - (h) A plump of fowl behold their foe on high;
    They close their trembling troop; and all attend
    On whom the sowsing eagle will descend.
  - (i) That single act gives half the world the spleen.
  - Was nice to find; the servant strode before; Long arms of oaks an open bridge supplied.
  - (k) I twitch'd his dangling garter from his knee. Now mine I quickly doff'd, of inkle blue.
  - (1) "I get these things often";—but that was a bounce.
  - (m) In their real forms appeared The warlocks weird.
  - (n) Like the terrible trumpet shock Of Regnarock.
  - (o) It elates me, thus reposed and safe,
    To void the stuffing of my travel-scrip.
  - Who has a like vow from their triple dun.

 Paraphrase so as to bring out the full meaning of the passage—

(a) . . . . . . Such as to set forth

Great things by small, if, Nature's concord broke,
Among the constellations war were sprung,
Two planets rushing from aspect malign
Of fiercest opposition in mid sky,
Should combat, and their jarring spheres confound,
Together both with next to almighty arme
Uplifted imminent, one stroke they aim'd
That might determine, and not need repeat,
As not of power, at once; nor odds appear'd
In might or swift prevention.

(b) They which that piteous spectacle beheld,
Were much amas'd the headlesse tronke to see
Stand up so long, and weapon vaine to weld,
Unweeting of the Fates divine decree
For life's succession in those brethren three.
For notwithstanding that one soule was reft,
Yet, had the bodie not dismembred bee,

It would have lived, and revived eft; But finding no fit seat, the lifelesse corse it left.

(c) He holds on firmly to some thread of life—
(It is the life to lead perforcedly)—
Which runs across some vast distracting orb
Of glory on either side that meagre thread,
Which, conscious of, he must not enter yet—
The spiritual life around the earthly life:
The law of that is known to him as this,
His heart and brain move there, his feet stay here.
So is the man perplext with impulses
Sudden to start off crosswise, not straight on,
Proclaiming what is right and wrong across,
And not along, this black thread through the blaze—
"It should be," baulked by "here it cannot be."

3. Either, (a) discuss the statement "Goldsmith's humour ranges from the very boisterous to the very subtle, and at its best is hardly distinguishable from pathos."

(b) Appreciate Browning's use of the monologue form.

4. What circumstances determined the composition and character of Gray's Shepherd's Week?

- 5. Discuss the legend of the father's slaughter of his long-lost son in any typical variants and modern versions.
- 6. What does Pope mean in calling the Rape of the Lock "an Heroi-comical poem"? Show, by a running analysis of the piece, the quality that is emphasised.
- 7. "Milton is frankly authropomorphic in Paradise Lost." Explain the statement, with reference to Milton's own caution about "measuring things in Heaven by things on Earth," and his account of the "wild work in Heaven."
- 8. Consider two of the following poems, and explain how their stories have been modified in being adapted to their present form: Theodore and Honoria; The Hermit; The Proud King.
- What is a Saga? Explain, with reference to Longfellow's Saga of King Olaf.
- Sketch the character of King Olaf as he was in the original of Longfellow's story, and as Longfellow treats him.

### ENGLISH II. AND III. A.

Not more than five questions from part A, or foun from part B to be attempted.  $\triangle$ 

- Explain the significance of Kynge Johan, Richardus Tertius, and Edward I. in the development of the historical drama.
- 2. "Edward II. reaches the high level of historical tragedy before Shakespeare."
  - Compare its merits with those of the pre-Shakespearian and Shakespearian plays.
- 3. What objections are there to regarding either *Henry VI. A* or the *Contentions* as wholly Shakespearian?
- 4. How do you account for the comparatively unhistorical character of the play on King John?
- 5. Discuss the statement that the minor characters in Richard II. are "shifting and vaporous."
- 6. Burke says of 'the great bad men of the old stamp': "Though the virtues of such men were not to be taken as a balance to their crimes, yet they had long views,

and sanctified their ambition by aiming at the orderly rule, and not the destruction of their country."

Could this be said of Shakespeare's Henry IV.? View the character in relation to it.

- 7. How do you account for the popularity of *Henry V*. in view of the disparaging criticism it has received?
- 8. "The character of Wolsey in Henry VIII. is an unsolved contradiction."

Discuss this.

В.

- Appreciate, both with regard to technique and poetic effect, any ode by Collins that you think entitled to be called great, or specially characteristic of his art.
- 10. Briefly note, with reference to the following passages, the various constituents in the dialect of "Scottish vernacular poetry," and explain the passages—
  - (a) The Lord forbid! Na, he kens better things:
    But here comes aunt; her face some ferly brings.
  - (b) Content's the greatest bliss we can procure Frae boon the lift:—without it kings are poor.
  - (c) He'll no soon grein to tell his love to me.
  - (d) O Jenny! let my arms about thee twine And briss thy bonny breast an' lips to mine.
  - (e) Nine braw nowt were smoor'd Three elf-shot were.
  - (f) O' plum-tree made, wi' iv'ry virles around.
  - (g) Tempests may cease to jaw the rowan flood.
- 11. "Poor moaning, monotonous Macpherson."

  Is that historically just, or adequate criticism of Ossian?
- 12. A French lady wrote to Garrick about *The Vicar of Wakefield*, "It has little resemblance to real life . . . . I'm not qualified to judge of the style, but the plot didn't interest me. The pathos Mr. Burke promised made no impression on me."

Appreciate the book with reference to these objections.

13. "In life there is ever more to be endured than enjoyed."

How does Rasselas enforce that view?

- 14. Explain the object and the quality of Swift's attack in the Battle of the Books.
- 15. Discuss the Essay on Man from the points of view suggested by the following passages—
  - (a) Laugh where we must, be candid where we can; But vindicate the ways of God to Man.
  - (b) O master of the poet, and the song!

Thou, wert my guide, philosopher and friend.

- (c) . . . . Whatever is, is right.
- (d) Know then thyself, presume not God to scan, The proper study of mankind is Man.
- 16. The poet in the Castle of Indolence speaks of "my master Spenser." Discuss the relationship thus emphasised.

### ENGLISH II. AND III. B.

Not more than Eight questions to be attempted. No. 1 is compulsory for Course III. Students,

- "The chief poetical writers of the century all deviate more or less from Pope's peculiar model."
  - Illustrate this from any two of the following:—Parnell, Young, Gray, Goldsmith.
- 2. What were the purposes and what the main literary values of the Spectator?
- "Heaven, that but once was prodigal before,
   To Shakespeare gave as much; she could not give him
   more."

How far can Dryden's praise of Congreve be justified?

Y, Explain the character and success of The Beggar's Opera.

- 4. Appreciate Pope as satirist.
- "Swift is the most tragic figure in English literature." Discuss this statement.
- Sketch the character of Boswell in relation to his achievement in biography, making particular reference to Macaulay's estimate of him.
  - Account for the different judgments pronounced by men of genius on Sterne.

7. Lord Rosebery has called Johnson "Our greatest man of letters in a large sense of that vague term." Sketch a more precise account of his greatness, particularly regarding his work as moralist and critic.

Or.

- Comment on the statement: "In studying Gibbon's biography, we seem to see that all the circumstances of his career fitted him for his task."
- 8. Contrast Smollet and Fielding as novelists.
- Discuss Collins from the point of view of the "return to nature."

Or,
Thomson as a poet of nature.

10. "Politics and literature were too much entangled in the XVIII. Century." Discuss any outstanding literary result, preferably in the case of Burke.

Or

What is meant by the saying that Burke should be the Bible of statesmen?

- 11. "Our indispensable XVIII. Century." What is there in its literary history to justify the phrase?
- 12. Comment on three of the following contemporary references to literary work and conditions—
  - (a) "Richardson is as ignorant in morality as he is in anatomy."—Lady Mary Wortley Montagu.
  - (b) "A style may be excellent without grace—for example Swift's."—Horace Walpole.
  - (c) "There are three distinct kinds of judges upon all new authors or productions; the first are those who know no rules, but pronounce entirely from their natural taste and feelings; the second are those who know and judge by the rules; and the third are those who know but are above the rules. These last are those that you should wish to satisfy. Next to them rate the natural judges; but ever despise those opinions that are formed by the rules."—Dr. Jehnson, reported by Miss Burney.
  - (d) Have hence for ancient rules a just esteem; To copy nature is to copy them?—Pope.

(e) "The Sciences, after a thousand indignities, retired from the palace of Patronage, and having long wandered over the world in grief and distress were led at last to the cottage of Independence, the daughter of Fortitude, where they were taught by Prudence and Parsimony to support themselves in dignity and quiet."—The Rambler.

# FRENCH I. A.—COMPOSITION AND UNSEEN.

# 1. Translate into French-

During a journey that I once made through the Netherlands, I had arrived one evening at the Pomme d'Or, the principal inn of a small Flemish village. It was after the hour of the table d'hôte, so that I was obliged to make a solitary supper from the relics of its ampler board. The weather was chilly; I was seated alone in one end of a great gloomy dining-room, and, my repast being over, I had the prospect before me of a long dull evening. without any visible means of enlivening it. I summoned mine host, and requested something to read; he brought me the whole literary stock of his household, a Dutch family Bible, an almanac in the same language, and a number of old Paris newspapers. As I sat dozing over one of the latter, reading old news and stale criticisms, my ear was now and then struck with bursts of laughter which seemed to proceed from the kitchen. Every one who has travelled on the Continent must know how favourite a resort the kitchen of a country inn is to the middle and inferior order of travellers; particularly in that equivocal kind of weather, when a fire becomes agreeable toward evening. I threw aside the newspaper, and explored my way to the kitchen, to take a peep at the group that appeared to be so merry.

### 2. Translate—

Les Allemands se laissent discipliner par l'homme qui tient d'une paire d'épaulettes le droit de leur commander; mais ils se plient difficilement à la discipline des partis. Les chefs ont peine à compter sur leur monde, qui n'accepte leur autorité que sous bénéfice d'inventaire; souvent, au moment où ils sonnent la charge, chacun tire de son côté. Aussi est-il malaisé de savoir ce que veulent les partis allemands; ils se fractionnent, se morcèlent à

l'infini: où l'on pensait ne trouver qu'un programme, on en trouve dix; le texte primitif et commun disparaît sous la diversité des commentaires. De même qu'il est à la fois cosmopolite et homme de clocher, l'Allemand unit l'esprit de détail à l'esprit de système; telle vérité particulière qui l'a frappé lui est plus chère que la vie, il y voit le monde entier. N'est-ce pas l'Allemagne qui a inventé ce proverbe, que souvent les arbres empêchent d'apercevoir la forêt? Ajoutons que le Français ne veut pas toujours la même chose, mais qu'il ne veut d'habitude qu'une chose à la fois. L'irrésolution de l'Allemand provient le plus souvent de ce qu'il a peine à rien sacrifier; il examine en conscience le pour et le contre de chaque question; la thèse lui plaît, l'antithèse a du bon. Ne lui demandez pas de choisir; sa langue est souple, elle a des complaisances que n'a pas le français: il saura trouver une formule qui dira tout, et qui mettra son cerveau en paix avec sa conscience. Cet Allemand qui voulait à la fois la liberté absolue de la presse et la censure, quiconque a voyagé au-delà du Rhin l'a connu. Il en est plus d'un parmi ses compatriotes qui se flatte de concilier la centralisation avec la pleine autonomie des communes, le militarisme avec le régime parlementaire, qui est à la fois conservateur et radical, et vit dans les contradictions comme le poisson dans l'eau; il n'est pas bien convaincu que, pour faire une omelette, il soit nécessaire de casser les œufs.

3. Transcribe phonetically—

Connaissez-vous une bête qu'on nomme bernard-l'ermite? C'est un très petit homard, gros comme une sauterelle, qui a une queue sans écailles. Il prend la coquille qui convient à sa queue, l'y fourre et se promène ainsi au bord de la mer. Hier, j'en à trouvé un dont j'ai cassé la coquille très proprement sans écraser l'animal, puis je l'ai mis dans un plat d'eau de mer.

4. Tell in French (not more than 150 words) the story of Sylvestre Bonnard's crime.

# FRENCH I. B.—AUTHORS.

Translate extracts from Molière, L'Avare, Voltaire, Mérope; Musset, On ne badine pas avec l'Amour and Fantasio; Victor Hugo, Les Voix Interieures; Anatole France, Le Crime de Sylvestre Bonnard.

### FRENCH II. AND III. A .- COMPOSITION AND UNSEEN.

# 1. Translate-

Il n'y a rien dans cette forêt qui ne fasse plaisir: une large plaine de genévriers épineux, rabougris, repliés par le vent, rabattus sur le tapis roux des bruyères; au milieu, un bouquet de jolis bouleaux blancs, effeuillés, qui laissent apercevoir entre leurs cheveux la neige mouvante des nuages; à droite, une phalange de pins qui serrent leurs troncs, et poussent en avant leur bataillon noir sur la campagne lumineuse; au fond, les grandes lignes cassées des collines tachées par la blancheur unie des sables, où luisent des têtes de roc parmi les panaches des hêtres. Le vent d'automne siffle et s'enfle, il ronfle à travers les files immobiles des pins, et grésille dans les feuillages des bouleaux demi dépouillés, pauvres enfants qui tremblent. Les feuilles dorées s'envolent une à une, comme l'aile d'un papillon mort, et tournoient en tombant dans la lumière. On regarde ces entassements de rocs gris jetés pêle-mêle, qui crénellent les hauteurs et bossellent les pentes; et l'on pense aux furieux courants, à la bataille des eaux qui ont raviné, décharné, disloqué les crêtes. Ce pays-ci était le fonds d'une mer, et il y paraît encore; du sable partout, des écueils dévastés, des falaises rongées, des rocs minés par la base; aux issues dégorgeantes, des traînées de blocs qui marquent le lit des courants; l'eau retirée, il est resté un désert blanc, aride. Par degrés, le soleil a bruni les rochers; les mousses sont venues et se sont incrustées sur les parois du grès raboteux; après elles, les fougères, les tiges opiniâtres du genévrier, puis les colonies envahissantes des arbres. et, dans les fonds humides, les chênes, qui, de siècle en siècle, aspirant l'air des solitudes, ont enfoncé leurs troncs et élevé leurs coupoles.

### 2. Translate into French—

A certain sort of talent is almost indispensable for people who would spend years together and not bore themselves to death. But the talent must be for and about life.

To dwell happily together, they should be versed in the niceties of the heart, and born with a faculty for willing compromise. The woman must be talented as a woman, and it will not much matter if she be talented in nothing She must know her woman's trade, and have a fine touch for the affections. And it is more important that a person should be a good gossip, and talk pleasantly and smartly of common friends and the thousand and one nothings of the day and the hour, than that she should speak with the tongues of men and angels; for a while together by the fire happens more frequently in marriage than the presence of a distinguished foreigner to dinner. That people should laugh over the same sort of jests and have many an old joke between them, which time cannot wither nor custom stale, is a better preparation for life, by your leave, than many other things higher and better sounding in the world's ears. You could read Kant by yourself, if you wanted; but you must share a joke with some one else. You can forgive people who do not follow you through a philosophical disquisition; but to find your wife laughing when you had tears in your eyes, or staring when you were in a fit of laughter, would go some way towards a dissolution of the marriage.

### FRENCH II. AND III. B.—AUTHORS.

Translate extracts from Chateaubriand, Pages Choisies; Balzac, Eugénie Grandet; Victor Hugo, Hernani; Gautier, Pages Choisies; Musset, On ne badine pas avec l'Amour and Fantasio.

Additional for Third Year Students.—Sainte-Beuve, Portraits de Femmes.

### FRENCH II. AND III. C.—LITERATURE.

FIVE questions only are to be attempted, and these must include No. 1.

- Show how Napoleon strove to influence literature during his reign. Write your answer in French.
- 2. What were the principal services that Mme de Staël rendered to French literature?

- 3. What was the real significance of the Romantic Movement in France? Show its relation to historic events.
- 4. In what sense was Lamartine an innovator in French poetry?

  Analyse any one of the following poems: L'Isolement, le Vallon, le Lac.
  - Sketch the plan of Lamartine's projected epic, and discuss the parts he executed.
- 5. "C'est J-J. Rousseau qui introduisit le premier parmi nous ces rêveries si désastreuses et si coupables... Le roman de Werther a développé depuis ce germe de poison." Explain these quotations from the preface to René. Was René the antidote that Chateaubriand intended it to be?
- 6. "Seul le silence est grand, tout le reste est faiblesse." Sketch the train of thought that led Vigny to this conclusion, and show how his earlier works represent phases in the process.
- 7. Give an account of Victor Hugo's poetry from 1830 to 1840. In what does his greatness consist?
- 8. "Théophile Gautier a contribué à accréditer des idées fausses." "Il a rendu des services à la poésie." Explain.

# GERMAN I. A.—COMPOSITION AND UNSEEN.

1. Translate into English-

Wie? Litteratur, Kunst und Poesie könnten ohne Vaterland sein? ohne dieses Grundgefühl, welches diesen Blüten erst Klima und Wärme verleihen muss? So leicht wollte ich glauben, dasz der starre Leichnam eines Greises wieder zur Jugendfrische und allen Leidenschaften belebt werden könnte. Man kann noch fragen, was wir verloren haben? Nicht dieses und jenes, sondern alles; und dasz es Deutsche gibt, die so fragen können, die mit sophistischer Ueberweisheit jene hohen, einzig hohen Güter verkennen und verschmähen, dies ist das Eleud unserer Tage, daran sind wir zu Grunde gegangen. Geblendet vom Glanz ausländischer Herrlichkeit, strebten wir nach Dingen, die für uns nicht passen, die keine Güter, kein Glück für uns sind, und lernten die Gaben, das wahre Glück, die einheimische

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Trefflichkeit verschmähen, die uns ein gütiges Schicksal noch gegönnt und gelassen hatte. Wenn dieses Glück, diese Freiheit, die sich nicht in Zahlen, nicht in geschriebenen Paragraphen aufweisen lässt, einmal ganz verscherzt sein wird, dann werden wir an ihrem Grabmal erst wissen, was wir besessen haben.

# 2. Translate into German-

There dwell and toil, in the British village of Dumdrudge (Tumpknecht), usually some five hundred souls. these, by certain "Natural Enemies" of the French, there are successively selected, during the French war, say thirty able-bodied men; Dumdrudge, at her own expense, has suckled and nursed them; she has, not without difficulty and sorrow, fed them up to manhood, and even trained them to crafts, so that one can weave, another build, another hammer, and the weakest can. stand under 30 stone avoirdupois (vier centner). Nevertheless, amid much weeping and swearing, they are selected; all dressed in red; and shipped away, at the public charges, some two thousand miles, or say only to the south of Spain; and fed there till wanted. now to that same spot in the south of Spain, are thirty similar French artisans, from a French Dumdrudge, in like manner wending: till at length, after infinite effort, the two parties come into actual juxta-position; and Thirty stands fronting Thirty, each with a gun in his Straightway the word "Fire!" is given; and they blow the souls out of one another; and in place of sixty brisk useful craftsmen, the world has sixty dead carcasses, which it must bury, and anew shed tears for.

# GERMAN I. B.—AUTHORS.

Translate extracts from De la Motte Fouqué, Undine; Goethe, Gedichte; Lessing, Nathan der Weise; Külgelgen, Jugenderinnerungen; Herder, Der Cid.

# GERMAN II. AND III. A .- COMPOSITION AND UNSEEN.

# 1. Translate into English—

Das Unbewusste ist wie eine Masse, die dem Menschen das nöthige Gewicht giebt, seinen Ballast, damit er nicht den Winden und Wellen ein Spiel wird. Wenn es sich auflöst und wie ein berauschender Wein in den Kopf steigt, verliert er das Gleichgewicht und den Halt, er haftet nicht mehr am Boden. Nun wirkt die Kraft der Natur nicht mehr in ihm, niemals fühlt er ihren warmen, feuchten, fruchtbaren Hauch in sich wehen, niemals ihren treibenden, schwellenden Saft in sich aufsteigen. Ohne Zusammenhang mit der Erde ist er wie eine märchenhafte Fieberblume, die sich nur von Licht nährt, wie ein losgerissenes Blatt, das beweglich auf ewig bewegten Wellen schwankt. In dem Wahne ebenso gut das eine wie das andre thun zu können, ebenso gut ja wie nein sagen zu können, fühlt er sich charakterlos und scheint es. Darin liegt die Unmännlichkeit, die den meisten Romantikern eigen war. Sie haben nie eine feste Ueberzeugung, es ist ihnen niemals ganz Ernst; wenigstens scheint es so. Tieck erzählte in späteren Jahren seinem Freunde Solger, wie er sich in der Jugend mit "frevelhaftem Leichtsinn" in die verscheidensten Geistesströmungen geworfen habe: "erinnere ich mich, durch welche Fluth wechselnder Gedanken und Ueberzeugungen ich gegangen bin, so erschrecke ich und mir fällt Hume's Behauptung ein, dass die Seele nur ein Etwas sei, an dem sich im Fluss der Zeit verschiedene Erscheinungen sichtbar machten."

### 2. Translate into German-

Let us be thoroughly on our guard against this tricky argument, lest, with its fair face of youth, it beguile us oldsters, and then leave us ridiculously in the lurch . . . Look now: suppose we three had to cross a river running strongly; and suppose that I, being the youngest and the most experienced in the matter of currents, were to take upon myself the duty of making the first attempt; that I then left you in safety and tried to find some passage fit for older men like yourselves, intending, if I found one, to call on you to follow and to guide you over with the help of my own experience, on the other hand, if I found none suitable for you, to be quit of the matter for the risk that I alone had run—I think that would be a fair offer. Well, the enquiry that lies before us runs too strong and, I fear, too deep for you: the rapid

current of questions might cause your heads to spin and make all before your eyes grow dark. You are not accustomed thus to answer on the spur of the moment and at the same time to watch every word you utter; and you might easily come to consider me an intolerably tedious and impertinent companion. Therefore I propose to put the questions to myself and answer them myself, whilst you listen in safety, until I have completed the whole argument concerning the soul and furnished the proof of its priority to the body.

# GERMAN II. AND III. B .- AUTHORS.

Translate extracts from Tieck, Bd. I.; Novalis and Fouqué; Kleist, Kätchen von Heilbronn; Heine, Romantische Schule.

Additional for Third Year Students .- Uhland, Gedichte.

### GERMAN II. AND III. C.-LITERATURE.

- (Five questions only to be attempted. If no question in part A is attempted, one question in part B must be treated in German. It is open to students to treat a question in part B in German in addition to attempting one in part A, and likewise to group and treat connectedly two or more in part A.)
  - Explain and illustrate the terms Romantic Synthesis, Romantic Fallacy.
  - Explain and illustrate the term Romantic Triad.
     What is Romantic Irony? Illustrate the varieties.
  - Trace the development of Fr. Schlegel's romantic theory down to 1802.
  - 4. What ideas has Novalis expressed in the Hymnen an die-Nacht and the Gesang der Toten? Characterise and discuss the form of their expression.
  - Discuss Heinrich von Ofterdingen with reference (a) to the leading ideas, (b) to the author's criticism of Wilhelm Meister.
  - 6. "Das ist eben, was man niemals vergessen darf, dasz das Bewusstsein des Romantikers mit dem Gehalte des Unbewussten erfüllt ist." (Ricarda Huch.) Discussthis. To what Romanticist would you particularly applyit? Give reasons.

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7. What are Tieck's chief characteristics?

- 8. What are the principal differences between the lyric poetry of the Frühromantik and that of the Spätromantik?
- Characterise Hoffmann with special reference to the romantic elements in his work.
- Sketch the development of the German drama during the whole Romantic period.
- 11. Discuss the sources and justice of Heine's polemic against the Romantic School.

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- 12. What appear to you to be Fouqué's merits and defects?
  What influence did he have on German fiction?
- 13. What are the contributions of Romanticism to Germanic scholarship?
- 14. State and discuss Richard Wagner's theory of drama.
- 15. What Romantic elements are perceptible in Friedrich Nietzsche?

# HISTORY I.

### PASS AND HONOURS.

You are recommended to answer SEVEN questions, and no more.

- Give some account of the travels of Marco Polo, and explain the importance of the part they played in the story of the discovery of America.
- 2. Write what you know about the following—Vasco de Gama, Affonso d'Albuquerque, Francisco Serrano.
- 3. Write an account of the Fourth (the last) Voyage of Columbus.
- 4. Why was America called America and not Columbia?
- 5. Write an account of the life of Vasco Nunez de Balboa.
- Describe the treatment of the natives of the islands by the Spaniards.
- 7. Write an account of the life and character of Francisco Pizarro.
- 8. Write an account of the life of Menendez.
- 9. Write what you know about John and Sebastian Cabot.
- 10. Write an account of the "Third Voyage of Sir John Hawkins."

## HISTORY I. HONOURS.

You are recommended to answer BEVEN questions, and no more.

- 1. What were the chief difficulties of Oceanic exploration in the 15th century? Give illustrations.
- 2. What were the geographical arguments which induced Columbus to make his "first voyage"?
- Give a list of the most important of the writings of Columbus.
   State when and where they were written, and describe their general character.
- Trace the development of the ideas of Las Casas on the subject of slavery.
- 5. Illustrate, from the story of the Spanish Conquest of America, the national characteristics of the Spaniards.
- 6. Iliustrate, from 16th century maps, the various opinions held as to the geographical relations of America and Asia.
- 7. Compare the civilisations of Mexico and Peru.
- 8. Give some account of the condition of Spanish America about 1600.
- 9. Illustrate the growing importance of commerce as a motive of English enterprise in the 16th century.

## HISTORY II. PASS AND HONOURS.

You are recommended to answer SEVEN questions, and no more.

- 1. Explain Drake's ideas as to the best way to wage war on Spain.
- 2. Write a short account of the views, the exploits, and the character of Sir Humphrey Gilbert.
- 3. What arguments did Raleigh urge in support of his proposal to conquer Guiana?
- 4. Describe the policy of Sir Edwin Sandys in respect to the affairs of Virginia.
- 5. What were the causes of the outbreak of Bacon's rebellion?
- 6. "From the days of Spotswood we become aware that our interest in things that happen in Virginia is mainly determined by our knowledge of certain tremendous events in the near future, which concern not only Virginia, but the whole continent of America."

Discuss.

- 7. Write a short account of the ecclesiastical aspect of the History of Maryland to 1689.
- 8. "In a two-fold sense Carolina was a frontier country." Explain.
- 9. Write an account of Oglethorpe's aims, and of the difficulties which he encountered and overcame.
- 10. Describe the character and the views of John Robinson.
- 11. "He who runs may read how the spirit of 1776 was fore-shadowed in 1689."
  Explain.
- 12. "The acquisition of New Netherland by the English was an event scarcely second in magnitude to the conquest of Canada in later days."
  - Explain the importance of the former event.
- 13. "Uppermost in Penn's mind was the hope of planting a free and self-governing community wherein his own ideal of a civil polity might be realised."
  - Show how the story of the foundation of Pennsylvania illustrates its founder's ideal.

## HISTORY II. HONOURS.

You are recommended to answer BEVEN questions, and no more.

- 1. Write a critical account of the original sources of information for Drake's voyage round the world.
- 2. Discuss the causes of the naval superiority of the English in the war against Spain.
- "A man of the very highest intellectual gifts, but whose moral nature was infinitely inferior to them."
   Discuss this description of Raleigh's personality.
- 4. Explain the commercial arguments used in favour of colonisation.
- Illustrate from contemporary literature the argument that men would better their condition by emigration to the Colonies.
- 6. What views were held as to the production of Tobacco in Virginia?
- Describe a typical Virginian Tobacco plantation about 1700.

- 8. Explain the distinctive teaching of Roger Williams.
- 9. "Whatever else Cromwell was, he was above all a great Imperial ruler."
  - Explain Cromwell's "Imperial" views, and policy.
- 10. The object of the Colonial policy of the Restoration Government has been described as "the maintenance of the Government of England over the Colonies, that the maximum of advantage for both, but especially for England, might be secured."

Describe and discuss the policy that is referred to

11. "In spite of the fact that Virginia, like New Netherland, started under the rule of a commercial company, there can be no doubt that English liberties flourished in Virginia as notably as Dutch liberties languished in New Netherland."

Explain this aspect of the history of New Netherland.

## PHILOSOPHY I.—LOGIC AND PSYCHOLOGY.

PASS.

Select FOUR questions from each Section.

#### SECTION A.

- 1. Explain and illustrate what is meant by fusion, arrest and complication of ideas.
- Education is the process by which facts become organised into faculty." Explain and illustrate.
- 3. What conditions must an hypothesis satisfy, in order to be admitted as a good scientific hypothesis?
- 4. Formulate the stages of the complete inductive method.
- 5. State and illustrate the main types of inductive fallacy.
- 6. Write an explanatory note on one of the following-
  - (a) Dogmatism, Scepticism, Criticism.
    - (b) Mechanism, Teleology.
  - (c) Determinism. Indeterminism.
  - (d) Atheism, Deism, Pantheism.

SECTION B.

7. Explain what is meant by quality of sensation, relativity of sensation, simultaneous and successive contrast.

- 8. Describe the factors involved in the formation of habit.
- Distinguish between feeling, emotion, emotional mood, emotional disposition.
- 10. Distinguish between imagination and fantasy, illusion and hallucination.
- 11. State briefly what you understand by impulse, desire, conflict of desire, deliberation, decision.
- 12. Analyse psychologically, doubt, belief, unbelief, and the state of mind which is "open to conviction."

## PHILOSOPHY I.—LOGIC AND PSYCHOLOGY.

#### HONOURS.

Select THREE questions from each Section.

#### SECTION A.

- State and discuss the main views as to the import of propositions and judgments.
- Analyse the conception of cause, with special reference to Mill's account.
- 3. Show that the method of Concomitant Variations is a quantitative application of more primary methods.
- 4. What are the general characteristics of reflective thinking? Illustrate by reference to a prolonged train of thought, e.g., a scientific discovery.
- 5. Classify the various views of what constitutes the summum bonum, and give a detailed account of one of them.

## SECTION B.

- Explain and illustrate James' distinction between substantive and transitive states of mind.
- 7. State James' theory of emotions, and note the chief objections.
- 8. "Social feeling, moral feeling, and religious feeling all imply personality." Discuss this statement, and show how moral feeling developes out of social feeling.
- Volition is a complex mental state, involving a considerable development of conation, cognition, and feeling. Explain and illustrate.

## PHILOSOPHY II. AND III.

#### PASS.

Not more than seven questions to be attempted.

- 1. Illustrate from Oriental Philosophy, the tendencies known as Monism, Dualism, Mysticism, Pantheism.
- 2. What did Socrates mean by the statement that virtue is knowledge?
- 3 How did Plato and Aristotle conceive the relation of Ethics to Politics?
- 4. State and examine Aristotle's definition of virtue.
- 5. Contrast the ethical ideals of Stoicism and Epicureanism.
- 6. What are the main characteristics of Alexandrian philosophy?
- "The Christian religion was, in its beginning, formless and undogmatic." Sketch briefly the process by which it became a system of faith and life
- 8. What was the nature of the controversy between Nominalists and Realists? What was the underlying theory of knowledge?
- 9. Discuss the possibility of a philosophy of Eclecticism.

## PHILOSOPHY II. AND III.

#### HONOURS.

Select FOUR questions, including Nos. 3 and 6.

- Can you trace any law of development in the history of Greek philosophy?
- 2. State and discuss different views of the "state of nature" as a fact or an ideal.
- Discuss the conception of the ethical end as "equilibrated conduct."
- 4. What are the constitutive elements of religion?
- 5. Write an explanatory and critical note on each of the following—
  - (a) "The sceptics made a dogma of doubt."
  - (b) "A dogma is a formulated mystery."
- 6. "As the influence of Aristotle uniting with traditional Christian doctrine, gives birth to medieval philosophy, the supremacy of the Church over the State is supported by Aristotelian thought applied to the Christian view of life."—(Sidgwick.) Explain and illustrate this statement.

# MATHEMATICS I.—GEOMETRY AND MENSURATION. Two and a Half Hours.

PASS.

1. Prove that the medians of a triangle are concurrent in a point which trisects each median.

If the medians AD, BE, CF of the triangle ABC intersect in G, prove that

 $12(GD^2+GE^2+GF^2) = AB^2+BC^2+CA^2$ .

2. Draw a circle touching the side BC of the triangle ABC and the other two sides produced.

If the sides of the triangle are 1.3, 2, 2.1 inches in length respectively, find the radius of the circle which touches the side 2, and the other sides produced. Find also the distances of its points of contact from the angular points of the triangle.

3. If the vertical angle of a triangle is bisected internally or externally by a straight line, the bisector divides the base into segments which have the same ratio as the other sides of the triangle.

From P any point on a circle of diameter AB, straight lines PC, PD are drawn equally inclined to AP on opposite sides of it, and meeting AB at C and D. Prove that AC is to CB as AD is to BD.

4. AD, BE and CF are the three perpendiculars of a triangle ABC. Show that the triangles AEF, CDE, BDF are all similar to ABC.

Hence show that

AB.AF = AC.AE.

- 5. Prove that the areas of similar triangles are to one another as the squares on their corresponding sides. Extend this proposition to similar polygons of any number of sides.
- 6. Show how to find a mean proportional between two given straight lines. Draw a regular hexagon, and by the aid of the preceding proposition show how to draw another regular hexagon whose area is three times that of the one first drawn.
- 7: A canal cutting is 50 feet wide at the bottom and 20 feet deep, the sides being sloped at 30° degrees to the horizon. Find the area of the cross section, and the cost of excavating 100 yards of it at 1s. 4d. per cubic yard.

8. A pyramid stands on a square base of side 10 inches, and its faces are equiangular triangles. Find its height, its volume, and its slant surface.

## MATHEMATICS I.—ALGEBRA.

TWO AND A HALF HOURS.

- 1. Find the numerical value that c must have in order that  $x^5+4x^4-2x^3-11x+c$  should be exactly divisible by x+3.
- 2. Draw the graph of the expression  $10+x-3x^2$  for values of x between -3 and +4.

Find for what range of values the expression is positive.

- 3. Prove that if an expression in x is divisible by x-k, the expression must vanish when x is replaced by k.

  Find the factors of  $x^3 13x + 12$ .
- 4. Solve the equations

(i.) 
$$\sqrt{3x-5} + \sqrt{x+6} = \sqrt{8x+1}$$
.

(ii.) 
$$x^2 + xy + 2y^2 + x = 6$$
 }  $2x^2 + xy + y^2 + y = 6$  }

verifying your solutions.

(iii.) 
$$(1.045)^x = 2.5$$
.

5. Find the product of

a 
$$\left(x+\frac{b+\sqrt{(b^2-4ac)}}{2a}\right)\left(x+\frac{b-\sqrt{(b^2-4ac)}}{2a}\right)$$
.

If a and  $\beta$  are the roots of the equation  $ax^2 + bx + c = 0$ , prove that

$$a\beta = \frac{c}{a}$$

and 
$$a-\beta = \frac{\sqrt{(b^2-4ac)}}{a}$$
.

Write down an equation the sum of whose roots shall be the same as the sum of the roots of the equation

$$2x^2 - 7x + 11 = 0,$$

and the product equal to 7.

6. Define  $a^m$  when m is a positive integer, and find a meaning for  $a^{-\frac{3}{4}}$ , pointing out clearly why you give  $a^{-\frac{3}{4}}$  this meaning.

Divide 
$$a-b$$
 by  $a^{\frac{1}{6}}+b^{\frac{1}{6}}$ .

7. Find the seventh root of 01456, and the numerical value of

$$\frac{\cdot 003768 \times (2 \cdot 007)^{\frac{2}{6}}}{\sqrt[3]{(\cdot 6667 \times \cdot 1138)}}$$

8. What is a G.P.? Find the sum of n terms of such a series.

Insert 9 geometric means between 5 and 8, and find the product of these means.

## MATHEMATICS I.—TRIGONOMETRY.

TWO AND A HALF HOURS.

LOGARITHM TABLES TO BE PROVIDED.

Show how to construct the acute angle whose sine is ½, and
the other angle less than four right angles with the same
sine.

Find from the Tables the acute angle whose sine is 75. Also write down the values of cos 140° 49′, sin 230° 49′, sin 309° 11′.

 A man walks due East from a station A on a horizontal plane for 10 miles. He then walks N.E. for 5 miles to a station B. Find the distance of B from A, and its bearing from A.

3. Prove geometrically that the sine of an angle is equal to the sine of its supplement, and that its cosine is equal to minus the cosine of its supplement.

Find the angles between  $\hat{0}^{\circ}$  and  $360^{\circ}$  which satisfy the equation

 $\cos \theta = 2 \cos 100^{\circ}$ .

4. Show how to find the height of an inaccessible mountain above a horizontal plane by measuring the distance between two points in a direct line to the point in which the perpendicular from the top of the mountain meets the plane, and the angles of elevation of its summit from these two points.

Put your result in a form suitable for logarithmic calculation.

5. Prove that  $\cos 15^{\circ} = \frac{\sqrt{3+1}}{2\sqrt{2}}$ , and that  $\cos A + \cos(120^{\circ} + A) + \cos(120^{\circ} - A) = 0$   $\sin A + \sin(120^{\circ} + A) - \sin(120^{\circ} - A) = 0$  $2\cos(30^{\circ} + A) + 2\cos(60^{\circ} + A) = (\sqrt{6} + \sqrt{2})\sin(45^{\circ} - A)$ . What is the Sine Rule? Prove it geometrically. Show that

$$\frac{\sin 2A}{\sin 2B} = \frac{a^2(b^2 + c^2 - a^2)}{b^2(c^2 + a^2 - b^2)}$$

- Describe some ways in which the third side of a triangle can
  be found when the other two sides and the included
  angle are given. Explain the importance of this problem
  to the surveyor.
  - Find the base when the vertical angle is 60°, and the sides are 1000 and 2000 feet.
- 8. Prove that the length of the radius of the inscribed circle of a triangle is given by

$$r = \frac{8}{s}$$
.

Hence, or otherwise, find the smallest angle of the triangle whose sides are 135, 160 and 250 feet.

# MATHEMATICS I.—ELEMENTARY DIFFERENTIAL AND INTEGRAL CALCULUS.

Two and a Half Hours.

FIRST PAPER.

1. Draw the curves

(i.) 
$$y = x$$
,

(ii.) 
$$y = \frac{1}{x}$$
.

on the same diagram, and find the points at which they intersect. What do these two equations represent?

2. Find the equation of the line through the point (3, 4), and the common point of the lines given by

$$5x - y = 9,$$
  
 $x + 6y = 8.$ 

3. Write down—without proof—the conditions for parallelism and perpendicularity of the lines

$$lx + my + n = 0,$$
  

$$l'x + m'y + n' = 0.$$

Show that the loci of question (1) cut at right angles.

4. What is meant by the gradient of a curve at a point? Show from your statement of the meaning of the term that the locus

$$y = ax + b$$

has the same gradient at every point, and the locus  $y = ax^2 + 2bx + c$ 

has the gradient 2(ax+b) at the point whose abscissa is x.

- 5. Prove the rule for the differentiation of the product of two functions, and also that if y is a function of u, and u a function of x, the differential coefficient of y with respect to x is the product of the differential coefficients of y with respect to u, and of u with respect to x.
- 6. Differentiate the following algebraic expressions:-

(i.) 
$$(x-1)^2(x-2)^2$$
.

(ii.) 
$$\frac{(x-1)^2}{(x-2)^2} \times \frac{(x+1)^2}{(x+2)^2}$$
.

(iii.) 
$$\frac{x^2-x+1}{x^2+x+1}$$
.

7. Prove geometrically that if  $\theta$  is the number of radians in an angle, for a very small increase  $\delta\theta$  in  $\theta$ , the increase in  $\sin\theta$  is  $\cos\theta$ .  $\delta\theta$  very approximately

In the 7 figure Trigonometrical Tables we find

$$\sin 44^\circ = .6946584,$$
  
 $\cos 44^\circ = .7193398,$ 

and  $\sin 44^{\circ}.1' = 6948676$ .

Assuming that

$$\pi = 3.1416$$
,

compare the last mentioned tabulated result with that calculated by the method of this question.

8. Prove that  $\frac{d}{dx}(\tan x) = \sec^2 x$ .

Also that

(i.) 
$$\frac{d}{dx} \cdot \left(\frac{\sin 3x}{4} + \sin^3 x\right) = \frac{3}{4}\cos x$$

(ii.) 
$$\frac{d}{dx} \left( \frac{\sec^2 x}{\sec 2x} \right) = -\frac{2\sin x}{\cos^3 x}$$
.

9. Write down the series which gives the number e.

Assuming that

$$e^x = 1 + x + \frac{x^2}{24} + \frac{x^3}{3!} + \dots$$

Show that  $e^{\frac{1}{10}}$  does not exceed 1.1 by more than  $\frac{3}{580}$ .

## MATHEMATICS I.—ELEMENTARY DIFFERENTIAL AND INTEGRAL CALCULUS.

## TWO AND A HALF HOURS.

## SECOND PAPER.

1. What is meant by the symbols  $\sin^{-}x$  and  $\cos^{-1}x$ ?

If 
$$y = \sin^{-1}x$$
, prove that  $\frac{dy}{dx} = \frac{1}{\sqrt{1-x^2}}$ .

Prove that

$$\frac{d}{dx}\sin^{-1}\left(\frac{x}{\sqrt{1+x^2}}\right) = \frac{1}{1+x^2}.$$

2. Draw the curves

(i.) 
$$y=2^x$$

(ii.) 
$$y = e^x$$

(iii.) 
$$y=3^x$$

for values of x lying between 0 and 2, on the same diagram, taking e=2.72.

Write down the gradients of the three curves at the point at which they cut each other.

3. Show how the differential calculus can be applied to the evaluation of the maxima and minima of a given function of x. Apply your reasoning to the function

$$x+1+\frac{1}{x}$$

and draw the hyperbola

$$y=x+1+\frac{1}{x}$$

4. Prove that the path of a particle projected from the origin with a velocity V at an inclination a to the horizon is a parabola.

Draw the curve when

$$V = 1000$$
 ft. per sec.

and read off the range on the plane which is inclined at 45° to the horizontal.

- 5. Prove that in the ellipse whose foci are S and S' SP + S'P = the major axis.
- 6. What is meant by the expression—"the integral of a function?"

Write down the integrals of the following functions:-

$$x^2$$
,  $\frac{1}{x^2}$ ,  $x+1$ ,  $\frac{1}{x+1}$ ,  $x^2+a^2$ ,  $\frac{1}{x^2+a^2}$ ,  $x^2-a^2$ , and  $\frac{1}{x^2-a^2}$ .

7. Show that if A stands for the area included between the curve y = f(x), the axis of x, and the ordinates at  $(x_0, y_0)$  and (x, y)

(i.) 
$$\frac{d\mathbf{A}}{dx} = f(x)$$
,

and (ii.) 
$$A = F(x) - F(x_0)$$
, where  $F(x) = f(x)dx$ .

- 8. Show how the volume of a solid whose cross section is known can be obtained by the Integral Calculus. Apply this method to the case of a pyramid.
- Show that the fluid pressure on a plane surface held vertical, and completely covered, is equal to the product of the area and the pressure at the C.G. of the surface.
  - Hence, or otherwise, show that a vertical masonry dam, in the form of a rectangle of height 50 ft. and length 100 ft., will have to withstand a pressure of nearly 3475 tons.

[The weight of a cub. ft. of water =  $62\frac{1}{4}$  lbs.]

## MATHEMATICS II.—DYNAMICS.

- 1. Define Simple Harmonic Motion, and prove that it is isochronous.
  - A small ring slides down a smooth wire in the shape of a cycloid with its axis vertical and concavity upwards. Prove that its motion is simple harmonic.

2. Show that the accelerations of a particle along and perpendicular to the radius vector are respectively

$$\frac{d^2r}{dt^2} - r\left(\frac{d\theta}{dt}\right)^2$$
 and  $\frac{1}{r} \frac{d}{dt}\left(r^2\frac{d\theta}{dt}\right)$ .

3. Establish the differential equation of the path of a particle under a central force

$$\frac{d^2u}{d\theta^2} + u = \frac{P}{h^2u^2}.$$

- 4. A particle describes the ellipse  $r = \frac{l}{1 + e \cos \theta}$  under a centre of force at the focus. Show that the force  $= \frac{\mu}{r^2}$  and that the velocity  $= \sqrt{\mu \left(\frac{2}{r} \frac{1}{a}\right)}$ , where 2a is the major axis.
- 5. A body is turning about a fixed axis. Prove that the equation of motion is  $Mk^2\theta = L$ .

Find the time of a small oscillation of a circular disc about a horizontal axis in its plane which touches the disc.

- 6. A fly wheel whose radius is 2 feet, and radius of gyration 18 inches, weighs 3 tons. Find the horse-power required to produce in it a velocity of 1200 revolutions per minute in 10 seconds. Find also what constant, force along its rim will reduce its revolutions from 1200 per minute to 800 per minute in 4 seconds.
- 7. Prove that the kinetic energy of a body moving in two dimensions  $=\frac{Mu^2+Mk^2\omega^2}{2}$ , where u is the velocity of the centre of mass, and  $\omega$  the angular velocity of the body.
- 38. A solid sphere of radius a rolls down a rough inclined plane of angle a, show that its centre moves with acceleration  $\frac{a^2g\sin a}{a^2+k^2}$ 
  - If the solid sphere takes a minute to roll down the plane, and a hollow sphere of the same external dimensions rolls down the plane in 63 seconds, find the radius of gyration of the hollow sphere.

## MATHEMATICS II.—DIFFERENTIAL AND INTEGRAL CALCULUS.

## Two and a Half Hours.

### FIRST PAPER.

1. Prove the rule for differentiating a function of a function. Differentiate with regard to x

(i.) 
$$\log \frac{a+b \tan \frac{x}{2}}{a-b \tan \frac{x}{2}}$$

(ii.) 
$$\tan^{-1} \frac{2ax}{a^2 + x^2}$$

2. Show that the point  $x=a\cos^3\theta$ ,  $y=b\sin^3\theta$  lies on the curve  $x^{\frac{2}{3}}+y^{\frac{2}{3}}=a^{\frac{2}{3}}$ , for all values of  $\theta$ .

Find the equation to the tangent to the curve at any point, and show that the length of the part of the tangent intercepted between the axes is constant.

3. Explain what is meant by the radius of curvature at any point of a curve, and prove that

$$\rho = \frac{\left(1 + \left(\frac{dy}{dx}\right)^2\right)^{\frac{3}{2}}}{\frac{d^2y}{dx^2}}.$$

In the case of the catenary

$$y = \frac{c}{2} \left( e^{\frac{x}{c}} + e^{-\frac{x}{c}} \right),$$

prove that  $y^2 = c\rho$ .

 Show how to determine whether a curve is concave or convex upwards.

Examine the curve  $y = \frac{4}{x} + \frac{9}{2-x}$  for turning points and points of inflection, and trace the curve.

5. What is meant by the envelope of a system of curves whose equation contains one arbitrary parameter?

Prove that the envelope of the straight lines, the sum of whose intercepts on the axes of coordinates is constant (k), is the parabola  $(x+y-k)^2=4xy$ .

Taking k=4 inches, draw several positions of the line on squared paper, illustrating the curve as the locus of the intersection of consecutive members of the family.

6. Assuming that f(x) can be expanded in ascending powers of x, prove that

$$f(x)=f(0)+xf'(0)+\frac{x^2}{2!}f''(0)+\ldots$$

Expand  $\log(1+e^x)$  in ascending powers of x as far as the term involving  $x^4$ .

- 7. Find the turning points and points of inflection on the curve  $y=4\cos x+\cos 2x-5$ .
- 8. What is meant by Partial Differentiation?

Apply the equation

$$dx = \frac{\partial u}{\partial x} dx + \frac{\partial u}{\partial y} dy$$

to determine approximately the alteration per cent. in the volume of a cylinder caused by an increase of 2 % in the radius of its base and a decrease of 3 % in its height.

9. If  $u = \log r$ , where  $r^2 = (x-a)^2 + (y-b)^2$ , verify that

$$\frac{\delta^2 u}{\delta x \delta y} = \frac{\delta^2 u}{\delta y \delta x},$$

and prove that

$$\frac{\delta^2 u}{\delta^2 x} + \frac{\delta^2 u}{\delta^2 y} = 0$$

## MATHEMATICS II.—DIFFERENTIAL AND INTEGRAL CALCULUS.

TWO AND A HALF HOURS.

SECOND PAPER.

1. Integrate the following expressions

(i.) 
$$\frac{x+1}{\sqrt{(2-x)(2+x)}}$$
.

(ii.) 
$$\frac{x^3}{x^2-3x+2}$$
.

(iii.)  $\sin^4 x \cos^3 x$ .

- 2. Prove the formula for integration by parts, and integrate

  (i.)  $\tan^{-1}x$ , (ii.)  $e^{ax}\sin \beta x$ , (iii.)  $x^{2}e^{ax}$
- 3. Prove that

$$\int \cos^q \theta d\theta = \frac{\cos^{q-1} \theta \sin \theta}{q} + \frac{q-1}{q} \int \cos^{q-2} \theta d\theta.$$

Write down the values of

$$\int_0^{\frac{\pi}{2}} \cos^{10}\theta d\theta, \int_0^{\frac{\pi}{2}} \sin^{7}\theta d\theta, \int_0^{\pi} \cos^{7}\theta d\theta, \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \sin^{6}\theta d\theta.$$

4. Find a formula for the length of an arc of a curve.

In the case of the inverted cycloid  $x=a(\theta+\sin\theta)$  $y=a(1-\cos\theta)$ ,

if P is the tracing point, B the point of contact of the generating circle with the base, and BA a diameter of the generating circle, prove that the arc of the curve measured from the vertex—twice the chord AP.

5. Show how the Integral Calculus can be applied to find the C.G. of (1) a curve, (2) a plane area.

Find the C.G. of the area bounded by the arc of the parabola  $y^2=4ax$ , the axis of x, and the latus rectum.

6. What is meant by (i.) the moment of inertia, (ii.) the radius of gyration of a body about an axis?

Find the moment of inertia of a fly wheel whose radii are  $R \pm d$ .

7. What is meant by the double integral  $\iiint (x, y) dx dy$  between given limits?

Find the value of  $\iint xydxdy$  taken over the part of the ellipse- $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ , which lies in the first quadrant.

8. Show how to solve the differential equation

$$\frac{dy}{dx} = \frac{f(x, y)}{F(x, y)},$$

where f(x, y) and F(x, y) are homogeneous expressions of the same degree.

Solve the equation

$$(x^3+3xy^2)dx+(y^3+3x^2y)dy=0.$$

9. Show how to solve the equation

$$\frac{dy}{dx}$$
+Py=Q,

where P, Q are functions of x.

Hence solve the equation

$$\frac{dy}{dx} + ay = \sin bx$$
.

Or Show that  $Ce^{\lambda x}$  is a solution of the equation

$$\frac{d^2y}{dx^2} + a\frac{dy}{dx} + b = 0,$$

where a and b are constants, provided that  $\lambda$  is a root of the equation  $\lambda^2 + a\lambda + b = 0$ .

Solve the equations

(i.) 
$$10\frac{d^2y}{dx^2} - 11\frac{dy}{dx} - 6y = 0$$
.

(ii.) 
$$\frac{d^2x}{dt^2} = a - x$$
.

### MATHEMATICS I.—MECHANICS.

To obtain a Pass candidates need not do all the paper.

#### PASS

1. Establish the equations of uniformly accelerated motion, viz.

$$v = u + ft,$$

$$s = ut + \frac{ft^2}{2},$$

$$v^2 = u^2 + 2fs$$

- 2. A body of mass 15 lbs., acted on by a constant force, passet over 25 feet in the 7th second of its motion, and 42 fees in the 9th second. Find its acceleration and initial velocity, and the force.
- 3. What is meant by kinetic energy, work, potential energy and horse power?

If the greatest power that the motors of a car weighing 11 tons can develop is 40 horse-power, find the greatest speed with which the car can travel against a resistance of 25 lbs. per ton (1) on a horizontal road, (2) up a slope of 1 in 50.

4. Prove that if a body is describing a circle of radius r with uniform velocity v, its acceleration is  $\frac{v^2}{r}$  towards the centre of the circle.

Explain why it is that on a railway the outer rail on a curve is elevated above the other.

- 5. The outer rail of a pair of 4 feet 8½ inches gauge is raised 2 inches above the other, and a train running at 30 miles per hour has no thrust on the flanges on either set of wheels What is the radius of the curve?
- Define a couple, and prove that the sum of the moments of the forces constituting a couple about any point in the plane is constant.

Forces 3, 5 and  $4\sqrt{2}$  act along the sides AB, BC and the hypothenuse CA of an isosceles right-angled triangle. Find the magnitude, direction and line of action of their resultant. Find also what extra force acting at B would reduce the system to a couple, and what is the moment of such couple.

7. Prove the formulæ

$$\tilde{x} = \frac{\Sigma(mx)}{\Sigma(m)}, \quad \tilde{y} = \frac{\Sigma(my)}{\Sigma(m)},$$

giving the centre of gravity of a system of particles in one plane.

Find the centre of gravity of the figure formed by an isosceles right-angled triangle and the squares described externally on its sides.

- 8. Find expressions for the time of flight of a projectile, and its range upon a horizontal plane through the point of projection. If the velocity is given, for what angle is the range a maximum?
- 9. If the initial velocity is 500 feet per second, and the angle 30°, find the time of flight and range and greatest height; find also the velocity and direction of motion of the projectile when it is 200 feet above the ground.
- 10. Write down the equations used in determining the velocities of two smooth spherical bodies after direct collision, and explain how those equations are obtained.
  - Two smooth spherical bodies A and B, of masses 2 lbs. and 1 lb. respectively, are suspended by strings two feet long so as to just touch in their lowest positions. B is drawn aside so as to rise to the vertical height of one foot, and let go. Find (1) the velocity of B just before collision with A, (2) the velocities of B and A just after the collision, (3) the heights to which B and A rise of the collision, the coefficient of restitution being \( \frac{1}{3} \).

## DIFFERENTIAL EQUATIONS.

(Third Year Engineering.)

Two Hours.

1. Find the differential equation of which

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

- is the complete primitive.
- 2. Describe the method of solution of the differential equation of the first order and first degree when it is
  - (i.) homogeneous,
  - (ii.) linear.

Solve the equations

(i.) 
$$\frac{dy}{dx} = \tan x \cdot \tan y$$
,

(ii.) 
$$\frac{x+y\frac{dy}{dx}}{x-y\frac{dy}{dx}} = \frac{1}{x^2}.$$

3. Solve the equations

(i.) 
$$\frac{dy}{dx} - f(x)y = 0,$$

(ii.) 
$$(1+x^2)\frac{dy}{dx} + xy = 1$$
.

4. If the two plates of a condenser of capacity C are connected by a wire of resistance R (and zero self-induction), the equation connecting the charge q with the electro-motive force E is

$$\frac{q}{C} + R \frac{dq}{dt} = E$$
.

Integrate this equation

- (i.) when E=0,
- (ii.) when E = const.,
- (iii.) when  $E = E_0 \cos(pt + \epsilon)$ .
- 5. Solve the equations

(i.) 
$$p(p+x) = y(x+y)$$
.

(ii.) 
$$p^2(1-x^2)=1$$
.

·6. The equation of simple harmonic motion

$$\frac{d^2y}{dt^2} + \mu y = 0.$$

Integrate this equation, and employ it to find the time of a complete vibration.

Also integrate the equation

$$\frac{d^2y}{dt^2} + \mu y = c.$$

7. In the solution of the Linear Equation of the second order with constant coefficients

$$f(D) \cdot y = \phi(x),$$

the complementary equation f(m)=0, for solving the equation  $f(D) \cdot y=0$ , has a pair of equal roots.

Show how the corresponding part of the solution is found. Solve the equations

(i.) 
$$\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = 0$$
,

(ii. 
$$\frac{d^3y}{dx^3} + y = 0$$
,

(iii.) 
$$\frac{d^3y}{dx^3} + y = e^{2x} + 2x^2$$
.

## SPHERICAL TRIGONOMETRY AND ASTRONOMY.

(Third Year Engineering.)

TWO AND A HALF HOURS.

1. Define a spherical triangle and the polar triangle.

Prove that if A'B'C' is the polar triangle of ABC, then ABC is the polar of A'B'C'; also that  $a+A'=\pi$ .

If the difference between any two angles of a triangle is  $\frac{\pi}{2}$ , the remaining angle must be less than  $\frac{\pi}{2}$ .

2. In any triangle prove that

(i.)  $\cos a = \cos b \cos c + \sin b \sin c \cos A$ .

(ii.) 
$$\sin \frac{\mathbf{A}}{2} = \sqrt{\frac{\sin(s-b)\sin(s-c)}{\sin b \sin c}}$$
.

(iii.)  $\cot a \sin b = \cos b \cos C + \sin C \cot A$ .

(iv.) 
$$\cos m_1 = \frac{\cos b + \cos c}{2 \cos \frac{a}{c}}$$
,  $m_1$  being the A median.

3. In a triangle right angled at C, prove that

$$\tan a = \cos B \tan c$$
$$\cos A = \sin B \cos a$$

and that if c is greater than  $\frac{\pi}{2}$ , then a, b are of opposite affection.

4. Solve the triangle in which

$$c = 90^{\circ},$$
  
 $a = 46^{\circ}45'30'',$   
 $A = 59^{\circ}12'0''.$ 

- 5. Describe how you would proceed to find the latitude of a place at sea, and what corrections you would apply to the observed altitude.
  - On 5th August, 1910, in longitude 167°E. the observed meridian altitude of the sun's upper limb was 45° 14′, the zenith being south of the sun The height of the eye above sea level was 26 ft. Find the latitude.
- 6. A ship in long. 20°E. and lat. 35°S. sets out for a place in long. 140°E. and lat. 38°S., following a great circle course. Find the direction in which she must steam at the start, and the highest latitude she will reach.
- Define the following terms—sidereal time, mean time, hour angle, right ascension, and prove the statement
   Sidl. Time = Mean Time + Mean Sun's R.A.

## EDUCATION II. AND III.

Attempt SIX Questions.

- Compare as to the aim and method Plato's scheme of Higher Education with (a) contemporary practice at Athens, and (b) modern opinion.
- 2. Summarise Roebuck's speech of 1833, and point out when, and to what extent, his scheme was realised during the 19th century.
- 3. Give an account of the various types of lesson in which observation is the dominant mental process, and discuss in detail the procedure suited to any one of these types. Justify your suggested procedure psychologically.
- 4. Examine the nature and conditions of "illustration" in teaching, and apply your results to any one form of "illustration."
- 5. Outline the general method of procedure in lessons which seek to develop æsthetic appreciation, and apply to one class of subject matter.
- 6. "The school curriculum which aims to serve the greatest good of the greatest number will include courses suited to the concrete thinker and constructor." Explain and illustrate.

- Distinguish sympathy, suggestion, imitation, and give a more detailed account of the nature and conditions of any one of these tendencies.
- 8. Trace the growth of self-consciousness, and of the self-regarding sentiment, and show how moral development is connected with this growth.

## ECONOMICS AND COMMERCE I.

### A .-- ECONOMICS.

- 1. "Economic evolution is, in large measure, dependent upon the development of wants."
  - Illustrate this, and point out some of the characteristics of wants.
- 2. Explain and examine the following-
  - (a) "The value of a commodity is determined by the quantity of labour expended on its production."
  - (b) "Value is determined by final utility."
- 3. (a) What in your opinion is the industrial structure which permits the greatest increase of population?
  - (b) Explain why the population of Europe has increased so rapidly during the last hundred years.
- 4. (a) What is meant by Production?
  - (b) To what causes would you attribute differences in the amount of wealth produced per head in two communities, assuming that the natural resources at the disposal of each are equal?
- 5. (a) Define Capital, Circulating Capital, and Fixed Capital.
  - (b) Classify Capital Goods.
  - (c) Illustrate the statement that the characteristics of modern capitalistic production are mass-production, uniformity, and interchangeability.
- 6. (a) What factors determine the size of the unit in any industry?
  - (b) Sketch briefly the modern movement towards the consolidation of business units.

- (a) Illustrate, from a colonial society, the evolution of specialisation in industry.
  - (b) Is there any danger of excessive specialisation in national industries?
- 8. (a) What is meant by Consumption?
  - (b) Can it be said that an act of consumption diminishes the capital of a community?
- 9. Ricardo wrote-
  - "Productions are always bought with productions or by services; money is only the medium by which exchanges are effected. Hence the increased production, being always accompanied by a correspondingly increased ability to get and consume, there is no possibility of over-production."

Discuss this doctrine.

## B.-ACCOUNTANCY.

- 1. What useful purpose does the keeping of Account Books serve?
- 2. State in detail what information you would expect to find in the Trade Account of a manufacturing concern.
- What meaning would attach to the statement that there was a debit balance in—
  - (a) A Customer's Account?
  - (b) Rent Account?
  - (c) Business Premises Account?
  - (d) Capital Account?
- 4. Give a short account of the evolution of the Journal, and state the limitations of its modern use.
- 5. What is the guiding principle as to the setting out of Reserves in a Balance Sheet, and what difficulty is there in its practical application?
- Sales & Company sell on account of W. Keen, of Angora Station, the following—

		Cwt.	qrs.	lbs.	
6 She	ep Skins	—	$\mathbf{\hat{2}}$	10 @ 6d.	per lb
12	,,	1	0	13 @ 7½d.	- ,,
5	,,	—	1	10 @ 5½d.	,,
<b>3</b> 3	,,	2	<b>2</b>	$27 @ 6\frac{3}{4}d.$	
<b>2</b>	,,		_	9 @ 3½d.	
. 2	,,	! —		18 @ 6½d.	,,

They pay railage, £1 8s. 5d.; and carriage, 1s. 3d. Draw up Account Sales, charging 4% commission.

- 7. (a) A business is worked in two departments, styled A and B. Past experience has been that about 30% of the selling price has represented profit in A department, and about 22½% in B department, and no reason is known for doubting that this still holds. The books represented the figures for the year 1909 as—
  - A. £12,501 0 4 £50,007 17 6 £40,868 13 5 B. 17,293 16 11 54,951 16 8 38,295 4 10

Estimate the stock in each department on 31st December, 1909.

(b) Stock was actually taken on this date, and the totals of the Stock Books were—

> A. £15,274 3 5 B. 16,181 11 10

What suggestion can you make as to the cause of the discrepancy between these figures and your estimates?

#### C.—BUSINESS PRINCIPLES AND PRACTICE.

Candidates to answer TEN questions, but not more.

- Describe (a) Commercial Trusts, (b) Trustee Companies, and (c) Co-operative Societies, in their usual modern forms.
- 2. Briefly define the principal functions of an Australian Bank.
- 3. What is the broad scheme of working of a Sydney Whole-sale Importer—say Soft Goods?
- 4. Define the utilities of the modern Bill of Exchange, and explain why these are customarily drawn on London, from nearly all foreign trading centres.
- 5 Describe the methods and uses of the Sydney Stock Exchange; also, briefly, the types of stocks and shares sold there.
- 6. Define the general surroundings of a Partnership, the relations between partners, etc.
- 7. When Limited Liability Companies require additional capital, how do they usually raise such?
- 8. Give the salient features, briefly, of (a) Fire Insurance;
  (b) Accident Insurance.

- 9. Marine Insurance.—What are the three types of risk usually covered; and what are the customary "implied" and "express" warranties?
- 10. Describe the various steps the Sydney consignee has to take, with his Bill of Lading, before he can obtain delivery of the relative goods from the ship's side.
- 11. Customs.—Briefly state the main surroundings of "sight," "imperfect," and "drawback" entries.
- Describe the Joint and Several Guarantee, the uses to which it is ordinarily put, and the attendant risks.
- 13. C.i.f. Transactions.—Give the reasons for the desirability of a clear understanding, at the outset, regarding (a) Exchange, and (b) sea-damage in transit.

## D.-COMMERCIAL GEOGRAPHY.

### Two Hours.

- Explain, in general terms, the methods which may be employed for determining the latitude and longitude of a place.
- Draw up a scheme for the classification of plains, from the point of view of their mode of origin. Explain how each type of plain influences the agricultural, mining, and manufacturing industries of its inhabitants.
- 3. Explain the relation which exists between the intrinsic value of merchandise, and the method of its transport. Comment specially upon the spacing of railway lines in developing a country.

#### ECONOMICS AND COMMERCE II. AND III.

#### A.—ACCOUNTANCY II.

 On 1st February, 1910, A and B exchanged Accommodation Bills at four months for £100. A's bill was dishonoured. On 29th August, 1910, B agreed to receive, and was paid £50 in full settlement. Make entries in proper form in B's books to completely record the above and to close A's account.

2	What are the different methods of providing for Depreciation of Machinery? Discuss briefly their respective advan-
3.	tages. Give your views as to what is the test of a trader's financial
	stability ·
4.	From the following information draw up Statements of
	Affairs for the joint and the separate estates of Messrs.
	Flutter and Dash:—
, .	Liabilities.
•	Bank of the Isles, Firm's Overdraft (secured by
	George-street property) 4,012
	Kite & Company (loan to Firm secured by Min-
	ing Shares) 874
	Unsecured Creditors of the Firm 12,272
	Tradesmen's Accounts due by Flutter 254
	Do. do. Dash
	Preferential Creditors of the Firm 676
	Do. do. Flutter 46
	Do. do. Dash
	Private Loan by Flutter to Dash 500
	Assets $\pounds$
	George-street Property 4,888
	Mining Shares 540
	Other Assets of the Firm 5,777
	Flutter's Furniture 526
	Dash's Furniture 215
<b>5</b> .	The balances in the books of a Deceased Estate on 19th
	October, 1908, were:—
	Corpus 23,732
	Wantalla Station Land Account 19,375
	,, ,, Plant Account 960
	,, ,, Sheep Account 2,475
	Cash 1,960
٠,	Revenue Suspense Account Cr 1,038
	On 19th April, 1909, the station was sold for cash. The
	following were the transactions subsequent to 19th
	October, 1908:—
	£
	Sheep, Wool, etc., sold 3,020
	Current Expenses 431
 	Land sold 19,500
	Plant ,, 750

The depreciation charged against revenue was £60, but no other adjustment of Revenue Account was required.

Draw up Balance Sheet showing the position of the Estate as at 19th April, 1909.

## B.—ACCOUNTANCY III.

- 1. With regard to the business of a partnership as distinguished from that of a single owner, what matter requires special attention in the accounts in order that each partner may receive justice?
- 2. A dishonest Mine Manager, wishing to depreciate the market value of the Mine, determines so to handle the accounts during the coming half-year as to make the profits appear to have been less than really will have been the case.

State specifically how this could be attempted.

3.	On the insolvency of Flutter were disclosed:—	& I	ash the	following	debts
	Bank of the Isles, Firm's		lraft (see	cured by	£
	George-street propert	<u>y</u> )	• • •		4,012
	Kite & Company (loan to	Firm	secured	by Min-	
	. ing Shares)				874
	Unsecured Creditors of the	ə Firi	n		12,272
	Tradesmen's Accounts due	by F	lutter		254
	Do. do.	Γ	ash		380
	Preferential Creditors of the	he Fi	rm	. •	199
	Private Loan by Flutter to	) Das	h		500
	The Assets realised as follow	7s:—			· £
	George-street Property				4,888
	Mining Shares	٠.			540
	Other Assets of the Firm		·		5,777
	Flutter's Furniture				526
	Dash's Furniture				215
	The Expenses were :—				
	Firm's Estate				477
	Flutter's Estate				46
	Dash's ",				39

Draw up Cash Accounts for the joint and separate estates, showing the whole of the realisations, and stating the rate of dividend paid in each case.

4. The estate of a squatter who died on 19th October, 1906, consisted of £3,195 in cash and a station, valued for probate purposes as under:—

			£
Land	• •	• •	20,000
Plant			1,200
$\mathbf{Sheep}$	• •		2,500

The cash transactions of the Executor were:

	Year to 19-10-07	Year to 19-10-08	Half-year to 19-4-09		
•	£	£	£		
Legacies and Expenses charge-		-	•		
able to Corpus	3,061	102	Nil		
Sheep, Wool, etc., sold	1,253	1,876	3,020		
Current Expenses	716	693	431		
Land sold	425	200	19,500		
Plant sold	Nil	$\mathbf{N}$ il	750		

The station was sold on 19th April, 1909, the proceeds being included above. Depreciation on plant was charged against revenue at the rate of 10 per cent. per annum on probate valuation. The movements in stock were, for the three periods, respectively:—

		£
Increase		 1,220
Decrease	• •	 1,245
Decrease		 2,475

No other adjustments were found necessary. The Life Tenants were paid at the end of each period whatever was due to them, and the final balance in hand was invested in 4 % stock at 101. What was the future income of the Estate?

(Note.—In answering this question no formal accounts are required to be drawn up, but rough workings must be handed in.)

5. The following is the Trial Balance of Joseph Banks at 30th June, 1910:—

· <u>:</u>		DR. CR.					
		£	s.	$\mathbf{d}$	£	8.	$\mathbf{d}$ .
Customers' Ledger Balances		18,426	5	· 9	27	5	4
Bought Ledger Balances		,			4,458	13	6
Stock 1st Jany., 1910		6,743	6	6			
		56,229	17	5			
Furniture and Fittings	٠	1,000	0	0			
Sales					74,927	16	11
Bills Payable		213	15	10			
General Expenses (including							
preciation and Bad Debts)		-14,925	13	1			
Cash at Bank		2,518	11	5			
Capital					20,219	3	3
				—			_

100,157 10 0 99,632 19 0

Offer a definite suggestion as to the causes of the difference in balancing, correct the Trial Balance on the assumption that your suggestion is right, and draw Balance Sheet at 30th June, 1910. The value of stock on hand at that date was £7,218 9s.

#### C.—ECONOMICS II. AND III.

All Candidates are required to attempt 1 and 2, and four other questions in Division A.

1. "Pure Political Economy is essentially the theory of the determination of prices under a hypothetical regulation of absolutely free competition."—(Walras).

Discuss the foregoing from the point of view of actual industrial society.

- 2. Describe and criticise the theory of marginal productivity as an explanation of the distributive process.
- 3. What is the origin, and what is the justification of differences in the wages of different grades of labour?
- 4. Discuss the effects (if any) upon wages, of-
  - (a) Abundance of cheap land.

(b) The standard of living.

(c) Abundance of capital available for investment.

(d) Technical education.

- .5. (a) In what respect is land a kind of wealth sui generis?
  - (b) What causes tend to increase rent? What causes tend to arrest its increase?

- (c) Examine carefully, and point out the fallacy of the statement that "property in land is legitimate, because all land has been bought, and therefore the rent of land is simply the interest on the money thus invested."
- (d) On what grounds does Gide justify private property in land?
- 6. (a) What do you understand by "pure interest"?
  - (b) To what extent, if any, is saving affected by the rate of interest?
- 7. Describe the benevolent or mutual-help side of Trade Unionism,
- 8. Discuss the influence of Trade Union action upon the efficiency of industry.
- 9. (a) Describe the principal provisions of the N. Z. Industrial Conciliation and Arbitration Act of 1894.
  - (b) In what respect has it been modified by recent amendments?
  - (c) Account for the varying attitude of employers and working men in New Zealand to compulsory arbitration as a means of settling labour disputes.
- 10. Discuss the various ways in which the modern State may intervene in industry with the result of effecting a more equitable distribution of wealth.

#### B

## For Third Year Students only.

- 11. (a) Explain the operation of bills of exchange in settling indebtedness between traders in different countries.
  - (b) Define rate of exchange.
  - To what causes are fluctuations in the rate of exchange mainly due?
- 12. (a) Describe the modern machinery of investment.
  - (b) Distinguish the most important classes of investment, and point out the economic effects of each.
- 13. Discuss—"The problem of economic crises is not so much one of over-production or under-consumption, as of the capitalisation of estimated earnings."

## For Second Year Students only.

- 14. Discuss the relative advantages in farming of-
  - (a) Private ownership and management.
  - (b) Tenancy.

- 15. Illustrate from recent German history the causes and character of the movement towards combination.
- 16. To what causes do you attribute the rapid rise of the iron and steel industry in the United States of America?

## D.—LOCAL GOVERNMENT II. AND III. INSTRUCTIONS.

- (a) In answering the questions, study brevity and clear arrangement.
- (b) Read the whole of the question before attempting to answer it.
- (c) Answer TEN (10) questions only.
- What is Local Government? Contrast it with another system of Government.
- 2. What is the difference between a Shire and a Municipality (in New South Wales)?
- 3. (a) What is a Corporate Body?
  - (b) What is the Corporate Body in a Shire or Municipality?
- 4. What is meant by "Primary Functions"—what by "Additional Functions"—of Councils under the Local Government Acts of New South Wales?
- 5. What benefits do you apprehend may accrue to the nation through the practice of Local rather than Centralised Government in addition to and apart from the immediate advantages of better roads and streets and services, and more careful administration of the finances?
- 6. (a) When will the Councillors and Aldermen in office in New South Wales at the present time retire under the provisions of the Local Government Acts? (b) For what term will their successors hold office?
- 7. If a landowner desires to subdivide a large estate in a Shire or Municipality, state generally what are the requirements of the Local Government Acts (New South Wales) as to any new roads which such landowner may desire to open in the subdivision.
- 8. The boundary line between a Municipality and a Shire passes along the line of private fences on one side of the road. Who has to bear the cost of maintaining that road? Give a general outline in brief of the provisions of the Local Government Act bearing on the point.
  - 9. (a) What is a Mayor? (b) What are his powers?

- 10. Trace briefly the origin and development in British history of the management of local affairs by "Councils" acting for and representing the people of the locality.
- 11. From what do the local governing bodies of New South Wales derive their power and authority? Was there at any time in British history a different practice? If so, briefly describe that practice, and indicate in what the difference lay.
- 12. (a) What are the two methods by which the election of Shire Councils may be conducted under the New South Wales law? (b) What are the principal points of difference between these two methods? (c) For what conditions is each method specially suitable?

## ECONOMICS AND COMMERCE III.

## COMMERCIAL LAW.

#### Two Hours.

- 1. (a) In what code do you find the law which at present regulates bills and cheques?
  - (b) Explain the doctrine of negotiability.
  - (c) A receives a cheque, crossed, and made payable to himself or order. He endorses it with his name only, and hands it to B (his clerk) for deposit with his bank. B loses the cheque in the street; X, who picks it up, gets a publican to change it for him, and the publican pays it into his own bank. Has A any claim good in law against (a) the publican, (b) the publican's banker? Does it, as against either of them, make any difference if the cheque is crossed "not negotiable"? Give your reason very shortly in each case.
- 2. When, if ever, is a principal liable for the civil wrongs done to a third party by his agent? When is he not liable for his agent's contracts?
- 3. Write a short note on Brokers, Auctioneers, Factors.
- Mention six statutes which operate to interfere with complete freedom of contract in case of contracts of employment.

- Discuss the degree and nature of misconduct which will justify an employer in dismissal without notice of an employee.
- 6. Describe the position and liability of a director of a registered company with regard to costs of (a) extraordinary litigation, (b) declaration of dividend, (c) bonus to servants of a company over and above the agreed upon salary. (d) subscriptions to the Dreadnought Fund.
- What acts, other than receipt of payment in full, by a secured creditor, would release one or two joint and several co-sureties in the absence of express arrangement.
- 8. Describe the liabilities of partners, during partnership, and after dissolution.
- 9. Describe five of the more important Acts of Bankruptcy.

# FACULTY OF MEDICINE.

FIRST DEGREE EXAMINATION.

CHEMISTRY I. BIOLOGY I. PHYSICS I.

As in the Faculty of Science.

## SECOND DEGREE EXAMINATION.

## ANATOMY I.

## Two Hours.

- 1. Describe the cavity of the true pelvis (pelvis minor) as it appears in an osteoligamentous preparation. Indicate the differences observable in the two sexes.
- Give an account of the lymphatic system of the ventral wall of the chest, stating—
  - (a) the paths of lymphatic drainage;
  - (b) the lymph-gland groups immediately involved.
- Describe the naked eye anatomy of the thyroid gland, including its vascular and nerve supply.
- 4. Give a brief account of the various centres in the brain (neuronic groups or areas) which are directly concerned in vision.

## ANATOMY II.

#### Two Hours.

- Describe the dissection necessary to completely expose the right common carotid artery.
- 2. Give a description of the pericardium, and indicate its relations to neighbouring structures.
- 3. Describe the course of the left ureter in the female subject, indicating its relations.
- 4. (a) State what openings are found in the middle meatus of the nose, and indicate their relative positions.
  - (b) Give a general description of the lachrymal apparatus.

#### PHYSIOLOGY I.

N.B.—In your answers give diagrams where possible.

 Show how carbon is introduced into the organic world, and what are the first stages in the building up of organic substances?

- Describe the general arrangements and the structure of synovial membranes.
- 3. Tell what you know as to carbonic oxide hæmoglobin.
- 4. What is the evidence in favour of the myogenic origin of the cardiac contraction and rhythm?
- 5. Show how the movements of respiration affect the intrapleural pressure and the blood pressure.
- Describe the nervous mechanisms by which the secretion of gastric juice is controlled.
- 7. Describe the mechanism of sweat secretion.
- 8. Discuss the two principal hypotheses as to the origin of the differences of electrical potential in muscle and nerve fibres.
- Describe the parts played by the nervous system in producing speech.
- 10. Discuss the two prevailing theories of colour vision.

## PHYSIOLOGY II.

N.B.—Two questions must be attempted in groups A and B, but not more than two; while in group C all three must be attempted. Use diagrams where possible.

- Write notes of not more than ten lines each on the microscopical features of (a) sudoriparous glands, (b) Fallopian tube, (c) nail bed, and (d) non-medullated nerve fibre.
- 2. (a) Describe the histological structure of the suprarenal glands.
  - (b) Describe in detail the appearances of the various kinds of leucocytes of human blood when they are stained in a film by Jenner's method.
- 3. (a) Describe the microscopical anatomy of the large intestine, say in the region of the transverse colon.
  - (b) How would you fix, harden, stain, and prepare sections of kidney for microscopical study?

#### в.

- Write notes on the detection in the human urine of (a) bile,
   (b) lactose, (c) nucleoprotein, and (d) pus.
- 2. (a) What fats occur in the human body? (b) How are they distributed? (c) Show the chemical relationships of fats, soaps, and fatty acids to each other.

3. (a) Give the chemical composition of a fowl's egg; (b) discuss briefly, without detail, the methods adopted to determine its value as a food for man.

C.

- 1. Give an account of the action of Digitalis on-
  - (1) Muscle-nerve preparation;
  - (2) Isolated frog's heart;
  - (3) On the frog (injected);
  - (4) On the dog (injected);

drawing curves to illustrate your answer.

- Give an account of the facts from which we draw the deduction that strychnine mainly acts on the spinal cord when injected into an animal.
- Give a full account of the action of atropine on the dog. Give evidence showing what particular part of the neuromuscular mechanism the drug acts on.

#### THIRD DEGREE EXAMINATION.

#### PATHOLOGY.

- Discuss the actiology of Fibrosis (chronic interstitial changes) in an organ, and describe the results of such processes in any one organ.
- 2. Describe in detail the findings (macroscopic and microscopic) at a post-mortem examination of a case of death from Cerebral Hæmorrhage, with rupture into the lateral ventricles.
- 3. Give a full account of the bacteriology and pathology of Diphtheria. How would you conduct the bacteriological diagnosis of a suspected case?
- 4. Give as full an account as you can of any two of the following conditions, and of the parasites concerned—
  - (a) Bilharziasis.
    - (b) Ankylostomiasis.
    - (c) Filariasis.

#### SURGICAL ANATOMY AND OPERATIVE SURGERY.

- Interscapulo-thoracic amputation. Give a description of the operation, and mention in detail the structures divided.
- 2. Give a description of the blood supply (arterial and venous) of the Thyroid Gland. Describe the ligation of its arterial supply.
- 3. Describe the anatomy of an area of the anterior abdominal wall in the Female, bounded above by a line drawn from the anterior superior spine of the ilium to the umbilicus, internally by the middle line and below by Poupart's ligament. Describe the operation you would adopt for the radical cure of inguinal hernia in the Female.
- 4. Give a simple method for marking out the course of the Fissure of Rolando. Describe the operation of trephining for ligature of the anterior branch of the middle meningeal artery.
- 5. Describe the soft parts covering the vault of the skull. Give their vascular and nerve supply. State what bearing their anatomy has on the surgery of these parts. Describe how you would ligature the occipital artery.

## FINAL DEGREE EXAMINATION.

#### MEDICINE.

FOUR questions to be answered, of which the first must be one.

- Give the causes, signs, symptoms, prognosis, and treatment of a case of Thrombosis of left middle cerebral artery.
- 2. Give the common sources of lead poisoning. Describe the signs, symptoms, and treatment.
- 3. Discuss the etiology, diagnosis and treatment of pericarditis with effusion.
- 4. Describe the different forms of uræmic poisoning. Give the differential diagnosis and treatment.
- Give the symptoms, differential diagnosis, and treatment of hydatid of lung.

#### SURGERY.

Only FOUR questions to be answered.

- 1. Complete division of a mixed nerve.
  - Describe (a) the changes which occur in the ends of the divided nerve; (b) the effects of complete division on the parts supplied by the nerve. Give an account of the process of repair when the parts are in contact.
- 2. Give an account of actinomycosis as seen in man. What is the histology? In what parts of the body has actinomycosis been found? Discuss the prognosis and treatment.
- 3. Describe the pathological effects produced by a stone in the common bile-duct on the bile passages, liver, and tissues of a patient. Give the probable symptoms and diagnosis of such a condition.
- 4. Describe the origin, symptoms, and treatment of urethral calculus.
- 5. Describe the symptoms, treatment, and complications special to fracture of the upper half of the shaft of the ulna.

#### DECEMBER EXAMINATION.

#### MIDWIFERY.

### Two Hours.

- Describe the action and mode of application of the Forceps, and contrast their advantages and disadvantages—to mother and child—as compared with delivery by version.
- 2. Describe the conduct of a Twin delivery, and mention the complications and dangers incidental to such a case.
- 3. Enumerate the chief complications which affect the nervous system during pregnancy, and give their treatment.

#### GYNÆCOLOGY.

#### Two Hours.

#### THREE questions only to be answered.

- 1. Describe in detail the method of making a gynæcological examination. Enumerate the pathological swellings within the pelvis, and give the differential diagnosis between them.
- 2. In regard to uterine fibromyomata, give-
  - (a) Pathology.
  - (b) Clinical features.
  - (c) Treatment.
- 3. Give the vascular and lymphatic supply of the pelvic contents and external genitals.
- 4. What is the difference between menorrhagia and metrorrhagia? Give the causes of each, and the appropriate treatment.

#### MEDICAL JURISPRUDENCE AND PUBLIC HEALTH.

#### Two Hours.

#### MEDICAL JURISPRUDENCE.

 Describe the symptoms, signs, and post-mortem appearances caused by acute poisoning with Cyanide of Potassium; Or.

Name seven Metallic Irritant Poisions; and state generally the course of the symptoms in acute poisoning with a Metallic Irritant.

- 2. Explain the following terms—Privileged communication; Breslau's second life test; Deposition of a person dangerously ill; Hypostasis; Insolation; Allantiasis; Proximate cause of death; Sudden death; and
  - (a) Describe the external and internal appearances in a dead body which would satisfy a medical jurist that death had been caused by "hanging"; or
  - b) Describe the mode of performing the Hydrostatic test of the lungs made with the object of ascertaining whether or not a child had breathed before its death. To what fallacies is this test subject?

#### PUBLIC HEALTH.

Only TWO questions to be attempted, of which No. 5 must be one.

- 3. Discuss the differential diagnosis of Chicken Pox and mild Small Pox.
- 4. Classify all foods. State the average quantity of each of the great food principles required daily by an adult engaged in moderate work, and briefly indicate the function of each class of food in the animal body.
  - What precautions are required by the Public Health Act and the Governor's Regulations thereunder in order to prevent the spread of infection from the bodies of persons dead of infectious disease.

#### CLINICAL MEDICINE.

#### Two Hours.

- Write a commentary upon the following case, discussing the differential diagnosis, the treatment; and, in the event of a fatal termination, describe the pathological conditions you would expect to find:—
  - T. B., male, aged 47, a publican, was admitted to hospital on September 7th. He states that he is a moderate drinker, but a heavy smoker. For a couple of years he has been troubled with "indigestion," which has lately become worse. Six months ago he had an acute attack of abdominal pain and vomiting, similar to, though less severe than the present attack. Two days ago, after a hearty midday meal of beefsteak pie and potatoes, he played bowls, and during the afternoon he was suddenly

seized with acute pain in the upper half of the abdomen, chiefly in the middle line, but extending towards the left side. There was frequent vomiting at first of greenish, sour material, later of dark, almost black, fluid. He has passed neither flatus nor fæces for two days. Purgatives and enemata have been used without success. Examination shows the patient is urgently ill, although the facial aspect is not specially of the abdominal type. There is marked tenderness and rigidity over the whole epigastric and right and left hypochondriac regions. The tenderness extends in the middle line as far down as the umbilious. There is also some tenderness in the right iliac region. The abdomen generally is distended and full, and everywhere resonant except over an area of comparative dulness between the umbilicus and the ensiform cartilage. No distinct tumour can be detected, although the sense of resistance suggests an undue fulness at and above the umbilical region. Nothing can be felt per rectum. There is a slight icteric tinge of the sclerotic. The urine is acid, scanty, dark coloured and contains a definite trace of albumen, many crystals of uric acid, and a few granular casts. Gmelin's test gives a somewhat indefinite reaction. The temperature is 99°.4 F.; pulse, 122; respirations, 28. There is no leucocytosis. The heart is a little hypertrophied, the 2nd cardiac sound is accentuated. The arteries are thickened. There are a few moist râles at the bases of both lungs.

# DEPARTMENT OF DENTISTRY.

FIRST YEAR EXAMINATION.

INORGANIC CHEMISTRY AND PHYSICS.

As in the First Year of Science.

PRACTICAL CHEMISTRY AND METALLURGY.

A three hours' examination.

## SECOND YEAR EXAMINATION.

#### ANATOMY AND DENTAL ANATOMY.

- 1 The sinus maxillae (antrum of Highmore).
  - Describe (a) its bony anatomy as seen in the articulated skull;
  - (b) its anatomy as modified by the presence of the soft parts;
  - (c) its vascular and nerve supply.
- 2. Describe the vascular and nerve supply of the upper incisors canines and premolars, and of the mucous membrane of the gums in the vicinity of these teeth.
- 3. Give an account of the typical characters of a mandibular molar tooth. What is the normal or usual relationship of the first to its maxillary opponent?
- 4. & 5. Two of the following questions:-
  - A. Give a brief account of the naked-eye anatomy of the trachea and main bronchi.
  - B. Enumerate the principal subdivisions of the alimentary canal, giving their exact location in the body.
  - C. Give an account of the naked-eye anatomy of the lachrymal apparatus.
  - D. Describe the arrangement of the great veins at the root of the neck and in the upper part of the thorax.

#### THIRD YEAR EXAMINATION.

#### MATERIA MEDICA AND THERAPEUTICS.

- Compare Nitrous Oxide and Ether as regards their effect on the heart's action and on respiration.
- 2. Describe carefully the more important precautions needful to be taken in making a hypodermic injection. Illustrate your answer in the case of Eucaine. Contrast the action of the latter with that of Morphine.
- 3. Write out a prescription containing Carbolic Acid as a mouth wash combined with some other suitable ingredient. Directions to the chemist to be in full in Latin, those to the patient in English. Explain the purpose aimed at by the ingredients.
  - Compare Glycerine, Glusidum and Syrup as sweetening agents, pointing out any relative advantages or drawbacks they may have.
- 4. Formic Aldehyde: Explain and describe the nature, also the actions and use of this in dentistry, especially noting any precautions needful.
- 5. Compare Tannic Acid, Alum, Adrenalin and Nitrate of Silver, applied locally, as astringents or constringents. Have any of these any value as antiseptics? If so, how?

## PHYSIOLOGY.

N.B.—In your answers give diagrams where possible.

- Show how nitrogen is brought into the organic world, and tell why nitrogenous substances are so well adapted for the making of living matter.
- Describe in detail the microscopical appearances presented by a vertical section of the alveolus of the jaw in the region of the incisors.
- Coagulation of the blood—describe how it is effected, and tell what are its uses.

- 4. Show how the nervous system regulates the action of the heart.
- 5. Describe in detail a movement of inspiration.
- 6. Describe the process of deglutition.
- 7. What relation exists between the functions of the skin and those of the kidney? Explain this fully.
- 8. Show how the voice is produced in the larynx, and how and where it becomes speech.
- 9. Tell what you know as to sensation in the regions of the face, nose, mouth, and throat.
- 10. What is reflex action? Give a diagram, and describe what we know to be the simplest actual, not the simplest conceivable, reflex arc.

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#### FOURTH YEAR EXAMINATION.

#### SURGICAL ANATOMY AND OPERATIVE SURGERY.

- Describe the course and branches of the Internal Pudic Artery, and its bearings on surgical operations. Describe an operation for its ligature in any part of its course.
- 2. Describe in detail the most complete operation for the removal of cancer of the breast that you have seen performed, mentioning the structures divided in the order of their division.
- 3. Describe the blood-supply and relations of the stomach, and the best method in your opinion of performing gastrostomy.
- 4. Describe the blood supply, and an operation for the complete removal of the superior maxillary bone.

## SURGERY AND SPECIAL DENTAL SURGERY.

- Mention the different conditions which may give rise to dry gangrene. Describe the appearance of the parts undergoing this morbid process. Discuss the treatment.
- 2. Describe the dislocations which may occur at the acromioclavicular joint. Give the differential diagnosis and treatment.
- 3. Write down all you know about traumatic aneurysm.
- 4. Describe the histology, symptoms, and treatment of nasopharyngeal polypus.

## SURGICAL DENTISTRY.

- 1. How would you diagnose a case of Acute Pulpitis from one of Acute Pericementitis?
- 2. Describe the appearance of a patient with unilateral dislocation of the mandible. What treatment would you adopt?
- 3. What effect may hereditary syphilis have upon the teeth?

  Discuss the question.

- 4. What are the functions of a bulb obturator in a case of cleft palate? Describe the relations of the obturator to the cleft and surrounding parts.
- 5. Give the diagnosis and treatment of a chronic apical abscess with fistula.
- 6. How may neuralgia, due to carious teeth, manifest itself? Explain the connection in each case.

#### MECHANICAL DENTISTRY.

#### PLATE WORK.

- How is a gold plate prepared for the attachment of artificial teeth with vulcanite, and what are the advantages of this type of plate denture?
- 2. Describe briefly the technique of the operation of "taking the bite" for an edentulous patient.
- 3. Describe the various methods that may be used to secure a die from an upper model with an overhanging alveolar ridge, particularly at the frontal portion.
- 4. In what cases is adhesion alone employed as a means of retention of full upper dentures, and what measures may be taken to increase the adhesion in a given case?
- 5. Describe briefly how you would obtain a plaster impression of an upper partial denture.

# CROWN AND BRIDGE WORK.

- 1. Explain the advantages and disadvantages of a banded crown, and a pin-and-plate crown in the incisal region, and say what conditions would indicate the use of each.
- 2. Under what conditions is it advisable or permissable to place the crown on a tooth having a vital pulp?
- 3. Give the gauge and karat of gold used for the band and floor of a richmond crown, also for the outer and inner caps of a telescope crown.
- 4. Detail the construction of an all porcelain (baked) incisor crown.
- 5. Four upper incisors are missing, with considerable absorption of process.
  - What form of bridge would you employ to restore the contour? and give reasons for your choice.

#### FACULTY OF MEDICINE.

#### PATHOLOGY.

- Give an account of the bacteriology and pathology of Suppuration. How would you conduct a bacteriological examination of pus?
- 2. Name and describe the microscopic character of the pathogenic bacteria (not concerned in dental caries or suppuration) that may be found in the mouth.
- 3. Describe the tumours (new-growths) that may take origin from the structures of the jaw.

#### CLINICAL DENTISTRY AND ORTHODONTIA.

- 1. State the most suitable sites for the insertion of-
  - (a) Porcelain Inlays.
  - (b) Gold Inlays.
  - (c) Gold Fillings.
- 2. State methods of filling teeth with silicate cement, and the disadvantages, if any, of this material.
- 3. Give a short description of how to fill deciduous teeth.
- 4. Describe proper method of filling teeth with amalgam, and give two formulae of alloys.
- 5. State briefly, causes of irregularity of the teeth.
- 6. Give the main divisions of Angle's classification.

# DEPARTMENT OF PHARMACY.

CHEMISTRY. BOTANY. As in First Year of Science.

#### MATERIA MEDICA.

- How have attempts been made to secure uniformity of strength in drugs? Illustrate your answer in the case of Opium and Red Cinchona Bark (B.P.), stating what the Pharmacopœia requires in each case.
- 2. What results when Phenazone is brought in contact with an aqueous solution of Nitrite of Sodium and Dilute Sulphuric Acid, also with Nitric Acid? Explain your answer. Describe and explain also the official test to secure absence of too much Phellandrene from Eucalyptus Oil.
- 3. How are the following prepared (B.P.): Red and Yellow Peroxide of Mercury, Ammoniated Mercury, Heavy Carbonate of Magnesia, and Toughened Caustic respectively? How does Oxalate of Calcium differ in appearance (microscopically) as seen in Squill, Rhubarb, and Belladonna Root respectively?
- 4. What are the sources respectively of Cassia Pulp, Witch Hazel Bark, Oil of Turpentine, Cochineal and Colocynth Pulp? State in each case the leading active principles.
- 5. To what substances are the terms Kino and Catechu applied in the Pharmacopœia (including addendum)? State their sources. How are they obtained? How does Scammony Resin differ from Jalap Resin as regards source and solubility?

# FACULTY OF SCIENCE.

# MATHEMATICS.

See under Faculty of Arts.

#### CHEMISTRY I.

#### INSTRUCTIONS TO CANDIDATES.

- I. All Candidates (except Arts Students) sitting for examination in Chemistry I. are to attempt at most Eight questions. Time, there haves. Engineering, Dentistry and Veterinary Science Students may chose any questions they please, but Medical, Science, Agriculture: and Pharmacy Students must chose at least two of their questions from Section C (Organic).
- II. Arts Students are to attempt at most bix questions, chosen from any of the sections.

  Time. TWO hours.
- III. All Students, who have permission to attempt one Section only, are to attempt three questions in the Section chosen. Time for one Section one hour.
- IV. Any Candidate exceeding the time allowed for his examination will be disqualified.
  - V. All Candidates must state their Faculty on their paper.
- VI. Candidates who are being examined in a part of the subject only should state this on their paper.
- VII. Equations to be given wherever possible. All questions have equal value,

#### SECTION A .- NON-METALS.

- Describe how you would prepare and collect ammonia, starting from ammonium chloride. What action has ammonia on (a) hydrochloric acid; (b) chlorine?
- 2. What happens when water acts on each of the following substances—(a) sodium; (b) sulphur dioxide; (c) nitrogen peroxide; (d) phosphorus pentoxide?
- 3. How is iodine prepared on the large scale? What action has chlorine on potassium iodide?

#### SECTION B .- METALS.

- 4. Describe what happens when each of the following substances is heated in air—silver, lead, copper, mercury, iron, lead nitrate, copper sulphate?
- 5. Describe the preparation of cast iron from iron ore. How does cast iron differ from chemically-pure iron?

6. Write down the chemical formula of each of the following substances—nickelous chloride, manganese sulphate, potassium thiosulphate, sodium bichromate, chromic sulphate. What is the action of sulphuretted hydrogen on an aqueous solution of each of these?

#### SECTION C .- ORGANIC.

- 7. What is the formula of methyl alcohol? Give any method of preparing it. What happens if it is oxidised?
- 8. What is the constitution of (a) acetamide; (b) urea? How may the amount of urea in a solution be determined?
- 9. How is common ether prepared? Give the properties of ether.
- 10. Benzene is acted on by chlorine. What is formed? What happens if the resultant substance or substances are treated with (a) potassium hydrate; (b) nitric acid?

#### SECTION D .- GENERAL.

11. Ten grams of phosphorus are set fire to in a bell-jar containing air. What weight of oxide is obtained? Also, what amount of phosphoric acid would be obtained if the oxide were treated with water?

$$[H=1, O=16, P=31.]$$

12. Ammonia is allowed to act on each of the following substances—hydrochloric acid, propyl iodide, magnesium sulphate solution. What action takes place in each case?

#### CHEMISTRY II.

Equations to be given wherever possible.

- Show, by means of constitutional formulæ the relationship between—(a) pyrrol and pyrrolidene; (b) cyclobutane and cyclobutone; (c) anthracene and anthraquinone; (d) tropine and ecgonine; (e) purine and uric acid.
- 2. Give a constitutional formula for naphthalene, and show how this formula may be arrived at by a study of the properties and decomposition products of naphthalene.
- 3. What compounds are formed by the action of—(a) water on Grignard's reagent; (b) nitric acid on phenol; (c) acetylchloride on aniline? Give constitutional formulæ where possible.

- 4. Describe the preparation on the large scale of sodium ferrocyanide. How may sodium cyanide be prepared from this?
- 5. What action has water on each of the following substances sodium carbonate, aluminium chloride, chlorine peroxide, nitrogen peroxide, silicon tetrachloride, phosphorus pentachloride?
- 6. What is meant by the order of a chemical reaction? What would you expect to be the order of these reactions?—

$$2H_2+O_2=2H_2O.$$
  
 $3HNCO=H_3C_3N_3O_3.$ 

 Define the terms—Specific Volume, Molecular Rotation, Absolute Viscosity, Molecular Surface Energy.

How has this last-named property been applied to show the molecular condition of liquids?

#### CHEMISTRY III.

Only SIX questions to be attempted. Equations to be given wherever possible.

- Explain why the dissociation of a salt in aqueous solution increases with dilution. A ½-normal solution of a salt is found to be dissociated 80%; what will be the dissociation in a ½-normal solution?
- 2. What is meant by the "order" of a chemical reaction? Show how this can be determined.
- A complex organic base is treated with acid so as to form a
  crystalline salt. Show how it is possible to determine
  the amount of free acid existing in an aqueous solution of
  the salt.
- 4. State what you know of the relations between the valency of elements and the crystalline forms of elements and compounds.
- 5. Write down the constitutions of each of the following substances—sodium sulphite, calcium thiosulphate, sodium bichromate, red lead, pyridine, isatin, aceto-acetic ether.
- 6. What action has potassium hydrate on each of the following substances—chlorbenzene, benzylchloride, ethylchloride, benzene sulphonic acid, potassium propionate, phosphoric acid, nitrogen peroxide, zinc sulphate?

- 7. A substance containing carbon, hydrogen, and oxygen only, gives the following results in a combustion—C=37.3%, H=12.8%. The vapour density of the substance is 16. What is the formula of the substance?
- 8. What is the action of potassium permanganate (a) in acid solution, (b) in alkaline solution, on sulphur dioxide?

#### PHYSICS I.

## PASS, DISTINCTION, AND SCHOLARSHIPS.

- 1. Give the dimensions of force and work, and find an expression for the potential energy of a body of mass m when its centre of mass is at a height h above the earth's surface. Show, by reference to some simple case, that when in a position of stable equilibrium the potential energy of a body is a minimum, and explain, from an energy point of view, how it is that, when O and C atoms combine to form CO<sub>2</sub>, there is an evolution of heat.
- 2. In a Boyle's law experiment the volume of gas under compression is 100 cubic centimetres when the difference of levels of the mercury in the two tubes is 76 centimetres; what will be the volume when the difference in the levels is 152 centimetres? Deduce from Boyle's law the modulus of incompressibility of a gas.
- 3. Give an explanation of the apparent attractions between floating bodies wet by the liquid. Find an expression for the excess of pressure inside a spherical bubble, and deduce an equation containing the new and original radii when two bubbles of the same radius coalesce, without loss of air, to form a single one.
- 4. The velocity with which a transverse disturbance travels along a stretched string is equal to  $\sqrt{T}/\sqrt{m}$ , where T is the tension and m the mass of the string per unit length; show how the pitch of the note given by the transverse vibration of a string depends on the length, the diameter, the tension, and the density of the material of which the string is made. Prove the statement given above for the velocity of a transverse disturbance.
- 5. According to the kinetic theory of gases the pressure is given by the expression  $p=\rho u^2/3$ , where  $\rho$  is the density, and  $u^2$  the mean of the squares of the speeds of the molecules;

calculate the value of u and the average number of collisions which a molecule makes per second in the case of air at  $0^{\circ}$ C. and under a pressure equal to that due to a column of mercury 76 centimetres high, under these conditions the density being 0.00129, and the average distance which a molecule travels between successive collisions with other molecules,  $8 \times 10^{-6}$  centimetres. Prove the formula given above for the pressure.

- 6. Describe, with essential optical detail, the construction of the compound microscope, and find an approximate expression for the magnifying power. What is meant by the longitudinal chromatic aberration of a lens? Explain how it is reduced in the case of the lens systems of optical instruments.
- 7. Give the definition of the difference of potential between two points, and deduce an expression for the rate at which heat is developed in a wire carrying a current. An iron wire and a copper one of the same length and diameter are joined in series, and a similar pair in parallel; a current whose strength can be altered is sent through each pair, state for each case which wire will be the first to fuse as the current is increased, giving the theoretical explanation.
- 8. Describe the construction and give the theory of the Bell telephone.

# PHYSICS II. FIRST PAPER.

#### PASS.

1. Assuming that the time of vibration of a liquid drop, free from the action of gravity, may be represented by a single term involving only the radius, density, and surface tension, find by the method of dimensions the form of the expression. Show by the same method that if the resistance to the motion of a solid through a fluid may, in general, be given by a term involving only area, density, viscosity, and velocity, when the speed is such that the resistance is proportional to the square of the velocity the resistance is then independent of the viscosity.

- Find an expression for the energy per unit volume stored in a twisted cylindrical wire in terms of the rigidity, radius, and angle of twist per unit length, proving any formulæ used.
- 3. What is meant by the statement that at 0°C. the viscosity of water is 0.018? Couette found the viscosity of water by determining the couple which had to be applied to a cylinder to keep it fixed while a coaxial cylinder rotated with constant speed, the space between the cylinders being filled with the water; give in detail the theory of the method.
- 4. Find an expression for the change in the temperature of a wire due to a sudden pull, and show that the adiabatic Young's modulus of iron at 10°C. exceeds the isothermal modulus by about 1/4%, given that at 10° the isothermal modulus is 1.96×10<sup>12</sup>, the coefficient of linear expansion, 0.0000122, the specific heat 0.109, and the density 7.7.
- 5. Find an expression for the effusion of a gas through a small orifice into a vacuum. Show how the times of efflux of equal volumes are related in the case of different gases, and explain any modifications that occur when the gases escape into a space containing another gas instead of into a vacuum.
- 6. From a consideration of the porous plug experiment find an expression for the absolute temperature in terms of the gas thermometer temperature. Given from the experiment that, if  $p_1$  and  $p_2$  denote the pressures expressed in atmospheres on the first and second sides of the plug, and  $\theta_1$  and  $\theta_2$  the corresponding absolute temperatures,  $\theta_1 \theta_2/p_1 p_2 = 0.285 \theta_0^2/\theta_1^2$ ,

where  $\theta_0$  is the absolute temperature of melting ice, show that this latter temperature does not differ from the air thermometer temperature by as much as 1°C. The thermal capacity of air at constant pressure is 0.2389

and the density at 0°C. and 760 mm., 1/773.

## PHYSICS II. SECOND PAPER. PASS.

1. Find the dimensions of a quantity of electricity both in electrostatic and in electromagnetic measure, and show

that, if s and m are the numerical values of the same charge in electrostatic and electromagnetic measure respectively,  $1/\sqrt{K_{\mu}} = s/m$  centimetres per second. Explain how the value of s/m can be practically found.

- Find an expression for the capacity of the compound condenser formed from a series of insulated Leyden jars,
   (1) when all the similar coatings are connected together,
   (2) when the outside coating of the first jar is connected to the inside coating of the second, and so on.
- 3. An iron ring, with an air gap which subtends a small angle θ at the centre, is wound with a solenoid and secondary coil for the purpose of the determination of the relation between B and H by the ballistic method; find an expression from which H can be calculated at each step in the experiment.
- 4. A wire whose mass is m grammes is bent into the form of a circle of radius a, and is suspended by a thread, the time of vibration of the coil round the vertical suspension being t seconds; the plane of the circle is coincident with that of the magnetic meridian and at the centre of the circle is placed a small compass needle. A current i is sent through the coil, which is kept in its original position by twisting the suspension through an angle θ, the magnet being then deflected through an angle φ; find expressions for i and H in terms of the given quantities, H being the horizontal intensity of the earth's magnetic field.
- 5. Show that a displacement of a circuit, carrying a current in a magnetic field, will be assisted or resisted according to whether it increases or decreases the number of tubes of magnetic induction which pass through the circuit in the positive direction. Supposing the circuit is moving with the current constant, find a general expression for the work done during any displacement.
  - A line of induction is said to pass through the circuit in the positive direction when the direction of the tube is related to the direction of the current as is the longitudinal to the rotational motion of a right-handed screw.

#### BIOLOGY I. A.—(Zoology.)

Illustrate your answers with drawings.

- 1. Write a general account of the Infusoria.
- 2. Briefly describe the life-history of (a) the hydatid tapeworm (Tuenia echinococcus), and (b) the Guinea worm (Filaria medinensis).
- 3. Describe the development of a starfish.
- 4. Describe the appendages of the head and thorax in a cockroach, and compare them with the corresponding structures in *Palinurus* and in a scorpion.
- 5. Give an account of the development of the chondro-cranium and describe the typical cartilage bones which may become formed in its walls.
- 6. What are the characteristic features of the fore- and mid-brain in an Elasmobranch, a Bird, and a Mammal?

## BIOLOGY I. B.—(BOTANY.)

Illustrate your answers with drawings.

- 1. Write a general account of the Cyanophyceæ, with a more particular description of *Nostoc*.
- 2. Compare the sexual organs and mode of reproduction in the Red Seaweeds with those in *Penicilium* or *Eurotium*.
- 3. Describe the structure and life-history of Equisetum.
- 4. Describe the structure of the leaf of Pinus, and point out in what respects it differs from that of an ordinary bifacial leaf. How do you explain the meaning of those differences in structure?
- 5. What is a racemose inflorescence? Describe the various types, with an example of each.
- 6. Give an account of the process of respiration in plants.

#### BIOLOGY II.

#### FIRST PAPER.

- 1. Write an account of the life-history of Coccidium.
- 2. Describe the development of Clathrina (Calcarea) or Oscarella (Myxospongiæ).

- Compare the structure of a Monozoan Cestode (e.g., Amphilina) with that of the Heterocotylea.
- Give a short account of the structure of (a) the Chaetognatha,
   (b) Stratiodrilus.
- 5. Write an account of the digestive system of the Echinoderms.
- Describe the organs of respiration in the Pelecypoda and the Gastropoda.

## BIOLOGY II. SECOND PAPER.

- 1. Describe the structure of the foot in the dibranchiate and tetrabranchiate Cephalopoda.
- 2. Describe the development of a Scorpion.
- Give a short account of (a) the Cladocera, (b) the Anaspidacea,
   (c) the Mysidacea.
- 4. Write a brief account of the products of metabolism in plants.
- 5. Describe three experiments which you have yourself performed or seen performed showing the action of external forces on the direction of growth of a growing organ.
  - 6. Write short notes on (a) any changes in form and structure which accompany etiolation; (b) the assimilation of sugar by plants; (c) the effect of heat on the movements of protoplasm in the cell.

#### GEOLOGY I.

SIX questions only to be attempted.

- Describe the mode of origin of various types of lakes. Give Australian examples where possible.
  - Explain how a large Swiss lake has probably been formed by the "diffluence" of ice masses.
- 2. What was Gondwana Land? Explain the nature of the evidence which has enabled geologists to approximately reconstruct the palæogeography of a large portion of the world during Gondwana time.
- 3. Show by means of a sketch map the positions of the chie artesian and sub-artesian basins of Australia, mentioning their respective geological ages. State what you know about artesian water in regard to—(1) the minerals

- dissolved in it; (2) the theories as to the cause of its rise through (a) gas pressure; (b) rock pressure; (c) hydrostatic pressure; (d) hydraulic pressure.
- Draw typical longitudinal and transverse sections of (a) a
  valley eroded by glacial action, and (b) one formed by
  stream action. Account for the difference.
- 5. What sedimentary rocks (a) of mechanical, and (b) of chemical origin may result from the disintegration and decomposition, due to weathering, of a two-mica granite containing both orthoclose and oligoclose?
- 6. If the sedimentary rocks, formed under the conditions mentioned in Question 5, were subjected to intense regional metamorphism, what new rock varieties and mineral species are likely to become developed?
  - Explain why felspars rarely form again in such metamorphosed sediments.
- 7. Explain and illustrate how river valleys may be modified as the results of (a) competition with other rivers; (b) warping (flexing) of the earth's crust; (c) faulting; (d) invasions by flows of lava. Quote Australian examples where possible.
- 8. Describe the following, mentioning in each case the geological horizons of which they are characteristic, and any other fossil forms likely to be associated with them—Salterella, Diprotodon, Bronteus, Gangamopteris, Turritella, Stenopora, Trigonia, Halysites, Belemnites, Lepidodendron Australe, Orthoceras, Iguanodon.
- 9. What traces have been found respectively of (a) Palæolithic, and (b) Neolithic men in the Northern Hemisphere? What is known as to the probable original home of the men of the above geological epochs?

#### GEOLOGY II.

Six questions only to be attempted.

Explain the part played by tectonic disturbances in controlling the development of rivers and lakes between Mount Kosciusko and Moss Vale. What is the significance of disharmonic topography?

- 2. Describe the chief peneplains of Australia, and mention any evidence, physical or palæontological, by means of which the geological age of the peneplains can be approximately calculated.
- 3. Explain carefully, and illustrate with sketches, the topography of a region that has been heavily glaciated as compared with that of a region which has been subjected only to river and subaerial erosion. Account for the frequent occurrence of fragments of undecomposed minerals like felspar in glacial deposits.
- 4. Describe briefly the classification of the Radiolaria, mentioning the chief types of rock, to the formation of which they contribute. Give an account of the chief horizons of radiolarian rock in Australia.
- 5. Describe the chief structural characteristics and biological affinities of the *Archaeocyathina*. Explain their geographical distribution and its significance.
- 6. Describe the Trias-Jura rocks of Australia and Tasmania, mentioning their most characteristic fossils. Indicate on the outline map supplied the areas occupied by this formation, and show any important faults traversing these rocks.
- 7. To what oscillatory movements has Australia been subjected, from the Gulf of Carpentaria southwards to Tasmania since the beginning of Cretaceous time: and in what way have those movements controlled river development?
- 8. In what parts of Australasia have red beds been developed in the past, or at present, and what is the climatological significance of the red beds?

# GEOLOGY III. A.—PRINCIPLES AND PROBLEMS OF GEOLOGY.

SIX questions only to be attempted.

- 1. Describe the pneumatolytic theory of Volcanic Eruptions.

  How far does the vertical sequence of ores in veins agree with the phases of gaseous emanations during a volcanic cycle? Quote examples from Australia or elsewhere.
- Explain and illustrate Nussbaum's views as to the origin of cirques, corrie lakes, and trogtaler.

- Describe and mark on the accompanying outline map of Central and South America the chief tectonic units and trend lines. Compare the West Indian area with that of the area between Graham Land and Patagonia.
- Explain any relations petrographic, paleentological or tectonic which have been proved to exist between Antarctica and Australia.
- Explain and illustrate with sketches (1) Recumbent folds;
   (2) Back folds; (3) Rotated folds; (4) Rolled out folds;
   (5) Back-thrust of a broken yoke, as applied to an overthrust area of the earth's crust; (6) Listric surfaces.
- 6. Discuss the theory of isostasy as applied to the earth's crust. To what extent has "Compensation" been reached as the result of the readjustment of the earth's crust under gravity in India, North America, and in deglaciated regions formerly covered with thick ice?
- 7. Mark on the map of the world the positions of the chief areas where the earth's crust has been (a) in tension, and (b) in compression respectively. What are Becke's and Suess' views as to the respective petrographic products of such regions? Give examples.
- 8. What evidence, in historic or geographical time, does inland Asia afford as to its past changes of (a) climate, and (b) topography? Explain the importance of the evidence of the Asiatic lakes, and lakes in general, as to changes of climate and topography.

#### GEOLOGY III. B.—PALÆONTOLOGY.

Six questions only need be attempted, but Nos. 6 and 7 must be included

- Give a general account of the exoskeleton of the Trilobita.
   Explain the close connection between the development and the scheme of classification.
- 2. Contrast the Nautiloidea and the Ammonoidea in (a) form of the conch, (b) geological range.
- Give a brief account of the Telotrematous Brachiopoda. State their points of resemblance to other Brachiopoda types.
  - Illustrate your answer by drawings of five typical genera.

4. Trace the development of the hinge structure in the Pelecypoda. What is the value from (a) a geological, and (b) a biological standpoint?

Illustrate your answer.

- Describe fully the various types of shell developed in the Gastropoda. Give sketches of typical genera to illustrate answers.
- 6. What are the following fossils, their horizon, and characters of particular interest?—

Receptaculites, Uncites,
Keeneia, Deltopecten,
Maccoyella, Agnostus,
Turrilites, Brachymetopus,
Spirites

Purisiphonia, Spirula.

7. In what connection is each of the following terms used?— Chondrophore, acanthopore, hydrospire, palpebral lobe, syrinx, varix, pallial sinus, doublure, hyponome, madreporite.

# GEOLOGY III. C. (MINERALOGICAL).—OPTICAL MINERALOGY AND PETROLOGY.

- 1. What are the optic binormals (primary optic axes)? What are their properties, and how do these properties follow from the conception of the optical indicatrix.
- Summarize very briefly the relationship between crystal form and thermal properties of crystals.
- Describe Wright's modification of Becke's method for measurement of optic axial angle by means of curvature of the brushes.
- 4. Describe some of the modern methods of determination of the melting points and specific heats of minerals, and point out their importance in connection with the formation of igneous rocks.
- 5. Discuss the isomorphism of the plagiculases. Or discuss the part played by mineralizers in rock genesis.
- 6. Illustrate the use of variation, diagrams in the study of a petrographical province.

# DEPARTMENT OF VETERINARY SCIENCE.

## CHEMISTRY I. PHYSICS I. BIOLOGY I.

As in First Year Science.

#### VETERINARY ANATOMY.

Six questions only to be answered.

- 1. Describe generally the Lumbar Vertebræ of the Horse.
- 2. Describe the Semi-lunar of the Horse and name the bones with which it articulates.
- 3. Describe the upper extremity of the Femur of the Horse.
- 4. Describe the Turbinated bones of the Horse.
- 5. Compare the Scapula of the Ox, Pig and Dog respectively with that of the Horse.
- 6. Compare the Frontal Sinus of the Ox and Dog respectively with that of the Horse.
- 7. Name the different classes of joints and give an example of each.
- 8. Describe the ligaments of the Hip Joint of the Ox.

# DEPARTMENT OF ENGINEERING.

#### FIRST YEAR EXAMINATION.

CHEMISTRY I. PHYSICS I. MATHEMATICS I. GEOLOGY I.

As in the Faculty of Science.

#### DESCRIPTIVE GEOMETRY AND DRAWING.

No written description of any kind is required. Accurrate draughtsmanship is absolutely essential.

 A circle, 2 inches in diameter, rolls (a) on the outside, (b) on the inside, of the circumference of another circle 4 inches in diameter.

Draw the path of a point on the circumference of the smaller circle in each of these cases.

2. A circular hoop, 5 inches in diameter, makes two complete revolutions at uniform angular velocity, about a vertical diameter, while a bead rolls uniformly down the half circumference of the hoop from its highest to its lowest point.

Draw the plan and elevation of the path of the bead.

3. A bar of iron, ½-inch square in section, is made into a spiral of 4 inches internal diameter, and 1½ inches pitch.

Draw two complete turns of the spiral in elevation.

4. Draw a quadrilateral from the following dimensions-

ab=2 inches.  $bc=2\frac{1}{2}$  ,, cd=3 ,,  $da=3\frac{1}{2}$  ...

Mark the corners a, b, and c with the numbers, 2, 1, and 3 respectively.

- Assume this diagram as the "figured plan" of a quadrilateral ABCD. Find the number that should be written opposite the corner d, and draw an elevation of the quadrilateral.
- 5. Obtain the projections of three spheres resting on the ground, each one of which touches the other two. The respective diameters are 2½ in., 1½ in., and 1 in.
  Show the projections of the points of contact.
- 6. Obtain the plan, elevation, and end view of a cube, the length of whose sides is 3 inches. The plane of the base is inclined at an angle of 60 degrees to the horizontal, and one edge of that base is inclined at 30 degrees.
- 7. Assume the vertical and horizontal traces, vt and th of an oblique plane, and determine the following—(a) the real angle between the traces, vth; (b) the inclination of the given plane to the vertical plane.
- 8. Obtain the isometric projection of a rectangular stone slab with an elliptical hole cut symmetrically through it.

  Assume all necessary data.

#### c.

## SECOND YEAR EXAMINATION.

#### CHEMISTRY.

1. What is an alloy? State the general rules for making alloys.

Name, giving approximate compositions, the chief alloys in which copper is a main constituent.

2. Describe how one kind of artificial gaseous fuel is made, and state how you would take and analyse a sample of flue

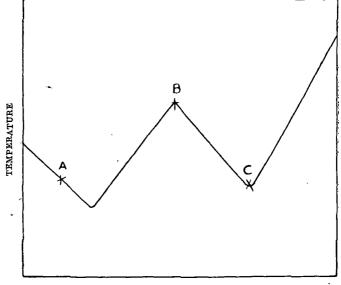
gas.

3. What are the chief impurities found in natural waters, and how are they harmful? Describe briefly how water could be treated to make it suitable for boiler purposes.

4. What is an explosive? Give the names and constituents of the common nitro-explosives, and describe the manufac-

ture of one of them.

5. The following curve represents the melting points of the series of alloys formed by two metals. What do you learn from the curve, and what would be the appearance under the microscope of prepared specimens of the compositions marked A, B and C?



COMPOSITION

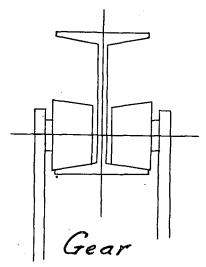
#### ENGINEERING DESIGN AND DRAWING.

#### FOUR HOURS.

One question only to be answered from either Part A or Part B. Students desiring to pass with distinction in this subject MUST answer a question from Part A.

#### PART A.

- All the designs for the following questions are to be to a scale suitable for the cartridge paper you are working on. You are in each case to describe your method of procedure, giving calculations necessary, and showing how you proceed with the design in detail, giving sketches as required.
- of a machine. It is carried on a wall crane, the lower member of which is formed from a 12 in. I-beam, weigh ing 40 lbs. per foot. The flanges of the I-beam are 5½ in. wide, ½ in. thick at the centre, ½ in. thick at the edges, and the web is ½ in. thick. The crab is to run on the bottom flange of the I-beam, is to be capable of handling a load of 4,000 lbs.. and to be worked from the floor level by means of a chain. Design a suitable crab and hoisting gear. The height from the floor to the under-side of the I-beam is 14 ft.



Design a friction clutch (suitable for a motor car) to transmit
 16 h p., at 1,000 revolutions per minute; the co-efficient
 of friction between leather and cast iron may be taken at

- 0.3, and the angle between the axis and the side of cone may be from 10° to 15°. The clutch is to be kept in operation by means of a spring, and you must make suitable provision for carrying the end thrust.
- 3. Design a screw jack to take a load of ten tons, allowing that
  40 lbs. can be exerted on the handle. A total lift of
  15 in., and a transverse motion of 18 in. is to be provided
  for.

#### PART B.

The drawings for the following are to be made to such scales as are suitable for the paper provided, and are to be fully detailed. All calculations, &c., are to be given.

- 1. A bearing and pedestal are required for a 4½ in. shaft running at 350 revolutions per minute. The centre of the bearing is 2 ft. above floor level. A load of 8,000 lbs. may be applied to the bearing in any direction except end-wise. Provision for continuous oiling must be made either by chain, ring, or forced lubrication. Design the bearing and pedestal.
- 2. A steam engine cylinder is carried on four steel columns, the centres of which lie on a circle of 5<sup>3</sup>/<sub>4</sub> in. radius from the centre of the cylinder. The conditions governing the design of the cylinder are as follow—Steam pressure, 160 lbs. per sq. in.; diameter of cylinder, 5 in.; stroke, 4 in.; mean cut-off, 65; revolutions per minute, 750. A slide valve of either the piston or flat D type may be used.
- 3. Design a 2½ in. screw-down non-return valve suitable for a pressure of 250 lbs. to the sq. in.

# PHYSICS II. As in the Faculty of Science.

#### INTRODUCTORY COURSE IN CIVIL ENGINEERING.

Only FIVE questions to be attempted.

1 Make sketches illustrating the method of constructing a timber viaduct to carry a railway over a small stream or river. Show also how you would determine the area of the water-way necessary to discharge the flood water. What data would you require?

2. How do you determine the resistance due to grades, curves, and the acceleration of the train? Explain the method of adjusting or compensating for grades when they occur on a curve so that the total resistance is equal to that on the ruling grade.

 Explain the terms: cylinder power, adhesion, tractive force, and boiler power, as applied to the locomotive engine,

and express them by means of equations.

An engine having two cylinders 20 inches in diameter by 24 inches stroke, a mean pressure of 120 pounds per square inch, and driving wheels 4 ft. 6 in. in diameter. is used to haul a train up a grade of 1 in 110. What is the maximum load that can be hauled, and what is the weight on the driving wheels, if the coefficient of adhesion is \frac{1}{4}?

- 4. Make sketches illustrating the method of timbering a tunnel driven through stiff clay, previous to lining it with brickwork. Describe the method of driving a tunnel through hard rock.
- 5. Make sketches illustrating the construction of an earthen dam for a storage reservoir, showing the method of drawing the water off from the reservoir. Show also the waste weir and bye wash, and the method of constructing these works, assuming all necessary data.
- 6. Calculate the velocity and the discharge in cubic feet per second of the following works:—
  - (a) A circular sewer, lined with cement mortar rendering, 4 feet in diameter, grade 1 in 2,000, when running half full.
  - (b) A pipe, in good condition, 2 feet in diameter, on a grade of 1 in 1,000.
  - (c) A weir of rectangular cross-section, 100 feet wide, depth of crest below still water 1 foot.
- Describe the method of constructing ordinary sand filters, settling and clean water reservoirs or tanks, and illustrate your remarks by means of sketches.

#### MECHANICAL ENGINEERING I.

 (a) A rope brake wraps right round a 4 ft. fly-wheel, as is done on the experimental engine in the laboratory, and a weight of 200 lbs. hangs vertically at the lower end, while a spring balance to which the upper end of the brake is attached reads 20 lbs. Neglecting the weight of the rope, find the tension in the rope at the highest and lowest point of the periphery of the wheel.

- (b) A locomotive, of weight 60 tons, runs round a curve of 1,000 ft. radius at 30 miles an hour; what is its centrifugal force? What should be the super-elevation of the outer rail?
- (c) A chain 300 ft. long (and weighing 20 lbs. per foot) hangs vertically down a shaft. What amount of work is done in winding in 70 ft. of the chain, thus leaving 230 ft. hanging in the shaft?
- 2. "For any train of spur-wheels, whatever wheels it may actually consist of, there may always be supposed substituted, for kinematic or mechanical purposes, one pair of wheels of known radii and centres, these wheels corresponding to the centrodes of the first and last wheels of the train."

Explain and discuss this statement, illustrating your remarks by neat sketches.

3. The following are the dimensions of the links of a levercrank mechanism, of which a is the fixed link—

> a=10 inches. b=30 ,, c=20 ,, d=25 ,,

If b moves at the uniform rate of 50 revolutions per minute, find, at the moment when b is at right angles to a—

- (i.) The linear velocities in feet per second of the middle points of b, c, and d.
- (ii.) The angular velocity of d in revolutions per minute.
- 4. What is the relationship between the pressure, volume, and absolute temperature of 1 lb. of air? Find the volume of 1 lb. of air at two atmospheres pressure, and 50 deg. F. It receives heat energy equivalent to 1,000 ft. lbs., its volume remaining constant. Find its new pressure and temperature. The specific heat of air at constant pressure is 0.238.

5. Describe, with the aid of sketches, Savery's engine of 1698, and its modern representative, the pulsometer. Give any particulars you may be acquainted with as to the efficiency of the latter, and state under what circumstances you would recommend its use.

#### MATERIALS AND STRUCTURES.

Only FOUR questions to be attempted.

- Make a sketch of a Pratt truss 175 feet span, and 35 feet deep, suitable for a thorough railway bridge, carrying a single line of way.
  - Length of panels, 25 feet; dead load, assumed to act at the bottom panel points, 30,000 pounds; live load, 80,000 pounds, also acting at the bottom panel points. Calculate the maximum stresses in the centre panel for the horizontal, vertical and diagonal members, also the stresses in the end panels.
- 2. Referring to Question 1, calculate the maximum deflections at the centre.
- 3. Show how you would determine the maximum stresses in a parabolic or bow-string truss, loaded at the panel points with 2 and 12 tons dead and live loads respectively. Only one member of each kind need be dealt with.
- Establish the equations for slope and deflection for a beam supported at each end, and loaded with a uniformly distributed load —
  - (a) Neglecting shearing stresses.
  - (b) Considering shearing stresses.
- 5. Write down the equation of three moments, and apply it to a continuous girder of two spans loaded uniformly l=100 feet, w=2 tons per foot lineal. Determine the maxima moments and shears, and pressure on the central pier.
- 6. Investigate the stresses in a short column of masonry under an eccentric load, and explain the use of straight line formulæ for calculating the safe working stress in the design of long columns, stating their limitations.

#### THIRD YEAR EXAMINATION.

# MATHEMATICS. See under Faculty of Arts.

#### SURVEYING I.

Candidates require scale, compasses, and logarithm tables.

- Describe, and illustrate by diagrams, five well-known methods of fixing a point.
- 2. Name and quote the signs of the coordinates in the eight octants of space, and illustrate by diagram.
- 3. Write a short treatise on hypothenensal chaining with long steel ribands, noting the errors to which such work is liable, how they are to be avoided, or eliminated, or compensated, quoting the various formulæ in full.
- 4. A steel tape, 300 ft. in length, is one inch longer than standard at a temperature of 60° Fahr. when subject to a tension of 30 lbs. At what temperature would it be standard length when subject to a tension of 15 lbs., the weight of the tape being 005 lbs. per lineal foot?
- 5. Give a diagrammatic illustration of the sextant. Describe the principles of its construction, and the adjustments. Show how it can be used for taking an altitude of the sun on land.
- 6. Show how you would obtain the distance between two points on opposite sides of a river with the chain only, and alternatively with theodolite and chain.
- 7. Write what you know about the declination of the magnetic needle, its secular, annual, and daily variation, stating which of the former mostly affects the work of the surveyor, and why?
- 8. Give the adjustments of the transit theodolite in the order in which you would perform them, stating your reasons for so doing.
  - Explain what errors can be eliminated, and how, when observing horizontal angles, and running straight lines, with the theodolite.

#### SURVEYING II.

- 1. Describe the process of determining (a) the error of centring of a graduated circle of an altazimuth, (b) the error of position of micrometers, and (c) the graduation errors.
  - Given the following circle readings, find the amount and direction of the eccentricity, and also the angle between the micrometers—

Micrometer A.			Mic	Micrometer B.		
0°	0'	4.0"	1790	59'	53.3"	
$90^{\circ}$	0'	<b>6</b> ·9"	269°	<b>5</b> 9′	45.0"	
180°	0′	$3\cdot3''$	359°	59'	43.5"	
$269^{\circ}$	59'	59.4''	89°	59'	58.4"	

- 2. If the mean value of an angle from the observations be, say, 30° 41′ 10.5″, and the residuals regardless of sign be 1.3″, 1.2″, 0.2″, 0.6″, 0.9″, 1.6″, 1.0″, 1.1″, 0.2″, and 0.5″, what is the "probable error" of a single observation, and what is that of the mean?
- 3. What are the principal advantages to be obtained by the use of invar in the measurement of base lines? Why is it not a suitable material for primary standards of length?
- 4. How does irregular distribution of the surrounding hill masses affect astronomical observations of, say, latitude and longitude? Give instances where such effects have been observed, and of similar effects leading to the supposition of variations of sub-surface density.
- 5. Write a short article on the determination of heights by thermometric levelling, and the mercurial barometer
- 6. Give the derivation of the barometrical modulus in the formula  $h = 60158 \log \frac{p_0}{n}$ .
  - State any abbreviated formula you may know for the difference of height of two stations at which the barometer readings have been taken.
- 7. Write a short article descriptive of the method you would adopt for gauging a stream by means of rod floats.
- 8. Describe the field operation you would undertake in the surveys preliminary to a study of river improvement.

#### CIVIL ENGINEERING II. A.

Only FIVE questions to be attempted.

- Write down the equations for Tractive Effort in a locomotive, as developed in the cylinders, the boilers, and adhesion due to load on driving wheels.
  - Give the proportions of grate area to heating surface in some modern locomotives, and explain why it is not possible for the boilers to produce enough steam to utilize the available tractive force when the speed exceeds 15 miles per hour.
- 2. Write a brief account of the resistance to be overcome by a locomotive, and quote formulæ for train, curve, grade and acceleration resistances.
- 3. Describe briefly the Westinghouse Automatic Brake for railways, and illustrate your remarks by means of sketches.
  - What are the essential points to be observed in regard to the stopping and regulating the speed of trains? A train, with 60 per cent. of its weight braked, descends a grade of 1 in 100 at a speed of 40 miles an hour. What distance will be travelled after the brakes have been fully applied, if the efficiency of the brake is 14 per cent.?
- 4. Make sketches showing the cross-section of a permanent way for fast traffic. Sketch also the rail joint, and specify the tests for the manufacture of the rails.
  - Make an outline sketch of the points and crossings in an ordinary cross-over road, also the special arrangements at terminal stations in regard to facing points.
- 5. Write a brief account of railway construction in mountainous countries, and discuss the Fell and the Rack systems, also the special features of the locomotives used in each case. What are the main advantages of such locomotives as the Mallet and the Shay?
- 6. Write an essay on one of the following subjects:
  - (a) The Block system, and interlocking of points and signals.
  - (b) The modern compound locomotive engine.
  - (c) The design of culverts and openings through embankments in regard to the flood discharge of the various streams.

- (d) The balancing of the revolving and reciprocating parts in a locomotive.
- 7. State the various items which make up the total of "Rise and Fall." Compare two lengths of railway, one level, and another rising and falling 1,000 feet in 20 miles, the maximum height being at the centre, having given the following data:—

Weight of engine and train =400 tons.

Mean speed over the 20 miles=18 miles per hour.

Minimum speed on up grade=12 miles per hour.

Coal consumption, 4 lbs. per effective horse power.

Cost of coal, 12/- per ton.

Cost of water, 30 per cent. that of coal.

Train resistance, 9 lbs. per ton.

- 8. Describe the main features of the locomotive suitable for the following purposes:—
  - (a) For hauling freight trains weighing 500 tons, on grades of 1 in 40, at 12 miles an hour.
  - (b) For passenger service, at 50 miles an hour, on grades of 1 in 60.
  - (c) For suburban passenger service, such as between Sydney and Parramatta.

#### CIVIL ENGINEERING II. B.

Only six questions to be attempted.

- 1. Describe the methods in use for the construction of large earthwork dams, and compare their advantages and disadvantages. State the precautions necessary to ensure water-tightness, and show how to design the "waste weir," "bye wash," and the outlet works for the supply of a town.
- 2. Make a sketch showing the cross-section of a water channel on a grade of 1 in 1000 to discharge "15 cnsecs"—

  (a) when constructed with concrete; (b) when constructed in porous earth in embankment.
- 3. Make sketches showing how you would construct a cofferdam for building a bridge pier in a river with a moderate current and depth of water. Describe the method of driving the piles.

- Describe, and illustrate by means of sketches, the Worthington High Duty Pumping Engine, and explain how it is able to work economically.
- 5. Write a description of the various types of breakwaters which have been built in various parts of the world, illustrating your remarks by means of sketches.
- 6. Write an essay on one of the following subjects-

(a) Improvements of the Entrances of Tidal Rivers.

- (b) Sewage Farms, Septic Tanks, and Filter Beds for Sewage.
- (c) The separate and partially separate systems as applied to the Sewerage of Country Towns.

(d) Ship Canals.

- 7. Explain the following terms—Duty of Water in an Irrigation System; Inundation and Perennial Canals. Make a sketch showing a weir under sluices and canal head regular, in any irrigation system with which you are acquainted. Explain fully how the river channel is regulated, and silt excluded from the canal.
- 8. Make a diagram sketch illustrating the construction of Stoney's sluice gate, and sketch also the methods adopted in India for raising and lowering the gates in the river under-sluices and the canal regulator.
- 9. What considerations would influence you in the design of an escape on a canal, a syphon under a canal, and a superpassage to carry a mountain torrent over a canal, or a canal over a river? Illustrate your remarks by means of sketches of some well-known example:
- 10. Write a short description of the Barren Jack Irrigation Scheme, and the various works for regulating the supply and distributing the water.
- 11. What are the principal sources of loss of water in an irrigation system? Discuss each separately, and state its probable amount, and the methods adopted for reducing the loss of water in India. Sketch the cross-sections of a main canal, a distributary, and show how you would lead the latter from the former, also the outlets to the field water courses.
- 12 Make cross-sections showing the design of Indian weirs, in fine sand foundations. Show also a needle weir.

#### CIVIL ENGINEERING III. A.

Only FIVE questions to be attempted.

1. Show how you arrive at the following equations in regard to the slope and deflection of a beam:—

$$i = \int rac{ ext{M}}{ ext{EI}} dx, \ v = \int \int rac{ ext{M}}{ ext{EI}} dx_2.$$

Find an expression for the deflection of a rectangular beam when loaded at two points, dividing the span into three equal parts.

2. Make an outline sketch of a Pratt truss suitable for a through bridge, to carry a single line of railway, and show how to calculate the stresses for the live and dead loads, assumed to be 80 and 20 units respectively acting at the bottom panel points.

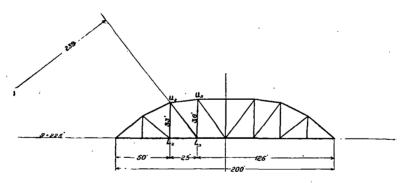
Span=175 feet. Depth=30 feet. 7 panel lengths each =25 feet 1 unit=1000 pounds.

- 3. Referring to question 2, calculate the deflection at the centre.
- 4 Write an essay on the various methods proposed for calculating the safe working stresses in long columns, and show how you would design a column in a bridge, 60 feet long between pins, to carry 300,000 pounds equivalent dead load.
- 5. State the manner in which you would provide for wind pressure in a Pratt truss bridge, and show how to calculate the stresses in the top and bottom lateral systems, also the sway and portal bracing.
- 6. Design by means of sketches, giving all necessary dimensions, a retaining wall 50 feet high when the slope of the earth at the top of the wall is horizontal, having given angle of repose of earth 45 degrees, safe pressure on foundations 4 tons per square foot.
- 7. Show how to design a masonry dam for a large storage reservoir. Give all the necessary equations for the determination of the thicknesses at various levels, and illustrate how you would apply them by working out a few examples. Assume all necessary data.

- 8. Write an essay on the properties of reinforced concrete as shown by tests in tension, compression, and cross-breaking.
  - Develope the equations for the design of a rectangular beam, stating the various assumptions involved.
  - Design a beam 12 inches wide to carry safely a dead load of 300 pounds per lineal foot on a span of 20 feet, having given:—

$$\sigma_c = 500$$
 pounds per sq. in.  
 $\sigma_s = 1500$  °,, ,,  
 $E_c = m = 10$ .

#### CIVIL ENGINEERING III. B.



1. The truss shown in sketch indicates a span of a railway bridge carrying a single line of way and Cooper's  $E_{50}$  Standard loading. Establish the criterea—

$$\frac{l_1}{l} = \frac{P}{W}$$

$$W - nP\left(\frac{l+g}{g}\right) = a \text{ minimum.}$$

Calculate the live load stresses in the members  $U_2U_5$ ,  $U_2L_3$ ,  $U_3L_4$ , and  $L_2L_5$ .

- 2. Show how to determine the value of the horizontal thrust in a parabolic arch rib, hinged at the springing, when loaded with a single concentrated load. Show also how to determine points in the reaction locus curve. How would you determine the horizontal thrust due to a change in temperature?
  - Or,
    Make an outline sketch of a three-hinged braced arch, and show how you would determine the stresses in the four members of any panel for live and dead loads. Assume all necessary data.
- 3. Write a description of the method of designing a masonry dam, giving full information in regard to the determination of the maxima stresses.
- 4. Show how you would determine the stresses in the stiffening truss of a suspension bridge under partial loading—

  (a) when hinged at the centre; (b) when continuous.
- 5. A continuous girder consists of three spans of 100, 150, and 100 feet respectively. Determine the curves of bending moments and shearing stresses, when the middle span is loaded with a uniformly distributed load of one ton perfoot, and each side span with a concentrated load of 50 tons at points 60 feet from the ends of the first and third spans respectively.

Write a description of the design of modern swing bridges, and the method of calculating the stresses in a partially continuous bridge.

#### MECHANICAL ENGINEERING II.

#### FIRST PAPER.

Good answers (not necessarily long ones), are expected to four questions. .

- (a) Prove the following proposition—
   The disturbing force on the frame of an engine due to the reciprocation of a mass M, is equal to the disturbance which would be produced by the component of the centrifugal force in the line of stroke, due to an equal mass M, supposed concentrated at the crank pin of the engine.
  - (b) Explain how you would determine the balancing mass for either of the large gas engines in the laboratory.

2.	De	termine the balance weights necessary for an inside cylinder locomotive with the following data—			
		Stroke 26 inches.			
		Distance centre to centre of cylinders 2 feet.			
Distance between the planes contain- ing the mass centres of the balance					
		weights 5 feet.			
		Mass of unbalanced revolving parts per crank-pin reduced to 13 inches			
		radius 640 pounds.			
		Mass of reciprocating parts per cylinder at crank radius 560 pounds.			
		Proportion of reciprocating parts to be balanced two-thirds.			
3.	(a)	Describe briefly the equipment necessary for compressing			

- (a) Describe briefly the equipment necessary for compressing air, and transmitting it to various air motors.
  - (b) Explain in detail, with accurate diagrams, the use of inter-coolers and pre-heaters.
  - (c) Describe briefly any system of pumping water by means of compressed air.
- 4. (a) Show that the efficiency of a Pelton wheel is a maximum
  —neglecting frictional and other losses—when the velocity
  of the cups equals half the velocity of the jet.
  - 25 cubic feet of water are supplied per second to a Pelton wheel through a nozzle, the area of which is 44 square inches. The velocity of the cups is 41 feet per second. Determine the horse-power of the wheel, assuming an efficiency of 75 per cent.
  - (b) Hot water escapes into a sump at a temperature of 140 deg. F., and has to be lifted vertically 21 feet. Determine if this could be done with a suction pump in the locality of Sydney.
- (a) Describe by means of accurate sketches the construction of any type of direct-acting steam pump.
  - (b) Describe by means of sketches and diagrams the construction and principles of operation of the Worthington "high duty attachment" for steam pumps.

(Written descriptions are not required).

- 6. (a) Write a brief account of the different classes of water turbines in common use.
  - (b) Explain the principle of the suction or draught tube.
  - (c) Draw a neat diagrammatic section to illustrate the operation of an hydraulic ram using dirty water from one source to pump clean water from another.

# MECHANICAL ENGINEERING II. SECOND PAPER.

- (a) "Dry steam which expands adiabatically becomes wetter unless it is very wet to commence with, when it becomes dryer." Explain this statement carefully by means of an entropy temperature diagram.
  - (b) Explain precisely why it has been proposed to use binary vapour engines.
  - (c) Compare air, water, ammonia, carbon-dioxide, and sulphur-dioxide as working substances in a refrigerating machine.
- 2. What steps would you take in the design of a fly-wheel for a specified fluctuation of speed in the case of
  - (a) A simple steam engine.
  - (b) An Otto gas engine.
- 3. A gas engine using the Otto cycle has 25 per cent. clearance, and takes in its charge at 14.7 lbs. per square inch, and at 60 deg. F. Determine the pressure and temperature at the end of compression.
  - If the charge consists of one part of gas to nine parts of air, and the heat of combustion of the gas is 600 B.T.U. per cubic foot, find the temperature and pressure at the end of explosion, and at the end of the expansion period.

What is the efficiency of the cycle?

- If the cylinder diameter is 18 inches, and the stroke 24 inches, what is the indicated horse power at a speed of 150 revolutions per minute.
- 4. (a) Draw a neat section, approximately to scale, through the National Company's suction gas producer.
  - (b) Describe very precisely the various chemical reactions taking place in the producer when working under normal circumstances.

5. Describe the construction and operation of—

(a) The Diesel oil engine.

(b) A refrigerating machine using ammonia as the working substance.

#### ELECTRICAL ENGINEERING I.—DIRECT CURRENT.

EIGHT questions only to be attempted.

 Give a concise account, with sketches, of the requirements of fuses and switches for voltages as high as 300.

2. Explain the theory of the storage battery.

Draw up a set of working instructions for a battery attendant of an isolated plant; give also a statement of the records and test of the battery which you would

require.

- 3. Several lifts, as well as general lighting, being supplied from a small generating plant, discuss the advisability of installing a battery and booster set, giving a neat diagramatic sketch of necessary switchboard and instruments.
- 4. Derive from first principles an expression for the E.M.F. of a direct current generator. Explain the action of inter-poles, showing by a diagram how they are excited relatively to the main poles.

5. Explain the advantages of the three-wire system, and the general arrangements of switch and distribution boards, also the connection of supply meters, in a warehouse using lifts, motors and general lighting.

6. Give an account of the insulation of cables, and explain

the detail of tests which are usually specified.

 Define the terms: Mean Spherical and Hemispherical Candle-power, and explain how their values would be determined for a lamp.

Compare the distribution of light from the usual forms of

incandescent and arc lamps.

8. Explain the theory of a method by which the insulation resistance of a two-wire system may be determined by means of a high-resistance voltmeter.

9. Give an account of the methods which are in use for

controlling the speed of one or more motors.

 Explain the method you would use to determine the efficiency of a motor, giving full experimental details.

#### ELECTRICAL ENGINEERING I.—ALTERNATING CURRENT.

Eight questions only to be attempted.

- An alternating current of sine shape is passed through a coil of known resistance and self-induction. From first principles, using sine curves, show how to determine the E.M.F. Explain the corresponding representation by vector diagrams.
- 2. Define and explain the terms power-factor, equivalent resistance and self-induction, wattless-current. Describe the experimental detail of the manner in which you would determine these quantities for a coil at a given periodicity.
- 3. Determine the self-induction of two parallel wires of given length, with given distance between wires. With a constant load of varying power-factor at the receiving end, show how to determine the necessary voltage at the generator end of the line, to maintain constant voltage at the receiving end.
- 4. Explain the theory of the constant-potential transformer; what is the effect of magnetic leakage, and how is it reduced?
- 5. Show that a synchronous motor will run at no other than synchronous speed. Explain the effect of varying the excitation of the motor.
- 6. Explain the theory of the Thomson Watt-hour Meter when used for A.C., and describe how the instrument could be calibrated for a load of given power-factor, without supplying full power.
- Explain the action of a constant current transformer, also a boosting transformer.
- 8. Compare the advantage of a three phase over a single phase transmission. Deduce the relations between the line currents and E.M.F.'s, and the similar quantities in a star and a mesh load.
- 9. Give the general methods of power measurement in a three phase system.
- Explain the action of a three phase induction motor, and describe the methods for starting such motors.

#### BUILDING CONSTRUCTION I.

SIX questions only to be attempted.

- Describe and sketch the system of shoring trenches on excavations in (a) firm, (b) loose, and (c) very wet soil.
- 2. Describe the materials, mixing and laying of cement concrete in foundations.
- Describe and sketch the best bond for (a) 9 in. brick wall of house; (b) 18 in. brick wall of factory.
- 4. Describe shortly the characteristics of good building stones.
- 5. Sketch and describe the different varieties of stone walling-
- Name six of the principal hardwood timbers of Australia, and six soft or imported woods in general use, and give their characteristics and uses.
- Sketch a single floor to an upper room 18 ft. x 14 ft., with
  projecting chimney breast and fire-place therein. Figure
  sizes of timbers, and sketch details of joints.
- 8. Describe the materials generally available for covering roofs in Australia, how they are laid, and the advantages and defects of each.

#### BUILDING CONSTRUCTION II.

THREE questions only to be attempted.

- Describe and illustrate by sketches how rising, falling, or driving wet may be kept out of brick buildings.
- 2. Sketch the construction of a roof to an engine shed of 40 ft. span, figure the sizes of timbers, give enlarged sketches of joints, and describe any special points requiring attention in the construction.
- Describe and sketch the formation of a wooden dog-legged staircase, of two flights, rising 11 ft. in height, and fitted into a space 7 ft. wide. Figure thicknesses of parts.
- 4. Describe the materials needed for, and the usual mode of plastering ceilings and walls inside a house.

#### HISTORY OF ARCHITECTURE.

THREE questions only to be attempted.

 The Romans used both domes and vaults. Where and how were they subsequently developed, and with what results?

- 2. Describe and sketch a typical Greek temple.
- 3. What are the essential features of mediaeval architecture?
- 4. What are the principal differences between the Renaissance architecture of Italy, France, and England?

#### MINERALOGY.

- Describe three methods for determining the specific gravity of minerals. What special precautions would you adopt —(a) if the mineral were soluble in water; (b) if the mineral were powdered?
- 2. What is meant by the following terms—pyroelectric, oscillatory combination, paramorphism, hemimorphic crystals.
- 3. What metals occur in moderate abundance in the free state as minerals? Group them in isomorphous lines, and state the system of crystallization in each case.
- 4. Enumerate and describe the principal minerals in which silver is an essential constituent.
- 5, Give the composition, colour, lustre, and specific gravity of the following minerals—atacamite, stannite, selenite, rhodonite, bournonite, bauxite, willemite.
- Give an account of the isomorphism which prevails amongst the sulphur-arsenic-antimony compounds of iron, nickel, and cohalt.

#### GEOLOGY II. A.—(ECONOMIC).

- 1. Describe the chief interruptions in the continuity of coal seams in New South Wales.
- 2. What information can microscopic examination of thin sections afford as to the suitability of a given rock for use as a building stone?
  - Discuss the characteristics of the principal rock-forming minerals from the point of view of their effect on building stones.
- 3. For what purposes are gypsum and soda nitre, respectively, used? Where and how do they occur in economically important amounts?
- 4. Describe the effect of descending water in the secondary enrichment of ore deposits.

- 5. Describe the mode of occurrence of gold in the Kalgoorlie region, and account for the presence of methane and deep-seated carbonates in that area.
- 6. Describe the structure of the Gympie goldfield, mentioning any factors which control the distribution of rich parts there, and at Ballarat.
- 7. Write a brief account of the Broken Hill ore deposits.

  To what extent can the deposit be classed as a saddle-reef?

#### FOURTH YEAR EXAMINATION.

#### ELECTRICAL ENGINEERING II. A.—DIRECT CURRENT.

Eight questions only to be attempted. Diagrams to be supplied where possible.

- Derive an expression for the speed of a shunt-wound motor, subjected to a constant retarding torque, in terms of its induction factor and other necessary constants.
  - Hence explain the usual practices for obtaining speed control.
- Explain and discuss the theory of armature reaction, in the
  case of a compound-wound machine with inter-poles.
  Explain what changes are necessary in the connections
  if direction of rotation is to be reversed or polarity
  changed.
- 3. Explain the theory and describe the details of the Hopkinson test applied to a pair of similar compound-wound machines, and discuss the assumptions which are frequently made in reducing observations.
- 4. In the design of a 100 k.w. 440 v. shunt-dynamo running at a speed of 200 r.p.m., explain how the general dimensions of the field-magnet system are arrived at, and show how you would derive the magnetization curve for the machine.
- 5. An isolated plant of about 100 k.w. capacity supplies a mixed load of lights and motors. In providing suitable battery, what considerations would help to fix the size of battery? How would you arrange to operate such aplant, and what type of boosting gear would you use?

- 6. Compare the three following cases of a pair of mains loaded uniformly—
  - (a) Mains fed at the same ends.
  - (b) Mains fed at opposite ends.
  - (c) Mains fed at middle points.
- Give the detail of the specification to which a modern welldesigned motor, capable of developing 50 h.p. continuously, should conform.
  - Discuss also the question of the rating of motors for intermittent service.
- 8. Given the magnetisation curve for a shunt-machine, explain how you would proceed to determine the probable external characteristic of the machine, assuming all necessary data.
- Give an account of the modern processes of lighting with direct current, comparing the different classes of lamp with regard to efficiency, distribution of light, cost of up-keep, renewal, &c.

# ELECTRICAL ENGINEERING II. B.—ALTERNATING CURRENT. Eight questions only to be attempted

- Assuming the armature reaction of a single-phase generator
  as equivalent to an internal resistance and self-induction,
  show how the total induced e.m.f. must be varied so as
  to maintain constant voltage at the terminals of an
  induction motor for which efficiency and power-factor are
  given at any brake load.
- 2. Derive a graphical construction to represent the power developed by a synchronous motor in terms of corresponding electrical relations, and explain the action of a synchronous motor of which the e.m.f. is greater than that of the generator which drives it.
- 3. In the general case of a three-phase three-wire system, show that two watt-meters are necessary, and sufficient to measure the true power, but that such is not the case for a four-wire system.
- 4. Show that a three-phase transmission line, with three wires equi-distant from each other, may be treated as a combination of three single-phase circuits. Explain clearly

the effect of the mutual inductance of three such circuits, and find the conditions which hold in a single-phase line equivalent to the three-phase in so far as voltage drop and power transmitted are concerned.

- 5. Explain one method of design for a constant potential transformer, and state the usual values of efficiency, regulation, &c., which are obtained in modern commercial transformers, pointing out the factors upon which each depends.
- 6. Explain in detail the action of one form of three-phase synchronizing gear, which shows whether the incoming machine is running too fast or slow.
- Explain the theory of one form of service meter for threephase circuits, and show how such a meter could be calibrated at any given power-factor without requiring full-load.
- 8. Two similar three-phase transformers are connected, mesh and star respectively, on primary and secondary; the primaries of each are connected to a three-phase supply. What possibilities are there that the secondaries can not be paralleled?
- Show that a three-phase induction motor may be treated as a transformer, paying special attention to the fact that the rotor currents are of different period to the stator currents.
- Give a brief account of the methods in use for insulating and carrying extra high-tension transmission lines.

#### MINING I.

- Mention the purposes for which core drills are used in connection with mining. Cite cases in which they may lead to erroneous conclusions.
- How would you proceed to cut out and timber a plat off a vertical shaft—
  - (a) When you knew beforehand where you wanted the plat to be.
  - (b) When you did not know at what point to open out till the spot was passed.

Give illustrations.

- 3. Under what circumstances is a drop shaft used? Describe some method of sinking with one. Give illustrations.
- Describe three distinct methods employed for removing large quantities of overburden from the top of a flat deposit.
- 5. Describe how you would lay a track underground for hand trucking, mentioning the grade you would give it, the gauge, the weight of rail per yard, distance apart of the sleepers, how the rails are fastened, provision for getting the trucks around corners, etc.

#### MINING II.

- 1. Describe the means you would take to prevent cage accidents in a mine.
- 2. Compare the advantages and disadvantages of Cornish plunger and steam pumps for unwatering a mine.
- 3. Name the main causes of underground fires, and describe the usual methods of combating them.
- 4 State how economies in connection with labour might be effected in a mine without reducing the wages earned by the men.
- 5. Draw up a scheme for dressing copper pyrites that occurs as streaks of various widths in a slaty matrix, assaying 2% copper, the plant to deal with 400 tons of run-of-mine ore per 24 hours. What might be considered a fair percentage of the copper to save, and what grade of concentrates would you try to obtain?

#### METALLURGY I.

- Describe a typical coke making plant and the process of coke manufacture as carried out in the South Coast district of New South Wales. Criticise the practice, and explain what improvements in oven design and cokeing practice you consider warranted by existing conditions.
- 2. Describe the methods of sampling consignments of ore and concentrates at smelting works when a first and second sample are taken.
  - Explain the advantages of this method of sampling.

- 3. Point out and compare the characteristics of the following roasting processes—
  - (a) Huntington-Heberlein process.
  - (b) Bradford-Carmichael process.
  - (c) Savelsberg process.
- 4. Describe the electrolytic method of lead refining.
- 5. Describe how you would separate sands from slimes and fill treatment vats with sands when dealing with pulp coming direct from a battery.

#### METALLURGY II.

- Describe the reverberatory method of matte smelting of copper sulphide ores.
  - Explain under what conditions you would instal this process in preference to any other process of matte smelting.
- Give the reasons for, and explain the method of smelting for copper bottoms.
- 3. Define and describe the chemical history of the Basic open hearth steel-making process. What conditions would justify your opinion that this will be the most important steel-making process adopted in New South Wales?
- 4. Describe the reactions upon which the production of zinc by smelting from zinc sulphide ores is based, and discuss the peculiarities and difficulties attending the reduction of the zinc.
- 5. Describe briefly the reduction of bismuth from bismuth ores.

#### THEORY OF ASSAYING.

The reactions involved should be represented by equations.

- 1. How would you determine the total Carbon and Chromium in a sample of steel, or how would you investigate the effect of varying quantities of these elements on the structure of steel?
- 2. What method would you use for analysing the gas entangled in the float from an oil separation process?

- 3. How would you estimate the Arsenic and Tin in a sample containing Arsenic, Antimony, and Tin?
- 4 How would you determine the amounts of deleterious impurities such as Iron, Calcium, and Alkalies in a sample of acid refractory material?
- 5. Briefly describe the methods you would use for the complete rapid analysis of a quenched low silica slag.
- 6. What results may be obtained by fusing one pure metal with another? Describe one type of pyrometer, and show how it may be used to investigate the properties of alloys.

# DEPARTMENT OF MILITARY SCIENCE.

### MILITARY SCIENCE I. MILITARY HISTORY.

CAMPAIGN OF WATERLOO.

N.B.-Illustrate answers by rough sketches where possible.

- 1. It is generally considered that allied armies cannot carry on a campaign as effectively as an equal force under one commander. Why? How is this borne out in this war?
- 2. Under what head of strategic manœuvre would you class Napoleon's plan of campaign? Describe it, with a diagram.
- 3. At the close of the 15th June, how far did the situation conform to the above plan?
- 4. Describe instances of failure in carrying out staff duties in Napoleon's army in this campaign.

#### CAMPAIGNS IN VIRGINIA.

- Describe briefly the military situation after the battle of Bull Run, as it was about November, 1861.
- 6. State the alternative plans, with their respective merits, which were suggested for the operations of McClellan's army when ready to leave Washington, as it did in March, 1862.
- 7. When Banks was at Strasburg, May 22nd, 1862, under what head of strategical manœuvre would you class Jackson's movement to attack him?
- 8. Which of the alternative modes of meeting such an attack did Banks adopt?
- Discuss the effect of Jackson's victory at Winchester, and his pursuit to the Potomac, on Lincoln's distribution of his armies.

10. Describe the plan of Lee and Jackson to overwhelm Pope, when on the 24th August he lay on the north bank of the Rappahanock facing Lee's army. A statement of the plan with a rough sketch is required, and not the story of its execution.

#### MILITARY SCIENCE I.—STRATEGY.

The answers should be illustrated by single diagrams, when possible.

- 1. To what main points should the statesmen of a nation direct their attention in making their country prepared for war?
- 2. What is the zone of strategic deployment, and why is it so important to decide on its position wisely?
- 3. Explain the meaning of the terms Lines of Communication, and Base?
- 4. What movements can the force, whose Line of Communication is endangered by the enemy's advance, adopt to meet the danger?
- 5. Mention two of the main principles or axioms of strategy, and explain by a diagram what you mean by them.
- Describe the effect on operations, of an unfordable river, with few bridges, flowing generally at right angles to the lines of operation of two armies—
  - (a) With regard to the army on the defensive behind the river.
  - (b) With regard to the army taking the offensive towards it, an enemy behind the river.
- 7. What do you mean by the expressions—Front and flanks of an army?
- 8. What are converging lines of operations, and how can the situation arise so as to cause an army to act on such lines?
- 9. In case of a successful front attack breaking the enemy's strategic front, what should be the next action of the victorious force?
- 10. Name the changes in the world which have taken place in the last half-century, bearing on the conduct of stategy. Military changes, such as the invention of the long range rifle, shrapnel, smokeless powder, etc., etc., are not alluded to.

#### MILITARY SCIENCE II.—IMPERIAL DEFENCE.

#### PART I.

- Name the portions of the Empire where the white population is the main one.
- 2. Name the chief products of Australia, underlining those of use in war.
- .3. Mention the three main Trade Routes over the ocean, i.e., excluding those between Great Britain and Europe.
- 4. Enumerate the naval stations on the Trade Route between England and China through the Mediterranean.
- .5. State the *primary* object of the British Navy at the commencement of a great war, also the *secondary* object to be simultaneously undertaken.

What class of war vessels would be employed for each?

·6. Where is coal for use in war found in the Empire?

#### PART II.

- 1. When command of the sea has been attained, what description of operations are possible for the Imperial Forces?
- .2. On which frontiers of the Empire are Land Operations likely? Which of the Dominions could best co-operate in each of them?
- 3. Among the possible wars the Empire might engage in, which are those in which Australia might best co-operate?

  (Those of which the theatre is Asia may be omitted).
- -4. Describe the main feature of Lord Kitchener's scheme, the system of training the citizen forces by areas.
- -5. What can ships without a military force effect against territory?
- 6. What are the reasons for considering the danger of bombardment overrated?
- 7. Mention the five classes of Forces which an ideal system of Imperial Defence would provide.

#### MILITARY SCIENCE II.-MILITARY HISTORY.

#### WAR OF 1866.

1. Show in a sketch the situation early on June 27th, when the armies first met.

- 2 What would you term Benekek's situation from a strategical aspect? What would have been his better strategic plan at that date?
- 3. Show his position of concentration on June 30th. What made him give it up that night?
- 4. Where did he retire his army to? Was there a better course? If so, what?
- 5. Why was there no pursuit after the battle, July 3rd?

  Describe the situation during the next three days.

#### WAR OF 1870.

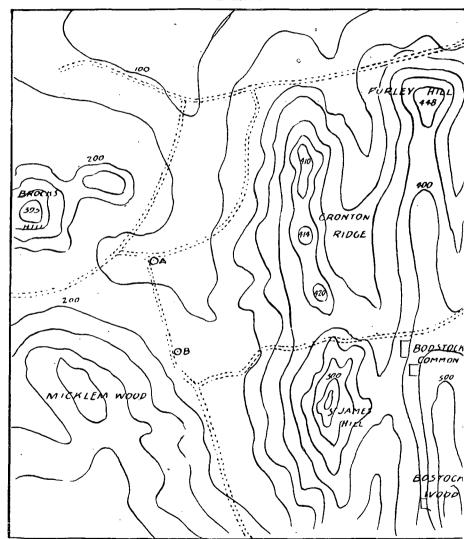
- Describe the two alternative localities for the "strategic deployment" of the German armies at the outbreak of the war, showing the reasons for the selection of the one adopted.
- 2. What errors in the distribution of the French right wing, under MacMahon, were committed up to August 4th, with what result?
- 3. Describe the action of the 1st Army, under Steinmetz, on the 14th August, which led to the battle of Borny that afternoon. Give the result of that battle.
- 4. Describe shortly the action which led to the battle of Vionville on August 16th, and its result, stating briefly what should have been Bazaine's course that day.
- 5. What caused MacMahon to begin the movement on the 22nd August, which led to the disaster of Sedan? What would have been preferable movements?

#### TOPOGRAPHY-THEORETICAL.

#### Four Hours.

- Suppose Diagram I. to be part of a Russian map. Its scale shows the distance from A to B to be 1½ versts (1 verst=1167 yds.). Construct a scale of yards. All work to be shown. R. F. to be given.
- 2. The sides of Diagram I. are true north and south, the magnetic bearing from the point B to letter E in PURLEY HILL is found to be 48°. What is the variation of the compass, and how is it shown?

DIAGRAM I.



- 3. Plot and contour a piece of ground from the following data—Scale 8" to a mile; V.I. 10 ft.; A and B are two hill-tops 700 yds. apart, and each 450 ft. above sea level. The bearing of B from A is 100°. Midway between A and B is a col. C, 425 ft. above the sea. D is a stone bridge spanning a stream which flows approximately from west to east, through the point E. At E a minor stream, flowing from the direction of the col. C, enters the main stream DE. The bearing of D from A is 350°, and from B, 305°. From E the bearing of A is 230°, and the bearing of B is 160°. The angle of elevation from D to A is 2°. The angle of depression from B to E is 2½°.
- 4. What do you understand by form lines? Why is the system of representing hill features by means of contours the best?
- Construct a scale of horizontal equivalents (H.E.). Scale 6 in. to a mile. Contours 10 ft., V.I.
- 6. Imagine yourself seated on the top of Brock's Hill, near point 395, and looking eastward. Draw a panorama of the country in front of you, stretching from Purley Hill to Badstock Wood, both inclusive.

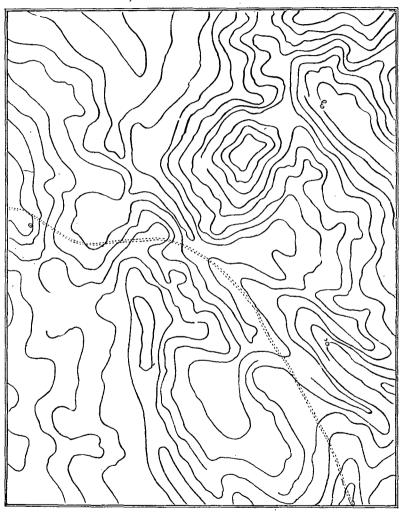
Use the scale worked out in Question 1.

The following questions refer to Diagram II.:-

- 7. (a) Mark the watercourse by blue lines.
  - (b) Figure in the margin, all the contours which run off the map. Lowest contour is 100 ft. above sea level.
  - (c) Mark with red line the main watershed on each side of the principal valley.
- 8. (a) Describe any features of ground which strike you as being unusual.
  - (b) Which point do you think would command the most complete view of the whole of the ground?
- 9. (a) Blacken with pencil any portion of the road A—B which you think would be invisible from A.
  - (b) Do you think it would be possible to signal direct from A to C and D. Give reasons for your answer. Sections are not to be drawn.
- 10. How would you find North by means of the Southern Cross?

#### cxxxii. DEPARTMENT OF MILITARY SCIENCE.

DIAGRAM II.
Scale, 2 inches to a mile. 20 ft. V.I.

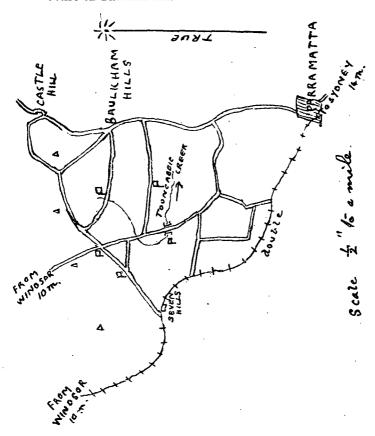


### TOPOGRAPHY-PRACTICAL.

SITUATION.

A RED force, consisting of 1 Battery Field Artillery, 1 Squadron Light Horse, 2 Battalions of Infantry, is holding a line represented by the four trig. stations in the diagram.

Blue force has been re-inforced, and RED receives orders to retire on PARRAMATTA.



#### TASK.

- Make a sketch, with millboard and ordinary pocket compass, of the country enclosed by the five flags. Scale, 6 inches to a mile, contours 20 ft. Time allowed, 4 hours.
- 2. Make a panorama sketch of the country south-east from the flag at cross roads. Time, 30 minutes.
- Write a report on the suitability or otherwise of the country enclosed by the flags, for rear guard actions. Time allowed, 30 minutes.

#### MILITARY ENGINEERING.

#### THREE AND A HALF HOURS.

Note.—The answers to the following questions should be brief and strictly to the point, and should be illustrated wherever possible by accurate sketches.

1. Explain the meanings of the following terms—

Relief, Riband,
Trace, Head Cover,
Gyn, Redoubt,
Crib Pier, Field Company,
Revetment, Field Troop.

- In the construction of earthworks in the field, the following points require consideration—(a) the siting for trenches;
   (b) communications; (c) the question of invisibility;
   (d) drainage. Discuss these points, and state how they are most effectively dealt with in practice.
- 3. (a) What considerations affect the position of the firing line in defending the front of a wood?
  - (b) Under what conditions, if any, do you consider that villages would have a defensive value?
- 4. (a) Sketch a low wire entanglement. Under what circumstances would it be used?
  - (b) A belt of low wire entanglement, 300 yards long and 10 yards broad, is to be made. The working party consists of 50 men. State the amount of wire, the tools, and time required.
- 5. Describe by means of sketches-
  - (a) A square lashing.

- (b) How to sling a large barrel (i) horizontally, (ii) vertically.
- (c) The construction of a hold-fast.
- 6. (a) Explain by means of diagrams the various types of military bridges.
  - (b) A raft is to be made with two piers of five 72-gallon casks in each; the superstructure used weighs altogether 600 lbs.
  - Allowing five men at 160 lbs. each as a crew, what additional weight may be placed on the rait, so as to utilize two-thirds of its available buoyancy?
- 7. (a) What are the valuable properties of gun-cotton for purposes of hasty military demolitions?
  - (b) How do wet and dry gun-cotton differ in their action as regards ignition and detonation?
    - (c) Explain how you would damage railway rolling stock so as to make it unserviceable to the enemy.

### **EXAMINATION PAPERS\***

MARCH, 1911.

### FACULTY OF ARTS.

LATIN I.-PROSE COMPOSITION AND UNSEEN TRANSLATION.
DISTINCTION.

#### Translate into Latin—

In every Greek state there existed these two parties, ranged against each other in open or covert hostility. The democratical faction was strong in numbers and enthusiasm. The oligarchical faction held its own by diut of wealth, energy, and an excellent organisation. When the popular spirit was excited by hope, or resentment, or panic, the onward rush of the masses was irresistible; but at ordinary times the aristocrats, ever on the alert for an opportunity, gradually recovered their lost ground. Cooped up within the ramparts of a single town, and brought into daily collision throughout all the departments of municipal administration, these factions hated each other with a ferocity which very seldom for long together confined itself to words and Mutual suspicions, mutual injuries, mutual treacheries soon brought about such a state of feeling that men began to believe in the necessity for mutual butchery. Then came riots in the public places, nocturnal murders of the leading demagogues, arson, and every manifestation of rancour and anarchy. Moderate politicians went to the wall, and were lucky if they did not go to the gallows.

#### 2. Translate—

(a) Hic Caesar, rabies populis stimulusque furorum ne qua parte sui pereat scelus, agmina circum it uagus atque animis ignes flagrantibus addit; inspicit et gladios, qui toti senguine manent,

The time allowed for each paper is three hours, except where otherwise stated.

qui niteant primo tantum mucrone cruenti, quae presso tremat ense manus, quis languida tela, quis contenta ferat, quis praestet bella iubenti, quem pugnare iuuet, quis uoltum ciue perempto mutet; obit latis projecta cadauera campis; uolnera multorum totum fusura cruorem opposita premit ipse manu. quacumque uagatur, sanguineum ueluti quatiens Bellona flagellum, Bistonas aut Mauors agitans si uerbere saeuo Palladia stimulet turbatos aegide currus, nox ingens scelerum est; caedes oriuntur, et instar immensae uocis gemitus, et pondere lapsi pectoris arma sonant confractique ensibus enses. ipse manu subicit gladios ac tela ministrat, aduorsosque iubet ferro confundere uoltus. promouet ipse acies; impellit terga suorum: uerbere conuersae cessantis excitat hastae. in plebem uetat ire manus monstratque senatum.

(b) Hoc sibi illi veteres persuaserant, ad hoc efficiendum intellegebant opus esse, non ut in rhetorum scholis declamarent, nec ut fictis nec ullo modo ad veritatem accedentibus controversiis linguam modo et vocem exercerent, sed ut iis artibus pectus implerent, in quibus de bonis et malis, de honesto et turpi, de iusto et iniusto disputatur; haec enim est oratori subiecta ad dicendum materia nam in iudiciis fere de aequitate, in deliberationibus de utilitate, in laudationibus de honestate disserimus, ita tamen ut plerumque haec ipsa in vicem misceantur: de quibus copiose et varie et ornate nemo dicere potest, nisi qui cognovit naturam humanam et vim virtutum pravitatemque vitiorum et intellectum eorum, quae nec in virtutibus nec in vitiis numerantur. fontibus etiam illa profluunt, ut facilius iram iudicis vel instiget vel leniat, qui scit quid ira, promptius ad miserationem impellat, qui scit quid sit misericordia et quibus animi motibus concitetur. in his artibus exercitationibusque versatus orator, sive apud infestos sive apud cupidos sive apud invidentis sive apud tristis sive apud timentis dicendum habuerit, tenebit venas animorum, et prout cuiusque natura postulabit, adhibebit manum et temperabit orationem, parato omni instrumento et ad omnem usum reposito.

# LATIN I.—AUTHORS. DISTINCTION.

- Translate and comment on extracts from Quintilian X.;
   Virgil, Æneid VII.-X.
- Scan, with whatever comments you think called for, the third line of question I., (a); the first, fifth, and seventh lines of question I., (b); and the sixth line of (d).

# LATIN I.—ROMAN HISTORY. DISTINCTION.

Not more than FIVE questions to be answered

- "There is no satisfactory evidence that any one of the communities which combined to form Rome was Etruscan or that there was any important Etruscan strain in the Roman blood." (Pelham.) Comment on this statement.
- 2. Criticise Taylor's statement that the Kingship at Rome was originally elective, the first King being chosen by the burgesses.
- "To the plebs belonged all who were not members of some gens, whether they were independent freemen or clients." Comment on this.
- 4. Compare the position of the Senate in the Government of the Roman State in the fifth and in the second century B.C.
- 5. "In the older days of Roman history, the fighting forces had been a 'citizen army,' called out for so long as it was needed, and levied from full and true Roman citizens." (Tucker.) Discuss this statement.
- 6. Describe the influence of Hellenism on Rome in the second century B.c.
- "The rule of Rome over Italy, like her wider rule over the Mediterranean coasts, was not an absolute dominion over conquered subjects." Explain this.

# LATIN II. & III.—PROSE COMPOSITION. DISTINCTION AND HONOURS.

Translate into Latin—

To any man a year is a considerable period, seeing that the number of our years is but few at the best. To the primitive savage, with his short memory and imperfect

means of marking the flight of time, a year may well have been so long that he failed to recognise it as a cycle at all, and watched the changing aspects of earth and heaven with a perpetual wonder, alternately delighted and alarmed, elated and cast down according as the vicissitudes of light and heat, of plant and animal life, ministered to his comfort or threatened his existence. In autumn when the yellow leaves were whirled about the forest by the nipping blast, and he looked up at the bare boughs, could be feel sure that they would ever be green again? As day by day the sun sank lower and lower in the sky, could be be certain that the luminary would ever retrace his heavenly road? Even the waning moon, whose pale sickle rose thinner and thinner every night over the rim of the eastern horizon, may have excited in his mind a fear lest, when it had wholly vanished, there should be moons no more. These and a thousand such misgivings may have thronged the fancy and troubled the peace of the man who first began to reflect on the mysteries of the world he lived in, and to take thought for a more distant future than the morrow.

# LATIN II. & III.—UNSEEN TRANSLATION. HONOURS AND DISTINCTION.

#### Translate-

1. Ergo utrimque pari procurrunt agmina motu irarum; metus hos regni, spes excitat illos. hae facient dextrae, quidquid non expleat aetas ulla nec humanum reparet genus, omnibus annis ut uacet a ferro. gentes Mars iste futuras obruet, et populos aeui uenientis in orbem erepto natale feret. tunc omne Latinum fabula nomen erit: Gabios Veiosque Coramque Albanosque lares Laurentinosque penates puluere uix tectae poterunt monstrare ruinae, rus uacuum, quod non habitet, nisi nocte coacta, inuitus questusque Numam iussisse senator. non aetas haec carpsit edax monimentaque rerum putria destituit: crimen ciuile uidemus tot uacuas urbes. generis quo turba redacta est humani? toto populi qui nascimur orbe,

- nec muros inplere uiris nec possumus agros; urbs nos una capit. uincto fossore coluntur Hesperiae segetes; stat tectis putris auitis in nullos ruitura domus; nulloque frequentem ciue suo Romam sed mundi faece repletam cladis eo dedimus, ne tanto in corpore bellum iam posset ciuile geri. Pharsalia tanti causa mali.
- 2. O piger, o duro non mollior axe. Lycota. qui ueteres fagos noua quam spectacula mauis cernere, quae patula iuuenis deus edit harena. uidimus in caelum trabibus spectacula textis surgere, Tarpeium prope despectantia culmen: emensique gradus et cliuos lene iacentes uenimus ad sedes, ubi pulla sordida ueste inter femineas spectabat turba cathedras. nam quaecumque patent sub aperto libera caelo, aut eques aut niuei loca densauere tribuni. qualiter haec patulum concedit uallis in orbem et sinuata latus resupinis undique siluis inter continuos curuatur concaua montes. sic ibi planitiem curuae sinus ambit harenae et geminis medium se molibus alligat ouum. quid tibi nunc referam, quae uix suffecimus ipsi per partes spectare suas? sic undique fulgor percussit. stabam defixus et ore patenti cunctaque mirabar necdum bona singula noram, cum mihi iam senior, lateri qui forte sinistro iunctus erat, "Quid te stupefactum, rustice," dixit, "ad tantas miraris opes, qui nescius auri sordida tecta, casas, et sola mapalia nosti? en ego iam tremulus et uertice canus et ista factus in urbe senex stupeo tamen omnia.
- 3. Honestum igitur id intellegimus, quod tale est ut, detracta omni utilitate, sine ullis praemiis fructibusve per se ipsum possit iure laudari. Quod quale sit, non tam definitione, qua sum usus, intellegi potest (quamquam aliquantum potest) quam communi omnium iudicio et optimi cuiusque studiis atque factis, qui permulta ob eam sunam causam faciunt, quia decet, quia rectum, quia honestum est, etsi nullum consecuturum emolumentum vident. Homines enim, etsi aliis multis.

tamen hoc uno plurimum a bestiis different, quod rationem habent a natura datam mentemque acrem et vigentem celerrimeque multa simul agitantem et, ut ita dicam, sagacem, quae et causas rerum et consecutiones videat et similitudines transferat et disuincta conjungat et cum praesentibus futura copulet omnemque complectatur vitae consequentis statum. Eademque ratio fecit hominem hominum appetentem cumque iis natura et sermone et usu congruentem, ut profectus a caritate domesticorum ac suorum serpat longius et se implicet deinde omnium mortalium societate primum civium atque, ut ad Archytam scripsit Plato, non sibi se soli natum meminerit, sed patriae, sed suis, ut perexigua pars ipsi relinquatur. Et quoniam eadem natura cupiditatem ingenuit homini veri videndi, quod facillime apparet, cum vacui curis etiam quid in caelo fiat scire avemus, his initiis inducti omnia vera diligimus.

4. Ne hoe quidem negaverim, sequi plerumque hanc opinionem, ut fortius dicere videantur indocti; primum vitio male iudicantium, qui maiorem habere vim credunt ea, quae non habent artem, ut effringere quam aperire, rumpere quam solvere, trahere quam ducere putant robustius. Nam et gladiator, qui armorum inscius in rixam ruit, et luctator, qui totius corporis nisu in id, quod semel invasit, incumbit, fortior ab his vocatur; cum interim et hic frequenter suis viribus ipse prosternitur, et illum vehementis impetus excipit adversarii mollis articulus. Sed sunt in hac parte, quae imperitos etiam naturaliter fallant; nam et divisio, cum plurimum valeat in causis, speciem virium minuit, et rudia politis maiora et sparsa compositis numerosiora creduntur. Est praeterea quaedam virtutum vitiorumque vicinia, qua maledicus pro libero, temerarius pro forti, effusus pro copioso accipitur. Maledicit autem ineruditus apertius et saepius vel cum periculo suscepti litigatoris frequenter etiam suo. Affert et ista res opinionem, quia libentissime homines audiunt ea, quae dicere ipsi noluissent, Illud quoque alterum, quod est in elocutione ipsa, periculum, minus vitat conaturque perdite, unde evenit nonnunquam, ut aliquid grande inveniat, qui semper quaerit, quod nimium est; verum id et raro provenit, et certa vitia non pensat.

### LATIN II.—AUTHORS. DISTINCTION.

- 1. Translate and comment on extracts from Cicero's Letters, Catullus, and Terence's Phormio.
- Scan, with brief comments, the tenth and eleventh lines of question 2 (a); the fifth line of question 2 (b); the last two lines of question 3 (a); and of question 3 (c).

# LATIN III.—AUTHORS. HONOURS.

1. Translate and comment on extracts from Lucretius and Tacitus Annals II., III., IV.

### LATIN III.—ROMAN LITERATURE.

HONOURS.

Not more than five questions to be answered.

1. Compare the management of the hexameter by Lucretius,

- Virgil, and Horace.

  2. "The poetical style of Lucretius is, more than that of any other Latin poet, the immediate creation of his own genius." Comment on this statement.
- 3. Compare Tibullus and Propertius as elegiac poets.
- 4. "Unable to express itself in practical oratory, rhetoric, under the Empire. took possession of literature." Comment on this.
- 5. Discuss the justice of Horace's criticism of the older Roman poets.
- 6. "The long continued popularity of Roman tragedy implies that it was something more than an inartistic copy of the masterpieces of Athenian genius." (Sellar.) Comment on this statement.
- 7. Describe the characteristics of Ovid's poetry.

# GREEK I.—PROSE COMPOSITION & UNSEEN TRANSLATION. DISTINCTION.

Translate into Greek—

A prince, named Teres, who reigned in the more northern or western regions of Thrace, and who had been his ally in his war with Athens, had, it seems, now become hostile to Philip; having perhaps been induced by a sense of their common interest to unite with Kersobleptes. Philip was thus led to carry the war into the heart of Thrace, where he is said to have defeated the barbarians in several battles. But his views were not now confined to victories, ravages, and plunder. He meditated a permanent conquest, and for this purpose not only imposed a tribute of a tenth of the produce of the conquered territory, but also founded a number of new towns, or military colonies, in the interior. These conquests, and still more the measures taken to secure them, could not but alarm both the Athenians, and the Greek cities on the coast, especially Byzantium, which lay not very far from the borders of the conquered territory.

#### · 2. Translate-

(a) οὐ γὰρ ἀγνοῶ τοῦθ', ὅτι Θηβαῖοι καὶ Λακεδαιμόνιοι καὶ ημεις ουτε νόμοις ουτ' έθεσιν χρώμεθα τοις αυτοις ουτε πολιτεία. αὐτὸ γὰρ τοῦτο πρῶτον, ο νῦν οῦτοι ποιήσουσιν, έαν ταθτα λέγωσιν, οθκ έξεστι ποιείν παρά τοίς Λακεδαιμονίοις, τὰ τῶν ᾿Αθηναίων ἐπαινεῖν νόμιμα, οὐδὲ τὰ τῶν δείνων, πολλού γε και δεί, άλλ' à τη παρ' έκείνοις πολιτεία συμφέρει, ταῦτ' ἐπαινεῖν ἀνάγκη. έἶτα καὶ Λακεδαιμόνιοι τῶν μὲν τοιούτων άφεστάσιν, άλλαι δέ τινες παρ' έκείνοις είσὶ τιμαί, ας απεύξαιτ' αν απας ο δήμος ενταυθοί γενέσθαι. τίνες οθν είσιν αὖται; τὰς μὲν καθ' ἔκαστον ἐάσω, μίαν δ', ἢ συλλαβοῦσα τὰς ἄλλας ἔχει, δίειμι. ἐπειδάν τις εἰς τὴν καλουμένην γερουσίαν έγκριθη παρασχών αυτόν οΐον χρή, δεσπότης έστι των πολλων. Εκεί μεν γάρ έστι της άρετης άθλον της πολιτείας κυρίω γενέσθαι μετά των όμοίων, παρά δ' ἡμίν ταύτης μεν ο δήμος κύριος, και άραι και νόμοι και φυλακαί, ύπως μηδείς άλλος κύριος γενήσεται, στέφανοι δε καὶ ἀτέλειαι καὶ σιτήσεις καὶ τοιαθτ' έστίν, ὢν ἄν τις ἀνὴρ ἀτιαθὸς ὢν τύχοι. καὶ ταῦτ' ἀμφότερ' ὀρθῶς ἔχει, καὶ τάκεῖ καὶ τὰ παρ'  $\eta \mu \hat{\imath} \nu$ .—(Demosthenes.)

### (b) Polynices loquitur-

άπλοῦς ὁ μῦθος τῆς ἀληθείας ἔφυ,
κοὐ ποικίλων δεῖ τἄνδιχ' ἑρμηνευμάτων
ἔχει τὰρ αὐτὰ καιρόν: ὁ δ' ἄδικος λότος
νοσῶν ἐν αὐτῷ φαρμάκων δεῖται σοφῶν.
ἔτὰ δὲ πρόσθεν δωμάτων προὐσκεψάμην
τοὐμόν τε καὶ τοῦδ' ἐκφυτεῖν χρήζων ἀράς,

ας Οιδίπους έφθένξατ' είς ήμας ποτε, έξηλθον έξω τησδ' έκων αὐτὸς χθονός, δούς τωδ' ἀνάσσειν πατρίδος ἐνιαυτοῦ κύκλον, ωστ' αὐτὸς ἄρχειν αὖθις ἀνὰ μέρος λαβών καὶ μὴ δι' ἔχθρας τῷδε καὶ φόνου μολών κακόν τι δράσαι καὶ παθείν, ἃ γίγνεται. ο δ' αινέσας ταθθ' ορκίους τε δούς θεούς έδρασεν οὐδεν ων ὑπέσχετ', ἀλλ' ἔχει τυραννίδ' αὐτὸς καὶ δόμων ἐμὸν μέρος. καὶ νῦν ἔτοιμός εἰμι τάμαυτοῦ λαβών στρατόν μεν έξω τησδ' άποστείλαι χθονός, οίκειν δε τον εμον οίκον ανά μέρος λαβών καὶ τῶδ' ἀΦεῖναι τὸν ἴσον αὖθις αὖ χρόνον, καὶ μήτε πορθείν πατρίδα μήτε προσφέρειν πύργοισι πηκτών κλιμάκων προσαμβάσεις, ά μη κυρήσας της δίκης πειράσομαι δράν. μάρτυρας δέ τωνδε δαίμονας καλώ, ώς πάντα πράσσων σύν δίκη, δίκης ἄτερ άποστερούμαι πατρίδος άνοσιώτατα.—(Euripides).

### GREEK I. DISTINCTION

 Translate and comment on passages from Aristophanes, The Knights.

3. In what relation did Aristophanes stand to the political

parties of his time?

4. Estimate the value of the judgment of Aristophanes upon Kleon and his policy.

5. (From the Greek Υπόθεσις)— ἐδιδάχθη τὸ δρᾶμα ἐπὶ Στρατοκλέους ἄρχοντος δημοσία εἰς Λήναια, δι' αὐτοῦ τοῦ ᾿Αριστοφάνους. πρῶτος ἐνίκα δεύτερος Κρατῖνος Σατύροις τρίτος ᾿Αριστομένης Ὑλοφόροις.

#### GREEK I. DISTINCTION.

1. Translate with full commentary, passages from Thucy-dides, Book IV.

## GREEK II.—GREEK PROSE COMPOSITION. DISTINCTION.

### Translate into Greek-

For a few years after the battle of Mantineia Greece remained tranquil. The Aetolians were fully occupied

with their domestic concerns. The long series of wars in which they had been engaged had, it seems, enriched none, but while it impoverished the state had ruined most private fortunes; for whatever gain it yielded to successful adventurers was consumed by the growing prodigality of their mode of living. The two chiefs who. to gratify their own avarice and ambition, had plunged the nation into these wasteful wars, Dorimachos and Skopas, were themselves deeply involved in debt; and when by the peace they were thrown upon their own encumbered patrimonies, they appear to have resorted to a new kind of spoliation which they carried on under the forms of law. Through the intrigues of a party, which comprehended all who were in like embarassment with themselves, they were invested with an extraordinary commission to revise the laws.

# GREEK II. & III —UNSEEN TRANSLATION. DISTINCTION AND HONOURS.

### Translate the following passages -

(a) 'Ηδέως δ' αν έγωγε, ω 'Αθηναίοι, έναντίον υμών άναλογισαίμην πρός τον γράψαντα το ψήφισμα, διά ποίας εθεργεσίας άξιοι Δημοσθένην στεφανώσαι. εί μεν γάρ λέγεις, όθεν την άρχην του ψηφίσματος εποιήσω, ότι τὰς τάφρους τὰς περί τὰ τείχη καλώς ετάφρευσε, θαυμάζω σου. του γάρ ταυτ' εξεργασθήναι καλώς το γεγενήσθαι τούτων αίτιον μείζω κατηγορίαν έχει ου γάρ περιχαρακώσαντα χρή τὰ τείχη οὐδε τὰς δημοσίας ταφάς άνελόντα τον όρθως πεπολιτευμένον δωρεάς αίτειν, άλλ' άγαθού τινος αίτιον γεγενημένον τη πόλει. εὶ δ' ηξεις επὶ τὸ δεύτερον μέρος τοῦ ψηφίσματος, ἐν ῷ τετόλμηκας γράφειν, ώς έστιν ανήρ άγαθος και διατελεί λέγων καί πράττων τὰ ἄριστα τῷ δήμω τῶν ᾿Αθηναίων, ἀφελών τὴν άλαζονείαν καὶ τὸν κόμπον τοῦ ψηφίσματος ἄψαι τῶν ἔργων, επίδειξον ήμεν ο τι λέγεις. τὰς μέν γάρ περί τοὺς 'Αμφισσέας και τους Ευβοας δωροδοκίας παραλείπω όταν δε της προς θηβαίους συμμαχίας τας αιτίας ανατιθής Δημοσθένει, τους μέν άγνοοθντας έξαπατάς, τους δ' είδοτας και αίσθανομένους ὑβρίζεις. ἀφελών γάρ τον καιρον καὶ τὴν δόξαν τὴν τούτων, δι' ήν εγένετο ή συμμαχία, οίει λανθάνειν ήμας τὸ της πόλεως άξίωμα Δημοσθένει περιτιθείς. ηλίκον δ' έστὶ τὸ άλαζόνευμα τουτο, έγω πειράσομαι μεγάλω σημείω διδάξαι.

ό γὰρ τῶν Περσῶν βασιλεὺς οὐ πολλῷ πρότερον χρόνῳ πρὸ τῆς 'Αλεξάνδρου διαβάσεως εἰς τὴν 'Ασίαν κατέπεμψε τῷ δήμῳ καὶ μάλα ὑβριστικὴν καὶ βάρβαρον ἐπιστολὴν, ἐν ἢ τά τε δὴ ἄλλα καὶ μάλ' ἀπαιδεύτως διελέχθη, καὶ ἐπὶ τελευτῆς ἐνέγραψεν ἐν τῆ ἐπιστολῆ, "ἐγὼ" φησὶν "ὑμῖν χρυσίον οὐ δώσω μή με αἰτεῖτε· οὐ γὰρ λήψεσθε."—(Aeschines.)

(b) Κυανόπρωρα μέν ναῦς μενέκτυπον Θησέα δὶς ἐπτά τ' ἀγλαοὺς ἄγουσα

κούρους Ἰπόνων

Κρητικόν τάμνε πέλαγος: τηλαυγέϊ γάρ ἐν Φάρεϊ

> βορήϊαι πίτνον αθραι κλυτάς έκατι πολεμαίγιδος 'Αθάνας'

κνίσεν τε Μίνωϊ κέαρ

*ἱμεράμπυκος θεᾶς* 

Κύπριδος αίνα δώρα

χείρα δ' οὐκέτι παρθενικᾶς ἄτερθ' ἐράτυεν, θίγεν

δε λευκάν παρηΐδων

βόασέ τ' Ερίβοια χαλκο-

. θώρακα Πανδίονος ἔκηουον ἴδεν δὲ Θησεύς,

μέλαν δ' ὑπ' ὀφρύων

δίνασεν δμμα, καρδίαν τέ οί

σχέτλιον ἄμυξεν ἄλγος,

είρεν τε Διος υίε φερτάτου, δσιον ουκέτι τεαν

έσω κυβερνᾶς φρενῶν Θυμόν· ἴσχε μεγαλοῦχον ἥρως βιαν. ὄ τι μὲν ἐκ θεῶν μοῖρα παγκρατὴς ἄμμι κατένευσε καὶ Δίκας ῥέπει τά-

λαντον, πεπρωμέναν αίσαν εκπλήσομεν, ὅταν ἔλθη σὰ δὲ βαρείαν κάτε-

> χε μῆτιν. εἰ καί σε κεδνὰ τέκεν λέχει Διὸς ὑπὸ κρόταφον Ἰδας

μιγείσα Φοίνικος έρα-

τώνυμος κόρα βροτῶν

φέρτατον, ἀλλὰ κάμὲ

Πιτθέος θυγάτηρ άφνεοῦ

·πλαθείσα ποντίψ τέκεν Ποσειδανι, χρύσεον τέ οι δόσαν ιόπλοκοι κάλυμμα Νηρηΐδες. τῶ σε, πολέμαρχε Κνωσίων, κέλομαι πολύστονον ἐρύκεν ὕβριν.—(Bacchylides.)

# GREEK II. AND III. DISTINCTION AND HONOURS.

1. Translate and comment on extracts from Aristophanes, Birds.

## GREEK II. AND III. DISTINCTION AND HONOURS.

- Translate, and write full notes upon passages from Homer Odyssey V.-X.
- "Except with Helen, there is little in Homer of any feeling for women that we shall call romantic, or even chivalrous."—(Mackail).
   Comment on this.
- 3. "This unmatched power to express the sense of human greatness is what above all else makes Homer, in the phrase applied to him by a later Greek poet,—'the ageless mouth of the world."—(Mackail).

  Comment on this.

### GREEK II. AND III.—HISTORY AND ORGANISATION OF THE ATHENIAN EMPIRE.

#### SECOND YEAR:—DISTINCTION. THIRD YEAR:—HONOURS.

N.B .- Not more than BIX questions should be attempted.

- Under what various heads are certain cities of the Empire classified in the stone records? Examine the significance of the headings in their bearing upon the question of the mode of assessment of Tribute.
- 2. Describe the nature of the extant records of the Athenian Empire.
- 3. "It was, however, unusual for Athens to garrison the cities of her Empire, and it seems only to have been done when, as at Samos in 439 s.c., it was thought necessary to secure the allegiance of the State."—(Greenidge).

Criticise this statement, and show what light is thrown upon the question by extant Inscriptions.

 Translate, identify, and comment on the following extract from an Inscription—

οὐκ ἐχσελῶ Χαλκιδέας ἐχ Χαλκίδος οὐδὲ τὴν πόλιν ἀνάστατον ποήσω, οὐδὲ ἰδιώτην οὐδὲνα ἀτιμώσω οὐδὲ φυγῆ ζημιώσω οὐδὲ χσυλλήφσομαι οὐδὲ ἀποκτενῶ οὐδὲ χρήματα ὑφαιρήσομαι ἀκρίτου οὐδενὸς ἄνευ τοῦ δήμου τοῦ ᾿Αθηναίων, οὐδ᾽ ἐπιφσηφιῶ κατὰ ἀπροσκλήτου οὐδὲ κατὰ τοῦ καινοῦ οὐδὲ κατὰ ἰδιώτου οὐδὲ ἐνός.

- 5. What various designations are applied in our authorities to the members of the Athenian Empire? Clearly distinguish their connotation.
- 6. αἰτίαι δὲ ἄλλαι τε ἦσαν τῶν ἀποστάσεων καὶ μέγισται αὶ τῶν φόρων καὶ νεῶν ἔκδειαι καὶ λειποστράτιον εἴ τω ἐγένετο.—
  (Thucydides.)

Translate this passage, and discuss its bearing upon the question of the nature of the contributions claimed from members of the Delian Confederacy.

- What do you know about the composition and competence
  of the General Synod of the Delian Confederacy?
  Indicate the elements of weakness within it, and show
  to what results they led.
- 8. "If we regard the bare fact of her Empire as a political crime, we must remember that a crime of this sort is to be judged by the political conscience of the age in which it is committed."—(Greenidge).

  Criticise this.
- 9. Διοπείθης εἶπε· διαχειροτονῆσαι τον δῆμον αὐτίκα προς Μεθωναίους εἴτε φόρον δοκεῖ τάττειν τον δῆμον αὐτίκα μάλα ἡ ἐχσαρκεῖν αὐτοῖς τελεῖν ὅσον τῆ θειῷ ἀπο τοῦ φόρου ἐγίγνετο, ὂν τοῖς προτέροις Παναθηναίοις ἐτετάχατο φέρειν, τοῦ δὲ ἄλλου ἀτελεῖς εἶναι.
  - Comment on the above extract from an Inscription, exhibiting its bearing upon the question of the financial administration of the Empire.
- 10. Extract from the Τάξις Φόρου [Kirchhoff's restoration] ὁπόσησι τῶν πόλεων χσυνεκεχώρητο Φέρειν μὴ ἄμα χσύμπαντας, ἀλλὰ παρὰ μέρος τοὺς Φόρους, ἐπὶ τῷ ἐπιΦορὰν τελεῖν, ἄνευ ταὐτης χσύμπαντας ὁ Φόρος ἐτάχθη—List of Ionian and Karian cities follows.

Explain the above extract.

11. Extract from Inscription—

τὰς δὲ εὐθύνας Χαλκιδεῦσιν κατὰ σφῶν αὐτῶν εἶναι ἐν Χαλκίδι καθάπερ ᾿Αθήνησιν ᾿Αθηναίοις, πλὴν φυγῆς καὶ θανάτου καὶ ἀτιμίας. περὶ δὲ τούτων ἔφεσιν εἶναι ᾿Αθήναζε ἐς τὴν ἡλιαίαν τὴν τῶν θεσμοθετῶν κατὰ τὸ φσήφισμα τοῦ δήμου.

Translate the above, and explain its bearing upon the question of the relations of Athens to her subject cities.

- 12. To what extent did Athens interfere with the political constitution of her subjects?
- I. G. i. 266 [Kirchhoff's restoration].
   (Πολεις ἃς ἡ) βουλὴ καὶ οἱ πεντακόσιοι
   (... ἔτα) χσαν.

How has our knowledge of this rubric recently been improved?

- 14. καὶ γὰρ τὰ χρήματά φησιν (ὁ Θεόφραστος) ἐκ Δήλου βουλευομένων 'Αθήναζε κομίσαι παρὰ τὰς συνθήκας Σαμίων εἰσηγουμένων, εἰπεῖν αὐτὸν (sc. Aristeides), ὡς οὐ δίκαιον μὲν, συμφέρον δὲ τοῦτ' ἐστί (Plutarch in his Life of Aristeides). Examine this statement with reference to the transference of the League Chest to Athens. When did the transference take place, and under what circumstances?
- 15. Give some historical illustration of the stages by which the Delian Confederacy was gradually converted into the Athenian Empire, and exhibit the significance of the episodes to which you refer.
- 16. Quota-list of 443 B.c. is thus dated—

έπὶ τῆς ἀρχῆς τῆς δωδεκάτης, ἢ Σοφιάδης ἐγραμμάτευε Ἐλευσίνιος. At the end is added—

Σάτυρος Λευκονοεὺς ξυνεγραμμάτευε. Σοφοκλής Κολωνήθεν Έλληνοταμίας ήν.

Quota-list of 442 B.c. is thus dated—

ἐπὶ<sup>0</sup> τῆς τρίτης καὶ δεκάτης ἀρχῆς, ἦ Χαλκιδεὺς Μελιτεὺς ἐγραμμάτευε. Δορύφιλος Ἰκαριεὺς Ἑλληνοταμίας ἦν. Σάτυρος Λευκονοεὺς συνεγραμμάτευε.

What inferences from the above data does E. Meyer make respecting the organisation of the Athenian Empire?

17. Thuc. i. 96: παραλαβόντες δὲ οἰ ᾿Αθηναῖοι τὴν ἡγεμονίαν . . . ἔταξαν ἄς τε ἔδει παρέχειν τῶν πόλεων χρήματα πρὸς τον βάρβαρον καὶ ἄς ναῦς. Discuss the precise significance of the above.

18. ἦν δ' ὁ πρῶτος φόρος ταχθείς τετρακόσια τάλαντα καὶ ἐξήκοντα. What criticism has been directed against the above statement? Assuming its truth, how must it be interpreted?

### GREEK III.—GENERAL PAPER. HONOURS.

Not more than FIVE questions should be attempted.

- "Notwithstanding many differences, the English and the Romans essentially resemble one another."—(Froude).
- 2. "There is a real difference of ethical level between some vocations and others, though amidst the growing industrialism of our own day we may sometimes be tempted to forget this."—(Newman).
- 3. The Eleusinian Mysteries.
- 4. Trace the development in the art of war among the Greeks down to the time of Alexander the Great.
- 5. Cuius nunc consilium Themistocleum est; existimat enim, qui mare teneat, eum necesse esse rerum potiri. (Said of Pompeius by Cicero.)
  - Discuss with reference to Greek history.
- 6. Institute a comparison between the geographical and physical features of Greece and those of Italy, and trace their influence in the history of the two peninsulas.
- 7. Estimate the value of Xenophon as an historian.
- 8. Discuss the problem of the authorship of the recently discovered historical fragment known as *Hellenica Oxyrrhynchia*.
- 9. Draw a sketch map of Boeotia in some detail, and exhibit the influence of its physical characteristics upon the history of the canton.
- 10. "Egypt may have been the foster-mother to classical Greece, but the mother, never forgotten by her child, was Crete."—(Hawes).

  Explain and justify.
- "There is no personal character in true Greek Art."— (Ruskin).
   Criticise this dictum.
- 12. Give some account of the Rosetta Stone.

- 13. "No modern reader can have failed to be struck by the curiously unreasonable rules—so they appear to us—to which Greek tragedy as a whole conforms."—(Norwood).
- 14. "War never leaves a country as it found it; whether a nation fails or wins, its whole future is profoundly modified."—
  (Maguire).

Apply this to Greek history.

- 15. "For the age and country in which they came into being, the Iliad and Odyssey represent not sunrise but sunset, though to us, further toward the darkening west, they appear to be coloured with morning glories, to lie far off towards the sunrise and the dawn."—(Mackail).
- 16. "The doctrine of punishment as the only deterrent from crime is gradually being reconstructed. On the one hand are reformers who push the theory of the humane treatment of prisoners beyond the verge of sentimentality. On the other hand is the rigid school of the old past, which sees in crime a menace to civilisation that must be beaten down by sheer strength of authority.—(Sydney Morning Herald, Feb. 18th, 1911).
  - πεφύκασι τε ἄπαντες καὶ ιδία καὶ δημοσία ἀμαρτάνειν, καὶ οὐκ ἔστι νόμος ὅστις ἀπείρξει τούτου, ἐπεὶ διεξεληλύθασι γε διὰ πασῶν τῶν ζημιῶν οὶ ἄνθρωποι προστιθέντες, εἴ πως ἦσσον ἀδικοιντο ὑπὸ τῶν κακούργων.—(Diodotos, in Thucydides iii., 45).

Discuss.

# FRENCH I. A. DISTINCTION.

### 1. Translate into French-

If a Frenchman is pleased with every thing, John Bull is pleased with nothing, and that is a fault. He is, to be sure, fond of having his own way, till you let him have it. He is a very headstrong animal, who mistakes the spirit of contradiction for the love of independence, and proves himself to be in the right by the obstinacy with which he stickles for the wrong. You cannot put him so much out of his way, as by agreeing with him. He is never in such good humour as with what gives him the spleen, and is most satisfied when he is sulky. If you find fault with him, he is in a rage; and if you

praise him, suspects you have a design upon him. He recommends himself to another by affronting him, and if that will not do, knocks him down to convince him of his sincerity. He gives himself such airs as no mortal ever did, and wonders at the rest of the world for not thinking him the most amiable person breathing. John means well too, but he has an odd way of shewing it, by a total disregard of other people's feelings and opinions. He is sincere, for he tells you at the first word he does not like you; and never deceives, for he never offers to serve you.

2. Translate (at sight)—

- (a) Il n'y a rien de plus agréable qu'un jardin après la pluie, et non après une de ces bouffonneries de pluies d'une heure qui ne font que narguer la terre, mais je veux dire après une bonne, longue et robuste pluie qui a duré plusieurs jours, à flots pressés, tombant dru comme des bâtons de verre qui se brisent... La nature abreuvée outre mesure est heureuse. Et quoique la pluie, déjà lampée et séchée, ne soit plus là, on la sent encore, elle a laissé de son brutal et honnête passage des traces si claires! Elle a balayé à larges nappes les toits de bure dont les spongieuses tuiles sont encore un pen molles comme des tartes refroidies: elle a lavé, nettoyé, fait dans tous les coins sa lessive, rincé les feuilles et les carreaux, la pierre et le bois, rajeuni la muraille. arbres ont un air débarbouillé, mais les animaux et les insectes ne paraissent même pas se douter des cataractes qu'ils ont reçues. Le pigeon n'a pas gardé en équilibre sur son dos lisse une seule goutte irisée, et cette grosse chenille rougeâtre, immobile au milieu du chemin, si attrayante dans sa fourrure lustrée qu'elle me donne presque envie de la prendre pour l'allonger en bas du globe de ma pendule, n'a pas non plus retenu dans ses poils un seul éclat du liquide diamant. Seuls, quelques rameaux balancent encore ces perles du ciel qui, dès qu'on y touche, comme si se rompait le fil où elles sont passées, s'égrènent et vous restent dans la main où elles fondent.
- (b) Au village, en juillet. Un soleil accablant. Ses lunettes au nez, le vieux charron tout blanc Répare prés du seuil un timon de charrue.

Le curé tout à l'heure a traversé la rue, Nu-tête. Les trois quarts out sonné, puis plus rien, Sauf monsieur le marquis, un gros richard terrien, Qui passe, en berlingot et la pipè à la bouche, Et qui, pour délivrer sa jument d'une mouche, Lance des claquements de fouets très campagnards Et fait fuir, effarés, coqs, poules et canards.

- 3. (i.) Explain any peculiarities in the form or pronunciation of the words oignon, pied, temps, femme, langue, volonté.
  - (ii.) State the phonetic laws governing the development of lit from lectum and of toit from tectum. Indicate any intermediate stages in spelling and pronunciation.
  - (iii.) Account exactly for the vowel-change in mourir—je meurs. Why do we say je trouve instead of je treuve, and pleurer instead of plourer?
  - (iv.) Prove that the t in a-t-on does not come from the t in habet. Account in full and precise detail for the forms on and homme.
  - (v.) Why is faire, from facere, spelled with a final e? And why does this e not appear in vouloir, of which the Low Latin form is volere?

### FRENCH I. B.-AUTHORS.

#### DISTINCTION.

1. Translate into modern French prose—
'Amis Reynaut, j'ai jà véu cel jor
Se passisoiz selon mon pere tor,
Dolans fussiez se ne parlasse à vos.
—Jal mesfaïstes, filles d'empercor.
Autrui amastes, si obliastes nos.
—E! Reynaut amis!

Give the Latin for Amis Reynaut and decline in the French of this date: the good friend.

- Translate into English, extracts from the Oxford Book of French Verse and Diderot.
- 3. Describe in French any one of the following poems:

  La Vigne et la maison, A Villequier, La nuit de mai.

# FRENCH II. AND III. A. DISTINCTION AND HONOURS. Two Hours.

### 1. Translate (at sight)—

- (a) Dans ces esquisses, où nous tâchons de nous prendre à des œuvres d'hier et à des auteurs vivants; où la biographie de l'homme empiète, aussi loin qu'elle le peut, sur le jugement litteraire; où ce jugement toutefois s'entremêle et supplée au besoin à une biographie nécessairement inachevée; dans cette espèce de genre intermédiaire, qui, en allant au delà du livre, touche aussitôt à des sensibilités mystérieuses, inégales, non encore sondées, et s'arrête de toutes parts à mille difficultés de morale et de convenance, nous reconnaissons aussi vivement que personne, et avec bien du regret, combien notre travail se produit incomplet et fautif, lors même que notre pensée en possède par devers elle les plus exacts éléments. premier devoir, en effet, la première vérité à observer en ces sortes d'études, c'est la mesure et la nuance de ton, la discrétion de détails, le sentiment toujours attentif et un peu mitigé, qui règnent dans le commerce du critique avec les contemporains qu'il honore et qu'il admire.
- (b) Je suis puni. Je vis dans le fond d'une tour Où des barreaux croisés emprisonnent le jour ; L'araignée à mon lit suspend sa toile frêle Où la chauve-souris embarrasse son aile; Du sépulcre la nuit j'entends sourdre le ver ; J'ai taim; j'ai soif; l'été, j'ai chaud; j'ai froid, l'hiver. C'est bien fait, je me courbe, et je donne l'exemple. Mais toi, Noll, de quel droit viens-tu toucher au temple? En dois-tu seulement déranger un pilier? Ce qu'ont lié les saints, le peux-tu délier? D'ailleurs efface-t-on les traces de la foudre? Les saints m'ont condamné, nul n'a droit de m'absoudre: Et dans ce peuple vil je marche avec fierté, Seul vestige vivant de leur autorité. Pin foudroyé, j étale au fond du précipice Je mon front abattu l'auguste cicatrice. Tu veux briser mes fers de force!—Anglais, voyez Quel effréné tyran vous foule sous ses pieds! Va, je préfère encor, moi Carr, moi qui te brave, Le carcan du captif au collier de l'esclave.

2. Translate into French-

There are individuals who make themselves and everyone else uncomfortable by trying to be agreeable, and who are only to be endured in their natural character of blunt, plain-spoken people. Many a man would have turned rogue, if he had known how. The modest man cannot be impudent if he would. The man of sense cannot play the fool to advantage. It is not the mere resolution to act a part that will enable us to do it, without a natural genius and fitness for it. Some men are born to be valets, as others are to be courtiers: the climbing genus in man as well as in plants. It is sometimes made a wonder how men of "no mark or likelihood" frequently rise to court-preferment, and make their way against all competition. That is the very reason. They present no tangible point; they offend no feeling of self-importance. They are a perfect unresisting medium of patronage and favour. They aspire through servility; they repose in insignificance. A man of talent or pretension would be kicked out in a week. A look that implied a doubt, a hint that suggested a difference of opinion, would be fatal. It is of no use, in parleying with absolute power, to dissemble, to suppress. There must be no feelings or opinions to dissemble or suppress. The artifice of the dependant is not a match for the jealousy of the patron. "The soul must be subdued to the very quality of its lord." Where all is annihilated in the presence of the Sovereign, is it astonishing that nothings should succeed?

### FRENCH II. AND III. B. DISTINCTION AND HONOURS,

Students of the Second Year to omit all question 2. Students of the Third Year to omit sections (f), (g), (h), (k), of question I.

1. Translate, with comments where necessary, extracts from Chefs-d'œuvre Poétiques de Marot, Ronsard, &c., Rabelais, Pages choisies.

### FRENCH II. & III. C.—LITERATURE OF THE SIXTEENTH CENTURY.

### DISTINCTION AND HONOURS.

Two Hours.

Only FIVE questions are to be attempted, and these must include No. 6.

1. Discuss and illustrate what Boileau calls l'élégant badinage de Marot. What did Marot lack in order to become a great poet?

- 2. Give an account of the Deffense et illustration de la langue françoise.
- In 1828 Sainte-Beuve wrote: "L'école nouvelle en France a continué l'école du xvie Siècle." Discuss this statement.
- 4. La Bruyère says of Rabelais: "Où il est mauvais, il passe bien loin au delà du pire, c'est le charme de la canaille; où il est bon, il va jusques à l'exquis et à l'excellent, il peut être le mets des plus délicats." Explain and illustrate.
- In what relation does Réguier stand to Ronsard and to Malherbe?
- 6. Set forth in French Montaigne's "philosophy of life."
- 7. Give an account of the satiric poetry of the 16th century.
- 8. "L'école de Ronsard a été totalement dépourvue du sens dramatique." Discuss.

# GERMAN I. A.—COMPOSITION, UNSEEN TRANSLATION, HISTORICAL GRAMMAR.

#### DISTINCTION.

1. Translate into German-

A student of vegetation may "wake, and learn the world, and sleep again," not lying in wait for changes, but confident of that repetition which makes nature old and mystical to memory, and of that renewal which makes her young and simple to hope—a mother to the spirit and a child to the eye. The painter of mountains will not be defrauded by years of the ancient line upon the sky. The linked memories of all generations are not long enough, in all, to outwatch and to record a change in a little hill. He may be blind, or mad, or absent, but the shape of a bay will await his light, his reason, or his return. Not so with the student of ancient buildings, who would arrest the action of time, and who therefore must make his own hour of labour elastic with application and with vigilance; albeit mere time, Ruskin tells us, unbuilds so slowly that if men took pains, they might repair his action-not by the futile effort of "restorations" but by honest proppings that should confess their own date and purpose and make no confusions in the history of construction. It is not the unbuilding of time,

therefore, that presses the student, but the destruction wrought with violence by man, contemptuous and impatient of the work of the past, or confident that he can do something better with the stones unset and set up in another fashion.—(Alice Meynell.)

### 2. Translate (at sight)-

Die antike und die moderne Bildung sind in durchgängigem Der Neuere würde nur dadurch sich jene zueignen können, ohne diese aufzuopfern, dass er seine Eigentümlichkeit dem höhern allgemeingültigen Gesetz der menschlichen Natur, in allen Urteilen, Ansichten und Gefühlen, unterordnete.-Eine Höhe, welche nur sehr wenige erreichen können: die meisten Freunde der Alten erkaufen nur ihre Kenntnis derselben mit einer völligen Unkenntnis und blinden Geringschätzung der Neuern: sie sehen in ihrem Zeitalter nichts als die Ruinen der zerstörten Menschheit, ihr ganzes Leben ist wie eine Elegie an der Urne der Vergangenheit. Statt sich die Harmonie, die Vollständigkeit der Alten zuzueignen, verdoppeln sie nur ihre eigne Zerrüttung: ihr Herz verliert alle Schnellkraft, sie vergessen, dass die Bestimmung des Menschen mehr sei, als eine untätige Sehnsucht, sie ahnen nicht mehr die höhere Einheit, zu der die Verwirrung so mächtig hinstrebt.-Ueberhaupt ist unsre ganze alte Gelehrsamkeit eine äusserst zusammengesetzte, verworrene und buntscheckige  ${f sonderbaren}$ Zusammenfluss Masse, im streitender Ursachen, unter den ungleichartigsten Einflüssen erzeugt und gebildet, ohne Einheit des Plans, ja ohne Gleichartigkeit des Tons. (Fr. Schlegel, Vom Wert des Studiums der Griechen und Römer, 1796.)

### 3. Historical Grammar (only five questions to be attempted)—

- (i.) Illustrate the relationship of Teutonic to the Indo-European group of languages, and state the laws involved in your examples.
- (ii.) State and illustrate laws governing differences between HG and other Teutonic languages.
- (iii.) Explain and illustrate the nature of Umlaut.
- (iv.) Give the declension of *Lote* in *OHG* and *MHG*, and comment on the difference of flexion-endings.

- (v.) Explain the nature of the person-endings of verbs in Indo-European, and illustrate by present tense of tragen in OHG and MHG.
- (vi.) Comment on the following words and forms:—Alsbald, vielleicht, zween, Sucht, auserkiest, wird, worden, männiglich, immer, nunmehr, Jemand, Leid, tät.
- (vii.) State shortly the nature of OHG and MHG prosody.

# GERMAN I. B. DISTINCTION.

Short comments may be given, where thought necessary, on (1), (2), (3).

 Translate, with comments, extracts from Heine, Lieder und Gedichte; Uhland, Hertzog von Schwaben; Kotzebue, Menschenhass und Reue.

# GERMAN II. AND III. A. DISTINCTION AND HONOURS. Two Hours.

1. Translate (at sight)—

Schelling, der im Wegenfat zu Fichte und seiner reinen Ich-Lebre die dunkle Naturseite des Geistes berauskehrte und die Philosophie wie die Kunst und Religion auf der genialen Vision, der sogenannten intellektuellen Anschauung, begrün= dete, hatte die freie Willfur in seinem Pringip, im Organ seiner Lehre, jene Willfür, welche der Kern der Romantik Schon in seinem "Bruno" (1802) batte er das später so dedeutsame Stichwort "christliche Philosophie" eingefloch= ten, obschon er noch behauptete, daß die Bibel an echt religiösem Gehalte nicht entfernt mit den heiligen Büchern ber Inder zu vergleichen fei, ein Standpunft, welchen sogar Görres im Anfange seiner Schriftstellerlaufbahn verficht. Als er, wie Novalis, auf Tiecks Veranlassung sich in Jakob Böhme und die übrigen Mystifer vertiefte, begann er myftisch über "die Ratur in Gott" zu philosophieren, ein Ausdruck, den die spekulative Dogmatik, wie bekannt, späterhin sich angeeignet hat; als er jedoch furz nachher jum Professor in Burgburg, dann in München im erzfatholischen Bayern zum Generalsefretär, später zum Präsidenten der Alfademie der Wissenschaften und zum Wirklichen Beheimen Rat ernannt und in den Abelstand erhoben wurde,

da begann die nachmals so viel besprochene "Offenbarungs» philosophie" in seiner Seele zu keimen. Bald war die Umwandlung vollzogen. Aus dem Feuergeiste war ein Höfling, aus dem Propheten ein Charlatan geworden, der durch Geheimnisfrämerei, durch seltsame Programme von einer Wiffenschaft, "die man bieber fur unmöglich gehalten", durch den Umstand, daß er nie seine Weisheit drucken laffen, fondern sie nur mündlich mitteilen und nie ganz mitteilen wollte, sich würdig machte, einige Zeit nach dem Tobe Hegels nach Berlin berufen zu werden, um der Staats= religion in dem bestehenden driftlich-germanischen Polizei= staate hilfreich hand zu leisten und eine Staatsphilosophie zu lehren, die nach feinem eigenen Ausspruche nichts anderes als Christologie sein wollte. Bei dieser Gelegenheit geschah es, daß die junge Generation, die Linke ber Begelichen Schule, über ihn berfiel und sein mystisches Spinngewebe in taufend Kegen zerriß.

### 2. Translate into German-

It is said that those living in the midst of revolutions which are changing the face of the world round them are frequently ignorant of the significance of what is taking place. And we know from history that this has often been the fact, and that men have had to pay a very heavy and sometimes a terrible penalty for their insensibility and unintelligence. But this is not likely to be the case with us. We are living in the midst of a revolution which is probably the most momentous, as assuredly it is one of the most silent, in the history of humanity. "Too full for sound or foam" is the mighty flood tide which is in very truth lifting mankind amain. But the silence with which this revolution is fulfilling itself does not disguise from us its tremendous significance, or lure us into conflict with the irresistible; depth and volume have, we know, other criteria than chafing surf and a tossing surface, and the fact that these are absent is not likely to tempt even an unwise man to emulate Mrs. The signs of our time are indeed writ large Partington. and visible everywhere. On all sides change: on all sides progress is manifest both within and without: within in newly awakened sympathies and interests, in newly kindled desires and aspirations, in newly defined needs; without in great movements, and institutions and reforms which are the expression of all this in fact. Some of us may be dissatisfied with much that is taking place, may regard this with dislike and that with suspicion, nay even with alarm, but no one can doubt that every tendency, every movement of our age is making towards emancipation, equalization, expansion. Errand stumble we may, but our errors are the generous errors of precipitation, and, if we stumble, we are at any rate stumbling along the right path.

# GERMAN II. AND III. B. DISTINCTION AND HONOURS.

Candidates taking Course III. to omit 1 (b) and 2 (a) and (d) with comments.

 Extracts from Brant, Sachs, Fischart; Gryphius (for Third Year students only).

# GERMAN II. AND III. C. HONOURS AND DISTINCTION.

Two Hours.

1. Write, in German, a short characterisation of the poetry and genius of Hans Sachs.

2. Describe the occasion and character of the Epistolae Obscurorum Virorum.

3. What are the main peculiarities of the 1st and 2nd Silesian schools?

4. Characterise shortly the following writers: — Fischart, Rollenhagen, Fleming, Von Spee, Schubart, Grimmelshausen, Logau.

5. Compare and contrast Luther's Bible with the English authorised service of 1611.

# ENGLISH I. A. HONOURS AND DISTINCTION.

- 1. Translate, with notes on words underlined, passages from Cook's First Book in Old English.
- 2. Translate other passages from the same.

3. Translate (at sight)—

pa ha Publius Cornelius ond Scipa Publius ond Sempronius Longus, ha hie wæron consulas, Hannibal abræc mid gefechte ofer ha beorgas he mon hæt Perenei, ha sindon betux Galleum ond Ispaneum, ond sihhan he gefor ofer

pa monegan peoda of he com to Alpis pæm muntum, ond pær eac ofer abræc, feh him mon oftrædlice mid gefechtum widsto e, ond fone weg geworhte ofer munt Iof. Swa fonne he to dæm syndrigum stane com, fonne het he hiene mid fyre onhætan ond siffan mid mattucun heawan; ond mid fæm mæstan geswince fa muntas oferfor. His heres wæs an m fedena on xx m gehorsedra.

- 4. (a) Give the principal parts of the verbs underlined in the passage above.
  - (b) "In general the chief distinction between the declension of masculines and that of neuters is in the plur. nom. acc." Explain this, and give examples.
  - (c) When are Old English adjectives declined weak? Give typical examples, using the masculine, feminine, and neuter forms of the Acc. Sing. and the Gen. Pl. in each case.
- 5. Re-write in Old English—One day the bishop was in the church, and the brother who worked with his hands was outside at his labour. Suddenly the brother heard sounds of the most beautiful voices descending from heaven to earth. They entered the church and filled it all. When they had departed, the bishop gave a sign that the brother should go in, and he went. The bishop then said: "I have been summoned from this world, and after seven days angelic spirits will lead me to those heavenly joys promised to the servants of God."

### ENGLISH I. B.

### DISTINCTION AND HONOURS.

- Make a Modern English version of the passages from English Miracle Plays, ed Pollard, and add notes on underlined expressions.
- 2. Explain fully, passages from the same.
- 3. Explain the grammatical form of passages from the same.
- 4. What stages in the development of the religious drama are represented by the Mysterium Resurrectionis D. N. Jhesu Christi, The Hurrowing of Hell, and Secunda Pastorum of the Towneley Plays?
- 5. Sketch the rise and widest scope of the Miracle Play Cycle.

 "There are great differences between the earlier moral dramas and their later and in every way inferior successors."

Show these differences in a contrast of any two or more

typical specimens.

7. (a) Describe what is, historically, the particular distinction of the play on Mary Magdalen, or of Bale's King John; Or.

(b) Appreciate the element of characterisation in the older

English drama, religious and secular.

## ENGLISH II. AND III. A. DISTINCTION AND HONOURS.

Section & is for Second Year Students only; Section & for Third Year Students only.

Section C is common to both classes.

Section A.

1. Discuss the grammar of passages from the Crist, of Cynewulf.

2. What do you find to be the most distinguishing qualities of the Crist as literature?

3. Translate and explain a runic passage from the Crist.

### SECTION B.

4. Discuss the readings underlined in passages from the Crist.

5. "It seems that the <u>Crist</u> is an Anglian poem, written before the beginning of the ninth century, and critics are at one in placing the 'Floruit' of its poet during the second half of the eighth century."

Review this statement so as to reveal its grounds and those upon which any important alteration in it or reservation

upon it might be made.

6. Translate a runic passage from the Crist.

7. Translate passages from the Crist.

8. Translate passages from the *Crist*, adding notes of other interpretations elsewhere suggested, but not accepted by you.

# ENGLISH II. AND III. B. HONOURS AND DISTINCTION.

Section 3 is for Third Year Students only; Section 2 is for both classes, but Question 5 may be omitted by Third Year Students.

SECTION A.

 Re-write, passages from Maclean's Old and Middle English Reader in E.W.S. (the normal literary dialect), and in regular manner; also discuss the underlined forms. 2. Translate passages from the same.

3. Briefly appreciate the literary style of EITHER Ælfred's prose, or The Havelok on The Bruce.

### SECTION B.

4. Translate (at sight) -

(a) Hit gelamp on sumne sæl þæt hi sæton ætgædere, Oswold and Aidān, on þām hālgan ēasterdæge; þā bær man þām cyninge cynelīce þēnunga on ānum sylfrenan disce; and sōna þā inn ēode ān þæs cyninges þegna þe his ælmyssan bewiste, and sæde þæt fela þearfan sætan geond þā stræt gehwanon cumene tō þæs cyninges ælmyssan. Þā sende sē cyning sōna þām þearfum þone sylfrenan disc mid sande mid ealle, and hēt tōceorfan þone disc and syllan þām þearfum heora ælcum his dæl; and man dyde ðā swā. Þā genam Aidānus sē æðela bisceop þæs cyninges swýþran hand mid swiðlīcre blysse, and clypode mid gelēafan, þus cweðende him tō, 'Ne forrotige on brosnunge þēos geblētsode swýðre hand.' And him ēac swā geēode, swā swā Aidānus him bæd, þæt his swiðre hand is gesundful oð þis.

(b)þær gæsta gedryht Hælend hergað and Heofoncyninges meahte mærsiað, singað Metude lof. Swīnsað sibgedryht swēga mæste • hædre ymb þæt hålge heahseld Godes; blīðe blētsiað Bregu sēlestan ēadge mid englum efenhlēoðre þus: "Sib sī þē, soð God and snyttrucræft, and be bone sy brymsittendum geongra gyfena, gōda gehwylces! Micel unmæte mægnes strengðu hēah and hālig! Heofonas sindon fægre gefylled, Fæder ælmihtig, ealra þrymma þrym, þines wuldres ūppe mid englum and on eordan somod!"

5. Re-write in Old English prose-

The sun and moon, heaven's candles, shine for all men in the world. Dew and rain descend; they call forth plenty for the nourishment of man, and increase the riches of the earth. For all this, therefore, we ought to give thanks, remembering the abundance we have beneath the shelter of the sky. Discuss one of the following—

- (a) "We represent our modern pronunciation by means of symbols imperfectly adapted to an Elizabethan pronunciation."
- (b) "The use of ee for the sound which it at present has in see dates back to the fifteenth century, and is the most momentous change which our pronunciation has ever undergone."

(c) "Jespersen's analphabetic notation has one great advantage over Bell's in being based on a more

advanced phonetic analysis."

7. Re-write, in your own pronunciation, a phonetically printed passage from Shakespeare, and add a description of the underlined sounds.

# MATHEMATICS I.—GEOMETRY AND CONICS. HONOURS.

1. ABCD is a cyclic quadrilateral, prove that  $\sin A : \sin B = BD : AC$ , and that

AB.BC+AD.DC:BA.AD+BC.CD=BD:AC.

- 2. Define the anharmonic ratio of a range of four points, and of a pencil of four rays, and show that the ratio of a pencil is equal to the ratio of the four points made by any transversal.
  - Show that the A.R. of a pencil of four rays is equal to that of the range formed by the poles of these rays with respect to any coplanar conic.
- 3 If a sphere can be drawn touching all the six edges of a tetrahedron, prove that the sum of each pair of opposite edges is the same.
- 4. In a parabola prove that  $QV^2=4SP.PV$ .
  - If PG is the normal to a parabola, show that the length of the chord through G, parallel to the tangent at P, is  $4\sqrt{28P}$ .
- If the normal to a conic at P meets the major axis in G, prove that SG=e.SP.
  - The tangent at P meets the latus rectum in D and SY, SZ are drawn perpendicular to GD and the tangent; show that SY=e.SZ.

- The intercept made by the asymptotes on any tangent to a hyperbola is bisected at the point of contact.
- 7. Find the equation of a straight line passing through the intersection of two given lines
  - If y=m(x+a) and y=n(x-a) are the sides AB and AC of a triangle ABC, whose base BC or 2a is given on the axis of x, and y=l(x+h) a transversal cutting AB, AC in Q and R, show that the equation of QC is

 $lm(a-h)(x-a) = \{2ma - \hat{l}(a+h)\} y.$ 

8. Prove that  $y=mx+\sqrt{(m^2a^2+b^2)}$  always touches the ellipse  $x^2/a^2+y^2/b^2=1$ .

Find the locus of the point of intersection of two perpendicular tangents.

9. In the equation to a straight line in the form

$$\frac{x-\xi}{\cos\theta} = \frac{y-\eta}{\sin\theta} = r,$$

explain the geometrical meanings of  $(\xi, \eta)$ , of  $\theta$  and of r. Prove that the locus of the middle points of chords of constant length 2d of the hyperbola  $xy=a^2$  is

$$(a^2-xy)(x^2+y^2)+d^2xy=0.$$

10. Find the angle between the two lines represented by  $ax^2+2hxy+by^2=0$ ,

and find the condition these lines should be perpendicular. Also find the equation of the two lines through the point  $(\xi, \eta)$  perpendicular to  $ax^2 + 2hxy + by^2 = 0$ .

#### MATHEMATICS I.—ALGEBRA AND TRIGONOMETRY.

SQUARED PAPER AND LOGARITHM TABLES TO BE PROVIDED.

#### HONOURS.

1. Show that the cubic equation

$$a_0x^3 + 3a_1x^2 + 3a_2x + a_3 = 0$$

can be changed into the form

$$x^3 + 3px + q = 0$$
,

and find the condition that the roots of the second equation are all real.

2. Show that the equation

$$x^3 - 4x + 2 = 0$$

has a root between -3 and -2, another between 0 and 1, and a third between 1 and 2. Also find the third root correct to two decimals.

3. State the Exponential Theorem, and show that a limit can be given to the error made in stopping at any term of the series.

Prove that  $e^{\frac{1}{10}}$  correct to four decimals is 1.1052.

4. Prove that

$$\log \frac{1+x}{1-x} = 2\left(x + \frac{x^3}{3} + \frac{x^5}{5} + \dots\right).$$

Calculate  $\log \frac{3}{2}$  from this series, putting  $x = \frac{1}{3}$ , and show that correct to 6 decimal places its value is .405465.

5. State, without proof, the range of values of x for which the series

$$\frac{1}{1^x} + \frac{1}{2^x} + \frac{1}{3^x} + \dots$$

is convergent.

Show that if convergent, it lies between the numbers  $\frac{2^x-1}{2^x-2}$  and  $\frac{2^x}{2^x-2}$ .

$$\frac{2^x-1}{2^x-2}$$
 and  $\frac{2^x}{2^x-2}$ .

6. Prove that the perimeter of the pedal triangle is 4R sin A sin B sin C. and that its area is

R<sup>2</sup>sin 2A sin 2B sin 2C.

7. Prove that when n is any integer,

$$\cos n\theta = \cos^n\theta - \frac{n(n-1)}{1\cdot 2}\cos^{n-2}\theta\sin^2\theta + \dots$$

and that when the sines are eliminated the term in  $\cos^n\theta$ becomes  $2^{n-1}\cos^n\theta$ .

Deduce that 
$$\frac{\cos n\theta}{\cos \theta}$$

$$=2^{n-1}\left(\sin^2\frac{\pi}{2n}-\sin^2\theta\right)\left(\sin^2\frac{3\pi}{2n}-\sin^2\theta\right)...\left(\sin^2\left(\frac{n-2}{2n}\right)\pi-\sin^2\theta\right),$$
when  $n$  is odd.

And that  $\cos n\theta$ 

$$= 2^{n-1} \left( \sin^2 \frac{\pi}{2n} - \sin^2 \theta \right) \left( \sin^2 \frac{3\pi}{2n} - \sin^2 \theta \right) \dots \left( \sin^2 \frac{(n-1)}{2n} \pi - \sin^2 \theta \right)$$
when  $n$  is even.

8. Show how the equation  $ax = \tan bx$  can be solved graphically.

Verify from your Tables that the smallest positive root of the equation tan x=2x lies between  $1\cdot 1$  and  $1\cdot 2$ .

9. Define  $\sin hx$  and  $\cos hx$ .

Prove, from your definitions, that  $\sin h(x+y) = \sin hx \cos hy + \cos hx \sin hy$ ,  $\cos h(x+y) = \cos hx \cos hy + \sin hx \sin hy$ .

10. Show that

$$\tan x - 24 \, \tan \frac{x}{2}$$

and  $4 \sin x - 15x$ 

differ only by quantities of higher order than the sixth.

# MATHEMATICS I.—ELEMENTARY CALCULUS AND MECHANICS. HONOURS.

- 1. Show how the Differential Calculus can be used to find the equations of the tangent and normal at any point of a plane curve y=f(x).
- Find the equations of the tangent and normal at each of the points on the curve y<sup>2</sup>=x<sup>3</sup> where x=4. Draw a diagram of the curve.
- 3. Differentiate the following expressions

(i.) 
$$\frac{x}{a^2 + x^2}$$
,

(ii.) 
$$(a^2+x^2)\tan^{-1}x-x^2\sin^{-1}\frac{x}{\sqrt{x^2+1}}$$
,

(iii.) 
$$\left(\frac{x^2-x+1}{x^2+x+1}\right)^2$$
.

4. Since  $\frac{dy}{dx} = \frac{\delta y}{\delta x}$  approximately, when  $\delta x$  is very small, the

value of the differential coefficient can be used in finding the small increase in a function for a small increase in the variable. Apply this method to the following cases:

(i.) Find approximately the value of

$$2x^3 - 9x^2 + 12x - 3$$
  
for  $x = 2.005$ .

(ii.) Without using your tables, find approximately the value of sin 20° 6′, given

 $\sin 20^{\circ} = 3420$ ,  $\cos 20^{\circ} = 9397$ .

Check your answer from the tables.

5. Find by integration

(i.) The area of the parabola  $4y = x^2$  from the origin to the latus rectum:

(ii.) The centre of gravity of the portion of the parabola

 $4y = x^2$  cut off by the latus rectum;

(iii.) The volume generated by the same portion of the

same parabola revolving round its axis.

6. A mass of 10 lbs. rests on a smooth horizontal table. A string tied to it passes over a pulley A on the edge of the table and under another B, and is fixed at C so that the strings between the pulleys are vertical. From B is suspended a mass of 8 lbs. Find the acceleration of each mass, and the tension of the string.

7. A particle moves in a straight line Ox, so that its distance from O at time t is given by  $a \cos \omega t$ . Find its velocity and acceleration, and discuss the nature of its motion.

A weight 10 lbs. is suspended by an elastic string of unstretched length 1 ft., of which the coefficient of elasticity is 112 lbs. Find the position of equilibrium and the time of a small vertical oscillation.

8. Find the conditions of equilibrium of a body acted on by

coplanar forces.

- Four equal rods each of weight W are jointed so as to form a square ABCD, the opposite corners A, C being joined by a rod whose weight may be neglected. The square rests on a horizontal plane with AC vertical. Find the thrust on AC.
- 10. A particle is projected with velocity u at an inclination a to the horizon, find its range on a plane, inclined at  $\beta$  to the horizon, which passes through the point of projection.

If the particle strikes the plane at right angles, prove that  $\tan a = 2 \tan \beta + \cot \beta$ .

### MATHEMATICS II.—STATICS AND DYNAMICS. HONOURS.

 Prove that two like couples of equal moment in the same plane are equivalent to one another.

- Forces are completely represented by the edges AB, BC, CD, and DA of a tetrahedron AB CD. Prove that they are equivalent to a couple in the plane which bisects these four edges, and whose moment is represented by four times the area of the section of the tetrahedron made by that plane.
- 2. A uniform cylinder is placed on a rough inclined plane with its axis horizontal, and kept from rolling down by a string wrapped round its middle and fastened to a point in the plane above the cylinder. Show that equilibrium is limiting if

 $\sin (a-\lambda) = \sin \lambda \cos \theta$ ,

where  $\lambda$  is the angle of friction and a,  $\theta$  the inclinations of the plane and string to the horizontal.

- 3. Prove that the C.G. of a solid hemisphere is in the principal radius, and distant  $\frac{3r}{8}$  from the centre.
  - A solid hemisphere rests on a horizontal plane rough enough to prevent slipping; find the time of a small oscillation about the position of equilibrium.

If the plane is gradually tilted about one end till the hemisphere is on the point of capsizing and slipping simultaneously, shew that the inclination of the plane is equal to the angle of friction and to tan<sup>-1</sup> \(\frac{3}{4}\).

- 4. Show that the components of the velocity of a moving particle are  $\frac{dr}{dt}$  and  $\frac{rd\theta}{dt}$  radially and at right angles to the radius.
  - A particle P has two constant velocities u, v, u being in a fixed direction, and v perpendicular to the radius joining the fixed origin O to the position of the particle P. Prove that the orbit of P is a conic of eccentricity u.
- 5. A particle describes a conic under a force  $\frac{\mu}{r^2}$ , prove that its orbit is an ellipse, parabola or hyperbola according as  $v^2 < = \text{or } > \frac{2\mu}{r}$ , v being its velocity when at a distance r from the focus.

clxx.

If the orbit is an ellipse, show that the periodic time is  $\frac{2\pi}{\sqrt{\mu}} \left(\frac{2}{r} - \frac{\nu^2}{\mu}\right)^{-\frac{3}{2}}$ 

- 6. Integrate the equation  $\frac{d^2x}{dt^2} = -\mu x$ ; if this represents the motion of a weight at the end of a vibrating spring, state the physical interpretation of the two constants that arise in the integration.
  - A spring stretches 01 feet when a weight of 10 lbs. is hanging in equilibrium from it; an additional pound is attached to the 10 lbs., and at once set free to move. Find the maximum elongation, the time of an oscillation, and the position of ultimate rest.
- 7. Show how to find the equations of motion of a Rigid Body moving so that all the particles move parallel to a fixed plane. Prove that the centre of gravity of the body moves as if all the mass were collected at that point, and all the applied forces were acting on it in directions parallel to those in which they act, and that the motion of the body relative to the centre of gravity is the same as if this centre were fixed, and the same forces acted.
- 8. What is meant by the equation of energy?

Prove the truth of this equation in the case of a Rigid Body moving in two dimensions under gravity, when the constraining forces do no work. The motion of the body is to be specified by the velocity of the centre of gravity and the angular velocity.

A uniform rod (2a) is placed in a vertical position, with one end resting on a smooth horizontal plane, and slightly disturbed, show that it strikes the plane with an angular velocity  $\sqrt{\frac{3g}{2}}$ .

# MATHEMATICS II.—DIFFERENTIAL AND INTEGRAL CALCULUS.

#### HONOURS.

 Show how the differential calculus can be used in finding the equations of the tangent and normal at any point on a curve whose equation is given. Find the equations of the tangent and the normal of the curve

$$x^5 = a^3y^2$$

at the point distinct from the origin in which it is cut by the line

$$y = x$$
.

2. Show that the expression

$$8\cos^4 x - 16\cos^2 x + 5$$

is equal to

$$\cos 4x - 4 \cos 2x$$
.

Also that its minimum value, -3, occurs for  $x=n\pi$ , and its maximum value, 5, for

$$x=(2n+1)\frac{\pi}{2}$$

n being zero, or any positive or negative integer.

3. Prove that the curve y = f(x) is concave upwards when

$$\frac{d^2y}{ux^2} > 0,$$

and convex upwards when

$$\frac{d^2y}{dx^2} < 0.$$

Also that a necessary condition for a point of inflection is

$$\frac{d^2y}{dx^2} = 0$$
.

Prove that the curve

$$y=5\sin x-4\sin 2x+\sin 3x$$

has a point of inflection when

$$9\cos x = -1$$
.

4. Prove that

$$\frac{d}{dx}\sin^{-1}x = \pm \frac{1}{\sqrt{1-x^2}},$$

and point out the ranges of values of  $\sin^{-1}x$  for which the positive sign, and the ranges for which the negative sign, must be taken.

Also show that

$$\frac{d}{dx}\sinh^{-1}x = \frac{1}{\sqrt{x^2+1}}$$

without ambiguity of sign.

Illustrate your answer from the curves

$$y = \sin^{-1}x,$$
  
 $y = \sinh^{-1}x.$ 

5. Prove that

$$\frac{1}{v^2} = u^2 + \left(\frac{du}{d\theta}\right)^2.$$

Hence show that in the conic

$$\frac{l}{r} = 1 + e \cos \theta$$

the perpendicular SY from the focus is given by

$$SY^2 = \frac{l^2}{1 + 2e\cos\theta + e^2}.$$

6. Prove that

$$\left(\frac{ds}{dx}\right)^2 = 1 + \left(\frac{dy}{dx}\right)^2.$$

Show that the length of the arc of the parabola y = 4ax intercepted between the points of intersection of the parabola and the line 3y = 8x is

$$a \left[\log 2 + \frac{15}{16}\right].$$

7. Obtain the equations of the cycloid with its vertex turned upwards, viz

$$\begin{array}{l}
x = a(\theta - \sin \theta) \\
y = a(1 - \cos \theta).
\end{array}$$

Also find

- (i.) the area between the cycloid and its base;
- (ii.) the volume of the solid of revolution whose axis is this base and meridian curve this cycloid.
- 8. Evaluate the following definite integrals

(i.) 
$$\int_0^a \sqrt{a^2 - x^2} dx.$$

(ii.) 
$$\int_0^{\frac{\pi}{2}} \frac{d\theta}{a^2 \sin^2 \theta + b^2 \cos^2 \theta}.$$

(iii.) 
$$\int_0^{\frac{\pi}{2}} \sin^n\theta d\theta,$$

when n is (a) an even or (b) an odd positive integer.

9. Prove that

$$\int_0^{\frac{\pi}{2}} \frac{\sin^2\theta d\theta}{a^2 + b^2 \sin^2\theta} = \frac{1}{b^2} \int_0^{\frac{\pi}{2}} \left(1 - \frac{a^2}{a^2 + b^2 \sin^2\theta}\right) d\theta,$$
and hence evaluate the integral.

10. Expand

$$\log \frac{\sin x}{x}$$
 and  $\log \cos x$ 

by MacLaurin's Theorem, or otherwise, to the fourth power of x, and hence show that

$$\log \sin x = \log x - \frac{1}{45} \log \cos x + \frac{64}{45} \log \cos \frac{x}{2}$$

neglecting terms higher than x4.

## MATHEMATICS II.—SPHERICAL TRIGONOMETRY AND DIFFERENTIAL EQUATIONS.

#### HONOURS.

1. Prove the formulæ

(i.)  $\cos a = \cos b \cos c + \sin b \sin c \cos A$ .

(ii.) 
$$\frac{\sin A}{\sin a} = \frac{\sin B}{\sin b} = \frac{\sin C}{\sin c}$$

Investigate what these formulæ become when the triangle becomes plane owing to the radius of the sphere becoming infinite.

 Explain what is meant by the polar triangle of a spherical triangle, and prove that if A'B'C' is the polar triangle of ABC, then A'=180°—a.

If A denotes an angle of an equilateral triangle, and A' an angle of the polar triangle, prove that  $\cos A \cos A' = \cos A + \cos A'$ .

3. Investigate three formulæ connecting the sides and angles of a right-angled triangle.

Assuming that the earth is a sphere of 8000 miles diameter, find how much shorter it is to sail by a great circle than by a parallel of latitude from a place in lat. 34°S., long. 154°E, to a place in lat. 34°S long. 75°W.

4. Prove that the area of a spherical triangle  $=(A+B+C-\pi)r^2$  where r is the radius of the sphere  $=r^2E$  where  $E=A+B+C-\pi$  is called the spherical excess.

- 5. If ABC is a spherical triangle, and X, Y are the middle points of BC, CA, prove that the great circle joining XY meets the base of the triangle at two points each 90° from its middle point.
  - If O is the pole of the circle XY remote from C, prove that the angle OAB=one half the spherical excess of the triangle ABC.
- 6. Show how to solve the equation

$$M + N \frac{dy}{dx} = 0$$
,

where M, N are homogeneous functions of x and y of the same degree.

Solve the equation

$$\left(1 + \frac{y^2}{x^2}\right) dx - \frac{2ydy}{x} = 0.$$

- 7. What is a singular solution of a differential equation? Investigate the geometrical relation between the complete integral and the singular solution of a differential equation.
  - Find the complete primitive and singular solution of the equation

$$y = (x-1)p - p^2$$
.

- 8. What is meant by an orthogonal trajectory of a system of curves?
  - If the differential equation of a system of curves is

F(x, y, p)=0,

prove that the differential equation of the orthogonal trajectory of the system is

$$\mathbf{F}\left(x, y, -\frac{1}{p}\right) = 0.$$

- Find the orthogonal trajectory of a system of circles touching the axis of x at the origin.
- Discuss the general solution of linear equations with constant coefficients, distinguishing the cases where the auxiliary equation has (i.) a pair of real repeated roots, (ii.) a pair of imaginary roots.

Solve the equations

(i.) 
$$(D-1)^2(D+1)y = e^{2x} + \sin 2x$$
,

(ii ) 
$$(D^2+1)(D-3)y = \cos mx$$
,

(iii.) 
$$\frac{dx}{dt} + 4x + \frac{y}{4} = 0,$$
$$\frac{dy}{dt} + 3y - x = 0.$$

### MATHEMATICS III.—SOLID GEOMETRY. HONOURS.

- 1. Find the angle between two straight lines whose direction cosines are given.
- 2. Find the equation to the plane through the line

$$\frac{x-a}{l} = \frac{y-\beta}{m} = \frac{z-\gamma}{n}$$

parallel to the line

$$\frac{x}{l'} = \frac{y}{n'} = \frac{z}{n'}$$

Find also the length of, and the equation to, the shortest distance between the two lines.

3. Show that the equations of any two straight lines can be put in the form

y=mx, z=c, and y=-mx, z=-c.

Find the surface generated by a straight line that intersects two given lines and makes a right angle with one of them.

- 4. Find the equation of the right circular cone which has its vertex at the point  $(a, \beta, \gamma)$ , and for its base the circle  $z=0, x^2+y^2-2ax-2\beta y+c=0.$

5. Describe briefly the nature of the surfaces 
$$\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c} = 1, \quad \frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1, \quad \frac{x^2}{a^2} - \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1,$$

illustrating your description with diagrams.

6. What is meant by the discriminating cubic? Why is it so called? In the case of the conicoid  $ax^2 + by^2 + cz^2 + 2fyz + 2gzx + 2hxy + 2ux + 2vy + 2wz + d = 0$ , find the equation of the discriminating cubic.

Find the nature of the surface

$$x^2+y^2+z^2-2yz+2sx-2xy-2x-4y-2z+3=0$$
, and the equation to its determinate principal plane.

7. Prove that a hyperboloid of one sheet can be generated by straight lines belonging to either of two systems which are such that (1) no line of either system intersects any other line of that system, (2) every line of one system intersects every line of the other system.

Find the generating lines of

$$\frac{x^2}{4} + \frac{y^2}{9} - \frac{z^2}{16} = 1$$

at 
$$(2, 3, -4)$$
.

- 8. Show how to find the envelope of a system of surfaces whose equation contains one parameter, and show that each surface touches the envelope at all points of a curve. Find the envelope of the planes lx+my+nz=0, where  $al^2+bm^2+cn^2=0$ .
- 9. What is meant by the osculating plane at any point of a tortuous curve? Find its equation where the coordinates x, y, z are given functions of some quantity t.

Show that the condition that four consecutive points of a curve shall be coplanar is

$$\begin{vmatrix} x' & y' & \mathbf{z}' \\ x'' & y'' & \mathbf{z}'' \\ x''' & y''' & \mathbf{z}''' \end{vmatrix} = 0.$$

10. Prove that if  $\rho_1$ ,  $\rho_2$  are the radii of curvature of the principal sections at any point on a surface, and  $\rho$  is the radius of curvature of a normal section making an angle  $\theta$  with the normal section whose radius of curvature is  $\rho_1$  then

$$\frac{1}{\rho} = \frac{\cos^2\theta}{\rho_1} + \frac{\sin^2\theta}{\rho_2}.$$

# MATHEMATICS III.—DYNAMICS. HONOURS.

1. A uniform rod, hinged at its lower end, rests at an angle 60° to the horizontal, against a rough sphere resting on a horizontal plane passing through the hinge, and the centre of the sphere is in the vertical plane containing the rod. The length of the rod is three times the diameter of the sphere, and their weights are equal. Shew that the coefficient of friction between the sphere and rod cannot be less than tan 30°, and between the sphere and plane cannot be less than tan 15°.

2. Write down the equation of motion for rectilinear motion under the action of an attracting force varying inversely as the square of the distance, and integrate it.

If the acceleration at the earth's surface is g, and the radius of the earth, assumed a sphere, is a, show that the time of falling through a small height h is

$$\sqrt{\frac{2h}{q}}\left(1+\frac{5h}{6a}\right)$$
,

the resistance of the air being ignored.

3. In a parabolic orbit described about the focus as the centre of force, prove that

$$r^2 \frac{d\theta}{dt} = \sqrt{2a\mu}$$

4a being the latus rectum of the parabola.

Hence show that the interval from perihelion to position  $\theta$  is given by

$$\sqrt{\frac{2a^3}{\mu}} \cdot \left(\tan\frac{\theta}{2} + \frac{1}{3}\tan^3\frac{\theta}{2}\right).$$

4. A comet is moving in a parabolic orbit in the plane of the ecliptic. Show that the maximum time it can be within the earth's orbit, considered as a circle, is  $\frac{2}{3\pi}$  years.

5. The axes of reference, Ox, Oy, are revolving with constant angular velocity w about the origin. Obtain expressions for the space-velocities along the axes with which the moving axes temporarily coincide.

If these velocities are

$$\frac{a^2-b^2}{a^2+b^2} wy \text{ and } \frac{a^2-b^2}{a^2+b^2} wx$$

respectively, show that the particle describes an ellipse relative to the moving axes in the periodic time

$$\frac{\pi(a^2+b^2)}{\omega ab}.$$

6. Prove that the centre of gravity of a body moves as if all the mass were collected at it, and all the applied forces were acting on it in directions parallel to those in which they act, and that the notion of the body relative to the centre of gravity is the same as if this centre were fixed, and the same forces acted.

7. A particle m on a smooth horizontal table is joined by a fine string passing through a hole in the table to an equal mass hanging freely. Find the velocity with which the particle on the table must revolve in a circle of radius a, so that the hanging particle may remain at rest. If this motion be slightly disturbed, prove that the period of the resulting oscillation is

$$2\pi\sqrt{\frac{2a}{3q}}$$
.

8. Prove Lagrange's equations-

$$\frac{d}{dt}\left(\frac{\partial \mathbf{T}}{\partial \dot{\theta}}\right) - \frac{\partial \mathbf{T}}{\partial \theta} = \frac{\partial \mathbf{V}}{\partial \theta}$$
 and similar equations,

where T is the kinetic energy of the system, V the work function, and  $\theta$ ,  $\phi$  &c., the co-ordinates.

A uniform rod of mass 3m, and length 2l, can revolve about its middle point, which is fixed. A mass m is placed at one end, and the rod when in a horizontal position is set revolving about a vertical axis with angular velocity

 $\sqrt{\frac{2g}{l}}$ . Show that the loaded end will fall till the incli-

nation of the rod to the vertical is  $\cos^{-1}(\sqrt{2}-1)$  and then rise again.

9. Use Euler's equations-

$$A\frac{d\omega_1}{dt}$$
 - (B-C) $\omega_2\omega_3$ =L,

and two corresponding equations, to show that in the case of a rigid body, symmetrical about an axis, and acted on by forces all passing through its centre of gravity, the axis of rotation will describe a cone about the axis of symmetry.

# MATHEMATICS III.—SPHERICAL TRIGONOMETRY AND ASTRONOMY.

#### HONOURS.

1. Two sides, a, b, and the included angle C of a spherical triangle being given, the third side may be found thus—

$$\cos c = \frac{\cos b}{\cos \phi} \cos (a - \phi)$$

where  $\tan \phi = \cos C \tan b$ .

Prove this and give a geometrical construction for the angle  $\phi$ .

- Prove geometrically the two formulæ for expressing an angle of a right angled spherical triangle in terms of (i.) the hypotenuse and the opposite side, (ii.) the two sides.
  - If a, A are a side and angle of an equilateral and equiangular quadrilateral, prove that the diagonals bisect one another at right angles, and that

$$\cos A = \tan^2 \frac{a}{2}$$
 and  $\cos a = \tan^2 \frac{A}{2}$ .

- 3. If D, E, F are the middle points of the sides BC, CA, AB of a spherical triangle, show that EF meets BC at two points distant  $\frac{\pi}{2}$  from D.
  - If the triangle is equilateral, each angle being A and each side a, show that

$$2\cos\frac{a}{2}\sin\frac{A}{2}=1,$$

and that if EF is  $a_1$ , then  $2 \sin \frac{a_1}{2} = \tan \frac{a}{2}$ .

- Being given the R.A. and N.P.D. of a star show how to find its altitude and azimuth at a given time and place.
   Find the azimuth of a star of declination δ when its altitude at a place in latitude λ is sin-1 (sin δ cosec λ).
- 5. On what grounds is it inferred that the earth and planets move round the sun, and not as formerly supposed that the sun and planets move round the earth?
- 6. What are the causes of the Equation of Time? Prove that the maximum value of the equation of time due to the obliquity (ω) of the ecliptic is <sup>720</sup>/<sub>π</sub> sin<sup>-1</sup> (tan<sup>2</sup>/<sub>2</sub> minutes. If this is 10 minutes, prove that the declination of the sun then is cos<sup>-1</sup>/<sub>2</sub> 957 nearly.
- 7. Show that the minimum distance apart of the sun's and moon's centres at a solar eclipse is  $\beta \cos I'$  where  $\beta$  is the moon's latitude at conjunction in right ascension and  $\tan I' = \frac{\lambda}{\lambda 1} \tan I$ ,  $\lambda$  being the ratio of the moon's motion

in longitude to the sun's, and I the inclination of the moon's orbit to the ecliptic.

8. Show also that an eclipse is impossible or possible according as  $\beta \cos I' > \text{or} < \text{sun's rad.} + \text{moon's rad.} + \text{sun's}$  parallax — moon's parallax.

# MATHEMATICS III.—HIGHER INTEGRAL CALCULUS AND ELASTICITY. HONOURS.

Not more than EIGHT questions to be answered.

1. Prove that

$$\int_{b}^{\infty} \frac{dx}{(x+a)\sqrt{x-b}} = \frac{\pi}{\sqrt{a+b}},$$

and explain the meaning of the expression on the left hand side.

With the aid of the Second Theorem of Mean Value, or otherwise, prove that the infinite integral

$$\int_{a}^{\infty} x^{-n} e^{\sin x} \sin 2x dx$$

is convergent when n and a are both positive.

2. By expansion in powers of a prove that if |a| < 1

$$\int_{0}^{\infty} e^{-x} \left(1 - e^{-ax}\right) \frac{dx}{x} = \log(1 + a),$$

$$\int_{0}^{\frac{\pi}{2}} \tan^{-1}(a \sin x) \frac{dx}{\sin x} = \frac{\pi}{2} \sinh^{-1}a,$$

and discuss the legitimacy of term by term integration in each case.

3. Obtain the value of the integral

$$\int_0^{\frac{\pi}{2}} \sin^p \theta \cos^q \theta d\theta \qquad (p > 0, q > 0)$$

in terms of Gamma Functions.

Prove that

$$\int_0^1 \frac{dx}{\sqrt{1-x^4}} = \sqrt{\frac{8}{\pi}} \left[ \Gamma\left(\frac{5}{4}\right) \right]^2.$$

4. Show that

(i.) 
$$\int_0^\infty \frac{x^{a-1}}{x+1} dx = \frac{\pi}{\sin a\pi}, \qquad (0 < a < 1).$$

(ii.) 
$$\int_{0}^{\infty} \frac{\cos ax}{1+x^2} dx = \frac{\pi}{2}e^{-a}$$
,

(iii.) 
$$\int_{0}^{\infty} \frac{\cos ax - \cos bx}{x^2} dx = \frac{\pi}{2} (b-a), \ (a>0, \ b>0).$$

5 If a function f(x) can be expressed by a series  $a_0 + a_1 \sin x + a_2 \sin 2x + \dots$ 

when x is in the interval 0 to  $\pi$ , find expressions for the coefficients.

Prove that

$$x^{2} = \frac{2}{\pi} \left[ \left( \frac{\pi^{2}}{2} - \frac{4}{1^{3}} \right) \sin x - \frac{\pi^{2}}{2} \sin 2x + \left( \frac{\pi^{2}}{3} - \frac{4}{3^{3}} \right) \sin 3x - \&c. \right].$$

- 6. A body is strained so that the component displacements can be expressed as linear functions of the coordinates. Prove some of the characteristics of this form of strain, called homogeneous strain.
- 7. Prove that if the strain quadric

$$e_{xx}x^2 + e_{yy}^1y^2 + e_{zz}z^2 + e_{yz}yz + e_{zx}zx + e_{xy}xy = \text{constant}$$

is transformed by the substitution

$$x = l_1 x' + l_2 y' + l_3 z'$$
  
 $y = m_1 x' + m_2 y' + m_3 z'$   
 $z = n_1 x' + n_2 y' + n_3 z'$ 

it becomes

$$e_{x'x'}x'^2 + e_{y'y'}y'^2 + e_{z'z'}z'^2 + e_{y'z'}y'z' + e_{z'x'}x'x' + e_{x'y'}x'y' = \text{constant},$$
 where the coefficients are the components of strain referred to the second system of axes.

8. What is meant by the term "components of stress" at a point in a body? Obtain the equations

$$\begin{array}{l} X_{\nu} = X_{z}\cos(x, \nu) + X_{y}\cos(y, \nu) + X_{z}\cos(z, \nu), \\ Y_{\nu} = Y_{z}\cos(x, \nu) + Y_{y}\cos(y, \nu) + Y_{z}\cos(z, \nu), \\ Z_{\nu} = Z_{z}\cos(x, \nu) + Z_{y}\cos(y, \nu) + Z_{z}\cos(z, \nu), \end{array}$$

connecting the rectangular components  $X_{\nu}$ ,  $Y_{\nu}$ ,  $Z_{\nu}$  of the traction across a plane, the normal to which is given by the direction  $\nu$ , with the six components of stress.

Show that the equations of equilibrium are

$$\frac{\partial X_{z}}{\partial x} + \frac{\partial X_{y}}{\partial y} + \frac{\partial Z_{z}}{\partial z} + \rho X = 0.$$

$$\frac{\partial X_{y}}{\partial x} + \frac{\partial Y_{y}}{\partial y} + \frac{\partial Y_{z}}{\partial z} + \rho Y = 0.$$

$$\frac{\partial Z_{x}}{\partial x} + \frac{\partial Y_{z}}{\partial y} + \frac{\partial Z_{z}}{\partial z} + \rho Z = 0.$$

- 9. Discuss the case in which the stress component Z<sub>i</sub> is equal to —ER<sup>-1</sup>x, where R is a constant, and the remaining stress components vanish; and show that this case corresponds to the bending of a bar by terminal couples of moment EI/R.
- Prove that when a uniform beam of length l is supported at its ends, the position of equilibrium is given by

$$By = \frac{1}{2^{-1}} wx(l-x)(l^2 + x(l-x)),$$

and that if the ends are built in, this is replaced by  $By = \frac{1}{2} wx^2 (l-x)^2$ .

# MATHEMATICS III.—BOOKWORK PAPER. HONOURS.

Not more than FOUR questions to be answered.

- Write a short essay on the constructions which are possible by Euclid's Methods—referring particularly to the case of the regular polygons.
- 2. In the Hyperbolic System of Non-Euclidean Geometry, Euclid's Parallel Postulate is replaced by the assumption that through a point outside a given straight line two parallels can be drawn, which are asymptotic to the line, one towards the right and the other towards the left: and that, further, there are any number of lines through that point which do not intersect the given line. Describe some method by means of which it can be shown that the geometry built upon this assumption is perfectly consistent and can lead to no contradiction.
- Write a short essay on Algebra as a generalisation of Arithmetic, describing the gradual extension of the number system from the positive integers to the domain of the Real Numbers, and then to the domain of the Imaginary.

4. What is a transcendental number?

Show that the number e is a transcendental number, and give the outline of the argument by means of which it can be proved that the number  $\pi$  is also transcendental. What bearing has this result upon the problem of the squaring of the circle?

5. What is meant by the integral of f(z) along a path in the plane of the complex variable z? Show that under certain circumstances

$$\int f(z)dz$$

round a closed contour in the z plane, is zero.

By integrating

$$\int \frac{e^{iz}}{z} dz$$

round the contour formed of (i.) a semicircle whose centre is at the origin, and whose radius is very large; (ii.) a semicircle whose centre is also at the origin, and whose radius is very small; and (iii.) the portions of the real axis intercepted between the arcs of the semicircles, show that

$$\int_{0}^{\infty} \frac{\sin x}{x} dx = \frac{\pi}{2}.$$

6. By the transformation

$$w = f(z),$$

the points in the z plane are transformed to the w plane. Show that curves in the z plane are transformed into curves cutting at the same angle, and that an element of area in the z plane transforms into a similar element of area in the w plane.

Discuss the cases

$$w = z + a;$$

$$w = \frac{1}{z};$$

$$w = \frac{az + b}{cz + d}.$$

# PHILOSOPHY I.—LOGIC AND PSYCHOLOGY. HONOURS.

Select THREE questions from each section.

### SECTION A.

- 1. Illustrate the correspondence between the typical forms of judgment, and the progressive nature of knowledge.
- Analyse the nature of negative judgments, with special reference to the distinction between contrary and contradictory opposition.
- 3. Judgment is always the analysis and synthesis of elements in some one thing or ideal content. Explain and illustrate.
- 4. Illustrate the complexity of social causation, by reference to some event like the Newcastle coal strike.
- 5. Describe and illustrate the main methods of explanation made use of in the social sciences.
- 6. How does Mill classify fallacies? Give an illustration of each class from the social or political sphere.

### SECTION B.

- 7. "The perception of a solid object depends on processes which do not involve as their necessary condition the operation on the organ of vision of that solid object itself." Explain by reference to stereoscopic vision.
- 8. Describe the process of learning by experience, making it clear how objects acquire meaning.
- "It is largely through imitation that the results of the experience of one generation are transmitted to the next." Discuss, and show that the impulse to imitate is an affair of attentive consciousness.
- 10. "It is the function of ideational consciousness to connect in a continuous whole the detached data of sense perception occurring in the course of individual experience." Illusstrate the manner in which ideation fills up the gaps in the perceptual process
- State the conditions of Feeling-Tone (a) in ideal revival;
   (b) in ideational activity itself.
- 12. "The earliest communication could only take place between minds capable of a certain kind of mental process." In this connection, discuss the relation of language to conception.

13. "What is called sustained voluntary attention is a repetition of successive efforts which bring back the topic to the mind." Comment on this statement. What considerations follow from it, important for practice?

# PHILOSOPHY II. AND III.—METAPHYSIC. HONOURS.

An expository or critical discussion is required of FIVE of the following statements:-

- 1. To be free and to will are ultimately the same thing.
  - The self is an ideal construction.
  - 3. The Absolute cannot be a person.
- A teleological and a mechanical series cannot ultimately be parallel.
- Evolution is incompatible with the view that Reality consists
  of a plurality of ultimately independent finite individuals.
- 6. Cause must be and yet cannot be prior in time to effect.
- A perfect systematic whole can neither be an aggregate, nor a mechanical whole of parts, nor an organism.
- 8. In estimating the worth of the ontological proof, we must distinguish between the general principle implied in it, and the particular form in which it presents that principle.

# EDUCATION. HONOURS.

Attempt FOUR questions.

- 1. State and examine the value of the classification of school subjects suggested by Münsterberg.
- 2. Examine the present tendencies of the High School curriculum with special reference to the relative merits of a fixed and an elective course of study.
- 3. State what you know of the results of recent investigation of individual differences, and outline the method you would adopt in studying some specific mental quality. State the quality selected.
- 4. "The high repute of Rhetoric, and its important place in the curriculum, is perhaps to the modern reader the most striking feature of the school work of the first half of the 17th century." Discuss the reasons for this, and give some account of how the teaching was carried out.

### FACULTY OF ARTS.

- clxxxvi.
- Give some account of the causes which led to the inclusion of modern subjects in English education.
- 6. Give a careful account of the history of the introduction of any one modern subject into English Education.

# HISTORY I. HONOURS.

You are recommended to answer SEVEN questions, and no more.

- Write a short account of the character and motive of Hakluyt's, "Principal Voyages of the English Nation."
- 2. Write a critical account of the original sources of information for Drake's Voyage of Circumnavigation.
- 3. Write an account of Drake's Voyage of 1585-6.
- 4. "The Lord will put into Her Majesty and her people courage and boldness not to fear any invasion, but to seek God's enemies, and Her Majesty's where they may be found." Explain Drake's meaning.
- The true value of the great ship lay in its broadside fire."
   Explain and illustrate.
- 6. Trace the growth of the Spanish navy under Philip II.
- 7. "Spain entered upon the contest at a technical disadvantage that no height of chivalry or courage or devotion could countervail" Explain.
- 8. Describe the contemporary authorities for the Story of the Armada.
- "Her Majesty did all things by halves." Explain Raleigh's criticism.
- 10. What were the causes of the failure of attempts to colonise Virginia in the 16th century?
- 11. What were the chief arguments used, during the reign of Elizabeth, in favour of colonisation?

### HISTORY II. AND III. HONOURS.

You are recommended to answer SEVEN questions, and no more.

1. Discuss the influence of the Physical Geography of the country on early Canadian History.

- 2. Describe the characteristics of the Iroquois.
- 3. Discuss the influence of Commerce in the story of French colonisation in Canada.
- 4. Describe the part taken by the Jesuits in early Canadian History.
- Write an account of the character, the ideas, and the life of Bishop Laval.
- 6. Describe the Feudalism of Canada.
- 7. Why were the French colonists, compared with the English colonists, so few in number?
- 8. Count Frontenac has been described as "the most remarkable man who ever represented the Crown of France in the New World." Discuss his character, methods, and exploits.
- 9. Explain and illustrate the relations of the Governor and the Intendant in Canada
- Explain the interest and the importance of the exploits of La Salle.
- Discuss the part taken by the Colonies in the Seven Years' War.
- 12. "That Canada must be conquered when England made her effort was inevitable." Discuss.

# \* FACULTY OF LAW.

# INTERMEDIATE EXAMINATION FOR THE DEGREE OF LL.B.

### ROMAN LAW.

Candidates are not to attempt more than SEVEN questions, but these should include Nos. I., X, and XI.

- I. Translate, and comment BRIEFLY on, each of the following passages—
  - (1) Quodeumque igitur imperator per epistulam constituit vel cognoscens decrevit vel edicto praecepit, legem esse constat: haec sunt, quae constitutiones appellantur. (I.2.6.)
  - (2) Videamus itaque de his (personis) quae alieno juri subjectae sunt; nam si cognoverimus, quae istae personae sint, simul intellegemus, quae sui juris sunt. (I.8 pr.)
  - (3) Singulorum autem hominum multis modis res fiunt: quarundam enim rerum dominium nanciscimur jure naturali, quod, sicut diximus, appellatur jus gentium, quarundam jure civili. (II.1.11.)
  - (4) Recte quoque mandatum contractum, si, dum adhuc integra res sit, revocatum fuerit, evanescit. (III.26.9.). sciendum est mandatum, nisi gratuitum sit, in aliam formam negotii cadere. (III.26.13.)
  - (5) Atrox injuria aestimatur vel ex facto...vel ex loco ...vel ex persona....nonnumquam et locus vulneris atrocem injuriam facit. (IV.4.9.)
- II. Summarize the main stages in an action under the formulary system of procedure, and describe briefly the various parts of which the formula might consist.
- III. Explain the object and the modes of adoption under the earlier Roman law. What was the effect of adoption, in the time of Justinian, on the relation of a son to his natural father?

<sup>\*</sup> The time allowed for each paper is three hours, except where otherwise stated.

- IV. Discuss the maxim "omne quod inaedificatur solo, solo cedit." In what cases and upon what principles might compensation be obtained by an owner deprived of his property through the operation of this rule?
- V. . What were the main provisions of (a) the Senatusconsultum Trebellianum, and (b) the Senatusconsultum Pegasianum?
  - Explain the nature of the mischief which they were intended to remedy. How did Justinian combine the provisions of the two enactments?
- VI. (1) Distinguish carefully between the position of an heir and a legatee in Roman law. (2) How were the following persons able (if at all) to protect themselves from loss by reason of the fusion of the legal personalities of the heir and the deceased—(a) the heir himself; (b) the creditors of the heir; and (c) the creditors of the deceased?
- VII. (1) Enumerate and distinguish between the various kinds of partnership mentioned in the Institutes, and (2) compare the rules of Roman and English law with respect to contracts made by a partner with third parties.
- VIII. Examine and illustrate the doctrine of (1) Error, and (2) Mora in relation to the Roman contract of sale.
- 1X. How was the original scope of the Lex Aquilia extended in regard to (1) the persons who could bring the action; (2) the wrongful acts for which an action lay; and (3) the measure of damages?
- X. Discuss the following cases in the light of the Roman law as finally settled by Justinian—
  - (1) A's will contains the following legacies—(a) bequest to B of a slave belonging to C; (b) hequest to B of a slave whom the testator sold before his death; and (c) bequest to B of a sum of money owed him by the testator.
  - (2) A agrees to let B have the use of a team of oxen for two days either (a) for whatever sum may be fixed as fair and reasonable, or (b) in consideration of B promising to lend him a similar team next week.
  - (3) A, a freeman, incites B, a slave belonging to C, to commit a theft in the house of D. B thereupon carries off a silver bowl belonging to D, and also a gold ring which had

been lent to D by E. B is subsequently caught by D wearing the ring, and confesses that he gave the bowl to A, in whose possession it is found.

XI. Write a very short explanatory note on each of the following—(1) Quinquaginta decisiones; (2) Co-emptio fiduciae causa; (3) Existimatio; (4) Negative urban servifude; (5) Beneficium divisionis; (6) Depositum miserabile; (7) Acceptilatio; (8) Laesio enormis; (9) Condictio furtiva; and (10) Actio de pauperie.

#### CONSTITUTIONAL LAW I.

Candidates are not to attempt more than SEVEN questions, but these should include No. IV., and at least TWO questions in Section C.

#### SECTION A.

- I. Explain and illustrate, with reference to (1) the prerogative of the Crown, and (2) the relations between the House of Commons and the House of Lords, (a) the nature and aim of constitutional conventions, and (b) the character of the sanctions by which obedience to them is ultimately enforced.
- II. Discuss briefly (1) the logical and historical reasons, why the British Parliament has never succeeded in passing immutable laws; and (2) the extent to which the working of a constitution is affected by the rate at which the will of the political sovereign can make itself felt. Compare, in the latter respect, the constitutions of (a) the United States, and (b) the United Kingdom.
- III. What is the nature of (1) the right to personal freedom, and (2) the right to freedom of discussion, as understood in English law? State and illustrate briefly the legal methods by which the exercise (a) of the former right is secured, and (b) of the latter right is regulated.
- IV. With a short note on each of the following points:—(1)
  the rights of the Crown or its servants in dealing with
  an unlawful assembly; (2) the merits and defects of
  droit administratif; (3) the methods by which Parliamentary control over the collection and expenditure of
  the revenue of the United Kingdom is maintained; and
  (4) the cases in which a soldier acting in obedience to the
  order of his military superior may be criminally liable.

#### SECTION B.

- V. (1) Explain briefly—(a) the distinction between the Cabinet and the Ministry under the British system; and (b) the advantages of having a department of State administered by a political head and a staff of permanent officers.
  - (2) Describe shortly the different forms in which the acts of the Crown are officially signified.
- VI. Mention the more important provisions of the Act of Union between Great Britain and Ireland. Examine the present constitutional position of Ireland, in the matter of legislation, administration, and judicature.
- VII. (1) What was the nature of the jurisdiction exercised by the Court of Chancery in England prior to the Judicature Acts, 1873 and 1875? To what Courts did an appeal from its decisions lie? How far did those Acts effect a "fusion of law and equity?"
  - (2) By what means was an equitable jurisdiction conferred on the Supreme Court of New South Wales, and how is such jurisdiction now exercised?
- VIII. Write a short explanatory note on each of the following:

  —(1) the appropriate remedy in the United Kingdom where a subject has a cause of action against the Crown;

  (2) the limits within which a right of expatriation is recognized in English law; (3) the extent to which the House of Lords and the Privy Council respectively hold themselves bound by their own previous decisions; and (4) the importance of the prerogative of the Crown in relation to colonial government.

#### SECTION C.

- IX. Explain briefly—(1) the different senses in which the term common law is used; (2) the nature—according to legal theory, and in fact—of common law proper; and (3) the development of the law merchant and its incorporation in common law.
- X. (1) How would you determine, as a matter of construction, whether a statute passed by this State in 1910 (a) affected a contract made in Sydney in 1909; (b) applied to an offence committed in New Zealand in 1911; and (c) prevented the Supreme Court of New South Wales from granting a writ of prohibition?

- (2) In what respect does the decision in *The King v. Sutton*, (5 C.L.R. 789) qualify the rule that the Crown is not bound by a statute except by express words or necessary implication?
- (3) What provision is made (a) by the Interpretation Act, 1897, (N.S.W), with respect to the commencement of an Act; and (b) by the Acts Interpretation Act, 1901, (Federal) with respect to the headings of divisions of an Act?
- XI. Write a brief account of the various sources from which the law now in force in New South Wales is derived, giving an illustration of a rule or institution of law derived from each source, and pointing out how far the State Legislature can alter or repeal such rule or institution.

#### CONSTITUTIONAL LAW II.

Candidates are not to attempt more than Seven questions, but these must include at least three from each section.

#### SECTION A .- THE COMMONWEALTH.

- I. What provision is made by the Constitution with respect to—(1) the proportional representation of States in the House of Representatives; (2) the exclusive powers of the Parliament of the Commonwealth; (3) the rules as to voting in the Senate and the House of Representatives respectively; and (4) the alteration of the Constitution?
- II. Explain briefly (1) the doctrine of the immunity of instrumentalities, and (2) the doctrine of the implied reservation of State powers. Illustrate your answer by one of the principal cases on each of these matters.
- III. (1) To what extent, and subject to what express prohibitions, is legislative power with respect to trade and commerce conferred by the Constitution upon the Federal Parliament?
  - (2) How far is it competent to the Federal Parliament to forbid preferences or discriminations by a State in relation to its railways?
- IV. (1) Describe briefly the provisions contained in the Constitution, and the machinery created by subsequent legislation, for securing the due collection and expenditure of the revenues of the Commonwealth.

- (2) State what was decided in any two of the following cases:—(1) Holmes v. Angwin (4 C.L.R. 297); (2) Robtelmes v. Brenan (4 C.L.R. 395); (3) Vardon v. O'Loghlin (5 C.L.R. 201); (4) Potter v. Minahan (7 C.L.R. 277).
- V. (1) In what cases is the jurisdiction of the High Court exclusive of that of the Supreme Courts of the States?
  - (2) What provision is made by the Constitution or by Statute with respect to (a) a division of opinion on the part of the Justices of the High Court, (b) the trial on indictment of criminal offences, and (c) the removal of causes into the High Court?

### SECTION B .- NEW SOUTH WALES.

- VI. (1) State shortly, in relation to the Legislative Council— (a) the qualifications and disqualifications for membership, and (b) the sources from which authority to summon members to the Council is derived.
  - (2) Discuss briefly the conventions of the Constitution with respect to (a) the limits within which appointments to the Legislative Council may be made, and (b) the principles on which the Governor should grant or refuse a dissolution of the Legislative Assembly.
- VII. (1) What provision is made by the electoral system of New South Wales with respect to—(a) the constitution of the tribunal for determining disputed elections, and (b) the circumstances in which a second ballot is necessary?
  - (2) Write a short note on parliamentary privilege in New South Wales, distinguishing between (a) the corporate privileges of either House, and (b) the personal privileges of individual members.
- VIII Explain shortly, in relation to the State legislature—(1) the modes of communication between the Legislative Assembly and the Legislative Council; (2) the respective powers of the two Houses in regard to money bills; (3) the procedure followed on the re-assembly of Parliament after a general election; and (4) the steps by which a private bill develops into law.

IX. (1) Describe briefly (a) the organization of the Supreme Court for the exercise of civil jurisdiction at common law; and (b) the nature and uses of the high prerogative writs of Mandamus and Que warranto.

(2) When will an appeal lie from the Supreme Court to the Crown in Council (a) as of right, and (b) as of grace?

X. State very briefly the constitution and jurisdiction of (!) the Vice-Admiralty Court; (2) the Land Boards; (3) the Small Debts Courts; and (4) the Wages Boards.

#### JURISPRUDENCE.

Candidates are not to attempt more than SEVEN questions, but these should include Nos. II., V., and VIII.

- I. "The term Sovereignty is used in two senses, Legal Supremacy and Practical Mastery." (Bryce, Studies in History and Jurisprudence, Vol. II., p. 69.) Explain and discuss the nature and relations of these two types of sovereignty.
- II. Discuss and criticize Austin's account of Positive Law, with special reference to—(1) its nature; (2) its sanctions; and (3) the methods by which it comes into existence.
- III. Explain and illustrate from the study of early institutions—(1) the importance of the family in the history of Law; and (2) the agencies by which in progressive communities Law is brought into harmony with the needs of society.
- IV. Analyze the essential meaning of the following terms:—
  (1) right; (2) obligation; (3) fact; and (4) person.
- V. "The possible modes of classifying rights are almost infinite, but four only are of first-rate importance." (Holland, p. 120.) Enumerate, and distinguish briefly between, the four modes referred to. In what respects do you consider Holland's classification preferable to Austin's?
- VI. Within what limits (if at all) and upon what principles would you regard—(1) insanity; (2) infancy; (3) ignorance of law; and (4) duress- as grounds of non-liability in Criminal Law?
- VII. Distinguish carefully between—(1) a contract and a conveyance; (2) a contract and a trust; (3) prescription and limitation of actions; (4) a servitude and a license; and (5) a corporation aggregate and a corporation sole.

VIII. Write a short explanatory note on each of the following:

—(1) the distinction between Historical Jurisprudence and Legal History; (2) the doctrine of Nationality; (3) the extent to which Case Law can be regarded as a science; (4) the meanings of the terms (a) source of law, and (b) property; and (5) the nature of Administrative Law.

# THE ELEMENTS OF POLITICS. Two AND A HALF Hours.

Candidates are not to attempt more than SIX questions.

- I. Explain briefly the nature of Political Science, indicating (a) its main heads, (b) its methods, and (c) its value to the lawyer and the citizen respectively.
- II. State and illustrate, briefly, Bentham's Theory of Utility in relation to politics and legislation. What estimate have you formed of its value in this connection?
- III. What arguments may be adduced for and against—(1) a graduated land tax; (2) the adoption by this State of a system of leasehold, as against freehold, tenures; and (3) legislation conferring upon lessees, who hold from private owners under long leases, an option of compulsorily acquiring the freehold?
- IV. State shortly the general nature of the more important restrictions on freedom of testamentary disposition, which have been imposed or suggested in modern states, and discuss their expediency.
- V. What do you consider to be the distinguishing characteristics of undertakings which tend to become monopolies? Discuss briefly (a) the methods by which an attempt may be made to counteract their evils; and (b) the arguments for and against government or public management.
- VI. State the general purport of the legislation now in force in this State with respect to—(1) the employment of women and young persons in factories; (2) the relief of persons injured or bereaved by mining accidents; (3) the early closing of shops and holidays therein; and (4) the treatment of juvenile offenders.
- VII. (1) By what tests, according to Bentham, should the goodness or badness of different forms of punishment be determined?

- (2) Discuss briefly (a) the more important matters to be considered in inflicting punishment; (b) the extent to which the various "theories of punishment" may be combined in practice; and (c) the advantages and difficulties of a scheme for the employment of prisoners on afforestation.
- VIII. Summarize briefly (1) the distinctive features in which patriarchal society differed from modern or political society; and (2) the more important stages in the evolution of property in land.
- IX. Write a short note on the meanings, in the domain of politics, of the following terms:—(1) The State; (2)
  Local Government; (3) The Betterment Principle; (4)
  Liberty; (5) Democracy; and (6) Socialism.

#### PUBLIC INTERNATIONAL LAW.

Candidates are not to attempt more than SEVEN questions, but these must include Nos. VI. and X.

- (1) Give a brief account of the sources of modern international law in the sense of the modes or agencies by which its rules are formulated.
  - (2) What importance do the Courts of Great Britain and the United States attach, in this connection, to (a) textwriters of authority, and (b) treaties? Illustrate by reference to decided cases.
- II. (1) Describe shortly the organization and functions of the various tribunals for the exercise of international jurisdiction which were either provided for or proposed by the Hague Conference, 1907.
  - (2) Do you consider that a system of compulsory arbitration is capable of being put into practical operation? Give reasons for your answer.
- III. (1) How far is the principle of prescription applicable as between States (a) in relation to pecuniary claims, and (b) in relation to the acquisition of territory?
  - (2) Discuss shortly the importance of (a) the Final Act of the Congress of Vienna, 1815; (b) the General Act of the Berlin Conference, 1885; and (c) the Treaty of London, 1871.

IV. "The principle that jurisdiction and law are primarily territorial has both a positive and negative aspect... but the principle is subject to a number of exceptions, both on its positive and negative side."

(1) Explain this statement, mentioning the more important of the exceptions referred to.

(2) Discuss more particularly the application of the principle in criminal cases, enumerating the chief instances in which extra-territorial jurisdiction is exercisable under English law. How do you distinguish Macleod v. A.G. for N.S.W. ([1891] A.C. 455) from Earl Russell's Case (1901] A.C. 446)?

V. (1) Contrast briefly the functions, privileges, and immunities of (a) Ambassadors, and (b) Consuls.

(2) Discuss shortly, in relation to treaties, (a) the modern practice with respect to ratification; (b) the circumstances in which a treaty may be annulled by one of the contracting parties; and (c) the rules as to conflict of treaties

VI. Discuss the following cases, stating the principles involved:-

(1) A newspaper issued in the Commonwealth of Australia publishes an article containing a gross attack on the

private life of the ruler of a friendly State.

(2) A brawl occurs amongst the crew of a French merchantman, lying at anchor in Port Jackson, in the course of which A (a member of the crew) is mortally wounded, and B (another member of the crew) and C (a visitor from the city) are slightly injured.

(3) In the course of a war to which Great Britain is a party, D, a British subject, residing in an East Indian island belonging to the enemy, commences an action against E in the Supreme Court of New South Wales to

recover money lent before the outbreak of war.

(4) In a war in which Great Britain is neutral, a belligerent cruiser escorting prize of war, asks leave to enter Port Jackson to refit.

VII. (1) State briefly the main provisions of the Declaration of London, 1909, with respect to (a) the determination of enemy character, (b) blockade, and (c) unneutral service.

(2) In what respects do the rules of the Declaration relating to blockade differ from those hitherto followed by Great Britain?

- VIII. What provision is now made by international convention with respect to—(1) levées en masse; (2) the treatment by a belligerent of the population of occupied enemy territory; (3) the rights and obligations of a neutral State in regard to belligerent troops and wounded received into the neutral territory; (4) the use by belligerents of wireless telegraphy stations on neutral territory; and (5) restrictions on the right of seizure and capture in maritime war?
- IX. (1) Describe shortly the circumstances which led to the Geneva Arbitration, 1871-1872.
  - (2) State the substance of the rules of neutral duty adopted by the Treaty of Washington, 1871. In what respects do the corresponding rules of the Hague Convention, 1907, differ from those of the Treaty?
- X. Write a short note on each of the following:—(1) Retorsion; (2) the Suez Canal Convention, 1888; the restrictions on the use of balloons for belligerent purposes; (4) the Rule of the War of 1756; (5) the Right of Visit and Search; and (6) the case of the Costa Rica Packet.

# FINAL EXAMINATION FOR THE DEGREE OF LL.B.

### THE LAW OF CONTRACT AND MERCANTILE LAW.

Candidates are not to attempt more than EIGHT questions, but these should include Nos. II. and VI.

- I. To what extent is the conception of quasi-contract recognised by English law? Give examples.
- II. A subdivided a block of land and put it in the hands of M for sale, with a plan upon which were printed the price of each allotment and the conditions upon which the sales were to be made. One of the conditions was that every purchaser should execute a written contract embodying the conditions. B inspected the plan with a view to buying an allotment and was told by M that no sale would be made except on the printed conditions. B then made a verbal offer to M of £100 for allotment No. 5 marked £120 on the plan. promised to lay the offer before "the owner," without naming him, and subsequently wrote to B-"the owner has agreed to accept your offer of £100 for allotment No. 5 on the plan, subject to the printed conditions thereon." He added that the owner in reducing the price was influenced by the fact that B intended to build on the land at once. There was nothing in the conditions requiring purchasers to build. B replied that he had not definitely decided to build and that his offer must be considered withdrawn unless the question of building could be left open. M replied that the acceptance of B's offer was unconditional and that he was free to build or not as he chose. A's solicitor then sent B a formal agreement for signature. B refused to sign or proceed with the purchase. In an action by A for breach of contract B raised the defences (1) that there was no concluded agreement on the correspondence, (2) that the agreement was not binding until it was embodied in the formal contract required by the conditions, and (3) that the use of the term "the owner" instead of A's name prevented the document from constituting a sufficient memorandum within the Statute of Frauds. Discuss these questions of law.

III. A has a cargo of rice to arrive by the ss. Indus and another by the ss. India. He instructs B to sell the Indus rice. B misreads his instructions and makes a contract with C in A's name for the sale of the India rice. Discuss the rights and liabilities of A, B and C (1) where the market has risen on the arrival of the India, and A refuses to deliver to C; and (2) where the market has fallen, and A tenders the India cargo to C, who refuses to accept it.

IV. (1) In what circumstances is a party to a contract excused when performance has become impossible after the

making of the contract?

(2) Discuss the following case:—In October A engages B at a salary of £500 to manage his business, the engagement to commence on January 1st. On November 8th A writes to B informing him that he has made other arrangements and will not be able to employ him. C then offers B an engagement of a similar kind at the same salary, which B refuses. On January 1st B notifies A that he is prepared to enter upon his duties; A-replies referring him to his previous letter. B then applies to C for employment, and C engages him from April 1st. B sues A claiming damages amounting to three months' salary. On the trial A contends that B is entitled only to nominal damages.

V. (1) What exceptions are there to the rule that no damages can be recovered for innocent misrepresentation?

(2) What are the rights ex contractu of a person who has been induced by fraud to enter into a contract?

VI. Discuss the following cases, showing the rights of the parties, and stating the legal principles involved:—

(1) A agrees to build a house for B for £1000. He completes everything except the roof, and is then obliged to abandon the contract for want of funds. B thereupon employs C at a cost of £200 to put on the roof. A sues B, claiming £800 for work and labour done.

(2) The promoters of a company before its formation contract with a firm of architects for plans for a warehouse. The company on its formation ratifies the contract. Subsequently the company goes into liquidation without paying the architects' fees, and they sue the

promoters personally.

(3) A writes to a broker instructing him to buy 1000 shares in a mining company. Before posting the letter he changes his mind, and leaves the letter stamped and addressed on his desk. B, a friend, without authority from A, picks up the letter and posts it. The broker buys the shares, which next day become valueless. A refuses to accept or pay for the shares.

VII. (1) What is meant by the "holder in due course" of a

`bill of exchange? What are his rights?

(2) Discuss the following case:—A owes B £8. B presents to him for signature a promissory note for that amount, and after it is signed alters the amount to £80. B then indorses the note for value to C.

VIII. (1) Explain and illustrate briefly the doctrine of subro-

gation in relation to a contract of insurance.

(2) A steamer goes aground on a sand bar. Part of the cargo, owned by A, is put ashore in lighters to assure its safety, the ship at that time not being in danger. Afterwards a storm arises, and in order to save the ship from becoming a total wreck B's cargo is jettisoned; and he suffers damage to the extent of £1000. The ship is then floated off and safely berthed.

IX. (1) What are the rights of a surety against (a) the principal debtor, (b) the creditor, and (c) co-sureties?

(2) Discuss the following case:—A guarantees the bank account of B, a squatter. When B's overdraft has reached £5000 the Bank calls on B to pay it; but at B's request agrees to allow the matter to stand over till B has disposed of his wool clip. This realises £3000, which B pays into his account. The Bank then makes demand for the balance, and default being made calls upon A to pay the amount.

X. State briefly the more important provisions of the Money Lenders and Infants Loans Act, 1905, with respect to

contracts entered into by an infant.

# THE LAW OF PROPERTY AND THE PRINCIPLES OF CONVEYANCING.

Candidates are not to attempt more than EIGHT questions, but these should include Nos. II., III., IV., and IX.

I. (1) Explain briefly, in relation to settled estates—(a) the way in which the rent under a coal lease should be dealt with; and (b) the purposes to which the proceeds of a sale of the fee simple may be applied.

(2) A, tenant for life of Blackacre, granted a lease for twenty years, at a rent payable quarterly, and died between two rent days. What are the rights of his executor with respect to accruing rent—(a) where A granted the lease under an express power, and (b) where A had no power of leasing?

II. Discuss the effect of the following limitations and disposi-

tions, stating the principles involved :--

(1) Devise of Blackacre—"to A and his children." At the date of the will A had two children. A survived, but A's

children predeceased, the testator.

(2) Gift of Whiteacre by deed executed in 1890—" to J. S. and his heirs to the use of A for life, and after his death to the use of the first son of A who shall attain the age of 25 years." A died in 1911, leaving a son aged 26.

(3) Devise of Greenacre—" to A for life, and after his death to the first son of A who shall attain the age of 21 years." The testator died in 1899. A died in 1911,

leaving a son aged 20.

(4) Gift of land (a) by deed, and (b) by will—"unto and to the use of A, and in the event of A's death without issue, then unto and to the use of B."

- III. Discuss shortly the effect of registration in the appropriate manner of—(1) a Sheriff's deed of bargain and sale of land under common law title, where the judgment debtor had previously disposed of his interest by an unregistered conveyance; (2) a memorandum of transfer, in consideration of natural love and affection, of land under the Real Property Act, 1900, (a) where the transferor was in embarrassed circumstances, and (b) where the transferor wishes to transfer to a subsequent purchaser; (3) an acknowledgment by a mortgage of land under common law title that the mortgage has been satisfied; (4) a lien on crops, where the lienor is a leaseholder; and (5) a mortgage of sheep, where the mortgagor subsequently becomes bankrupt.
- IV. (1) What express exceptions are there to the provision in the Real Property Act, 1900, that the estate of the registered proprietor is paramount? Mention also and give an illustration of two types of charges or interests which, notwithstanding the above provision, may affect land under the Act.

- (2) Advise B and D in the following cases, stating the principles involved:—
- (a) A brought Blackacre under the Act. Blackacre was accurately described in A's application, and in the certificate of title issued to him, but in fact Blackacre belonged to B, who had a good common law title.
- (b) In 1909 C, the registered proprietor under the Act, granted an unregistered lease for five years of Greenacre to D, and in 1911 sold Greenacre to E, representing that D was only a weekly tenant. E was subsequently informed by D that the latter held under a lease for five years, but after an interview with C, who adhered to his previous representation, E paid the purchase money and lodged the memorandum of transfer from B for registration.
- V. What provision is made by the Real Property Act, 1900, with respect to—(1) the conditions under which a person who has contracted to purchase land may apply to bring it under the Act; (2) the procedure for obtaining the removal of a caveat against an original application, where the applicant decides to state a case; (3) the protection of a trust affecting land under the Act; (4) the effect of a transfer of mortgage; (5) the implied powers of a lessor; and (6) the steps which should be taken by a judgment creditor in order to bind the land of his judgment debtor?
- VI. (1) Discuss, in relation to a sale of land under common law title, the effect of (a) a condition—"No error or misdescription of the property shall annul the sale, but compensation shall be made or given as the case may require"; and (b) a condition—"If the vendor shall be unable or unwilling to remove any objection which the purchaser shall be entitled to make, the vendor shall be at liberty to rescind the contract."
  - (2) Explain, with respect to personal property, (a) the circumstances in which a purchaser is entitled to an abstract of title; and (b) the method by which an owner may assign to himself and another.
- VII. (1) How would you determine—(a) whether an arrangement for the occupation of land is a lease or an agreement for a lease; (b) what covenants in a lease are

- binding on an assignee; and (c) whether a proposed mortgage of a leasehold property should be by assignment or underlease?
- (2) Discuss shortly the operation of the Statute of Limitations with respect to land in New South Wales under common law title—(a) where the claimant was in England at the time when the intruder went into possession; and (b) where the land was acquired from a trustee.
- VIII. Discuss the following cases, stating the principles involved:—
  - (1) A, who was domiciled in New South Wales, died in 1910 intestate, leaving (a) a fixed deposit in a Queensland bank, and (b) lands in New South Wales. He left him surviving—(i.) a mother; (ii.) a brother; (iii.) a grandson, the child of a deceased daughter; and (iv.) two granddaughters, the children of a deceased son.
  - (2) B executed a Bill of Sale over his furniture (worth £100) in favour of C, and subsequently another Bill of Sale over the same furniture in favour of D. C's Bill of Sale has not been registered. D duly registered his Bill of Sale in the Supreme Court. E has recently issued execution against the furniture on a judgment for £10 obtained against B in a Small Debts Court.
  - (3) F insured buildings in Sydney, and afterwards sold them to G under a contract in which F agreed that the policy should be kept alive for the benefit of G until the conveyance of the buildings should be executed. After the purchase money had been paid, but before conveyance, the buildings were destroyed by fire.
- IX. Write a short note on each of the following:—(1) the method by which a married woman, married in 1887, should convey land devised to her in 1888; (2) the effect of a deed of release under the Conveyancing and Law of Property Act, 1898; (3) the form of bequest by which (a) a special, and (b) a general power of appointment may be exercised; (4) the extent to which the equitable doctrine of vendor's lien applies to personalty; (5) the meaning of the statement—"Every right to claim in rem does not give rise to a maritime lien"; (6) the more important grounds on which the grant of a

patent under the Patents Act 1903-1909 (Federal) may be opposed; (7) the remedies, if any, of the owner of a copyright under the Copyright Act 1905 with respect to infringements committed before registration; and (8) the right, if any, of a person who has sold the goodwill of a business—(a) to commence a similar business, and (b) to solicit his former customers.

#### LAW OF TORTS AND CRIMES.

Candidates are not to attempt more than EIGHT questions, but these should include Nos. IV. and VII.

#### SECTION I .- TORTS.

I. (1) Explain briefly the nature of (a) a public, and (b) a private nuisance.

(2) Advise A as to the proceedings, if any, which may be taken against B in the following cases, stating the principles involved:—

(a) B unlawfully begins to dig a trench across a street

along which A is in the habit of driving.

(b) B moors a punt on a river in such a way that customers are unable to enter A's hotel.

II. (1) In what circumstances may an action ex delicto be brought by a purchaser of goods in respect of untrue statements made by the seller in the course of the negotiations between them?

(2) Discuss the following case, stating the principles involved:—

The promoters of a company issued a prospectus containing statements which they knew to be untrue. A and B received copies of the prospectus. A applied for and was allotted 200 shares, of which he sold 100 to B. Subsequently A and B bring separate actions against the promoters, claiming damages in respect of the untrue statements in the prospectus.

III. (1) What is the nature and extent of the duty imposed by law on occupants with respect to the safe condition of buildings?

(2) A tramway company, using electric power under statutory authority, caused electric disturbances in the wires of a telephone company and so interfered with the transmission of messages.

Advise the telephone company.

IV. Discuss the following cases, stating the rights and liabilities of the parties and the principles involved:—

 A municipal council entered into a contract with A to construct a sewer. In consequence of A's negligence in not shoring up gas mains under which the sewer passed, an escape of gas took place and caused an explosion,

seriously injuring B's house.

(2) A municipal council entered into a contract with C, under which he was to supply a driver and horse for a watering cart belonging to the council, and the council's inspector was to point out to the driver the streets which were to be watered from time to time. Owing to the driver's negligence the cart collided with D's carriage, seriously injuring D.

(3) At the annual meeting of a trading company E, a member, charged F, the manager, with misappropriating the company's funds. G, a newspaper proprietor, published a fair and accurate account of the meeting, including E's charge against F.

(4) H, a subscriber to a trade protection society, asked for information with respect to the reputation and financial standing of J, who wished to obtain credit from H. The society supplied inaccurate information to H, who thereupon refused J credit.

V. Write a short explanatory note on each of the following, giving illustrations from decided cases:—(1) Res ipsa loquitur; (2) exemplary damages; (3) "a man is presumed to intend the natural consequences of his acts"; and (4) the defence of common employment.

## SECTION II .- CRIMES.

VI. (1) Distinguish between larceny by a trick and obtaining

goods by false pretences.

(2) Discuss shortly, in relation to a prosecution for larceny, the extent, if any, to which (i.) an intention to return an equivalent amount of money, and (ii.) a claim of right, may be a defence.

- VII. Discuss the following cases, stating the principles involved:—
  - A shot at B's racehorse, which was galloping on a training track, intending to kill it. He missed the horse, but killed the jockey by whom it was being ridden.

- (2) C, a solicitor, was instructed by D to draw a will, leaving all his property to D's wife. C drew a will leaving the property to D's wife for life, and after her death to C's son. D, who was a marksman, executed the will without being aware that it did not carry out his instructions.
- (3) Bushrangers, who had captured E and F, threatened to murder E unless he gave them £1000 before noon next day, and allowed F to go to E's father in order to obtain the money. Freturned in time, and handed the money to the bushrangers, who thereupon rode away, leaving E and F at liberty.

(4) In 1910 G, whose wife was alive, went through a ceremony of marriage with H in New Zealand, and in 1911 was prosecuted in Sydney on a charge of bigamy. At the trial J gave false evidence. J is now charged

with perjury.

- VIII. What provision is made by the Crimes Act, 1900, with respect to:—(1) the trial of (a) an accessory after the fact to a felony, and (b) an abettor in a misdemeanour;
  - (2) the abduction of a girl under the age of 16 years; (3) the sequestration of an offender's property; and (4)
  - the support of a wife, whose husband has been convicted of an aggravated assault upon her?
- IX. Explain briefly (1) the extent to which a wife who assists her husband in the commission of a crime is excused;
  - (2) what is necessary to constitute a criminal attempt
  - (3) the nature of constructive breaking with respect. to burglary; and (4) the circumstances in which a constable may arrest without warrant.

# THE RULES OF LEGAL INTERPRETATION. ONE HOUR.

Candidates are not to attempt more than THREE questions.

- I. "No judge objects more than I do to referring to authorities merely for the purpose of ascertaining the construction of a document."—Aspden v. Seddon, L.R., 10 Ch. 394, at 397, Jessel, M.R.
  - Discuss this statement, pointing out what you consider to be (1) the real question in a problem of interpretation, and (2) the purposes for which decisions in previous cases may be usefully referred to.

- II. Explain and illustrate, briefly (1) the sense in which the object of interpretation is to ascertain the meaning of the parties, and (2) the more important rules with respect to the interpretation of (a) general words, (b) technical words, and (c) the same words used in different parts of the same instrument.
- III. (1) How far is the Court entitled, in construing a contract, to look at (a) the original draft, (b) facts existing at the date of the contract, and (c) subsequent acts of the parties?
  - (2) Discuss shortly the effect of recitals upon the construction of the operative words (a) in a conveyance, and (b) in a release.
- IV. State shortly, in relation to the interpretation of statutes—
  (1) the extent, if any, to which resort may be had to (a) the preamble, (b) marginal notes, (c) statutes in parimateria, and (d) pre-existing law which has been dealt with by a codifying statute; and (2) the general rules (a) as to retrospective operation, and (b) as to taxing Acts.
- V. (1) What general principles would you apply in construing a clause in a will, (a) where a suggested construction would involve partial intestacy, and (b) where it would involve an inconsistency with an earlier clause?
  - (2) Write a short note on each of the following:—(a) the distinction between a rule of law and a rule of construction; (b) "Lord Wensleydale's Golden Rule"; and (e) the provisions of (i.) the Acts Interpretation Act 1901 (Federal) with respect to the effect of the repeal of an Act, and (ii.) the Interpretation Act, 1897 (N.S.W.), with respect to the computation of distance and reckoning of time.

### BANKRUPTCY, PROBATE AND DIVORCE.

Candidates are not to attempt more than EIGHT questions, but these should include three questions in Section I., two questions in Section III., and two questions in Section III.

### SECTION I .- BANKRUPTCY.

I. (1) What do you understand by an available act of bank-ruptcy? Mention, and briefly explain the nature of, any three acts of bankruptcy.

- (2) Discuss shortly, giving reasons, whether A may be made bankrupt—(a) where he has issued a circular to his creditors, stating that he is unable to meet his engagements as they fall due, and calling a meeting to consider a statement of his position; and (b) where a bankruptcy notice has been issued upon a judgment against him for the costs of an action in which he was nonsuited.
- II. How far and in what circumstances may a sequestration order affect—(a) an action at law previously commenced by the bankrupt; (b) the rights of a secured creditor; (c) the rights of a landlord in respect of arrears of rent; (d) the goods of a third party in the possession of the bankrupt; and (e) the payment of an instalment, after notice of an available act of bankruptcy, by a purchaser of land who bought and paid a deposit without notice of such act?
- III. (i.) Explain briefly the nature and effect of—(a) a certificate of discharge, and (b) a release of a bankrupt's estate.
  - (2) Discuss shortly the circumstances, if any—(a) in which a valid security may be given by an uncertificated bankrupt over a policy of life insurance effected by him after the sequestration of his estate; and (b) in which a cesturique trust may bring a suit, after the termination of his trustee's bankruptcy, for a breach of trust committed before such bankruptcy.
- 1V. What provision is made by the Bankruptcy Act, 1898, with respect to—(1) antedating the commencement of a bankruptcy; (2) the conditions under which a creditor may present a petition against a debtor who has made an assignment to a trustee for the benefit of his creditors generally; and (3) the circumstances in which an Official Assignee may disclaim a lease comprised in a bankrupt's estate, and the extent to which such disclaimer may affect the position of an under-lessee?

### SECTION II.—PROBATE.

- V. Discuss the following cases, stating the principles involved:
  - (1) A, who died in 1910 intestate, had contracted to sell Blackacre to B. Shortly after A's death and before the

- contract was completed, C, the administrator of A's estate died leaving a will by which he appointed D his executor. In 1911 probate of C's will was granted to D, and letters of administration de bonis non of A's estate were granted to E.
- To whom should B pay the purchase money, and from whom should he obtain a conveyance?
- (2) F died in 1910, leaving a will, dated 1905, whereby he appointed G his executor, and directed him to distribute all F's property "in accordance with any written directions concerning the same which may be found amongst my papers, which directions are to be regarded as part of my will." At F's death "written directions," dated 1909, for distributing his property between certain charities were found amongst his papers. F's sole next of kin is H. G has applied for probate of the will together with the written directions. Advise H.
- VI. What provision is made—(1) by the Wills Probate and Administration Act, 1898, with respect to (a) the protection of an executor, who is distributing assets, against liability under a lease comprised in the testator's estate; and (b) the circumstances in which the Court may allow commission to an administrator; (2) by the Administration Amending Act, 1906, with respect to the expenditure in the maintenance and education of an infant of his share under an intestacy; and (3) by the Rules of Court, with respect to the defences which may be pleaded in a suit for probate without the leave of the Court?
- VII. Explain briefly (1) the grounds on which a surety to an administration bond may be relieved from his obligations; (2) the effect of a grant of letters of administration in respect of the estate of a living person erroneously believed to be dead; (3) the effect, upon payments made by or to an executor, of revocation of probate; (4) the presumption which arises where a will traced to the testator's custody is not forthcoming at his death; and (5) the operation of a will made by a soldier who had not attained the age of 21 years.

#### SECTION III.—DIVORCE.

VIII. Explain, in relation to the grounds on which a wife may petition for dissolution of marriage, (1) the importance

- of domicil; (2) the nature of constructive desertion; and (3) the meanings of (a) habitual drunkard and (b) cruelty.
- IX. (1) Distinguish between (a) connivance and collusion; and (b) the functions of the Court and jury respectively in regard to (i.) the defence of connivance, and (ii.) the defence that the petitioner has been guilty of such wilful neglect as has conduced to the adultery.
  - (2) Discuss the following case, stating the principles involved:—
  - A, a husband, petitions for dissolution of his marriage with B, on the ground that she has during three years and upwards been an habitual drunkard and habitually neglected her domestic duties. Many years ago A committed an isolated act of adultery, but this was condoned by B, and followed by cohabitation and the birth of children.
- X. Write a short note on each of the following (1) the distinction between void and voidable marriages; (2) the powers of the Court with respect to the custody and maintenance of children; (3) intervention by the Crown Solicitor; (4) the extent to which the answer to a petition should be verified; (5) the cases in which a wife may obtain relief against her husband in the suit in which she is respondent; and (6) the provisions of the Matrimonial Causes Act, 1899, with respect to the recovery and application of damages.

### EQUITY AND COMPANY LAW.

Candidates are not to attempt more than seven questions, but these should include Nos.  $IV.,\ V.$  and VI. or VII.

- I. (1) Explain briefly the maxims—(a) "Equality is equity," and (b) "He who seeks equity must do equity."
  - (2) Discuss the following cases, stating the principles involved:—
  - (a) Blackacre was mortgaged to A and B as joint tenants to secure £1000, advanced by them in equal shares. On A's death, B claims to be solely entitled to the security.

- (b) C, who was married in 1890, was entitled at the date of her marriage to a reversionary interest, expectant on the death of D, in a sum of £1000 vested in the trustees of E's will. D died in 1910. C's husband claims the £1000 from the trustees.
- II. (1) What exceptions are there to the rule that a trust of land must be in writing?
  - (2) Give an illustration only of—(a) an implied trust;
    (b) a constructive trust; (c) a resulting trust; (d) an executed trust; and (e) a mandate (as distinguished from an equitable assignment).
- III. (1) In what cases may an express trustee (a) receive an advantage, and (b) be entitled to recoupment for expenditure, in respect of the trust property?
  - (2) Discuss briefly (a) the jurisdiction of the Equity Court to sanction a departure from the strict terms of a trust; and (b) the rule in Howe v. Lord Dartmouth.
- IV. Discuss the following cases, stating the principles involved:—
  - (1) During an illness and shortly before his death A handed to B—(a) A's Savings Bank Book, (b) a promissory note made by C in favour of A or order, but not endorsed by A, and (c) a cheque drawn by A in favour of B or bearer; and said to B—"If I do not recover, these are yours."
  - (2) In 1902 A let Blackacre to B for 10 years with an option of purchase at £2500. By his will made in 1907, A, who died in 1910, devised his real estate to C and his personal estate to D. In 1911 B exercised his option. C and D both claim the purchase money.
  - (3) By his will A, who was seised in fee tail of Blackacre and in fee simple of Whiteacre, and had three daughters, B, C, and D, and no other children, devised (a) Blackacre to B, and (b) Whiteacre to C and D. C and D claim a share in Blackacre.
  - (4) A, B, C, and D jointly and severally guaranteed E's overdraft, which was also secured by a mortgage of E's station, with the X Bank. During the currency of the guarantee A died, and B became bankrupt. Subsequently

the Bank claimed and obtained payment from C of the whole amount due on the overdraft. C wishes to be advised as to his rights (a) against A's estate; and (b) with respect to the mortgage.

(5) A orally agreed to sell a leasehold farm, with a term of eight years still current, to B, who thereupon paid a deposit and went into possession. Shortly afterwards A refused to assign the lease, and alleged that the arrange-

ment was for a sub-lease from year to year.

(6) In 1907 A, the lessee of a hotel under a lease expiring in 1915, mortgaged it to B and Co., brewers, to secure £1000 repayable on the 6th March, 1911, and covenanted in the mortgage that during the term of the lease he would not sell any beer in the hotel except such as should be purchased from B and Co. On the 6th March, 1911, A tendered B and Co. the amount due under the mortgage, and demanded its discharge together with a release from the covenant.

V. (1) State shortly the appropriate procedure, and the nature of the evidence required, for obtaining:—(a) an interlocutory injunction; (b) an order allowing maintenance for an infant; (c) authority to sell a settled estate, where the tenant for life is an infant; and (d) leave to raise money for the erection of a new building on trust property.

(2) Write a short explanatory note on:—(a) substituted service; (b) decree in default of pleading; (c) appeal from Master's certificate; and (d) notice of decree.

- VI. (1) In what respects does a limited company under the Companies Act, 1899, differ from a partnership?
  - (2) Explain briefly—(a) the nature of a floating security; (b) the extent to which a company may be estopped by issuing shares purporting to be fully paid up; and (c) the effect of registration in New South Wales of a foreign company.
- VII. What steps should be taken by a limited company incorporated under the Companies' Act, 1899, in order—(a) to increase its capital; (b) to wind up voluntarily; (c) to obtain power to engage in a business beyond the scope of its memorandum of association; and (d) to sell its undertaking for shares?

VIII. Write a short explanatory note on each of the following:

—(1) Marshalling as between creditors; (2) the extent to which an executor's powers are affected by a decree for general administration; (3) the chief points of difference between specific and demonstrative legacies; and (4) the circumstances under which the right of a cestui que trust to follow trust assets may be defeated.

#### THE LAW OF PROCEDURE.

Candidates are not to attempt more than TEN questions.

- I. (1) Advise the plaintiff as to the steps to be taken by him—(a) where the defendant does not appear to a writ not specially indorsed: (b) where one only of two defendants appears to a specially indorsed writ; and (c) where the defendant, without leave of a Judge, pleads several pleas to the same count of the declaration.
  - (2) What course is open to the defendant where the plaintiff delays setting a case down for trial after issue joined?
- II. Discuss the following cases:—(1) A obtains a verdict against B in an action for assault. Before judgment is signed B dies.

(2) A obtains a verdict against B for a farthing in an action for slander. A applies for a certificate for costs.

- (3) A obtains a verdict against B in an action of deceit. B moves to arrest judgment on the ground that the declaration does not allege that he knew of the falsity of the representation charged. A contends that B's knowledge was in fact proved at the trial.
- III. (1) In what circumstances and how may a discovery order be obtained?
  - (2) What is the effect of an omission to give notice to produce a document?
- IV. Write a short explanatory note on each of the following:—

  (a) change of venue, (b) execution in an action of detinue,
  (c) garnishee order, (d) verifying pleas.
- V. What is mandamus? Under what conditions can it be obtained?
- VI. A obtains a judgment against B. B has on his premises £50 in cash, £100 in bank-notes, a promissory-note not yet due made by C in B's favour, and scrip for shares in

the Sydney Steamship Co, Ltd. B's trustee, M, has in his hands trust money to which B is entitled. Advise A as to his rights and remedies with respect to each of these classes of property.

- VII. (1) What is the scope of the jurisdiction of the District Courts?
  - (2) A sues B in the Supreme Court for £500 for defamation, and lays the venue in Sydney. Advise B, who wishes to have the action tried in the District Court at Bathurst where he resides.
- VIII. What are the provisions of the District Courts Acts with reference to—(1) payment of judgments by instalments, (2) ca. sa., (3) examinations de bene esse?
- IX. (1) In what cases may the High Court grant (a) leave, (b) special leave, to appeal from a decision of the Supreme Court?
  - (2) What is the effect of the Judiciary Act, 1907, with respect to constitutional questions arising in actions in the Supreme Court?
- X. Enumerate the methods of reviewing an order for the payment of money made by justices exercising summary jurisdiction, and give a brief outline of the procedure in any one of them.
- XI. What are the provisions of the Crimes Act, 1900, with respect to the following matters:—(1) The prosecution of accessories, (2) prisoner standing mute on arraignment, (3) reserving questions of law, (4) enquiries subsequent to conviction?

#### PLEADING AND EVIDENCE.

Candidates are not to attempt more than Eight questions, but these should include Nos. IV. and VII.

I. A sues B for goods sold and delivered. B's defence is a denial of the delivery. A calls C, who gives evidence that he delivered the goods to B. The following are extracts from B's cross-examination of C:—(1) Did you not tell D that you got drunk and lost the goods? No. (2) Were you not drunk on that day? No. (3) Were you not convicted of being drunk on that day? No. (4)

Did you not tell the plaintiff that you expected a tip if he won the case? No. B tenders evidence in contradiction of each of these answers. Discuss its admissibility.

- II. What provision has be n made by statute with respect to— (1) dying declarations; (2) questions tending to show adultery; (3) actions for breach of promise of marriage; and (4) machine copies?
- With a brief explanatory note on each of the following:
   —(1) subpoena duces tecum, (2) refreshing memory, (3) presumption of death, and (4) evidence of accomplices.
- IV. Discuss the admissibility of the evidence tendered in the following cases:—
  - (1) B buys chaff from A on A's oral warranty that it is prime lucerne chaff. A gives a receipt as follows: "Received from B £400 for 100 tons of chaff." B sues. A for breach of warranty on the ground that the chaff is not prime, and tenders evidence of the warranty.

(2) A prosecutes B for stealing A's horse. B is acquitted, and then sues A for malicious prosecution. A tenders evidence that before the prosecution C told him that he saw B take the horse.

(3) On the trial of A for the murder of B it is proved that B's death was caused by poison administered by A. Evidence is tendered for the prosecution—(1) that B was the life tenant of an estate to which A was entitled in remainder; and (2) that A had previously administered poison to other people.

(4) A petitions for divorce from B on the ground of his adultery with C. A's counsel tenders a certificate of B's conviction for bigamy with C.

- V. Explain and illustrate the meaning of departure in pleading.
- VI. (1) What is the general issue in—(a) an action for negligence; (b) an action for malicious prosecution; and (c) an action for goods sold and delivered?
  - (2) What must the plaintiff prove in the above actions where the general issue only is pleaded?
- VII. Draw the pleadings to issue in the following cases.

  Formal headings need not be repeated.

(1) A sues B complaining that B has in his possession A's watch and refuses to restore it B wishes to set up that the watch was left with him by A for repairs and that five shillings is due thereon to B.

(2) A sues B on a promissory note drawn by B payable to bearer. B's defence is that he was induced to sign it by A's fraudulent misrepresentation that the document was

an order for admission to a hospital.

VIII. (1) What is a plea in abatement?

- (2) When may a plea in abatement for non-joinder of a defendant be pleaded, and what is necessary to be done by a defendant who wishes to file such a plea?
- IX. (1) Distinguish between a plea of set off and a plea of cross-action.
  - (2) A sues his employer B for wages. B desires to set up (1) that A had obtained from him a sum equal to the amount of the wages by a fraudulent representation that another employee had been killed and the money was required for funeral expenses, and (2) that A's employment consisted in driving a steam engine, and that he had by carelessness allowed the boiler to become damaged and useless. May these matters or either of them be pleaded by way of cross-action? Give reasons for your answer.

# PRIVATE INTERNATIONAL LAW. Two Hours.

Candidates are not to attempt more than five questions.

I. "The law of England, taken in its most extended and most proper sense, may in common with the law of every civilized country, e.g., of Italy or of France, be divided into two branches."

"Whenever a case containing any foreign element calls for decision, the judge before whom it is tried must, either expressly or tacitly, find an answer to, at least, two

preliminary questions."

Explain and illustrate, briefly, the above extracts from Dicey's Conflict of Laws, pointing out (1) how far they apply to New South Wales, and (2) how the subject matter of Private International Law may be classified with respect to such preliminary questions.

- II. (1) State generally (a) how you would ascertain the domicil of (i.) an individual, and (ii.) a corporation; and (b) the modes in which (i.) a domicil of origin, and (ii.) a domicil of choice may be changed.
  - (2) In 1911 A and B, who were born and grew to manhood in Sydney and London respectively, were both domiciled in this State. They left together with a view to settling in New Zealand, but both perished on the voyage.
  - Advise as to the domicil of A and B respectively at the date of their death.
- III. (1) What law should be applied by a Court of this State in determining (a) whether property situated in France was movable or immovable; and (b) whether an assignment was valid or invalid, (i.) where cattle depasturing in Queensland were assigned in this State, and (ii.) where a debt due by a debtor resident in this State was assigned in Queensland?
  - (2) In 1909, D, domiciled in New York, assigned in New York to W, his wife, a reversionary interest in a New South Wales trust fund. Under the law of New York notice is not required in order to complete the assignment. In 1910, D, being in Sydney, assigned the said interest to A by way of mortgage. Notice of the latter assignment was given to the trustees of the fund. In 1911, in an administration suit in New South Wales, W claims to be entitled to the said interest.

Advise A, giving your reasons.

- IV. (1) By what rules would you be guided in advising as to (a) the formal, and (b) the essential validity of a contract made in Germany, and sued on in New South Wales?
  - (2) Discuss the following: A, in Noumea, orally engaged B to serve him as a clerk for more than a year. The agreement, though not in writing, is valid by the law of Noumea. B sues A in New South Wales for breach of the agreement.
- V. A, resident in Sydney, wishes to bring an action for breach of contract against B, resident in Perth. What information would you require, and what considerations would you bear in mind, in advising A (1) whether he should bring the action in New South Wales or in Western

Australia, and (2) whether, if the action is brought in Supreme Court of New South Wales, he should proceed under the Service and Execution of Process Act 1901 (Federal), or under the Common Law Procedure Act, 1899 (N.S.W.)?

- VI. Discuss the following cases, stating the principles involved:—
  - (1) H, a French citizen domiciled in France, married at Paris W, a Frenchwoman also domiciled in France. They were married without any express contract or settlement, so that, according to French law, their rights inter se as to property were subject to the system of community of goods. Subsequently they became domiciled in New South Wales, and H was naturalized under the Naturalization Act 1903 (Federal). H acquired a valuable shop in Sydney and shares in companies carrying on business in New South Wales. He died in 1911 domiciled in New South Wales, having made a will here by which he purported to leave the shop and shares to his daughter. W claims half the property under the law of France as to community of goods.
  - (2) A foreign ship, through negligence of the master and crew, came into collision with and damaged a British ship, owned by A, about five miles from the New South Wales coast. B is the owner of the foreign ship, and under the law of its flag he is not liable for damage caused by the negligence of the master and crew of his ship. Both ships put into Sydney Harbour, and thereupon A sues B in this State for the damage caused by the collision.
- VII. Explain briefly the effect in New South Wales of (1) a judgment obtained by A against B in a French Court for a debt due from B to A; (2) a discharge under the English Bankruptcy Act, 1883; and (3) a divorce granted in New Zealand in the case of a marriage contracted in New South Wales.

## FACULTY OF SCIENCE.

#### PHYSICS II.

#### FIRST PAPER.

PASS, DISTINCTION, AND SCHOLARSHIP.

- 1. Convert, by the method of dimensions, a Young's modulus given as 13,000 tons per square inch to c.g.s. measure, given that there are 453.59 grammes in a pound and 2.54 centimetres in an inch.
  - Give the theory, without corrections, of the Cavendish experiment for finding the mean density of the earth.
- Find an expression for Poisson's ratio in terms of the Young's modulus and rigidity.
  - Describe, with theoretical and practical detail, a method of determining the compressibility of a liquid.
- 3. Given that the velocity of a disturbance of wave length  $\lambda$  on the surface of water is given by

$$v = \sqrt{\frac{\lambda}{2\pi} \left(g + \frac{4\pi^2 T}{\lambda^2 \rho}\right)},$$

draw a distinction between waves and ripples, and explain the formation of a stationary ripple pattern on the upstream side of an obstacle in running water.

Given that the rate at which momentum is transmitted across unit area of a plane parallel to the direction of flow in a stream of gas is equal to  $0.35 \text{V}\rho\lambda dv/dx$  where V is the velocity of mean square,  $\rho$  the density,  $\lambda$  the mean free path, and dv/dx the velocity gradient, show that the viscosity is independent of the pressure within the limits for which the formula holds, and calculate the mean free path at  $0^{\circ}$  and 750 mm., the viscosity being  $1.7 \times 10^{-4}$  and  $\rho$ ,  $1.26 \times 10^{-3}$ .

- 4. What is usually represented in the theory of heat by γ? State with an explanation, and deduce in as many cases as you can, the more important formulæ in which the symbol appears.
  - Show how Van der Waals' equation may be deduced from the principles of the kinetic theory.
- 5. Let water and steam exist in equilibrium in a cylinder, the total mass of the contents being one gramme and the ratio of the mass of the steam to that of the water being as e to 1-e;  $e_1$  being the specific heat of the water,  $e_2$  that of the saturated vapour, deduce the consequences of a slight adiabatic compression when  $(e_1-e_2)$  e is less than, equal to, and greater than  $e_1$ .

#### PHYSICS II.

#### SECOND PAPER.

#### PASS, DISTINCTION, AND SCHOLARSHIP.

- 1. Find the electric intensity R at a point distant r from the axis of two charged coaxial cylinders separated by air and also the capacity per unit length, and show that R=V÷rlog(b/a), where V is the P.D. and a and b the inner and outer radii respectively. At what part of the field is R a maximum?
  - When the maximum electric intensity just exceeds 127 electrostatic units a luminous sheath of air which has become conducting, called the corona, surrounds the inner cylinder. Assuming that the effect of the corona on the field is the same as that due to a slight increase in the radius of the inner conductor, show that if a corona is formed it will develop into a discharge between the cylinders if a is greater than  $b/\epsilon$ , but may be stable if a is less than this value,  $\epsilon$  being the base of Naperian logarithms.
- 2. Give the formulæ from which H and B are calculated in an investigation of the magnetic properties of a sample of iron by the ballistic method, stating, in proper units, the meaning of each symbol and explaining precisely how each of the quantities represented is determined
  - An iron ring with a small air gap is covered with a closed solenoid uniformly wound, H being the true magnetising

force within the metal and  $H^1$  that part of the magnetising force due to the coil alone. Considering the ring as a perfect magnetic circuit of constant cross section, show that  $H=H^1-4\pi\delta lI/l$ , where l is the mean length of the circuit,  $\delta l$  the mean thickness of the air gap, and I the intensity of magnetisation.

- 3. Show that the magnetic force at the central point on the axis of a Helmholtz tangent galvanometer (two equal coils placed a radius apart), is equal to  $16Ni\pi/5 \checkmark 5a$ , where N is number of turns on both coils, i the current and a the radius of the coils.
  - Find the magnetic force at a point on the axis a short distance from the central point, and show the superiority of the Helmholtz arrangement over the single coil galvanometer.
- 4. Prove some general statement for the mechanical force on a circuit, or portion of a circuit, carrying a current in a magnetic field, giving the direction of the force, and apply the statement to the solution of some particular case.
  - When the attraction between currents is to be used as a measure of their intensities the currents ought to be placed in particular positions relative to one another; give, by reference to some special case, two reasons for this statement.
- 5. Define the co-efficient of self and of mutual induction and show that with two circuits wound closely together, so that all the lines which go through one circuit also thread the other,  $M = \sqrt{L_1 L_2}$ , M being the co-efficient of mutual and  $L_1$  and  $L_2$  those of self induction.
  - Show that the current induced in a circuit by a sudden alteration of the magnetic field in which the circuit lies, is such as to keep the number of tubes of magnetic induction which pass through the circuit unaltered.

## DEPARTMENT OF ENGINEERING.

#### SECOND YEAR EXAMINATION.

# ENGINEERING CONSTRUCTION I. DISTINCTION.

- 1. A floor has to carry a load of 336 pounds per square foot.

  The timber joists are 12 inches deep, by 4½ inches wide, and have a span of 14 feet. How far apart may the centre lines be spaced if the extreme fibre stress due to bending is not to exceed 1,000 pounds per square inch?
- 2. Prove the formula for the deflection of a beam, supported at each end, and loaded uniformly over its length—

$$Vo = \frac{5fl^2}{48Ey}$$

- Apply this to the case of a beam of 6 inches wide and 12 inches deep, on a span of 15 feet, if f=2,000 lbs. per square inch, and E=300,000 lbs. per square inch.
- 3. Describe the characteristic features of brittle and soft materials when subjected to tension, compression and transverse stresses, and give numerical results for concrete and structural steel in regard to elastic limit, coefficient of elasticity, ultimate strength, method of failure and deformation.
- 4. Make an outline sketch of a Pratt truss suitable for a through bridge of 125 feet span, having panel lengths of 25 feet, and 25 feet depth of truss. Calculate the stresses in the various members for the following loads—

Dead load at top panel points=7,000 lbs.

Dead load at bottom panel points=18,000 lbs.

Live load at bottom panel points=80,000 lbs.

Obtain also the sectional area of the various members.

5. Prove the following equation for the deflection of a truss—

$$V = \frac{1}{wE} \Sigma \frac{s\sigma l}{A}$$

and apply it to find the deflection of the truss described in question 4, if the bottom panel points are each loaded with 40 tons.

- 6. Write a brief account of the theory of long columns, and show how to obtain the straight line formulæ for the determination of the working stresses in columns of structural steel.
  - What are the limits within which these straight line equations are approximately correct? Give reasons for your answer.

# ENGINEERING CONSTRUCTION II. DISTINCTION.

- Make sketches showing the cross-sections of the following types of permanent way—
  - (a) For a pioneer line where ballast is omitted.
  - (b) For a first-class trunk railway.
  - (c) For a city tramway
  - Give all necessary dimensions and sizes of materials used, weight of rails, and tests of quality.
- 2. Write an essay on curve resistance on railways, and show how to derive the equation for a truck of 5 ft. wheel base— Re=0.4+0.385D.

Explain how you would compensate for curves occurring on grades in order to render the total resistance uniform.

- Write down the equations for tractive effort on railways for the following cases—
  - (a) Developed in the cylinders of the locomotives.
  - (b) Boiler tractive effort.
  - (c) Adhesion.

Write down also the equations of train resistance for empty and loaded trucks, also the resistance due to acceleration and grades.

 Write an essay on the filtration of water, describing the British and American systems.

- 5. Make sketches showing the method of construction for the dam of a storage reservoir. What precautions would you take to ensure water-tightness?
  - Describe the waste weir, bye-wash, and the method of drawing off the supply for domestic service.
- 6. Write down some of the formulæ, and explain the methods of calculating the velocity and the volume of flow over weirs, through pipes and channels
- 7. Write an essay on one of the following subjects-
  - (a) The construction of tunnels by means of a shield.
  - (b) The rack system as applied to mountain railways.
  - (c) The testing of timber.
  - (d) The determination of the sizes of waterways in railway embankments to pass the maximum floods.

### THIRD YEAR EXAMINATION.

# CIVIL ENGINEERING II. HONOURS.

- Describe the principal modern types of the compound locomotive, and discuss their advantages and suitability. Describe also any type of superheater used on modern locomotives.
- 2. Explain the method of balancing as adopted in locomotive engines having (a) inside and (b) outside cylinders, and discuss the question of balancing in regard to modern compound engines.

3. Describe the method of construction adopted in any two modern graving docks with which you are acquainted.

- 4. Describe the method you would adopt in constructing a road across swampy flats, and along steep sidelong ground in a densely timbered country subjected to heavy rainfall, the sum available for the work being small. Give an outline specification of the works you would suggest.
- 5. Write an essay on the following problem in railway location:—"A high range separates two fertile and productive valleys." Compare the advantages of making a low level line with a tunnel 3 miles long with those of another line ascending projecting spurs, having grades of 1 in 50, and crossing the range without a tunnel 500 feet higher. Assume all necessary data for comparison.
- 6. Show how to prepare drawings of a concrete weir with crest 120 feet long, about 20 feet above the bed of the stream. The material above the bed-rock consists of large masses of gneiss disintegrated near the surface.
  - Provide for floods rising 2 feet above the crest of the weir, and give rough calculations to determine approximately the stress in the material at and above the creek bed level.
- 7. Take out the quantities of concrete and excavation in the last question, and describe briefly how you would carry on the work of construction, and how you would provide against damage during the progress of the work, and in the event of fissures being met with, how you would deal with them.

# CIVIL ENGINEERING III. HONOURS.

- 1. At a point in strained material the principal stresses are 0.5 tons per square inch tensile, and 3 tons per square inch compressive. Find the resultant stress in intensity and direction on a plane inclined 60° to the axis of the 0.5 ton stress, and perpendicular to the plane which has no stress. What is the maximum intensity of the shearing stress in the material?
- 2. Show that the resistance due to direct and shearing stresses in a beam of rectangular cross-section loaded uniformly is:—

$$W^2\left(\frac{l^3}{240EI} + \frac{l}{10bdC}\right)$$

- Explain the method of obtaining the combined bending and direct stress in a compression member of a bridge truss.
- 3. Write an essay on the theory of long columns, giving the reasons for the employment of the straight line equations for the practical design of structures. Give Moncrieff's equations for structural steel, and show how you would determine the stresses in the lacing of built columns.
- 4. Explain fully the methods of deriving the equations for the rigid arch without hinges, and the use of influence lines and tables for reducing the labour in the calculations. What precautions would you take in the erection of a rigid arched bridge in order to ensure that the actual stresses in the structure would correspond with those calculated.
- 5. Write an essay on the design of high masonry dams across wide rivers, as in India, giving full particulars in regard to the calculation of the maxima stresses, and the determination of the ellipses of stress on any horizontal section.
- Give all the necessary equations and intensities of working stresses in materials in connection with the design of reinforced concrete Leams, columns and arches.

#### FOURTH YEAR EXAMINATION.

# MECHANICAL ENGINEERING III. PASS AND HONOURS.

SIX HOURS.

Candidates are required to answer questions Nos. 1 and 2, together with not less than THREE nor more than FIVE of the remainder.

The attention of all candidates is particularly drawn to the fact that brief answers, dealing specifically with the matter indicated in the question, and illustrated by accurate diagrams, are what is required.

- I. (a) A bucket, weighing 2 lbs., hangs by a rope wound around a wheel and axle (mass 8 lbs.), whose radius of gyration may be taken as 15 inches. If the diameter of the axle is 6 inches, find the angular momentum of the wheel and axle after the bucket has attained a velocity of 20 feet per second. What is the angular velocity of the wheel when 25 feet of rope have been unwound, and how long has the unwinding taken?
  - (b) The moment of inertia of a heavy wheel about its axle is 15,000 lb.-ft.<sup>2</sup> If it is making 3,000 revolutions per minute, what will be the velocity of precession when a couple of 12,000 foot-poundals is applied to the axle of the wheel?
    - (c) Describe briefly, with carefully drawn diagrams, the gyroscopic principles made use of in The Brennan Monorail Railway.
- 2. Discuss the question of *Engine Friction*, and, in particular, give a full account, accompanied by the necessary analytical investigation, of a method of determining Engine Friction by retardation tests.
- 3. (a) Write a brief account, illustrated by sketches and diagrams, of—
  - (i.) A Venturi Meter.
  - (ii.) A Lea Recorder.
  - Explain carefully the principles involved in each apparatus; discuss their relative merits, and give some examples illustrating the circumstances under which you would recommend the use of one or the other.

- (b) A Venturi meter has a diameter of 4 feet in the large part and 1.25 feet in the throat. With water flowing through it, the pressure head is 100 feet in the large part and 97 feet at the throat. Find the velocity in the small part and the discharge through the meter. efficient of meter taken as unity.
- 4. (a) A gas engine, using the Otto cycle, has 25 per cent. clearance, and takes in its charge at 14.7 lbs. per square inch, and at 60° F. The charge consists of one part of gas and nine parts of air; and the heat of combustion of the gas is 600 B.T.U. per cubic foot. The cylinder diameter is 18 inches; the stroke 24 inches; and the engine makes 150 revolutions per minute.

Find (i.) the pressure and temperature at the end of compression; (ii.) the pressure and temperature at the end of explosion; (iii.) the pressure and temperature at the end of expansion; (iv.) the efficiency of the cycle;

(v.) the I.H.P.

(b) Summarise the present state of our knowledge of the question of the chemical reactions in suction gas producers.

5. (a) Describe, in few words, the essential reasons why it is desirable to use a higher vacuum with steam turbines

than with reciprocating steam engines.

(b) Make a detailed sketch of a modern barometric condenser, showing it attached to an actual plant. Discuss its advantages and disadvantages, and state the conditions under which you would recommend its use.

6. (a) Describe the most recent form of pulsometer, and quote any figures as to its performance with which you may be acquainted.

(b) With the aid of neat diagrams, describe the "Humphrey" gas pump, and its method of operation.

7. (a) What are the special characteristics of modern surface condensers, designed to obtain a very high degree of vacuum? Give the details of their construction where they differ from the condenser of, say, ten years ago.

(b) Discuss the question of air in the condenser, and of its influence upon the vacuum produced, quoting the results of any recent work on the subject with which you may

be acquainted.

- 8. (a) Describe briefly the general design of
  - (i.) The Brennan Mono-rail Car.
  - (ii.) The Schlick apparatus for steadying vessels at sea.
  - (b) When a paddle boat is steaming ahead, what is the gyroscopic effect of the paddle wheels when a wave strikes the ship and gives it a list to starboard, and what is the effect of steering to starboard?
- 9. Describe, with the aid of neat sketches and diagrams-
  - (i.) Any form of multi-stage turbine pump for very high lifts.
  - (ii.) The Michell "Motor-Turbine" pump as used by the Victorian Irrigation Department.
- 10. (a) Discuss briefly the question of exhaust steam turbines.
  - (b) Describe in detail, with sketches, the construction and operation of any form of steam regenerator with which you are acquainted.
- 11. Write an essay dealing with recent work on either of the following subjects:—
  - (i.) Investigations of the efficiency of boiler pipe laggings, and similar insulating material.

Or,

(ii.) The corrosion of boiler tubes.

# ENGINEERING DESIGN AND DRAWING. HONOURS.

Candidates are required to attempt ONE only of the following designs.

- The designs are to be sketch lay-outs to such a scale as may be found convenient, but sufficient detail is to be given to show exactly what is meant by the candidate, and the method of attack is to be clearly explained.
- An overhead traveller is required to deal with a load of 5,000 lbs. on a span of 35 feet. The runway is carried on buttresses 12 ft. apart, and the clear distance between top of buttress and underside of floor girder is 30 inches.
  - The gear is to be hand-driven for all motions from the floor of the shop. Design the traveller.
- 2. Design a crane for use in a foundry capable of dealing with a load of 15 tons at any radius from 15 to 25 feet. The available head room is 27 feet from floor to underside of

roof principals. The crane is to be attached to a steel column of the frame of building, which may be assumed strong enough to carry the loads imposed.

Hand gear to be used for all motions.

- 3 A steam boiler is required of the return tube marine type for a small tug-boat. It is to supply steam to a vertical compound engine developing 120 horse-power at 160 r.p.m., steam pressure, 130 lbs. per sq. in. at the boiler. The fuel available is low grade coal of about 11,000 B.T.U. per lb. Design boiler, furnace fittings and uptake to satisfy B.O.T. requirements.
- 4. Design a three-throw pump to deliver 10,000 galls. per hour against a head of 350 feet. Pump to be motor-driven from motor on same base-plate size of motor to be specified. Tump is placed 10 feet above level of water in well.
- 5. Design a double-ended punching and shearing machine driven by a steam engine, capable of punching 1 inch holes through 1 inch plate, of shearing 1 inch plate and 5" x 5" angles.

# ELECTRICAL ENGINEERING II. A. HONOURS.

SIX questions only to be attempted.

 Derive a graphic construction for the acceleration of a car operated by a series motor and regulating resistance, the latter being always adjusted so as to maintain constant current while it is in circuit.

Assume all necessary data.

- 2. Give an account of the methods you would adopt for a complete investigation of the various losses in a compound wound generator with inter-poles.
- Describe the detail of one good form of automatic reversible booster, and explain under what circumstances such a machine would be used in place of a hand-regulated booster.
- 4. Explain the theory of the rotary converter, and show how the output of the machine is influenced by the number of phases for which it is used.

- 5. Give an account, and compare the relative advantages of the methods in general use for conversion from alternating to direct current.
- 6. It is proposed to light a country town by electricity. Make a statement of the data which you would deem it necessary to obtain, and the considerations which would enable you to decide upon the electrical system to be adopted, the type of prime mover, also the size of station and of units.
- 7. Give an account of the more usual forms of direct current armature windings.

## ELECTRICAL ENGINEERING II. B.

#### HONOURS.

Six questions only to be attempted.

- 1. By considering a Y-connected load, show that the voltage drop along a balanced three-phase line with symmetrically arranged conductors is the same as that along a single-phase line conveying one-third of the power of the three-phase line operating at the same power factor, and at a voltage equal to the Y-voltage of the three-phase system, and having a resistance and self-inductance equal to half those of the loop formed by any two conductors of the three-phase system.
  - 2. What is generally understood by the term "capacity of a three-core lead-sheathed cable," and how may this quantity be experimentally determined? What effect has wave form upon the capacity current?
  - 3. Discuss the question of abnormal voltage rise on suddenly switching in a cable. What precaution may in practice be taken against this effect?
  - 4. Derive a graphical solution for the case of currents in a branched circuit when mutual inductance is taken into account.
- 5. Explain the Heyland diagram for a three-phase motor, and show how this diagram may be rationally derived.

- Explain the nature of the excitation characteristic of a synchronous motor, and show how to derive an equation for the curves.
- 7. Explain the effect of negative reactance in an over-excited synchronous motor, and describe the practical applications.

## \*MATRICULATION EXAMINATION.

#### ENGLISH.

[The answers, which are to be marked clearly A and B, are to be given up in two separate bundles, which are also to be marked I. and II. Answers given up in the wrong, bundle will receive no marks. Each sheet must be clearly marked with the letter A or B and the numeral 1. or II.]

## DIVISION A (LOWER STANDARD).

TWO AND A HALF HOURS.

#### SECTION I.

(For Section 1, of Division A candidates may substitute either Section 1, or Section 11, of Division B.)

- 1. Explain the meaning of the following passages-
  - (a) I needs must break
    These bonds that so defame me: not without
    She wills it: would I, if she will'd it? nay,
    Who knows? but if I would not, then may God,
    I pray him, send a sudden Angel down
    To seize me by the hair and bear me far,
    And fling me deep in that forgotten mere,
    Among the tumbled fragments of the hills.
    - (b) Bid call the ghostly man Hither, and let me shrive me clean, and die.
    - (c) His battle-writhen arms and mighty hands Lay naked on the wolfskin.
    - (d) There is many a youth Now crescent, who will come to all I am And overcome it.
    - (e) However much he yearn'd to make complete The tale of diamonds for his destined boon.
- 2. Explain how the following quotations impress you as particularly apt or beautiful where they occur. If they do not so impress you, say why you do not like them.
  - (a) . . . The myriad cricket of the mead, When its own voice clings to each blade of grass, And every voice is nothing.

<sup>\*</sup>The time allowed for each paper is three hours, except where otherwise stated.

- (b) . . . . . our Lady's Head, Carved of one emerald center'd in a sun Of silver rays, that lightened as he breathed.
- (c) [Then he] all wearied of the quest Leapt on his horse, and carolling as he went A true-love ballad, lightly rode away.
- (d) [She] sorrowing Lancelot should have stoop'd so low, Marr'd her friend's aim with pale tranquillity.
- (e) Sea was her wrath, yet working after storm.
- 3. A. "The English of the Idylls of the King is often old-fashioned."

Apply this to the following passages so as to show that you understand the old forms and usages—

- (a) Rathe she rose, half-cheated in the thought She needs must bid farewell to sweet Lavaine.
- (b) But an ye will it, let me see the shield.
- (c) Most Predoom'd her as unworthy.
- B. Point out the metrical construction of the lines below, and note any particular effect they have for you—
  - (d) Down the long tower-stairs hesitating.
  - (e) Of every dint a sword had beaten in it.
  - (f) He up the side sweating with agony got.
- Give some noteworthy examples from Quentin Durward of Louis XI.'s "natural firmness and sagacity of character."

#### SECTION II.

- 5. Analyse the following sentence into its clauses, and show their mutual relations—
  - "When Harriet was seated in the chaise, Sindall took notice of the flutter into which the accident had thrown her, while she confessed that she had been a good deal alarmed lest there should have been a quarrel on her account; and begged him, if he had any regard for her ever in mind, to think no more of any vengeance he might take upon the other gentleman."

6. Parse the underlined words in-

Were an office to be opened for the insurance of literary reputations, no critic at all likely to be in the society's service would refuse the life of a poet who could write like Crabbe. Cardinal Newman, Mr. Leslie Stephen, Mr. Swinburne, are not always of the same way of thinking, but all three hold the one true faith about Crabbe.

## Division B (Higher Standard). Three Hours. Section I.

- 1. Explain the meaning of the following quotations—
  - (a) (Among the books of the Bodleian) I seem to inhale learning, walking amid their foliage; and the odour of their old moth-scented coverings is fragrant as the first bloom of those sciential apples which grew amid the happy orchard.
  - (b) What near approaches doth (your borrower) make to the primitive *community*,—to the extent of one-half of the principle at least!
  - (c) The pen of Yorick, and none since his, could have drawn J. E. entire—those fine Shandean lights and shades, which make up his story.
  - (d) How would it sound in song, that a great monarch had declined his affections upon the daughter of a baker.
  - (e) Barbecue your whole hogs to your palate, steep them in shalots, stuff them out with plantations of the rank and guilty garlic.
- 2. Explain the humour of the following passage -
- (a) See (the pig) in the dish, his second cradle, how meek he lieth! Would'st thou have had this innocent grow up to the grossness and indocility which too often accompany maturer swinehood?
  - (b) My night fancies have long ceased to be afflictive. I confess an occasional nightmare; but I do not, as in early youth, keep a stud of them.
  - (c) The mighty artillery of sauces, which the cook-fiend conjures up, is out of proportion to the simple wants and plain hunger of the guest.

- (d) O! shake not the castles of his pride—endure yet for a season, bright moments of confidence—"stand still, ye watches of the element," that Malvolio may be still in fancy fair Olivia's lord!
- 3. Discuss the antiquarianism in the following expressions-

(a) No rascally comparative insults a beggar.

(b) The weary and all-forspent twopenny postman.

(c) The slight vacuum in the left-hand case was whilom the commodious resting-place of Browne.

And the literary allusions in the following:

(d) The high and rushing tide of greasy citizenry.

- (e) Like a better man than myself. (I) have "small Latin and less Greek."
- (f) He that meets me in the forest to-day, shall meet with no wise-acre.
- 4. Illustrate Lamb's delicacy of feeling from the two of the following essays: Mackery End, Modern Gallantry, Dream Children.

SECTION II.

5. Explain the following quotations -

- (a) He doth nothing but talk of his horse; and he makes it a great appropriation of his own good parts that he can shoe him himself.
- (b) Methought you said you neither lend nor borrow upon advantage.

(c) Thou wilt say anon he is some kin to thee, Thou spend'st such high-day wit in praising him.

- (d) How many cowards, whose hearts are all as false. As stairs of sand, wear yet upon their chins. The beards of Hercules and frowning Mars, Who inward search'd have livers white as milk, And these assume but valour's excrement. To render them redoubted.
- (e) How many things by season season'd are To their right praise and true perfection.

 Explain the significance of the following quotations for the story and characterisation—

(a) Nerissa. Do you not remember, lady, in your father's time, a Venetian, a scholar and a soldier, that came hither in the company of the Marquis of Montferrat?

Portia. Yes, yes, it was Bassanio.

#### MATRICULATION.

- (b) Alack, what heinous sin is it in me To be ashamed to be my father's child! But though I am a daughter to his blood, I am not to his manners.
- (e) Commend me to your honourable wife, Tell her the process of Antonio's end; Say how I loved you, speak me fair in death; And, when the tale is told, bid her be judge Whether Bassanio had not once a love.
- (d) I will not choose what many men desire Because I will not jump with common spirits And rank me with the barbarous multitudes.
- 7. Comment on the metre of the following-
  - (a) Not in love neither? Then let us say you are sad.
  - (b) I love your company: therefore forbear awhile.
  - (c) His rigorous course; but since he stands obdurate.

And the grammar of the following—

- (d) 'Tis vile, unless it may be quaintly order'd And better in my mind not undertook.
- (e) That "many" may be meant By the fool multitude, that choose by show.
- (f) I, for my part, knew the tailor that made the wings she flew withal.
- 8. "The sentence on Shylock, besides being unjust, rests on a quibble."

Does this statement seem to you correct?

#### LATIN.

Division A (Lower Standard).
Two and a Half Hours.

#### 1. Translate—

Tum Calgacus, inter duces virtute et genere praestans, apud multitudinem proelium poscentem in hunc modum locutus est. "Quandocumque causas belli et necessitatem nostram intueor, magnus mihi animus est hunc diem initium libertatis toti Britanniae fore. Omnia nobis sunt victoriae incitamenta. Nullae enim coniuges Romanos accendunt, nulli parentes fugam exprobaturi sunt. Paucos numero, ignorantia locorum trepidos, clausos quodam modo ac

vinctos di nobis tradiderunt. In ipsa hostium acie nostros inveniemus; Britanni suam causam agnoscent, Galli Germanique Romanos deserent, ut nuper Usipii eos reliquerunt. Nec quicquam ultra metuendum est: vacua castella, milites qui male parent, duces qui iniuste imperant. Primo statim congressu ostendamus quos Caledonia viros habeat."

#### 2. Translate into Latin-

- (a) There are some who think that Cæsar was concerned in the conspiracy of Catiline.
- (b) If the army had advanced another fifteen miles it would have been quite safe.
- (c) Tell me why you are unwilling to consult your friend about a choice of studies.
- (d) The conspirators, having made all their preparations, set out at midnight for the consul's house. When they arrived, a slave whose help they had bought with bribes opened the door and admitted them, and it seemed now that nothing could prevent the execution of their dreadful design. But as they passed through the atrium, suddenly a great shout arose, and armed men sprang out upon them. Panic-stricken, they turned to flee, only to find that the slave had barred the door behind them. A furious fight ensued, and all the conspirators were killed or captured. The slave, whose noble treachery had saved his master, was set free.

(Instead of the following passages from Cicero, Candidates may take the passages from Cicero on from Horace in Division B.)

#### 3. Translate—

(a) Hos, quos video volitare in foro, quos stare ad curiam, quos etiam in senatum venire, qui nitent unguentis, qui fulgent purpura, mallem secum eduxisset: qui si hic permanent, mementote non tam exercitum illum esse nobis quam hos, qui exercitum deseruerunt, pertimescendos. Atque hoc etiam sunt timendi magis, quod quid cogitent me scire sentiunt, neque tamen permoventur. Video cui sit Apulia attributa, quis habeat Etruriam, quis agrum Picenum, quis Gallicum, quis sibi has urbanas insidias caedis atque incendiorum depoposcerit;

- omnia superioris noctis consilia ad me perlata esse sentiunt; patefeci in senatu hesterno die; Catilina ipse pertimuit, profugit: hi quid exspectant?
- (b) Ibi vehementissime perturbatus Lentulus tamen et signum et manum suam cognovit. Erant autem sine nomine, sed ita: 'Quis sim, scies ex eo, quem ad te misi. Cura ut vir sis et cogita quem in locum sis progressus: vide, ecquid tibi iam sit necesse, et cura ut omnium tibi auxilia adiungas, etiam infimorum.' Gabinius deinde introductus, cum primo impudenter respondere coepisset, ad extremum nihil ex iis, quae Galli insimulabant, negavit. Ac mihi quidem, Quirites, cum illa certissima visa sunt argumenta atque indicia sceleris, tabellae, signa, manus, denique unius cuiusque confessio, tum multo certiora illa, color, oculi, vultus, taciturnitas. Sic enim obstupuerant, sic terram intuebantur, sic furtim nonnumquam inter sese aspiciebant, ut non iam ab aliis indicari, sed indicare se ipsi viderentur.

### 4. Translate, with brief comments—

- (a) An P. Scipio, pontifex maximus, Ti. Gracchum, mediocriter labefactantem statum rei publicae, privatus interfecit: Catilinam, orbem terrae caede atque incendiis vastare cupientem, nos consules perferemus?
- (b) Etenim, credo, Manlius iste centurio, qui in agro Faesulano castra posuit, bellum populo Romano suo nomine indixit, et illa castra nunc non Catilinam ducem exspectant.

## Division B (Higher Standard).

#### 1. Translate—

Tum Alexander, 'Ubi,' inquit, 'est ille clamor, alacritatis vestrae index? ubi ille meorum Macedonum vultus? Non agnosco vos, milites, nec agnosci videor a vobis.' Cumque illi, in terram demissis capitibus, tacere perseverarent, 'Nescio quid,' inquit, 'in vos imprudens deliqui, quod me ne intueri quidem vultis. In solitudine mihi videor esse. Nemo respondet, nemo saltem negat. Quos alloquor? quid autem postulo? Vestram gloriam et magnitudinem vindicamus. Ubi sunt illi, quorum certamen paulo ante vidi contendentium, qui potissimum vulnerati regis corpus exciperent? Desertus, destitutus sum, hostibus deditus. Sed solus quoque ire perseverabo.

Obicite me fluminibus et beluis et illis gentibus, quarum nomina horretis. Inveniam, qui desertum a vobis sequantur. Scythae Bactrianique erunt mecum, hostes paulo ante, nunc milites nostri. Mori praestat, quam precario imperatorem esse.'

#### 2. Translate into Latin-

At last a Greek offered to show Flamininus a path by which the Romans could get round behind the enemy, and Flamininus forthwith dispatched 4,000 picked infantry and 300 horsemen. Two days passed. Then, early in the morning, Flamininus's sentries saw smoke rising behind the Macedonian army. This was the signal; and the Roman general at once gave the order for battle. Philippus was delighted, for he thought that the enemy were marching into a trap. But suddenly he found his men attacked from behind and in front at once. A panic seized them, and they tried to flee. Great numbers were cut down where they stood, for in the pass escape was not easy; but pursuit was equally difficult, and Philippus, after reaching a place of safety, found that he still had an army.

#### 3. Translate-

Bis consul fuerat P Africanus et duos terrores huius imperii, Karthaginem Numantiamque, deleverat, cum accusavit L Cottam. Erat in eo summa eloquentia, summa fides, summa integritas, auctoritas tanta quanta in imperio populi Romani, quod illius opera tenebatur. Saepe hoc maiores natu dicere audivi hanc accusatoris eximiam vim plurimum L Cottae profuisse. Noluerunt sapientissimi homines, qui tum rem illam iudicabant, ita quemquam cadere in iudicio, ut nimiis adversarii viribus abiectus videretur. Quid? Ser Galbam-nam traditum memoriae est-nonne proavo tuo, fortissimo atque florentissimo viro, M Catoni incumbenti ad eius perniciem populus Romanus eripuit? Semper in hac civitate nimis magnis accusatorum opibus et populus universus et sapientes ac multum in posterum prospicientes iudices restiterunt. Nolo accusator in iudicium potentiam adferat, non vim maiorem aliquam, non auctoritatem excellentem, non nimiam gratiam: valeant haec omnia ad salutem innocentium, ad opem impotentium, ad auxilium calamitos. orum, in periculo vero et in pernicie civium repudientur

### 4. Translate, and comment on -

- (a) Ego quod facio, iudices, cum amicitiae dignitatisque L. Murenae gratia facio, tum me pacis, otii, concordiae, libertatis, salutis, vitae denique omnium nostrum causa facere clamo atque testor.
- (b) Negat fuisse rectum Cato me et consulem et legis ambitus latorem et tam severe gesto consulatu causam L Murenae attingere.
- (c) Posset agi lege necne, pauci quondam sciebant; fastos enim vulgo non habebant; erant in magna potentia qui consulebantur, a quibus etiam dies tamquam a Chaldaeis petebatur.

#### 5. Translate—

Virtutem incolumem odimus, Sublatam ex oculis quaerimus invidi.

Quid tristes querimoniae,

Si non supplicio culpa reciditur,

Quid leges sine moribus

Vanae proficiunt, si neque fervidis

Pars inclusa caloribus

Mundi nec Boreae finitimum latus

Durataeque solo nives

Mercatorem abigunt, horrida callidi

Vincunt aequora navitae,

Magnum pauperies opprobrium iubet Quidvis et facere et pati

Virtutisque viam deserit arduae?

Vel nos in Capitolium,

Quo clamor vocat et turba faventium, Vel nos in mare proximum

Gemmas et lapides, aurum et inutile,

Summi materiem mali,

Mittamus, scelerum si bene paenitet.

Eradenda cupidinis

Pravi sunt elementa et tenerae nimis

Mentes asperioribus

Formandae studiis.

## 6. Translate, and comment on—

(a) Delicta maiorum immeritus lues, Romane, donec templa refeceris.

- (b) Cur valle permutem Sabina Divitias operosiores?
- (c) I, pete unguentum, puer, et coronas Et cadum Marsi memorem duelli, Spartacum si qua potuit vagantem Fallere testa.

#### GREEK.

# Division A (Lower Standard). Two and a Half Hours.

SET BOOK.—Xenophon, Hellenica, Book II.

- 1. Translate into Greek-
  - (a) If you had done as I told you, you would now be one of the richest men in the world.
  - (b) He said that he was ready to go with me wherever I wished.
  - (c) He went away before I saw him.
  - (d) It is necessary to have money in order to become powerful.
  - (e) I wish I were dead! \*
- 2. Translate into English
  - έκεῖ δ' ἐπύθοντο ὅτι Μίνδαρος ἐν τῆ πόλει εἴη καὶ Φαρνάβαζος μετὰ τοῦ πεζοῦ. ταὐτην μὲν οὖν τὴν ἡμέραν αὐτοῦ ἔμειναν, τῆ δὲ ὑστεραία ᾿Αλκιβιάδης ἐκκλησίαν ποιήσας παρεκελεύετο ἀὐτοῖς ὅτι ἀνάγκη εἴη ναυμαχεῖν. Οὐ γὰρ ἔστιν, ἔφη, χρήματα ἡμῖν, τοῖς δὲ πολεμίοις ἄφθονα παρὰ τοῦ βασιλέως. τῆ δὲ προτεραία, ἐπειδὴ ώρμίσαντο, τὰ πλοῖα πάντα συνήθροισε παρ᾽ ἑαυτόν, ὅπως μηδεὶς ἐξαγγείλαι τοῖς πολεμίοις τὸ πλήθος τῶν νεῶν, ἔπεκήρυξέ τε, ΰς ᾶν ἀλίσκηται εἰς τὸ πέραν διαπλέων, θάνατον τὴν ζημίαν. μετὰ δὲ τὴν ἐκκλησίαν παρασκευασάμενος ὡς ἐπὶ ναυμαχίαν ὰνηγάγετο. ἐπειδὴ δ' ἐγγὺς τοῦ λιμένος ἦν, τοῦ ἡλίου ἐκλάμψαντος, καθορᾶ τὰς τοῦ Μινδάρου ναῦς ἐξήκοντα οὔσας.
  - [N.B.—Instead of the following passages from Xenophon, Hellenica, Book II., candidates may take either the passages from Plato, Apology and Crito, or those from Homer, Odyssey, Books X. and XI. in Division B.]
- 3. Translate—

ἀποκαλεῖ δὲ κόθορνόν με, ὡς ἀμφοτέροις πειρώμενον ἀρμόττειν. ὔστις δὲ μηδετέροις ἀρέσκει, τοῦτον ὧ πρὸς τῶν θεῶν τί ποτε καὶ καλέσαι χρή; σὺ τὰρ δὴ ἐν μὲν τῆ δημοκρατία πάντων μισοδημότατος ἐνομίζου, ἐν δὲ τῆ ἀριστοκρατία πάντων μισοχρηστότατος τεγένησαι. ἐγὼ δ', ὧ Κριτία, ἐκείνοις μὲν ἀεί ποτε πολεμῶ τοῖς οὐ πρόσθεν οἰομένοις καλὴν ἃν δημοκρατίαν εἶναι, πρὶν καὶ οἱ δοῦλοι καὶ οἱ δι' ἀπορίαν δραχμῆς ἃν ἀποδόμενοι τὴν πόλιν αὐτῆς μετέχοιεν, καὶ τοῖσδέ τ' αὖ ἀεὶ ἐναντίος εἰμὶ οἱ οὐκ οἴονται καλὴν ἃν ἐγγενέσθαι ὀλιγαρχίαν, πρὶν εἰς τὸ ὑπ' ὀλίγων τυραννεῖσθαι τὴν πόλιν καταστήσειαν. τὸ μέντοι σὰν τοῖς δυναμένοις καὶ μεθ' ἴππων καὶ μετ' ἀσπίδων ὡφελεῖν διατάττειν τὴν πολιτείαν πρόσθεν ἄριστον ἡγούμην εἶναι καὶ νῦν οὐ μεταβάλλομαι.

### 4. Translate, with short notes on the underlined words—

- (a) Κόνων δε ίδων του επίπλουν, εσήμηνεν είς τὰς ναῦς βοηθεῖν κατὰ κράτος.. διεσκεδασμένων δε τῶν ἀνθρώπων, αι μεν τῶν νεῶν δίκροτοι ήσαν, αι δε μονόκροτοι, αι δε παντελῶς κεναί ή δε Κόνωνος και ἄλλαι περὶ αὐτὸν ἐπτὰ πλήρεις ἀνήχθησαν άθρόαι και ή Πάραλος, τὰς δ' ἄλλας πάσκς Λύσανδρος ἔλαβε πρὸς τῆ γῆ.
- (b) καὶ ἐπεί γε ἀποθυήσκειν ἀναγκαζόμενος τὸ κώνειον ἐπιε, τὸ λειπόμενον ἔφασαν ἀποκοτταβίσαντα εἰπεῖν αὐτόν. Κριτία τοῦτ' ἔστψ τῷ καλῷ.
- (c) οι δὲ ἐκ τοῦ ἄστεως εἰς τὴν Ἡποδάμειον ἀγορὰν ἐλθόντες πρῶτον μὲν συνετάξαντο, ὥστε ἐμπλῆσαι τὴν ὁδὸν ἡ φέρει πρὸς τε τὸ ἰερὸν τῆς Μουνιχίας ᾿Αρτέμιδος καὶ τὸ Βενδίδειον.

## DIVISION B (HIGHER STANDARD).

SET BOOKS.—Plato, Apology and Crito, and Homer, Odyssey, Books X. and XI.

#### 1. Translate into Greek-

Meanwhile the Athenian commanders were informed of their movements, and deliberated on their own plan of action. Most of them were desirous of waiting for the enemy, and giving him battle; but Phrynichus declared that he would never consent to expose the commonwealth to such a risk. They could always find opportunities enough of fighting when they had ascertained the enemy's strength, and had taken every precaution to ensure a victory. After the disasters they had experienced it would be prudent to avoid a battle, if they could, under

any but the most favourable circumstances; but it would be madness, for a point of honour, to rush into a voluntary danger, the extent of which they could not estimate.

## 2. Translate into English-

"Ισως δέ, ω ἄνδρες δικασταί, έπειδαν περί αυτού μηδέν δύνηται άπολογείσθαι, έμε διαβάλλειν πειράσεται. τότε δε περί των έμων τούτω άξιω πιστεύειν ύμως, οπόταν απολογίας έμοι δοθείσης μη δύνωμαι ψευδόμενον αὐτὸν έξελέγξαι. ἐὰν δ' ἄρα ἐπιχειρη λέγειν ἄπερ ἐν τη βουλη, ὡς ἐγὼ τῶν τετρακοσίων εγενόμην, ενθυμείσθε, ότι έαν αποδέχησθε των τοιαύτα λεγόντων, έκ των τετρακοσίων πλείν ή χίλιοι γενήσονται καί γάρ τοὺς έτι παίδας ὄντας ἐν ἐκείνω τῷ χρόνω καὶ τοὺς ἀποδημούντας οἱ διαβάλλειν βουλόμενοι ταῦτα λοιδοροῦσιν. έγω δε ούτω πολλου εδέησα των τετρακοσίων γενέσθαι, ώστε οὐδε τῶν πεντακισχιλίων κατελέγην. δεινον δέ μοι δοκεί είναι εί μεν περί ιδίων συμβολαίων αγωνιζόμενον ούτω Φανερώς εξήλεγχον αυτον άδικουντα, ουδ' αν αυτος ηξίωσε τοιαθτα απολογούμενος αποφεύγειν, νυνί δε περί των τής πόλεως κρινόμενος οιήσεται χρήναι έμου κατηγορών υμίν μή δούναι δίκην.

συμβόλαια " matters of business."

## 3. Translate, with comments on the underlined words-

- (a) ΣΩ. Εἰ γὰρ ἄφελον, ὧ Κρίτων, οἶοί τ' εἶναι οἱ πολλοὶ τὰ μέγιστα κακὰ ἐργάζεσθαι, ἴνα οἶοί τ' ῆσαν καὶ ἄγαθὰ τὰ μέγιστα, καὶ καλῶς ἃν εἶχεν νῦν δὲ οὐδέτερα οἶοί τε· οὔτε γὰρ φρόνιμον οὔτε ἄφρονα δυνατοὶ ποιῆσαι, ποιοῦσι δὲ τοῦτο ὅ τι ἃν τύχωσι.
- (b) προς δε τούτοις και τοὺς υίεις τοὺς σαυτοῦ εἰιοιγε δοκείς προδιδόναι, οὖς σοι εξον και εκθρέψαι και εκπαιδεῦσαι οἰχήσει καταλιπών, και το σον μέρος, ὅ τι αν τύχωσι, τοῦτο πράξουσιν τεύξονται δέ, ὡς τὸ εἰκός, τοιούτων οἰάπερ εἴωθεν γίγνεσθαι εν ταις ὑρφανίαις περὶ τοὺς ὑρφανούς.
- (c) ἡμεῖς γάρ σε γεννήσαντες, ἐκθρέψαντες, παιδεύσαντες, μεταδόντες ἀπάντων ὧν οἶοί τ' ἡμεν καλῶν σοὶ καὶ τοῖς ἄλλοις πασιν πολίταις, ὅμως προαγορεύομεν τῷ ἐξουσίαν πεποιηκέναι ᾿Αθηναίων τῷ βουλομένω, ἐπειδάν δοκιμασθή καὶ ἴδη τὰ ἐν τῆ πόλει πράγματα καὶ ἡμᾶς τοὺς νόμους, ῷ ἄν μὴ ἀρέσκωμεν ἡμεῖς, ἐξεῖναι λαβόντα τὰ ἀντοῦ ἀπιέναι ὅποι ἃν βούληται.

- (d) Χαιρεφώντα γὰρ ἴστε που. οὖτος ἐμός τε ἐταῖρος ἢν ἐκ νεου, καὶ ὑμῶν τῷ πλήθει ἐταῖρός τε καὶ ξυνέφυτε τὴν φυτηὴν ταὐτην καὶ μεθ' ὑμῶν κατῆλθε. καὶ ἴστε δὴ οἶος ἢν Χαιρεφῶν, ὡς σφοδρὸς ἐφ' ὅ τι ὑρμήσειεν.
- (θ) καὶ ταῦτα μὲν ἦν ἔτι δημοκρατουμένης τῆς πόλεως ἐπειδὴ δὲ 
  ἀλιγηρχία ἐγένετο, οι τριάκοντα αὖ μεταπεμψάμενοι με 
  πέμπτον αὐτὸν εἰς τὴν θόλον προσέταξαν ἀγαγεῖν ἐκ Σαλαμῖνος Λέοντα τὸν Σαλαμίνιον, ἴνα ἀποθάνοι.

## 4. Translate, with notes on the underlined words-

- (a) ἀλλ' ὅτε δὴ σχεδον ἦα κιὼν νεὸς ἀμφιελίσσης, καὶ τότε τίς με θεῶν ὀλοφύρατο μοῦνον ἐόντα, ύς ρά μοι υψίκερων έλαφον μέγαν είς όδον αυτήν ήκεν' ὁ μὲν ποταμόνδε κατήτεν ἐκ νομοῦ ὕλης πιόμενος. δή γάρ μιν έχεν μένος ήελίοιο. τον δ' εγώ εκβαίνοντα κατ' ἄκνηστιν μέσα νώτα πλήξα το δ' αντικρύ δόρυ χάλκεον έξεπέρησε, κὰδ δ' ἔπεσ' εν κονίησι μακών, ἀπὸ δ' ἔπτατο θυμός. τῷ δ' ἐγὼ ἐμβαίνων δόρυ χάλκεον ἐξ ὼτειλῆς είρυσάμην' το μέν αθθι κατακλίνας έπὶ γαίη είασ' αὐτὰρ ἐγὼ σπασάμην ρῶπάς τε λύγους τε, πείσμα δ', όσον τ' δρηυιαν, ευστρεφες αμφοτέρωθεν πλεξάμενος συνέδησα πόδας δεινοίο πελώρου, βην δε καταλοφάδεια φέρων επί νηα μέλαιναν έγχει έρειδομενος, έπει ου πως ήεν' έπ' ώμου χειρί Φέρειν έτέρη.
- (b) μή τί τοι ήγεμόνος γε ποθή παρὰ νηὶ μελέσθω, 
  ιστον δὲ στήσας ἀνά θ' ιστία λευκὰ πετάσσας 
  ἤσθαι' τὴν δὲ κέ τοι πνοιὴ Βορέαο φέρησιν. 
  ἀλλ' ὁπότ' ἄν δὴ νηὶ δι' 'Ωκεανοῖο περήσης, 
  ἐνθ' ἀκτή τε λάχεια καὶ ἄλσεα Περσεφονείης, 
  μακραί τ' αἴγειροι καὶ ἰτέαι ὡλεσίκαρποι, 
  νῆα μὲν αὐτοῦ κέλσαι ἐπ' 'Ωκεανῷ βαθυδίνη 
  αὐτος δ' εἰς 'Αίδεω ἰέναι δόμον εἰρώεντα 
  ἔνθα μὲν εἰς 'Αχέροντα Πυριφλεγέθων τε ῥέουσι 
  Κώκυτός θ', ὅς δὴ Στυγὸς ὕδατός ἐστιν ἀπορρὼξ, 
  πέτρη τε ξύνεσις τε δύω ποταμῶν ἐριδούπων.
- (e) καὶ μὴν Τάνταλον εἰσεῖδον χαλέπ' ἄλγε' ἔχοντα, ἐστεῶτ' ἐν λίμνη· ἡ δὲ προσέπλαζε γενείψ

στεῦτο δὰ διψάων, πιέειν δ' οὐκ εἶχεν ἐλέσθαι δσσάκι τὰρ κύψει' ὁ τέρων πιέειν μενεαίνων, τοσσάχ' ὕδωρ ἀπολέσκετ' ἀναβροχὲν, ἀμφὶ δὲ ποσσὶ ταῖα μέλαινα φάνεσκε, κυταζήνασκε δὲ δαίμων. δένδρεα δ' ὑψιπέτηλα κατὰ κρῆθεν χέε κάρπον, ὅτιχναι καὶ ροιαὶ καὶ μηλέαι ἀτιλαόκαρποι συκέαι τε τλυκεραὶ καὶ ἐλαῖαι τηλεθόωσαι. τῶν ὁπότ' ἰθύσει' ὁ τέρων ἐπὶ χερσὶ μάσασθαι, τὰς δ' ἀνεμος ἡέπτασκε ποτὶ νέφεα σκιόεντα.

#### FRENCH.

[The answers which are to be marked clearly A and B, are to be given up in two separate bundles, which are also to be marked clearly I. and II. Answers given up in the wrong bundle will receive no marks. Each sheet must be clearly marked with the letter A or B, and the I. or II.]

# Division A (Lower Standard). Section I.

For Question 1 (a) and (b) Cardidates may substitute Question 1 and Question 2 of Division B.

- 1. Translate (at sight)-
  - (a) Quand la vieille mère reçut le corps de son enfant, que des passants lui rapportèrent, elle ne pleura pas, mais elle demeura longtemps immobile à le regarder: puis, étendant sa main ridée sur le cadavre, elle lui promit de le venger. Elle ne voulut point qu'on restât avec elle, et elle s'enferma auprès du corps avec la chienne, qui hurlait. Elle hurlait, cette bête, d'une façon continue, debout au pied du lit, la tête tendue vers son maître et la queue serrée entre les pattes. Elle ne bougeait pas plus que la mère, qui, penchée maintenant sur le corps, l'œil fixe, pleurait de grosses larmes muettes en le contemplant. Enfin, la vieille mère se mit à parler. Au bruit de cette voix, la chienne se tut.
  - -Va, va, tu seras vengé, mon petit, mon garçon, mon pauvre enfant. C'est la mère qui le promet.
  - (b) Les bêtes, chevaux, vaches, porcs et moutons, étaient grasses, soignées et propres; et le maître, un grand homme qui prenait du ventre, faisait sa ronde trois fois par jour, veillant sur tout et pensant à tout. On conservait, par charité, dans le fond de l'écurie, un très vieux cheval blanc que la maîtresse voulait nourrir jusqu'à sa mort naturelle parce qu'elle l'avait élevé, gardé toujours,

et qu'il lui rappelait des souvenirs. Un garçon de quinze ans prenait soin de cet invalide, lui donnait, pendant l'hiver, sa mesure d'avoine et son fourrage, et devait aller, quatre fois par jour, en été, le déplacer dans le champ où on l'attachait, afin qu'il eût en abondance de l'herbe fraîche.

- (c) Il y avait deux chemins pour monter à la Côte Verte. Le plus long s'élevait insensiblement entre de beaux arbres; l'autre grimpait à l'arrière de la colline. J'en préférais la brusquerie abrupte et même, l'été, la chaleur pierreuse entre les ronces qui le bordaient de buissons poussiéreux. Il s'en exhalait une odeur de terre sèche et de feuilles chaudes. Nous montions. Je me retournais vers le vieux François qui me suivait en soufflant. courte pipe expirait des fumées bleuâtres. Il avait une face usée, comme verdie du reflet des eaux maritimes, comme ridée aux brises du large. Deux annelets d'or scintillaient à ses oreilles poilues. Le chemin roidissait sa pente où déroulaient des cailloux et on se trouvait sur le plateau.
- 2. (a) Write down (in the Third Person Singular) the Past Definite Indicative, the Conditional, and the Imperfect Subjunctive of the following verbs-roidir, suivre, grimper, devoir, vouloir, faire, mettre, percevoir.

(b) Form nouns from the following verbs—éclairer, monter, conserver, hurler; and adverbs from the following adjec-

tives-continu, fixe, gras, pesant.

(c) Explain and illustrate the meaning of--alors, donc, puis.

#### SECTION II.

3. Translate into French-

(a) So you are thinking of leaving town?

(b) Yes; I find it altogether too hot at this time of year.

(c) When are you going to leave?

(d) Next Thursday, the 16th of the month. (e) Might I ask at what particular hour?

(f) Since you are so bent on knowing, I will tell you: by the 10.45 train for Canberra.

4. Translate into French-

But on reaching La Roche Guyon we found a city of the dead. A long deserted street led past dwellings of impenetrable repose. For an instant our spirits failed

We walked forward more slowly; the white dust about our feet no longer seemed the dust of stars. Our knees ached—but a distant light revived us We pressed eagerly, if at last a little heavily, on. The distant light, we found, was shining forth from a bake-shop. Within, the good baker, stripped to the waist, was shovelling to-morrow's loaves into a glowing oven. called to him from the window. He turned and came toward us without embarrassment or surprise. We greeted him with set phrases, and he leaned to us from his window-ledge and pointed our way with a firmly modelled arm. We thanked him: he bade us good night and turned back to his task. Oh, France, thou true gentle land of democracy, when all is said! I know little of thy laws, but thy people are the pattern democrats of this earth.

# Division B (Higher Standard). Section I.

- 1. Translate passages from Hugo, Select Poems.
- Translate passages from Orators of the Revolution; La Bruyère, Les Caractères; and E. an J. Goncourt, Marie Antoinette.

## SECTION II.

3. Translate into French—

We must never forget, in reading these orators, that we are dealing with an impetuous Southern nation in the agony of its last struggle. The politenesses and small generosities of politics are not there. There is no ornamental duelling. The men fight with naked swords, and fight in earnest. Demosthenes thought of his opponents, not as statesmen who made bad blunders, but as perjured traitors who were selling Greece to a barbarian. They thought him, not, indeed, a traitor—that was impossible -but a malignant and insane person who prevented a peaceful settlement of any issue. The words "treason" and "bribe" were bandied freely about; but there is hardly any proved case of treason, and none of bribery. The wide suspicion of bribery was caused chiefly by the bewilderment of the Athenians at finding themselves in the presence of an enemy far their superior both in material force and in diplomacy. Why were they so

incomprehensibly worsted in wars, where they won most of the battles? Why were their acutest statesmen invariably outwitted by a semi-barbarous king? Somebody must be betraying them.

## 4. Translate (at sight)-

Les pensées de M. de La Boulerie n'étaient point toujours celles qu'on lui eût supposer. Elles étaient souvent anxieuses et désespérées. Il vivait dans un sentiment profond, sérieux et certain du danger qu'il y a à vivre. L'homme a beaucoup à redouter tant de lui-même que d'autrui. Il est exposé à de fâcheuses surprises. M. de La Boulerie s'alarmait de toutes les maladies en général et même des plus rares, des contagieuses non moins que des endémiques et des chroniques, et il se croyait continuellement sur le point d'être atteint par l'une d'elles. Aussi considérait-il avec effroi son propre corps. Composé, comme il l'est, de tant d'organes, de parties et de fonctions, comment espérer que tout s'y comportera dans l'ordre qu'il faut? Ne sommes-nous point à la merci de la plus petite imperfection et du moindre dérangement de notre machine, et il n'est pas de grain de sable qui n'ait raison des rouages les mieux réglés?—Si sa santé personnelle le préoccupait, celle des autres ne le rassurait pas davantage, et il augurait à chacun les maux dont il lui semblait apercevoir sur les visages les marques probables. Et comme il arrivait que ces pronostics se réalisassent quelquefois, il en tirait, pour ceux qu'il se faisait à lui-même, et qui n'étaient point bons, de justes sujets de craintes.

#### GERMAN.

For Question 1 (a) and 1 (b) of Division A, candidates may substitute either Question 1 or Question 2 of Division R.

# Division A (Lower Standard).

TWO AND A HALF HOURS.

# 1. Translate into English-

(a) Ich erwachte, als mir der Tag ins Gesicht schien. Bor mir war ein steiler Felsen, ich kletterte in der Hoffnung hinauf, von dort den Ausgang aus der Wildniß zu entdecken, und vielleicht Wohnungen oder Menschen gewahr zu werden. Alls ich aber oben stand, war alles, so weit nur mein Auge

reichte, eben so, wie um mich her, alles war mit einem neblichten Dufte überzogen, ber Tag war grau und trübe, und feinen Baum, feine Wiefe, selbst fein Gebüsch konnte mein Auge entdeden, einzelne Sträucher ausgenommen, die einsam und betrübt in engen Felsenrigen empor geschossen waren. Es ist unbeschreiblich, welche Schnsucht ich empfand, nur eines Menschen ansichtig zu werden, wäre es auch, daß ich mich vor ihm hätte fürchten mussen.

- (b) Um sich zu zerstreuen, begab er sich zuweilen nach der nächsten großen Stadt, wo er Gesellschaften und Feste besuchte. Er wünschte durch irgend einen Freund die Leere in seiner Seele auszusüllen, und wenn er dann wieder an Walther zurück dachte, so erschrack er vor dem Gedanken, einen Freund zu sinden, denn er war überzeugt, daß er nur unglücklich mit jedweden Freunde sein könne. Er hatte so lange mit Vertha in einer schönen Nuhe gelebt, die Freundschaft Walthers hatte ihn so manches Jahr hindurch beglückt, und jest waren beide so plöstich dahin gerafft, daß ihm sein Leben in manchen Augendlicken mehr wie ein seltsames Mährchen, als wie ein wirklicher Lebenstauf erschien.
- (o) Ich sehne auf der Brücke am Weiherdamme, um den Frieden in mich einziehen zu sassen, che ich mein Dorf, ein Fremdzewordener, betrete. Aber ganz will der süße Friede nicht in meine Brust. Zwar du bliebst dieselbe, ewige Natur! Aber an dieser Stätte kannst du allein mir nicht alles schenken, wonach mich dürstet. Du allein lösest meine Seele nicht. . Ach! Wandle ich hier nicht überall auf eingesunkenen Gräbern? Und in der Heimat kast mich das Heimweb. Aber wie ich so, traumverloren, mehr fühle als denke, zieht der Zug der lieben Zerstreiten und Toten an mir vorüber, wie hinter einem Schleier, im einzelnen unklar, umwittert vom Geisterhauche der Kinderzeit.
- 2 (a) Write down the second person plurel of the imperfect indicative, present imperative, and past subjunctive of the verbs kletterte, überzogen, fürchten, ausfüllen, überzeugt, dürsten, umwittern.
  - (b) Illustrate, by means of short sentences, the meanings of 'überziehen, über'ziehen; 'umgehen, um'gehen; 'durchwacheen, durch'wacheen.
  - (c) Explain and illustrate the uses of wohl, um, nun, für, erst.

- 3. Translate into German-
  - (a) (i.) What did you mean by telling him about it?
    - (ii.) Why, I didn't know there was any harm in doing so.
    - (iii.) Besides, you didn't tell me not to do so.
    - (iv.) Anyhow, you shouldn't have done it; you have caused me a great deal of annoyance.
    - (v.) I cannot say more than that I am very sorry.
    - (vi.) And I'll think twice before I trust you with a secret again.
  - (b) Mr. Davies mentioned my name and respectfully introduced me to him. I was much agitated; and recollecting his prejudice against the Scotch, of which I had heard much, I said to Davies, "Don't tell where I come from." "From Scotland," cried Davies, roguishly. "Mr. Johnson, (said I) I do indeed come from Scotland, but I cannot help it." With that quickness of wit for which he was so remarkable, he seized the expression "come from Scotland," which I used in the sense of being of that country; and, as if I had said that I had come away from it, or left it, retorted, "That, sir, I find, is what a great many of your countrymen cannot help."

# DIVISION B (HIGHER STANDARD).

- 1. Translate passages from Schiller, Jungfrau von Crleans.
- Translate Passages from Fouqué, Sintram, and Heine, Select Ballads.
- 3. Translate into German-

Such was the general character of the Teutonic religion, disposed to the dark, the awful, the mysterious, with a profound belief in prophetic revelations, and a priesthood accustomed to act in a judicial, as well as in a religious capacity. And with such religious conceptions, and habits of thought and feeling, the Northern tribes, first on the frontiers, afterwards within the frontiers, and gradually in the heart of the Roman Empire, came into the presence of Christianity. The Teutonic conqueror, already expatriated, by the thirst for conquest or the aggression of more martial tribes, by his migration had broken off all local associations of sanctity; he had left far behind his hallowed grove, and his bloodstained

altar; even the awe of his primeval forests must have gradually worn away as he advanced into the southern sunshine, and took possession of the regular towns or the cultivated farms of his Roman subjects.

## 4. Translate (at sight)—

Die raubenden hirten, die Cafar uns vorführt, werden in dieser Zeit senbafte Bauern. Das deutsche Dorf entsteht, ein Spiegel deutschen Wesens: der Gedanke, der es grundet, eigenartig, von Nechtegefühl durchtranft, das Bestebenden, wie man es in den altseltischen Landen links der Weser vorsand, Erhaltung verbürgt, weil bem deutschen Sinne bas Gewordene beiliger ift als bas Gemachte; die Ausführung scheinbar regellos. Freiheit des Einzelnen, Zwang des Berbandes: wie jo gang deutsch. ist dieses Saufendorf mit seiner strenggeregelten Flurein= teilung und feinem wirren Besitzechte an ben einzelnen Alurituden! Gine neue Sorge, Die am tiefften greifenbe von allen, wird befannt : die Sorge um heim und haus, um die werdende Ernte. Mit ihr gewinnt der Götterglaube in Tiefe und Breite. Ein neues Recht zieht ein. Aberall bereichert sich das Leben um friedliche Züge, es ist jedenfalls viel mehr Joylle als Epos. Die Geschichte Dieser Zeit, in ber erft bas Kand zwischen Ithein und Elbe in Bahrheit unfer Baterland wird, fieht unter dem miloftrablenden Sterne der Arbeit an der Gesittung, nicht dem blutigroten des Krieges.

# LOWER MATHEMATICS.

#### Division A.

#### FIRST PAPER. - TWO AND A HALF HOURS.

Candidates should attempt to answer questions in all the divisions (A), (B), (C) of this paper, as the Examiners may reject any candidate who shows exceptional weakness in any one of them.

#### Α,

- How many times is £26 18s. 4½d. contained in £972 8s. 2d., and how much remains over?
- Find the value of 2 acres 3 roods 16 perches of land at £24 12s. 6d. per acre. Find also the value of 1 perch of the land as a decimal of a pound.
- 3. If the weight of one cubic foot of water is 62:25 lbs., find the error made in calculating the weight of 1200 cubic ft. on the assumption that one cubic foot weighs 1000 oz.

B.

- 4. Divide  $a^4 + b^4 c^4 + 4ab(a^2 + b^2) + 6a^2b^2$  by  $a^2 + b^2 + c^2 + 2ab$ , and multiply the result by a + b + c.
- 5. Find the simplest factors of
  - (i.)  $x^4 10x^3y 39x^2y^2$ .
  - (ii.)  $(a+2b)^3-8(a-b)^3$ .
  - (iii.)  $35x^2 + 27xy 44y^2$ .
- 6. Solve the equations

(i.) 
$$\frac{1}{12}[(2x+1)^2-4]+2x+\frac{11}{4}=\frac{(x+3)^2+3}{3}$$

(ii.) 
$$\frac{3x+4y}{24} = x-y$$
,   
  $\frac{x-2y}{3} + y = \frac{7}{3}$ .

Verify the solution of the first equation by substitution, and of the second graphically by drawing the straight lines represented by the equations.

C.

- Define "parallel straight lines," and state the axiom (or postulate) with regard to parallel straight lines of which you make use.
  - Prove that if one straight line fulling upon two other straight lines makes the alternate angles equal, then the two last mentioned straight lines are parallel.
  - Prove that if two straight lines are cut by three parallel straight lines, and the intercepts on one straight line are equal, they are also equal on the other straight line.
- 8. Prove geometrically the proposition  $a^2+2ab+b^2=(a+b)^2$ .
- Prove that angles in the same segment of a circle are equal, and conversely that if the angle ACB=ADB, C and D being on the same side of AB, then the points ABCD are concyclical.

## LOWER MATHEMATICS.

#### Division A.

#### SECOND PAPER. - TWO AND A HALF HOURS.

Candidates should attempt to answer questions in all the divisions (A), (B), (C) of this paper, as the Examiners may reject any candidate who shows exceptional weakness in any one of them.

Α.

- The manufacturer of an article makes a profit of 20 per cent., the wholesale dealer makes a profit of 25 per cent., and the retailer a profit of 30 per cent. Find the cost to the manufacturer of an article which is sold by the retailer at £1 2s. 9d.
- Find, to the nearest penny, the compound interest on £1230 13s. 4d. for 3 years at 4 per cent.
- 3. The external length, breadth and depth of an open box are 5 ft. 10 in., 3 ft. 6 in. and 2 ft. 6 in. respectively, and it is made of wood one inch thick. Find the volume of the wood used.

в.

4. Simplify

(i.) 
$$\frac{2x}{2x-y} + \frac{2x}{2x+y} + \frac{8x^2}{4x^2+y^2} + \frac{16x^2y^2}{16x^4-y^4}$$
  
(ii.)  $\left(a + \frac{b-a}{1+ab}\right)\frac{a}{b} \div \left(1 - \frac{a(b-a)}{1+ab}\right)$ .

5. Solve the equations

(i.) 
$$\frac{x+3}{x-2} + \frac{3x+6}{x-4} = 11$$
.

(ii.) 
$$(a+b+x)^2+bx=a^2-b^2$$
.

(iii.) 
$$x^2 + 6xy = 0$$
,  
 $2y^2 - 5xy = 8$ .

6. Two numbers are in the ratio 5:6. If 4 be added to each of them, the sums are in the ratio 7:8. Find the numbers.

C.

Prove that parallelograms upon the same base and between the same parallels are equal to one another.

Draw a quadrilateral whose opposite sides are parallel and 2 and 3 inches long respectively, and the remaining sides are each 1½ inches long. Make a triangle equal to the quadrilateral, and hence or otherwise find its area in square inches and decimals of a square inch.

- 8. Prove that the square on the hypothenuse of a right-angled triangle is equal to the sum of the squares of the sides containing the right angle.
  - If AB represents one unit of length, draw a straight line containing  $\sqrt{7}$  units of length.
- 9. Show that the angles which a tangent to a circle makes with a secant drawn through the point of contact are equal to the angles in the alternate segments of the circle.
  - If two circles touch each other externally, prove that any straight line drawn through the point of contact cuts off similar segments from the two circles.

#### HIGHER MATHEMATICS.

Division B.

# FIRST PAPER.

Candidates should attempt to answer questions in all the divisions (A), (B), (C) of this paper, as the Examiners may reject any candidate who shows exceptional weakness in any one of them.

#### Α.

- Two men A and B do a piece of work together, the proceeds after payment of all expenses to be divided between A and B in the ratio of 2 to 1. A advances the expenses amounting to £5 17s. 6d., and B receives the proceeds £52 10s. How much has he to hand over to A?
- A statuette 5 inches high is to be made of silver. A plaster model 2 ft. high is made, and weighs 20 lbs. Find what will be the weight of the statuette if silver is 13 times as heavy as plaster.
- 3. A grocer sells eggs at 15 for a shilling, thereby making a profit of 13; per cent. What profit will he make if he sells them at 9d. a dozen?
- 4. If x-y+z=0, prove that  $\frac{1}{y^2+z^2-x^2} + \frac{1}{z^2+x^2-y^2} + \frac{1}{x^2+y^2-z^2} = 0$
- 5. Solve the equations
  - (i.)  $x^2 x(a-b) + (a-b+c)c = 2cx + ab$ .

(ii.) 
$$3x+9=2\sqrt{(xy)},$$
  
 $5\sqrt{x}-3\sqrt{y}=3.$ 

В.

6. What is the locus of a point P which moves in a plane so that a given line AB in the plane always subtends the same angle at it?

Find a point O inside a triangle ABC such that the angles BOC, COA and AOB are all equal.

Does a solution of this problem always exist?

7. Describe a circle about a given triangle, and prove the following formulæ for its radius

$$R = \frac{a}{2 \sin A} = \frac{abc}{4 \Delta}.$$

8. If AD is drawn bisecting the exterior angle A of a triangle ABC, and meeting the base in D, prove that DB:DC=AB:AC.

9. ACBD are four points in a straight line in this order, such that the rectangle AC.BD is equal to the rectangle AD.CB. On CD a circle is described, and P is any point on its circumference; and LCM is drawn parallel to PD, meeting PA and PB in L and M. Show that LC=CM, and hence that PC bisects the angle APB.

C.

10. Define the tangent of an angle.

Find the value of cos A and cosec A when tan A=2.4, and A is an angle in the third quadrant.

- 11. Trace the changes in magnitude and sign of  $\cos \theta$  as  $\theta$  changes from 90° to 180°.
- 12. The angle of elevation of the top of a tower 120 feet high from a point on the ground is 36° 36′. What will be the elevation from a point 50 feet nearer?

#### HIGHER MATHEMATICS.

Division B.

#### SECOND PAPER.

-Candidates should attempt to answer questions in all the divisions (A), (B), (C) of this paper, as the Examiners may reject any candidate who shows exceptional weakness in any one of them.

Α.

1. Find the relation between a, b and c in order that  $ax^2+2bx+c$  should have ax+b as one of its factors.

- 2. A tramway company charging a 3d. fare per journey found that its expenses for a month were just equal to the revenue. It broke the journey into two sections, and charged 2d. for each section, through passengers receiving a ticket for each section. The number of tickets issued increased by 60 per cent., and the revenue exceeded the expense by £100. Find the number of tickets issued on the old 3d. scale.
- The first term of an A.P. is 38, the fourth term 86, find the sum of the first 15 terms.
- 4. Prove that

$$\log_{\tilde{b}}^{a} = \log a - \log b.$$

Find the value of

$$\frac{7.436}{8.269}$$
 - .0736,

and of  $(1.035)^{\frac{1}{12}}$ .

5. Write down the first four terms of the expansion of  $(x-a)^n$ , where n is a positive whole number.

Find the approximate value of '995 by using this expansion. Can you account for the difference between your result and that obtained by using logarithm tables?

R

- 6. P is a point on the circumcircle of a triangle ABC, and perpendiculars PD, PE, PF are drawn to the sides. Show that D, E and F are collinear.
- 7. Triangles which are equiangular are also similar; prove this.
  - ABC is a triangle, BD and CD are perpendicular to AB and AC respectively, CEF is perpendicular to AD meeting AB in F. Show that the triangles AFC and ABC are similar, and that AC is a tangent to the circle through B, F and C.
- 8. Prove that the areas of similar triangles are as the squares on corresponding sides.
  - AD, BE and CF are the three perpendiculars of a triangle ABC, show that the area of  $AEF = \triangle .\cos^2 A$  where  $\triangle$  is the area of ABC.

Э.

9. Prove geometrically that

$$\sin(180^{\circ} - A) = \sin A,$$
  
 $\cos(180^{\circ} - A) = -\cos A,$ 

using a figure in which A is acute.

Using your tables, write down the values of cos 130°, tan 475°, sin 1305°.

.10. Show that

$$\tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B},$$

and find the value of tan 105° from this formula.

11. Prove that in any triangle

(i.) 
$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$
,

(ii.) 
$$a=b \cos C + c \cos B$$
,

(iii.) 
$$\cos A = \frac{\sin^2 B + \sin^2 C - \sin^2 A}{2 \sin B \sin C}$$
.

12. Solve the triangle in which  $A=37^{\circ}$  18',  $B=62^{\circ}$  6', and e=72.5.

#### MECHANICS

## Division B.

- 1. Enunciate the parallelogram of velocities and the parallelogram of accelerations, and prove the former.
  - A river, 100 yards wide, is flowing from E. to W. at the rate of 4 miles per hour. A man starts from the south bank, and rows at the rate of 6 miles per hour in a N.E. direction; find his resultant velocity, and at what point on the N. bank he will land.
- 2. Prove the formula  $s=ut+\frac{ft^2}{2}$ . Also show that the body moves through  $u+nf-\frac{f}{2}$  units of space in the *n*th second of its motion.
  - A stone falling from the roof of a house is observed to pass a window 7½ feet high in ½ second, determine the depth of the window sill below the top of the house.

- 3. State Newton's Second Law of Motion.
  - Find the space and time in which a ferry boat weighing 150 tons, moving at 2 miles per hour, can be brought to rest by a rope round a post, the breaking pull of the rope being 1 ton weight.
- 4. Give three illustrations of the principle that action and reaction are equal and opposite.
  - A pile, weighing half a ton, is driven \( \frac{1}{4} \) inch into the ground by the blow of a hammer weighing 2 tons descending from the height of 4 feet. Find (1) the velocity of the hammer just before striking the pile, (2) the velocity of the pile and hammer just after the blow, (3) the average resistance of the ground.
- 5. Find the horse-power of the locomotive of a train, weighing 250 tons, which can ascend a slope of 1 in 75 at the rate of 10 miles per hour against a road resistance of 14 lbs. per ton.
- 6. Describe the conical pendulum, and find the tension of the string and the number of revolutions per second of a conical pendulum of length 2½ feet, the bob revolving in a horizontal circle of radius 1½ feet.
- Find the magnitude and line of action of the resultant of two like parallel forces P, Q acting on a body, their lines of action being d feet apart.
  - Four weights of 1 lb., 3 lbs., 5 lbs. and 7 lbs. are hung upon a uniform bar of length 6 feet, weighing 10 lbs., at distances 1 foot, 2 feet, 3 feet and 4 feet from one end. Find the magnitude and line of action of the single force which, applied to the bar, will support it.
- 8. Find the centre of gravity of a uniform triangular board.
  Find also the centre of gravity of a trapezium, whose opposite parallel sides measure 30 inches and 20 inches, and whose height is 2 feet.
- 9. State the laws of friction and of limiting friction.
  - Find the least force acting up the plane which will support a body weighing 1 ton on an inclined plane whose length is 5 feet, and height 4 feet, the coefficient of friction being \( \frac{1}{3} \).
  - Find also the least force acting up the plane which will drag the body up the plane.

10. Describe any system of pullies, and calculate the ratio of the power to the weight when the system comprises three movable pullies whose weights may be neglected.

## ENGLISH HISTORY.

### LOWER STANDARD.

- Write an account of the lives of the following—(a) Sir Thomas More; (b) Sir Walter Raleigh; (c) Thomas Wentworth, Earl of Strafford.
- Write an account of (a) the Great Civil War, 1642-1645;
   (b) the Deposition of James II.
- 3. Describe the events that led to the outbreak of the War of American Independence.
- Write what you know about—(a) the Reform Act of 1832;
   (b) the Repeal of the Corn Laws.
- Explain the interest of the voyages made near the Australian coast by the following navigators—Luis de Torres, Abel Tasman, William Dampier, James Cook.
- Write what you know about Sir Joseph Banks, Governor Arthur, Ludwig Leichhardt.
- Write an account of (a) the foundation of South Australia;
   (b) the foundation of Melbourne.
- 8. Write a short account of the present Federal Constitution of Australia.

## MODERN HISTORY.

## HIGHER STANDARD.

You are recommended to answer BIGHT questions, and no more,

- 1. What were the chief causes of the break-up of the Roman Empire?
- Write a short account of the reign of Charlemagne, and explain its importance.
- 3. "The heathen from the North wrought havoc in Christendom as usual, and grew greater in strength."

  Explain.
- Write what you know about St. Bernard, Abelard, Roger Bacon.

#### MATRICULATION.

- 5. Write what you know about the "Babylonish Captivity of the Papacy," "the great Schism," "the Council of Constance."
- 6. What is meant by "the Italian Renaissance"?
- 7. Trace the development of Luther's views to 1521 (the Diet of Wörms).
- 8. What were the causes of the revolt of the Netherlands against Spain? What were the chief results of the revolt?
- Explain the importance of the Treaty of Westphalia, and of the Treaty of Utrecht.
- Describe the events that led to the outbreak of the Seven Years' War, and sum up the results of that war.
- Endeavour to sum up the permanent changes brought about by the Revolutionary period from 1789 to 1815.
- 12. Describe shortly the events of the year 1848.

## CHEMISTRY.

#### Division B.

Give equations where possible.

- Describe a convenient method of preparing pure hydrogen, and give an account of its chief properties.
- 2. One litre of air is slowly passed through a long tube containing red-hot carbon. State what happens, and give as nearly as possible the volume of the gas which comes out of the tube, after it has cooled down to room temperature again.
- 3. Write down the names and formulæ of all the oxides of nitrogen, sulphur, and phosphorus. Say also what happens when each of these oxides is put into water.
- 5 What is the action of each of the following acids on zinc?—
  - (a) Hydrochloric Acid.
  - (b) Sulphuric Acid.
    - (c) Nitric Acid.

- 6. How is copper prepared from its most important ore?

  What are the most objectionable impurities in copper?
- 7. How would you prepare (a) barium chloride from barium sulphate, (b) cadmium nitrate from cadmium sulphate, (c) lead peroxide from lead?

#### PHYSICS.

#### Division B.

Only SEVEN questions are to be answered.

- 1. A bowl is filled to the brim with water; find the amount of water which overflows and the difference made in the total weight of the bowl and its contents when there is added to it—(a) a kilogramme of wood of specific gravity 0.4, (b) a kilogramme of silver of specific gravity 10?
- 2. Water at 15° C. can absorb 756 times its volume of ammonia. What mass of ammonia can be dissolved in one litre of water at 15° C. under a pressure of 10 atmospheres, the volume of one gramme of ammonia at 0° C. and a pressure of 760 mm. being 1317 cc.?
- 3. A current of dry air at 30°C. passes over water at the same temperature and leaves it saturated with water vapour. The volume of gas leaving is 1000 cc. each second; at what rate must heat be supplied so that the temperature of the air and water may remain unchanged? The latent heat of vaporisation of water at 30°C. is 578, the maximum pressure of water vapour at that temperature is 31.5 mm., the density of water vapour is 0.622 times that of dry air, and the mass of 1 cc. of dry air at 0°C. and 760 mm. is 0.00129 gramme.
- 4. Describe with full practical and theoretical detail some experiment which you have carried out in connection with the subject of heat.
- 5. What is meant by the critical point in connection with the compression of gases? Give a diagram showing the general form of the isothermals of a substance, such as water or carbon dioxide, at and near the critical temperature and considerably above and below that, temperature.

- 6. A vibrating stretched string gives out a certain note; how would you make it emit a note of double the frequency, and, the fundamental remaining unchanged, how may the quality of the note be altered?
- 7. What general condition must hold in order that a pleasing effect may be produced when two notes are sounded simultaneously on a musical instrument? Give some examples of two notes forming a pleasing combination and others producing an unpleasant effect?
- 8. Explain what is meant by the Doppler effect. The wavelength of the light corresponding to one of the hydrogen lines in the spectrum is 0.0000486072 cm.; on examining the spectrum of a star this line is seen to be displaced towards the red end, its position corresponding to a wavelength of 0.0000486112 cm; what can be deduced from this?
- 9. Give the simple theory of the diffraction grating, showing how it may be used in determining the wavelength of light.
- 10. Two plates are cut from a crystal of tourmaline parallel to the crystallographic axis. Describe and explain briefly the effects observed when a source of light is viewed through the two plates, one plate being rotated about an axis parallel to the direction in which the light is travelling?

#### PHYSIOLOGY.

## Division B.

Diagrams to be used where possible.

- 1. What changes occur in the shape of the chest on taking a breath?
- 2. Contrast inspired with expired air.
- 3. What is the pulse?
- 4. Classify the various kinds of joints.
- 5. What are the functions of the iris?
- 6. Describe the structure of a gland, e.g., the pancreas.
- 7. In what forms does carbon leave the human body?

- 8. Describe the sense organs of taste.
- 9. How is the heat of the body produced?
- Mention the chief characters of the different groups of food-stuffs.

## ENGLISH AND GEOGRAPHY.

(FOR ENGINEERING CANDIDATES).

English and Geography answers to be given up in separate bundles.

#### PART A.

Not more than YOUR questions to be attempted.

- Tell shortly what you know of four of the following authors, and mention some of their works—Malory, Bacon, Pope, Goldsmith, Coleridge, Byron.
- 2. Give a brief account of four of the following compositions—
  The Canterbury Tales, The Faery Queen, Gulliver's Travels,
  The Talisman, The Princess, Vanity Fair.
- State who four of the following fictitious personages are and where they occur—Mercutio, Jessica, Elaine, Le Balafré, Mr. Jingle, Mulvaney.
- 4. Who were the chief writers of the so-called "Queen Anne" group?
- Name and shortly characterise three historical novels by three different authors.
- 6. What political circumstances have mainly affected the character of the English language?
- 7. Distinguish between the meanings of the following pairs of words—Examine, scrutinise; rascal, villain; educated, cultured; precious, costly.

#### PART B.

Not more than FOUR questions are to be attempted.

- Draw a map of North America as large as your paper will admit, leaving a margin of an inch; mark on it and name the chief mountains, lakes, rivers, inlets and peninsulas
- 2. State briefly what you know of four of the following:

  India, Japan, South Africa, the Amazon, the Mediterranean,
  Paris, the Andes, Vesuvius, Singapore, Papua.

## MATRICULATION.

- 3. Write a short account of the form of government of FOUR of the following countries: Great Britain, Germany, Japan, Italy, Mexico, Egypt, Portugal.
- 4. Describe the route taken by mail steamers between Sydney and London.
- Draw a map of Eastern Australia as large as your paper will allow, leaving a margin of not less than one inch, showing the chief mountain ranges and coastal rivers.
- State what you know of six of the following:—
   Brisbane, Murrumbidgee, Ballarat, the Federal Capital Site,
   Jenolan, Spencer's Gulf, Macdonald Ranges, Snowy River,
   Mount Wellington, Bathurst.
- 7. What are the chief industries of New South Wales? Draw a sketch map showing the areas where these industries are carried on.

# P. N. RUSSELL SCHOLARSHIP EXAMINATION.

## MATHEMATICS, MECHANICS AND LANGUAGES.

The papers set for Division B (Higher Standard) in the Matriculation Examination.

# PLANE AND SOLID GEOMETRICAL DRAWING AND PERSPECTIVE.

The questions are to be answered by drawing the figures neatly in pencil with the aid of drawing instruments. Written descriptions or demonstrations are not required, but all construction lines must be clearly shown.

1. Determine by geometrical construction the value of :-

$$x = \frac{2a}{\sqrt{b}}; \ x = \sqrt{a^2 - b^2}; \ x = \sqrt{ab}.$$
$$x = \frac{a^2 + c^2}{b}; \ x = a^2 + 2ab + b^2.$$

a=2 inches, b=1.5 inches, and c=1 inch.

- Describe the arc of a circle which shall pass through three points not in the same straight line, the centre being inaccessible.
- 3. Show how to draw a circle which shall pass through two given points and touch a given circle.
- Show how you would construct an ellipse, having given the major and minor axis; a parabola, having given the base and central ordinate; and an ordinary rectangular hyperbola.
- 5. Draw the curve traced out by a point in the circumference of a circle when it rolls upon the inside and the outside of another circle, having given the diameters of the circles 1.5 inches and 9 inches respectively.
- 6 Two planes are mutually perpendicular. Their intersection is inclined at 30 degrees; one of them is inclined at 50 degrees; show them by their traces.

## colxviii. P. N. RUSSELL SCHOLARSHIP EXAMINATION.

- 7. A cone 4 inches long, base 2 inches radius, lies with its side upon the horizontal plane, so that its axis is parallel to the vertical plane, and 3 inches from it. The horizontal trace of a plane of section bisects the line of contact with the horizontal plane, and meets the vertical plane at an angle of 60 degrees; the vertical trace makes an angle of 30 degrees with the ground line, both traces tending towards the base. Obtain the projections and true form of the section.
- Draw the plan and elevation of a cube when two of its edges meeting at one of its corners are inclined at 20 degrees and 40 degrees.
- 9. Obtain the perspective of a box 3 feet long by 2 feet wide, having a lid standing open at an angle of 30 degrees; the edge of the short side of the box is parallel to the picture plane, and 1 foot behind it; the nearest corner of the box is 2 feet to the left of the spectator.

### APPLIED MECHANICS.

- A beam of span l feet carries a distributed load of w tons per foot run, also three equal concentrated loads W applied at points dividing the length of the beam into four equal parts. Determine the bending moments and shearing stress, and represent them by means of diagrams, having given l=20 feet, w=2 tons, and W=20 tons.
- 2. A floor has to carry 336 pounds per square foot. The timber joists are 12 inches deep by 4½ inches wide, and have a span of 14 feet. How far apart may the centre lines be spaced if the extreme fibre stress due to bending is not to exceed 1000 pounds per square inch?
- 3. Make a sketch of an ordinary crane as used by contractors in Sydney for the erection of buildings, and show how you would determine the stresses in the various members. Explain the mechanism for lifting and lowering, and for securing the stability of the crane.
- 4. Show how to construct a curve of the velocity of a cross-head at all parts of the stroke for a uniformly revolving crank of 1 foot radius—length of connecting rod=3 feet.

From this curve show how to construct an acceleration curve.

- 5. Two shafts about 4 feet apart are to be connected by spur wheels, the velocity ratio being 4 to 1. Find the diameters of the wheels, and also the number of teeth, assuming the pitch to be 2 inches.
- 6. A train is running at 40 miles an hour; find the resistance in pounds per ton necessary to stop the train in 1000 yards on a level. Also find the distance in which the train would be brought to rest by the same brake power on an up grade of 1 in 100, and on a down grade of 1 in 50.
- 7. How would you express the energy stored in a hydraulic accumulator of given diameter, stroke and pressure?
  - An accumulator ram is 9 inches diameter, and 21 feet stroke; find the store of energy in foot pounds when the ram is at the top of its stroke, and is loaded till the pressure is 750 pounds per square inch.
- 8. In a crane the chain barrel is driven by a motor on the spindle of which is keyed a spur wheel of 14 teeth. This gears with a spur wheel of 68 teeth keyed to the same spindle, upon which is keyed a similar wheel of 12 teeth. The last wheel gears with a wheel of 50 teeth, keyed to the same spindle as a wheel of 25 teeth; and the latter gears with a wheel of 54 teeth, keyed to the chain-barrel spindle. The chain barrel is 16½ inches in diameter. Sketch the arrangement, and find the revolutions per minute of the motor when 20 feet of chain per minute are wound on the chain barrel.

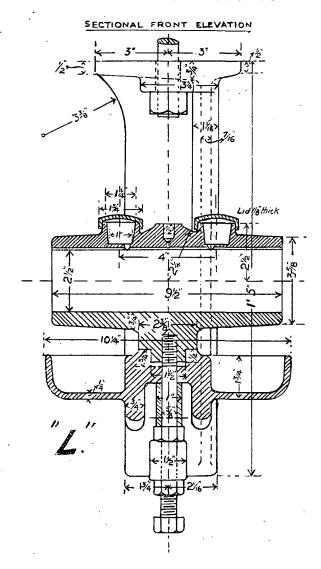
## MECHANICAL DRAWING.

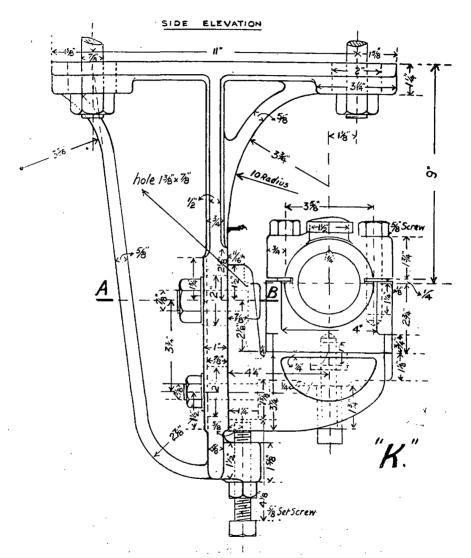
#### FOUR HOURS.

The drawings are to be in pencil, on the paper provided. Neat and accurate drawing is essential, and candidates should note that the sketch given is not necessarily to scale.

- From the sketch shown below draw to a scale of half full size—
  (a) The front elevation in place of view "L."
  - (b) The side elevation, with the bearing shown in section along its centre line, instead of view "K."
  - (c) The sectional plan on plane AB with the cap removed.

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