



INSTITUTE OF CHEMICAL TECHNOLOGY

(University under Section 3 of UGC Act- 1956)

**First Elite Institute & Centre of Excellence
of the Government of Maharashtra**



HANDBOOK 2012-13

INSTITUTE OF CHEMICAL TECHNOLOGY



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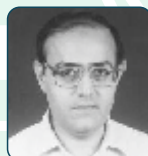
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INSTITUTE OF CHEMICAL TECHNOLOGY

(Deemed University under Section 3 of UGC Act 1956)

Elite Status & Centre of Excellence - Govt. of Maharashtra

GRADE 'A' BY MHRD

NBA ACCREDITATION FOR ALL COURSES

The Only State Funded Deemed University in India
World Renowned for Quality of Education, Research
and Connectivity with Industry University Par Excellence



HANDBOOK: 2012-2013

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Foundation

October 1, 1933

UDCT

University of
Bombay

MUIC

University of
Mumbai 2002

Autonomous Institute

University of Mumbai 2004

Deemed University

September 12, 2008

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IMPORTANT INSTRUCTIONS

- The fees for a single form to a particular course including the Handbook are as follows. Candidates desirous of applying for additional courses must buy relevant form by paying additional fee at the same rate.

Course	Open Category		Backward Class Category**	
	At Counter	By Post ***	At Counter	By Post ***
Undergraduate	Rs.900/-	Rs.1000/-	Rs.450/-	Rs.550/-
Postgraduate	Rs.1000/-	Rs.1100/-	Rs.500/-	Rs.600/-

** **Fees for Backward class candidates are** applicable to the candidates from the State of Maharashtra only.

*** To obtain the admission form and Handbook by post, the payment should be made only by a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "**Institute of Chemical Technology, Mumbai**", payable at Mumbai and it is non-refundable and non-transferable under any circumstances. **Payment by cheque or money order will not be accepted.** A copy of the Handbook along with the admission form will be sent by Registered Post Parcel.

- The handbook along with the admission form will also be available at the ICT Counter by payment in cash except on Sundays, 2nd and 4th Saturdays and holidays, from the date announced in the schedule of admission process at ICT for various courses.
- The admission form may be downloaded from the ICT website, www.ictmumbai.edu.in. The duly filled form may be submitted in person at the ICT counter or sent to the ICT along with the Pay Order/ DD of the amount equal to the "**By Post**" amount mentioned above. The **Institute of Chemical Technology (ICT) is not responsible for any postal delay.** The Receipt will be sent by Registered Post A/D and ICT Handbook will be sent by Registered Post Parcel.
- Anybody, not belonging to the backward class category, found buying application form under that category will be disqualified.
- Please read the Handbook carefully before filling the admission form.**
- Changes if any, in the contents of this printed copy, shall appear in the soft copy of the handbook displayed** on www.ictmumbai.edu.in.
- Due to circumstances beyond control of authorities, the schedule of admission may change and it will be notified on the website. Candidates are advised to watch the website frequently.
- Merit list/ schedule of admission rounds for all UG and PG courses will be displayed on www.ictmumbai.edu.in and the ICT Notice Board. Please note that no individual correspondence will be made in this regard and it is the responsibility of the candidates to visit the webpage regularly.**
- Pleading ignorance about information displayed on the web shall not be entertained.
- Merit is the only criterion for admission to any course and seats are reserved as per Government of Maharashtra's directives in this connection.
- There are no agencies operating on behalf of the institute and there is no capitation fee or donation in regard of admissions. Be careful of any persons claiming to offer admission to the ICT or knowing authorities. No extraneous considerations should be brought to exert pressure on the Admission Committee. It will be strictly dealt with. We take pride in fairness and openness in admissions and all matters and give justice to one and all.
- All correspondence regarding admissions should be addressed to the Registrar, Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai-400019 (admission@ictmumbai.edu.in; admission.ict@gmail.com +91-22-33611111/ 2222; Fax: +91-22-33611020).

APPROACH ROUTES TO ICT AND LANDMARKS

A location map of the ICT, available on Google maps, is provided on page iii and the various access routes are described from nearby railway stations, bus stops and the airport.

Landmarks in the vicinity of ICT

The VJTI (Veeramata Jijabai Technological Institute) (Backside), Khalsa College, Don Bosco Church are well known landmarks adjacent to the ICT on the Nathalal Parekh Marg. The Main Security Hub of ICT prominently depicts its name both in English and Devanagari scripts and cannot be missed (picture given below). The main building is constructed of a yellowish Malad stone, surrounded by excellent greenery and beautiful gardens. The ICT campus is one of the most picturesque and quiet place. It is located on a 16-acre plot, surrounded by Nathalal Parekh Marg (front side), Puranmal Singhani Marg (between Don Bosco and ICT), R.A. Kidwai Marg (backside) and P.B. Sule Marg.

Most of the long distance trains on the Central and Western Railways halt at the Dadar Railway Station (see routes **D** and **E** below). All buses operated by the Maharashtra State Road Transport Corporation and private carriers stop at Dadar bus station on Dr. Babasaheb Ambedkar Road near Jagannath Shankarshet Flyover and Khodadad Circle (or popularly called Dadar TT).

A. From Matunga Railway Station (Central Railway-Main Line)

The ICT can be reached in about 15 minutes on foot following L. Nappu Road, Bhandarkar Road, Maheshwari Udyan (King's circle), Don Bosco Church/ High School.

B. From Wadala Railway Station (Harbour Line of Central Railway)

It is about 12 minutes walk. Exit on the western gate on the Rafi Ahmed Kidwai Road; walk straight on D.S.Barato Road in front of the station to Wadala Church and turn right on Nathalal Parekh Road (backside of VJTI). It will take about 5 minutes to reach the ICT.

C. From King's Circle Railway Station (Harbour Line of Central Railway)

Get down on Dr. Babasaheb Ambedkar Road and walk southward towards Arora Cinema and then along Nathalal Parekh Road towards Don Bosco Church/ High School and ICT. It is about 10 minutes walk.

D. From Dadar Railway Station (Central Railway)

Walk towards Dr. Babasaheb Ambedkar Road via Pritam Hotel. Take BEST Bus No.64 to Maheshwari Udyan (King's circle) and get down at the ICT / Don Bosco Church/ High School bus stop exactly opposite to ICT's main gate.

E. From Dadar Railway Station (Western Railway)

Exit on the western gate to Senapati Bapat Marg and walk on Ranade road and N.C. Kelkar Road to Plaza Cinema. Board on Bus No. 169 towards Pratiksha Nagar and alight at the ICT / Don Bosco Church/ High School bus stop exactly opposite to ICT's main gate. You can also get on to Bus No. 63 to Chunabhatti and get down at the Bus stop called Gate No 4. Walk along the R.A. Kidwai Marg and enter through the rear gate for the ICT hostels.

F. From Chhatrapati Shivaji Terminus (CST): Main Central Railway Station

Board a Harbour train to Wadala station and follow route **B**. Else board a Main line train to Matunga Central Station and follow route **A**.

G. From Kurla Terminus Railway Station

Board a Harbour train to Wadala station and follow route **B**. Else board the Main line train to Matunga Central Station and follow route **A**.

H. From Chhatrapati Shivaji Internation Airport - Domestic Terminal, Santacruz (East)

Rent either a pre-paid taxi or hire a taxi for Maheshwari Udyan (King's Circle), Don Bosco Church/ High School and ICT. The maximum fare for a regular taxi should be around Rs. 130, without any traffic jams. It takes about 30-40 minutes.

APPROACH ROUTES TO ICT AND LANDMARKS





Professor Dr. G. D. Yadav

*B.Chem. Eng., Ph.D.(Tech.), F.T.W.A.S., F.N.A., F.N.A.Sc.,
Ch.E., F.I.Chem.E.(UK), F.M.A.Sc., F.I.I.Ch.E., F.I.C.S.*

**Vice-Chancellor and R. T. Mody Distinguished Professor
Jagdish Chandra Bose National Fellow (DST-GOI)**

WELCOME

Dear Student,

On behalf of the Institute of Chemical Technology (ICT), I offer you my most heartfelt congratulations on your sterling performance in the recent examination. Like an explorer on the frontiers, you now stand peering at the horizon, wondering about the prospects that lie ahead for you. Although exhilarating, it could also be unnerving; and many of you may have sought the counsel of your elders to guide you through these unfamiliar waters. Regardless of the path that you ultimately choose, I am certain that success will be your companion and in due course, I hope, you will be successful in your endeavours. As the Vice Chancellor of this institute, I sincerely hope that your credentials and merit fetch you admission to the desired course here and ultimately you would be our proud alumnus, like scores of others who have brought laurels to us.

Genesis and Growth

Established on October 1, 1933 as the UDCT –University Department of Chemical Technology of the University of Bombay (now Mumbai), with the noble intention of advancing India's knowledge reserves in chemical science and technology, the Institute has grown to become **a premier (deemed) university devoted to education, training, research and industrial collaboration in chemical engineering, chemical technology, applied chemistry, pharmacy, biotechnology and bio-processing**. The list of achievements of this great centre of learning is voluminous and ever since its inception, the Institute has been a fertile breeding ground for some of India's most gifted minds. **The Institute's alumni have distinguished themselves in all walks of life, be it in industry, academia, government or public service in India as well as abroad.** Some of the rare international honours have been bestowed upon them and some have been role models, serving the nation.



When compared with a large number of engineering and technological institutes, which mushroomed during past 2-3 decades, the genesis of ICT, still popularly called UDCT/UICT, is beyond fathom and imagination. Its low profile in common man's vocabulary is both bane and benefit. Even our neighbours have never known what we do or what we stand for - for them it is a 'dagdi' (stone) college or a hospital, at the most; they are intrigued and bewildered whereas it is a benefit for us from the academic view point since we continue to work quietly, sans the typical college atmosphere, impart high class education, and conduct research par excellence, having a direct relevance to solving societal problems and adding to quality of life. Philanthropy, visionary leadership of the University of Bombay (now Mumbai), active participation of the industry to create endowments for faculty positions and laboratories, and the support of the then Governor of the Province of Bombay, which extended to

almost 10% of India, led to the foundation of the University Department of Chemical Technology on October 1, 1933. The Vice Chancellor Sir Vithal Chandavarkar, an industrialist, educationist and proponent of textile industry, put all his valour behind the fledgling UDCT and assisted in creating a far-sighted roadmap. The Committee constituted by the University for establishing the UDCT was chaired by none other than the great civil engineer Bharat Ratna Sir M. Visvesaraya, and comprised of, among others, such stalwarts as Sir K.M. Munshi, the Founder of Bharatiya Vidya Bhavan, and Shri Kapilram Vakil, a doyen of inorganic chemical industry in India. Research was incorporated as an integral part of the UDCT right from inception, and the first batch of students for the B. Sc. (Tech.)- a two-year post-B Sc. Course, with Textile Chemistry and Chemical Engineering as the branches, was admitted on 4th August, 1934. With the growth in demands for chemicals, drugs, polymers and materials after World War II, other branches of chemical technology embracing Foods and Drugs, Oils, Plastics, Paints, Varnishes, Intermediates and Dyes, Pharmaceuticals and Fine Chemicals, were added and these courses were later reorganized to give a distinct flavour to all branches of Chemical Technology. Birth of several industries was a direct result of UDCTs' activities. In 1951, Chemical Engineering branched out as a post-Inter Science four-year degree programme, B. Chem. Eng., which has been the most sought after ever since. The B.Sc. (Tech.) courses were converted into post-B.Sc. three-year courses in 1966 and finally further converted into B. Tech. programmes, which are post-HSSC (12th Standard) in 1998.

The ICT is a vibrant and invigorating institute, a symbiosis of academic excellence, culture, ethos, value systems, and an architect of new and useful knowledge, standing tall among all institutes of national importance.

Deemed University Status

The UDCT grew in stature over the years and was granted partial autonomy by the University of Mumbai in 1985, which was taken to the next echelon under the concept of autonomy propagated by the University Grants Commission (UGC). Financial, academic and administrative autonomy was conferred during the Diamond Jubilee in 1993-1994 for a period of five years, which was extended for next 5 years in 1998, followed by another extension of five years. The University thought it appropriate to rename it as the University of Mumbai Institute of Chemical Technology (UICT) on 26 January 2002 to distinguish its grander academic programmes and accomplishments surpassing those of a typical University department. The UICT was granted full autonomy in June 2004 by the State of Maharashtra under the Technical Education Quality Improvement Programme (TEQIP) of the World Bank with complete assistance of the University. Upon a strong recommendation of the UGC through a peer review process, the autonomous institute status was finally converted in to a Deemed-to-be-University by the Ministry of Human Resource Development (MHRD), Govt. of India, on 12 September 2008; a strong recommendation was made that the ICT should be fully supported and its activities strengthened by the Government and the new (deemed) University should commence its functioning from academic year 2009-10. A grand ceremony was launched to mark this occasion on 21st May, 2009 with announcement of the new Director (Vice Chancellor), which is occupied by yours truly. It is a unique Deemed University, with unparalleled record, funded by the State of Maharashtra, receiving various grants and projects from the UGC, DAE, DBT, DST, CSIR, ICMR, MFC, MOEF and other agencies including Indian and foreign industries. Several Centres of Excellence have been created through the support of central agencies, which have been mainly responsible to nurture quality in education and research. In a recent review of all deemed universities in the country, **the MHRD granted A grade to the ICT**, which is the only one in the State of Maharashtra along with three institutes – TIFR, TISS and CFRI, all of which are funded by the Central Government ministries.

Engineering Challenges and Relevance of Courses

If you are admitted to this grand institution, which is strictly based on merit, it is assured that the education you receive will be of the highest order and, in the years to come, will place you at the cutting-edge of science and technology where you will develop products and services that greatly improve the lives of those around you. Do you wonder as to what relevance these courses have vis-a-vis 'white collared' engineering programmes and are these courses as rewarding? No virtual world can be created without materials produced by niche and eco-

friendly technologies. We all live in the world of chemicals, molecules, if you may, and products, which are transformed to give quality and longevity to life. In this context, let me direct your attention to the "Grand Challenges", as they are referred to by the US Academy of Engineering, and which include:

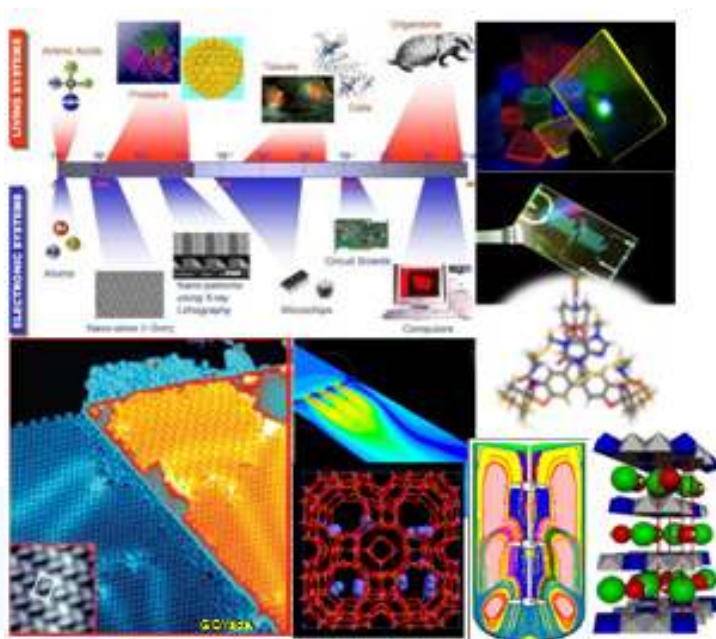
- | | |
|--|--|
| 1. Advancing health informatics | 2. Engineering better medicines |
| 3. Making solar energy more affordable | 4. Providing access to clean water |
| 5. Reverse-engineering the human brain | 6. Advancing personal learning |
| 7. Engineering tools for scientific discovery | 8. Managing the nitrogen cycle |
| 9. Providing clean energy from fusion | 10. Securing cyberspace |
| 11. Preventing nuclear terror | 12. Enhancing virtual reality |
| 13. Developing new methods of carbon sequestration | 14. Restoring and improving urban infrastructure |



All these challenges are uniquely physicochemical in nature and **an education in chemical engineering or chemical technology particularly empowers you** to tackle these herculean tasks. The technologies related to producing advanced materials, clean energy generation and storage, medicines, high-end drugs, nutraceuticals, food products, fertilizers, agrochemicals, polymers, surface coating materials, laser dyes, colorants, pigments, adhesives, textiles, fibres, oleochemicals, surfactants, lubricants, water treatment and purification, air pollution abatement, bio-processing, downstream processing and a myriad of related issues involve high degree of science and engineering. How are we going to feed billions of people, remain in harmony with nature, and develop sustainable processes and technology? What will be their energy and material needs? Life expectancy is getting extended. Addressing these challenges requires a multifaceted effort that traverses the fields of chemistry, engineering, biotechnology, information technology and nanotechnology, engineering mathematics, environmental engineering and the curriculum and courses offered at the Institute have judiciously incorporated subjects from all these disciplines. Our courses directly allow being on the forefront of these rewarding careers.

More importantly, you will be **instructed by some of the nation's most eminent scientists and engineers** who themselves are at the vanguard of research in these fields, thereby ensuring that the knowledge passed onto you is pertinent, real experience and updated. Teaching without research is barren and our planners thus were visionary in bringing research component in our teaching to solve real problems. These researcher-cum-teachers are always on their toes and work longer hours to be on the forefront. This invigorating atmosphere is witnessed in my institute. There is no nine-to-five culture; working extended hours is a habit here imbibed by students and teachers alike. Besides, a large number of the ICT faculty acts as consultants/advisors to industry with a strict condition that no institutional material facility is used for these industrial consultations. Research projects investigated in our labs are of both academic sanctity and industrial relevance. So the proverbial '*Practise what you preach*' is indeed executed by the faculty; many of them actually earn their salaries through the one-third share of the consultation fees paid to the institute.

National and International Accolades and Ranking



The Institute's **strong multi-disciplinary research programmes** have helped create a unique learning environment that places great emphasis on synergizing knowledge from several sources to develop creative and effective solutions to many of the problems faced in industry and society and it this eclectic combination of a rigorous and up-to-date curriculum, excellent laboratory and demonstration facilities, world-renowned faculty and a conducive learning environment brimming with the next generation of great minds that sets the Institute apart from its competitors. The ICT is held in high esteem by other premier institutes, industry and government for many of its unique characteristics and achievements. All of them deem that ICT is different; distinctly different; incredibly different! They wonder how a small university department, with poor funding has managed to excel and that too without any public glare or publicity? **The magic mantra for our success is a concoction of dedicated faculty, meritorious students, admirable support staff, distinguished alumni, strong connectivity with industry, and assistance to all needy students, a grand alumni association and above all relevance of our courses in wealth creation. It is unsurprising thus that the Institute of Chemical Technology is ranked as the best chemical engineering and chemical technology teaching and research institute in India and now stands at number 4 in the world** in an annual ranking of chemical engineering programs conducted by the Georgia Institute of Technology, USA in

January, 2012. Different authorities have duly recognized our spectacular performance over the years. The P. Rama Rao Committee appointed by the AICTE as well as the P. Rama Rao IIT Review Committee has recognized the ICT as the best post-graduate technical educational centre in India. The Indian Institute of Management, Bangalore, after surveying a large number of industries in the country, identified the ICT as the best on the basis of its contribution to the development of chemical and pharmaceutical industry. The Directorate of Technical Education, Government of Maharashtra, has awarded Grade 'A+' to the Institute. The National Board of Accreditation (NBA) of the AICTE has accredited all Bachelors and Masters Courses taught by us in February 2008.

RECOGNITIONS GALORE

1. The MHRD had evaluated all deemed universities in 2009 and granted "A" grade only to 38 universities among 135. The ICT is rated with "A" grade. It is the only one among 4 in Maharashtra State, the other 3 being centrally funded TIFR, TISS and CIFE.
2. The ICT has also been rated as Number One Institute by National Project Implementation Unit (A Govt. of India Unit for World Bank Assisted Project for Technical education) in its study on 'Impact Evaluation of Technical Education Quality Improvement Program (TEQIP – I)' among 127 World Bank's TEQIP funded Institutes, all over India published in October, 2010. Now TEQIP-II has begun and we are once again the leader.
3. Biospectrum magazine in August 2011 has also rated ICT's programme as Number One among all biotechnology programmes in the country two years in succession.
4. A survey was published by Professor Jude Sommerfeld of Georgia Tech., USA in January 2012 showing that the ICT is Number One Institute in India far ahead of several others including IITs, and it is also number 4 in the world in Chemical Engineering. This rank has been maintained since 1970s.
5. Very recently the UGC decided to recognize faculty who has supervised as single guides at least 15 PhDs. The ICT has a record of 12 faculty who qualified for special grants. The Vice Chancellor Professor G. D. Yadav is the topmost among all academics with supervision of 61 PhDs. and 62 Masters degree holders. He is the only serving faculty in the State to be a Fellow of the TWAS- the Academy of the Developing World, Trieste, Italy, including Fellowship of INSA.
6. The ICT has been chosen as the lead institute from India in the Indo-US Virtual Centre in Energy Biosciences. **Indeed, the ICT, with a meagre budget, is number one in terms of publications and citations per faculty in the country and in world as well.**
7. All admissions are on basis of merit and as per government policy in place as regards reservations. No Ph D candidate is admitted without fellowship (JRF:Rs 14000 p.m. (Non-GATE) and Rs. 16000 (GATE) plus HRA. There were 687 Ph D students on the roll during 2011-12, which is a record for a monolithic institute on a campus of 16 acres.
8. There are 271 UG scholarship including merit-cum-means scholarships which range from Rs 3,000 to Rs 75,000 per student per annum which have been created through endowments, donations, trusts, philanthropists and industries.
9. The UDCT Alumni Association (UAA) helps the ICT in several activities and have the strongest connectivity with the ICT. UAA has been helping the students in many of their programmes.
10. The First Convocation of the ICT was held on March 6, 2012 which was addressed by the Hon.'ble Shri Prithviraj Chavan, Chief Minister of Maharashtra, Hon.'ble Shri Rajesh Tope, Minister for Higher and Technical Education, and Padma Bhushan, Dr R.A. Mashelkar, Chancellor of ICT. It was a grand function witnessed by over 1500 persons including distinguished alumni, parents of graduating students, past directors, past presidents of UAA, well wishers, and industrialists and a galaxy of achievers,

The research funding received by ICT is through a highly competitive peer reviewed processes, for which again all these elite institutes are in the race. These statistics are highlighted to demonstrate the uniqueness of ICT.

Quality of Faculty

Except a miniscule few, all members of faculty have doctoral degrees to their credit; several of them have been trained abroad in prestigious institutes after their Ph.D.s, and almost all of them are engaged in research. Over 80% of faculties have been active consultants to industry. Those without Ph.D. are also registered for Ph.D.s. The faculty is highly accomplished, with multi-disciplinary interests and decorated with national and international awards and honours, having live connections with industry. These include: Padma awards of Government of India, Fellowship Royal Society, London, Fellowship of Royal Academy of Engineering, UK, Foreign Associateship of US National Academy of Engineering, Fellowship of TWAS- The Academy of the Developing World, Trieste, Jagdish Chandra Bose National Fellowship, S.S. Bhatnagar Prizes of CSIR, Young Scientist medals of the Indian National Science Academy, Fellowship of Indian National Science Academy (INSA), Fellowships of the Indian Academy of Sciences, Fellowship of National Academy of Sciences, India (NASI), Fellowship of Indian National Academy of Engineering, Young Engineer award of Indian National Academy of Engineering, Gold Medal of the Society of Dyers & Colourists, UK, etc. Currently three faculty members of Chemical Engineering are fellows of INSA, which is a unique distinction in the country. The honour of rejuvenating and heading the IChE in 2001 came to the author when a record number of 51 national awards were created through endowments. All major awards of the Indian Institute of Chemical Engineers – Hindustan Lever Award, Herdillia Award, HL Roy Founders Lecturers, several Chemcon Distinguished Speaker Awards, Amar Dyechem Award, A.V. Ramarao Best Ph.D. thesis award, and awards and honours from other professional bodies have been bestowed on the ICT faculty. The Home Paper/Design project awards for chemical engineering have been bagged consistently since 1972 every year except one and it could be a record. Prof. M.M. Sharma, an alumnus and former Director of ICT, was awarded Padma Vibhushan by the President of India in 2001, having already decorated with Padma Bhushan in 1987; he was the only serving faculty in Mumbai University then to be so honoured for his work in the ICT and services to the profession. He also happened to be the second engineer from India, and first chemical engineer, to be elected to the prestigious fellowship of Royal Society. Another record was created when the Chairman of our Board of Governors and the highly accomplished Dr R.A. Mashelkar was elected to this fellowship. Dr Mashelkar's Ph D in chemical engineering is from the ICT and he is a public figure.

Our faculty and alumni have been presidents of several esteemed professional bodies such as Indian Institute of Chemical Engineers, Association of Food Scientists and Technologists, Oil Technologists Association, Colour Society; some of the regional centres of such bodies have been functioning from the premises of our institute.

Culture of Ph.D.s

The first ever Ph.D. degree in Engineering and Technology stream in India was awarded by the ICT in 1941; it was Dr Kudwa, a chemical engineer, who specialized in Polymers and Paints and was a revered paint technologist. Since then there is a continuous flow of doctorates and the UGC used to grant us 19 Ph D (Tech) fellowships per year up to 2005-06. During 1990s, the number of Ph Ds produced increased to about 40 per year. For several years the output of doctorates from the ICT remained about 55 per year. However, during 2009-10, exactly 100 Ph.D.s were produced, which is the highest in the country in Chemical Science, Engineering and Technology. During 2011-12, 687 full-time Ph D students with fellowships and 350 Master's students were on the roll. This will certainly place ICT in an enviable position as a research institute.

It has been our policy now that no PG or Ph D student will be admitted without fellowship. This has been possible due to the award of meritorious fellowships under UGC-SAP, various Centres, individual research grants, industrial projects and endowments. Meritorious fellowships are accorded to all UGC- SAP departments as well as non-SAP department every year, which range from 5-20 fellowships per SAP department, depending on their track record of research. The ICT has received **321** such fellowships from the UGC during 2011-12. **This is again a record. There are 12 faculty members who have produced more than 15 Ph Ds and 5 of them have produced more than 30 and one more than 60.**

We are pro-active and would like to attract talented students and teachers from various engineering colleges for the Ph.D. programmes under the UGC Networking Resource Centre in Chemical Engineering. The AICTE has now identified us for QIP for teachers. India needs a lot of Ph Ds in engineering and technology to remain at the

forefront to be a developed nation; ICT's role is therefore of grandeur. Several colleges with teachers without Ph.D. will be detrimental for future of education. So, if you fall into this teacher's category, ICT should be on your radar. Further, those of you who fall into the category of 'Single Child-Girl', there is a scheme of supernumerary Ph.D. fellowships in all our UGC-SAP departments. The UGC has also introduced Rajiv Gandhi Fellowships for SC/ST, and Minority Students Fellowships. These fellowships amount to Rs 14,000/- p.m. for non-GATE and Rs. 18,000/- p.m.+ 30% HRA for GATE qualified students by all Govt agencies. There are DST-INSPIRE fellowships to first rankers in all branches of science and engineering for conducting doctoral research (www.dst.gov.in). Those who are desirous of post-doctoral fellowship should apply for the D.S. Kothari Fellowships of the UGC (www.ugc.ac.in). More information could be gathered from the UGC website. We have also established Pildite-Professor Man Mohan Sharma Distinguished Doctoral Fellowship in Chemical Engineering, with a fellowship of Rs 30,000/- p.m. This is the highest fellowship offered anywhere in India. There are also schemes by both UGC and DST to offer fellowships to women scientists who have taken a break in their careers. We have attracted a few such candidates including DST's Fast Track Fellowships.

Centres of Excellence and Courses

Upon achieving the Deemed University status, we have revised all our course curricula; a system of continuous evaluation with 60% of marks during the semester and 40% at the final examination has been adopted with CGPA; the repeat final examination is held within a month. There are tutorials for both UG and PG students.

All Ph.D. students with fellowships are mandatorily required to assist teachers in running labs, tutorials and grading of tests. Course work has been introduced at Ph.D. level. We offer 24 different programmes. A large number of Ph.D. (Science) students also are supervised by faculty chemical engineering and chemical technology, in inter-disciplinary areas. If you are seeking admissions for a higher degree, you would be interested in knowing, if there are fellowships and facilities created in the institute to generate advanced knowledge.

The ICT functions through 11 full-fledged departments and several centres of excellence, which have a long track record of running quality courses at Master's and Doctoral level:

1. Department of Chemical Engineering (1933)
2. Department of Dyestuff Technology (1944)
3. Department of Fibres and Textiles Processing Technology (1933)
4. Department of Food Engineering and Technology (1943)
5. Department of Oils, Oleochemicals and Surfactants Technology (1943)
6. Department of Pharmaceutical Sciences and Technology (1943)
7. Department of Polymer and Surface Engineering (1946) (Department of Polymer Engineering and Technology and Department of Surface Coating Technology were merged into one in March 2009)
8. Department of Chemistry (1952)
9. Department of Physics (1966)
10. Department of Mathematics (1966)
11. Department of General Engineering (1952)

Every major department of the ICT is recognized by the UGC under its Special Assistance Programmes (SAP) such as COSIST, DRS, DSA and Centre of Advanced Studies (CAS), which are as follows:

1. CAS in Physico-Chemical Aspects in Textiles, Fibres, Dyes, and Polymers (since 1963, currently in Phase VII)
2. CAS in Chemical Engineering (since 1990, currently in Phase IV)
3. Networking Resource Centre in Chemical Engineering (since 2008)
4. CAS in Food Engineering and Technology (since 2008)
5. CAS in Pharmaceuticals Sciences and Technology (since 2009)
6. DRS for Department of Chemistry (2009)

The Department of Oils, Oleochemicals and Surfactants Technology is recognised as a non-SAP department with 2 Ph D fellowships per year.

Under the University with Potential for Excellence (UPE) programme of the UGC, the University of Mumbai had received support for establishment of Centre for Green Technology at the Kalina campus, which was mainly based on ICT's contributions and this Centre is now run in a joint collaboration.

Centres of Excellence were established in Energy Engineering due to the initiative of Department of Atomic Energy (DAE) and Department of Biotechnology (DBT), with a specific mandate in view of the expertise and accomplishment of the ICT.

1. DAE-ICT Centre for Knowledge Based Engineering (CKBE) (2002)
2. DBT-ICT Centre for Energy Bio-sciences (2007)
3. ICT-DAE Centre for Chemical Engineering Education and Research (Both BARC and IGCAR, 2008)

Indeed, the ICT has earned maximum number of collaborative projects with DAE establishments and the DAE acknowledges ICT's contribution to solving real problems, which cover (a) Chemical Engineering, (b) Process Technology, (c) Bio-technology, and (d) Materials Technology. Provision for an intake of 20 Ph.D. fellowships per year is an important feature of this Centre. There is a frequent exchange of scientists and students, leading to mutual benefit. A new building housing academic and energy engineering is planned and its construction will start soon to accommodate the state-of-the art high-end material characterization and instrumental laboratories, lecture and seminar halls, CAD-CAM laboratory and Computer Centre, research laboratories, pilot scale equipment, testing facility and services for the laboratories. We have also signed an MOU with the Homi Bhabha National Institute (HBNI), which is a DAE's deemed university, for academic and research collaboration.

The ICT's innovative work in the area of bio fuels and downstream processing, leading to commercialization, has been highly appreciated by the Department of Biotechnology (DBT), to establish the DBT-ICT Centre for Energy Biosciences, with induction of several faculties in bio area and Ph.D. fellowships. The modernized building and advanced equipment are a main source of attraction for visitors from abroad and industry. Very recently an MOU was signed with International Centre for Genetic Engineering and Biotechnology (ICGEB) to foster collaboration among faculty, provide opportunities for students, scientists to gain global experience and to facilitate the advancement of knowledge on the basis of reciprocity.

Under the Funding for Infrastructure in Science and Technology (FIST) programme of Department of Science and Technology (DST), Govt. of India, we have received infrastructural support, to build advanced instrumental facilities in Departments of Chemical Engineering (Phase-I and Phase-II), Fibres & Textile Processing Technology (Phase-I), Food Engineering and Technology (Phase-I), Pharmaceutical Sciences and Technology (Phase-I), Polymer and Surface Engineering (Phase-I).

The DST's PURSE programme had reviewed the research contributions of all universities in India and declared University of Mumbai as one of top universities; the contributions of ICT were overwhelming in research and we have received grant under this programme which will be utilized for renovation of library, e-library and creation databases useful for research and for benefit of chemical and allied industries. Grants have also been received from the AICTE under their various grants-in-aid schemes to remove obsolescence and promote research.

Over the years, because of the above mentioned programmes or schemes, which are highly competitive in nature, our laboratories are equipped with state-of-the-art instruments. Some of the sophisticated equipment which have been acquired and used continuously are: GC-MS, LC-MS, SEM, TEM, AFM, IC, FTIR, HP-TLC, HPLC, GC, XRD, DSC, DTA/TGA, AAS, Laser-Doppler anemometer, image analysers, pore and particle size analyzers, computer workstations, and many others. Advanced instrumental facilities have been created under industry sponsored projects as well. These instruments are operated by research students themselves, giving them a hands-on-training; this practice is greatly appreciated by the funding agencies and industries where they get employment.

All our UG students have to undergo a six-week in-plant training at the end of the third year in a manufacturing facility, for which handsome stipend is offered by the industry. The value of research at UG level is also recognized and every SAP department can accommodate a few second year students as summer research fellows. Several students from other institutes are also accommodated by individual departments including the

Summer Fellowship programme of national academies of sciences, operated by the Indian Academy Sciences, Bangalore under the Fellows tutelage.

Culture of Endowments

Right from the foundation of the ICT in 1933, several endowments have been created, through munificent donations by philanthropists, industrials houses and alumni, for supporting maintenance of faculty positions, welfare of support staff, fellowships, visiting faculty, infrastructure, domestic and foreign travel, research, library, scholarships, infrastructure, gardens and emergency services. This is an outstanding attribute of the ICT. There are now 45 visiting faculty/fellowship endowments which have helped us immensely in attracting the best professionals to the Institute from all over the world. Visiting faculty interact with UG and PG students, faculty and alumni. The honoraria range from Rs. 5000 to 1.25 lakhs for a period of one day to 15 days. Some eminent faculty from institutes such as Massachusetts Institute of Technology, Purdue University, University of Twente, Groningen University, Monash University, University of California, Berkeley, University of California, Santa Barbara, National University of Singapore, Montreal, University of Michigan, Michigan State University, University of Alberta, RMIT Australia, IIT-Chicago, Cambridge University, University of Manchester, IIT-Bombay, IIT-Kanpur, IIT-Madras, National Chemical Laboratory, have taught UG and PG courses in ICT under the aegis of these endowments. These lectures form part of audit and credit courses for research students. Besides, public lectures are organized under each endowment.

Collaborations with Other Institutes and Industries

The ICT has been held in high esteem by both Indian and foreign universities and institutes. A large number of Memorandum of Understanding(MOU) have been signed to have faculty and student exchange, research programmes and joint projects and symposia. We have signed MOUs with IIT-Bombay, VJTI Mumbai,

MOUs with Foreign Universities

Saskatchewan U, Canada	University of Kansas
Queensland University of Technology, Australia	International Centre for Genetic Engineering and Biotechnology
IIT-Chicago, USA	University of Abertay Dundee, Scotland, UK
University of Illinois, Urbana-Champaign	Hokkaido University, Sapporo, Japan
GEMS France	INPT, Toulouse, France
University of Bradford, UK	TUHH, Hamburg
U of British Columbia, Canada	University of West Hungary, Hungary
RMIT U Australia	University of Turine, Italy
U of Birmingham, UK (since 1999)	Indiana University, USA
U of Groningham, The Netherlands (1997-2000)	US Army Medical Research Institute of Infectious Diseases, Maryland, USA
U of Cape Town, South Africa (1996-2002)	AIST, Sendai, Japan
Purdue University (since 2000)	

MOUs with Indian and Foreign Industries

Huntsman, USA	Marico Industries Ltd
Biorad	Indian Oil Corporation
Pepsi, USA	ONGC
Mitsubishi, Japan	Tata Chemicals Ltd
Phoenix Pharmaceuticals USA (3 Projects)	Tata Steel Ltd
Neurosci Inc. USA	Sun Pharmaceuticals
Dow Chemicals, USA	Wockhardt Ltd
Hindustan Petroleum Corporation Ltd	Pfizer Ltd
Reliance Industries Ltd	Healers Neutraceuticals India
India Glycol Ltd	

Affordability of Education and Financial Assistance

If you still haven't been convinced about joining this elite institute, not knowing what future it unfolds or you did not hear about us in today's publicity-hungry institutes which proclaim greatness, our proponents are our alumni and their employers who quietly promote our reputation. It has been more through the 'word-of-mouth' that our uniqueness is spread in student community. You might surely be wondering about extraneous factors such as cost of education and living facilities, among others. After all, how can such a world-class education be affordable? Some of you might be wondering about job opportunities once you have completed your education. Some might hold aspirations of joining prestigious institutions abroad to further their education. Many of you might even be considering joining the ICT as post-graduate students. Those of you who are not residents of Mumbai might feel intimidated by the prospects of living in this megacity. Then there might be some who are wondering about the affordability of educational resources such as textbooks, technical publications, handbooks and other materials. What about the campus culture?

With regards to affordability of education, the Institute offers the best value for education in the nation. It is the cheaper than nearly all other engineering colleges in Mumbai and this is a remarkable fact given the high quality of the education that we offer. The fees are decided by the State Government and are the lowest for the quality of education and facilities provided by us. There are now 277 scholarships for UG students, ranging from Rs. 3000/- to 75000/- per student. A few scholarships take care of all fees, lodging and boarding. A large reason for this is the generosity of the Institute's huge and accomplished alumni body that includes some of India's leading industrialists, entrepreneurs and businessmen. Their donations have helped create several **merit- and need-based scholarships** that have helped fulfill the dreams of many students. A few alumni are mentoring some students, not only with monetary support but also continuous monitoring. This number is ever growing. It is my personal desire that every student joining the institute should get some assistance. I am sure our students will in an enviable position in near future. In fact, many of our faculty members hold endowed chairs that have been solely instituted by the largesse of our alumni, philanthropists and industries. You may not believe a few great souls have bequeathed their property to the institute. Additionally, the high impact and original research being conducted in our laboratories has attracted the interest of many industries, funding bodies and government agencies, and research groups have been duly awarded **with sizable funds for attracting talented young researchers and graduate students and purchasing state-of-the-art equipment**. This has helped the Institute offer full merit- and need-based scholarships even at the post-graduate level and has greatly aided in keeping education costs at low levels. Once you become our student, sky is the limit for your goals; we have never shirked in our commitment to help students, who need assistance of any kind. This tradition has evolved

over the years through the selfless services of our faculty and alumni. **No other institution in the nation matches the Institute of Chemical Technology in offering scholarships.** Almost 52% students admitted to the ICT are on freeships in tuition fees as per government norms. It has been our endeavour to provide assistance to all needy students. Once you become our student, we will help you. Our minimum expectation from you will be a clear pass, a desire to study and sincere efforts to overcome barriers. Where else will you find such a caring atmosphere the students? Many of alumni will vouch for my statement. It is not a mere rhetoric.

Training and Placement

There is no chemical and allied industry in the country that does not employ graduates of the ICT. Alumni are at the helm of affairs of large number of renowned chemical industries. A placement cell is now launched with the participation of the UDCT Alumni Association (UAA) to assist campus placement which begins in the month of July, and continues throughout the year, before the students graduate. **The Institute's graduates are highly-sought after by the Indian and global chemical industry** and their **salaries rank among the highest in the country**, even dwarfing the salaries of graduates of the premier branded institutes; placements achieved via campus interviews fetch emoluments ranging from Rs. 3.50 to Rs 14.00 lakhs per annum. What is most striking is that these placements are in hard-core industries relevant to the students training and education, and not in the software industry, which has been a major source for employment for graduates of some of the best institutes in India. With regards to post-graduate research opportunities, a good number of our students are offered admission by some of the world's best universities to pursue graduate studies. **The Institute is one of the few institutions in Asia that is regularly represented in the graduate student bodies of prestigious institutes such as the Massachusetts Institute of Technology, Stanford University, University of California, Berkeley, Caltech, UCSB, Princeton, University of Michigan, Ann Arbor, University of Texas, Carnegie Mellon University, Purdue University, University of Massachusetts, Cambridge University, Imperial College, Manchester University, Twente University, Monash University**, to name a few. All of them receive full financial support. Several universities write to us to recommend good students. Leading foreign universities have signed MOUs for student exchange through proper support for the exchange. This would not have been without the merit of the students, and reputation of faculty and institute. On an average, about 75 students from various degree programmes get such fellowships. Quite a few Ph.D. holders go abroad for post-doctoral studies in reputed institutes; this is directly linked to the quality of research produced and personal standing of the faculty in international community.

Library and Internet

The Professor M.M. Sharma Library is a treasure house of books, leading journals, encyclopaedias, reports, theses, abstracts, reference books, microfilms, guides, text-books, and rare volumes, not found in most of the libraries in the country. Except four public holidays in a year, the library is always open for 12 hours on all working days and for 7 hours on public holidays. Several readers including industrialists are frequent visitors to the library and some of them have organizational membership. Although we have adequate intranet and internet facilities (both LAN and wi-fi) in the Information Processing Centre (IPC), we have recently undertaken a massive revamping exercise to enhance bandwidth and accessibility. The students have been provided with smart i.d. cards. to access library facilities. The INFLIBNET, DELNET, and INDEST consortia memberships are also accorded to our library, having access to the latest publications. Plans are afoot to renovate the library building aesthetically and provide faster e-accessibility for readers. In the IPC, as well as, in all UG and PG labs, we have provided computers with relevant software, numbering over 700. The entire campus is now wired and security surveillance is in place.

Distinguished Alumni and First Generation Entrepreneurs

The ICT has been cited as a role model for industry-institute-government relationship. Several first generation entrepreneurs in chemical and allied industries, numbering over 500 are the alumni of the institute. They have pioneered in setting up of many chemical industries in and around Mumbai and in Western India. A galaxy of world-renowned scientists, academics and industrialists including fortune-500 personalities –who's who- have been our alumni and some of these luminaries are our pride and proponents of the legacy:

- Shri. Manubhai Shah (Minister for Commerce in Pandit Nehru's Cabinet in 1950s),
- Prof. B.D. Tilak (Director, NCL, Pune)
- Shri. D.M. Trivedi (Famous Textile Technologist)
- Dr. R.A. Mashelkar (Chemical Engineering; FRS, Director General, CSIR; President INSA)
- Dr. Homi Sethna (Chairman, Atomic Energy Commission)
- Dr. Nitya Anand (Director, CDRI, Lucknow),
- Prof. M.M. Sharma (FRS, Director, ICT and President, INSA,)
- Dr. K.H. Gharda (Gharda Chemicals),
- Shri. Kishore V. Mariwala (Bombay Oil Industries, Marico Industries, Former President, ICMA/ICC)
- Dr. A.V. Rama Rao (Director, IICT, Hyderabad and Chairman, AVRA Labs),
- Shri. Mukesh D. Ambani (CMD, Reliance Industries Ltd),
- Shri. Nikhil R. Meswani (Tech. Director, Reliance Industries Ltd)
- Shri. Narotam Sekhsaria (Founder & Managing Director, Gujarat Ambuja Cement Ltd; Sekhsaria Chemicals)
- Dr. K. Anji Reddy (Chairman, Dr Reddy's Laboratory Ltd),
- Shri. V.G. Rajadhyaksha (Chairman, Hindustan Lever Ltd),
- Shri. Ashwin S. Dani (Vice Chairman and MD, Asian Paints Ltd),
- Shri. J.R.Shah (Former President, Plastindia Foundation; Chairman, Jayvee Organics and Polymers)
- Shri. C. J. Bhumkar (Chairman, Soujanya Chemicals)
- Prof. N.R. Kamath (Former Deputy Director, IIT-Bombay)
- Prof. Arvind Kudchadker (Former Deputy Director, IIT-Bombay)
- Prof. D. Ramkrishna (Distinguished Professor, Purdue University; Member US NAE),
- Prof. Arun S. Mujumdar (McGill University; National University Singapore)
- Dr. Haren Gandhi (Ford Fellow, Member US NAE and President's Medal, AIChE Top 100 of Century Awardee),
- Dr. John Kapoor (Industrialist and John Kapoor Foundation, USA)
- Shri. Vijay B. Samant (CEO and President, Vical Inc. USA)
- Prof. R. Krishna (Director, IIP, Dehradun and Distinguished Professor, University of Amsterdam),
- Shri. Chandrakant V. Gogri (Chairman, Aarti Industries and Aarti Group of Companies)
- Shri. Rajendra V. Gogri (Managing Director; Aarti Industries and Group of Companies)
- Shri. Prakash Patil (Managing Director, Aarti Drugs Ltd)
- Shri. Parimal Desai (Managing Director, Aarti Healthcare Ltd)
- Shri. S.M. Mokashi (Managing Director, Xytel India)
- Shri. J.R. Vyas (CMD, Dishman Pharmaceuticals and Chemicals).
- Dr. Dinesh Patel (Chairman, Themis Pharmaceuticals)
- Shri. Narendra Parekh (Chairman, Pidilite Industries)
- Shri. Madhukar B. Parekh (Managing Director, Pidilite Industries)
- Shri. U. Shekhar and Shri Sudhir Patil (Galaxy Surfactants Ltd)
- Shri. Prakash Kamat (Managing Director, Fine Organics Ltd)
- Shri. Yogesh M. Kothari (CMD, Alkyl Amines Chemicals Ltd)

This list is partial and there are many more who have added to our reputation. Several of our alumni have come from abject poverty, with limited resources, born of illiterate or semi-literate parents, and having studied in vernacular media; they have excelled themselves in life, attained positions of prominence and made us proud by their stellar achievements. Many have created unprecedented value for their companies through their ingenuity and hard work, and some of our alumni are famous CEOs or managing directors of the nation's and world's mega companies and organizations. The reputation of the Institute of Chemical Technology and its graduates is unparalleled in India and abroad and it is not all that surprising to find that **our alumni body boasts several Padma awardees** (*Padma Vibhushan, Padma Bhushan and Padmashri*) in its ranks.

On an average, until 1980s, 20-30% of graduates from every class have started their own industries as SME or MMEs; consultancy and design companies. Most of them did not have any family background in business and have literally created empires out of nothing. The ICT has continued to be an oasis of generating new knowledge and creating wealth. In order to sustain the entrepreneurship culture, a part-time 3-semester certificate course in Chemical Technology Management for Ph.D. students was started in 2001 with the participation and support of the UDCT Alumni Association; it has been converted into a 2-year Diploma course from January 2010. Indeed, we have also established an Entrepreneurship Development Cell very recently.

The UDCT Alumni Association

The UDCT Alumni Association (UAA), founded in 1989, with a current membership of over 3500, not only has past students as members but also several others who are our well wishers, without being formal graduates. Some alumni chose to come to us due to the influence of acquaintances and hearing their success stories, whereas some have landed by a passion to do a course offered by us. Once they become our students, we take care of them by standing with them in times of thick and thin. They have reciprocated to the institute in ample measures. The alumni are one of our greatest strengths. Without their support, love and affection for the institute, the ICT would not have been where it is today. When the alumni of different vintage meet for the first time and come to know they are UDCT alumni, a very affectionate bond is developed instantaneously. The older they grow, the more eager they are to visit the campus and peep through the classrooms and sit on the benches where they sat and had their moorings. They reminisce and enjoy; some have eyes in their tears in gratitude. You have to be a UDCTian or ICTian to unravel the power of my thought. Some visit the hostels to have nostalgic memories of the mess food and the rooms where they dwelled; some bring their families and meet 'old' professors to catch up with time. Some have changed their attires and accents, look prosperous and happy, whereas some are the same simpletons still fearing the grades they would perhaps get! Let me assure, the value of being an alumnus of this great institute is beyond description. Our class reunions of decades, two decades, silver jubilee, golden jubilee during the month of December is a chance to meet and have fun and frolic. You have to be an alumnus to witness such a great camaraderie. In fact, many current students have sought admission to the institute due to advice of our alumni. All current students can enroll into the membership to carry on the legacy. The UAA has been our constant source of help and inspiration. Financial assistance provided by the UAA in training, placement, factory visits, scholarships, prizes, field trips, sports, intercollegiate festivals and social service is beyond words.

Splendour and Serenity of Campus

The campus is **located in one of the best, quietest, and beautiful neighbourhoods of Mumbai** and is in the vicinity of some other prestigious Mumbai schools and institutions. Living in Mumbai is an unforgettable experience and the very fact that it is considered one of the most vibrant cities in the world is testament to this. No city this large is as safe and hospitable. The **hostels of the Institute are among the best equipped in the nation** and students have access to **computing, internet, television and laundry facilities**. The Institute has hostels for boys, girls as well as post-graduate students. In addition, we believe that a healthy body is essential for a fertile mind and our campus also boasts of **several athletics facilities**. A few courses/workshops are conducted for the benefit of the students like yoga, stress management, time management, interpersonal skills, communication skills, presentation skills and interview skills. The Bombay Technologist is an annual technical journal of the Technological Association, started in 1951. The journal publishes technical articles written by the students and the faculty of the Institute. The Institute publishes in-

house student magazine, 'The Spirit', in which students contribute on non-technical topics. Dr. B.P. Godrej Students' Centre provides facilities for indoor games. The necessary sports materials as well as music instruments for cultural activities are provided.

The vibrancy of Mumbai rubs onto our students and the **cultural events on campus that are organized and coordinated entirely by our students have become local attractions**. Our faculty members strongly encourage our students to **think creatively** and one of the requirements for creative thinking is the ability to **express oneself creatively**, be it in the classroom, on the playfield or on the stage.

The entire campus will be given a face lift in near future to reflect ICT's world-class status. Construction of a new faculty tower, academic and energy engineering block has just begun. A new ladies hostel will also be built. Classrooms, lecture halls and offices are being renovated. To make effective use of the infrastructure, a staggered time table for classes and laboratories will be implemented. A concept of eco-campus incorporating use of solar powered lights and air-conditioning, biogas generation, treatment and reuse of gray water, rain-water harvesting, and LED lighting is being worked out to minimize water and energy usage. If you had visited a year earlier, you would see that the campus has undergone a sea-change.

Is the Future as Bright?

Reaching the zenith is one part of story but remaining there without being complacent is the most difficult part and challenging. Unless we innovate in all aspects of academic, research, administrative and industrial activities, we will not be able to make a dent in future. Technology is a capital and ICT has been fully geared to develop new technology in its sphere of activities to sustain the growth and glitter. You could be part of this process.

I would like to give a glimpse of some the plans which we have made. Thus frontiers of research where we have now focused are:

- Biotechnology & biomedicine
- Nanotechnology and materials science
- Energy science and engineering
- Process systems engineering
- Green chemistry and engineering
- Environmental protection and Hazardous waste management
- Product Engineering

Under the aegis of these areas, our research will focus on:

- Developing greener chemical processing platforms producing a much wider range of products; green technology; product engineering.
- Developing technologies for generating, storing and transporting unlimited and inexpensive energy sources; energy engineering
- Developing therapy strategies for incurable diseases; pharma and healthcare.
- Designing better materials whose properties can be predicted, tailored and tuned; materials engineering; nanotechnology

Plans for future expansion have been made for creation of centres of excellence:

1. Entrepreneurship resource centre
2. Interactive student services portal
3. Centre for Undergraduate Research In Engineering (CURIE)
4. Centre for Process Intensification and Innovation

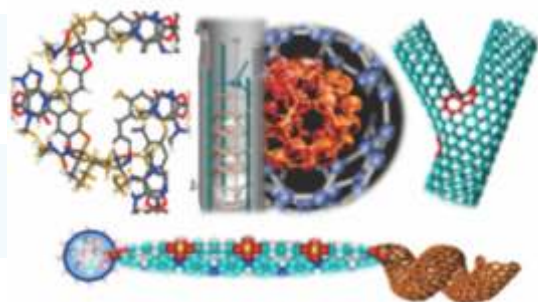
5. Centre for Product Engineering
6. Centre for Infectious Disease Control and Prevention
7. Technology Incubation Centre
8. Technology Transfer Cell
9. Creation of Visiting Professorships endowments
10. Distinguished Adjunct Professors
11. Group consultations: Adoption of sick industries.
12. Increasing international collaborations (Joint projects with leading institutes (Joint degrees , UG exchange, PG exchange)
13. Creation of institute professorships

The new courses started in 2010-11 were M. Sc. (Chemistry and Textile Processing) and M. Tech. in Green Technology (multi-disciplinary; 4-semester full time; extended 6-semester for industrial practitioners).

Closing Remarks

I am sure by now you would have realized as to why the ICT is held in high esteem and its uniqueness and heritage among all institutes of higher learning in India. Great institutes are not built overnight. My experience as an academic, researcher, consultant to industry, member of several important professional bodies and government committees, and my interactions with alumni, government officials, faculty from leading institutes in India and abroad, have revealed a trend- that is- quality of education, the brand name of institute and future prospects, far outweigh any other consideration on the minds of students and employers alike, while choosing an institute, than the cost of education. Indian parents sacrifice many things to educate their off-springs in the best of schools and colleges; many times not fully knowing about the institute or course. There is too much of peer pressure. The purpose of my writing this long prologue is thus to communicate with you directly and place statistics and standing of ICT before you, since several of your questions and doubts would not be answered by an impersonal compilation in this handbook.

If you get selected through our admission process, which is transparent and strictly on merit, with all government policies in place, my congratulations and best wishes to you. I hope I have convinced you, to join my institute. The opportunities that lie in store for you during your years with us and once you graduate will truly exponentiate. If you are unlucky this time because you fail short of the cut-off criteria, try again for master's and Ph.D. programmes after your graduation. Should your destination be some other place for whatever compelling reasons, let me wish you the very best for all your future endeavours.



1. NATIONAL AND INTERNATIONAL RANKING OF ICT: INDIAN CHEMICAL ENGINEERING SCHOOLS DURING 2007-2011

(Surveys of World Chemical Engineering Schools: Professor Jude Sommerfeld, Georgia Institute of Technology, USA, 10 April10)

WORLD RANKING OF CHEMICAL ENGINEERING SCHOOLS (2007-11)
(Prof. Jude Sommerfeld, USA, 22nd Jan. 2012)

INDIA

SCHOOL	LOCATION(S)	PUBS. 2010	TOTALS 06-10	RANK 06-10	PUBS. 2011	TOTALS 07-11	RANK 07-11	World Ranking
Mumbai (ICT)	Bombay, Mumbai	185	960	1	198	1025	1	4
Bombay (IIT)	Bombay, Mumbai	72	368	2	75	393	2	
Kanpur (IIT)	Kanpur	72	356	3	80	378	3	
Kharagpur (IIT)	Kharagpur	68	301	4	59	305	4	
Madras (IIT)	Madras, Chennai	60	263	5	55	281	5	
Anna	Madras, Chennai	39	257	6	56	261	6	
Bangalore (IIS)	Bangalore	42	204	7	51	225	7	
Roorkee (IIT)	Roorkee	30	188	8	31	205	8	
Delhi (IIT)	Delhi, New Delhi	43	169	9	43	188	9	
Guwahati (IIT)	Gauhati	34	100	12	46	138	10	

USA

Mass. Inst. Tech.	269	1470	1	341	1624	1	1
Minnesota	202	1014	2	211	1067	2	2
Georgia Tech	197	942	4	234	1061	3	3
Texas	175	985	3	171	986	4	6
Cal / Berkeley	146	812	5	177	899	5	8
Cal / Davis	160	808	6	165	874	6	9
Delaware	123	647	10	191	784	7	10

CANADA

Alberta	193	861	1	222	980	1	7
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UK

Imperial College	London	178	875	1	222	1009	1	5
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NB: Most of the Chemical Engineering programmes worlds wide are interdisciplinary and versatile which include biochemical engineering, materials science, polymer engineering, petroleum engineering, etc. A majority of chemical engineering faculty have published in interdisciplinary area apart from traditional areas such as nanotechnology, drug delivery, nanobiotechnology, nanomaterials, energy engineering, and the like.

2. COURSES OFFERED

BACHELOR'S COURSES [See Section 8 for details]

Admissions to B.Chem.Engg. and B.Tech. (seven branches):

- 70% seats based on MHT-CET 2012 score at State of Maharashtra Level.
- 30% seats based on AIEEE 2012 score at All India (including Maharashtra) Level.

Admissions to B. Pharm.:

100% seats based on MHT-CET 2012 score at State of Maharashtra Level.

1. Bachelor of Chemical Engineering (B.Chem.Engg.)

2. Bachelor of Pharmacy (B. Pharm.)

3. Bachelor of Technology (B. Tech.) in

a. Dyestuff Technology

b. Fibres and Textiles Processing Technology

c. Food Engineering and Technology

d. Oils, Oleochemicals and Surfactants Technology

e. Pharmaceutical Sciences and Technology

f. Polymer Engineering and Technology

g. Surface Coating Technology

MASTER'S COURSES [See Section 9 for details]

1. Master of Chemical Engineering (M. Chem. Engg.) (Full-time 2-years & Sponsored 3-years)

2. Master of Pharmacy (M. Pharm.) (Full-time 2-years) in

Pharmaceutics

Pharmaceutical Chemistry

Medicinal Natural Products

3. Master of Technology (M. Tech.) (Full-time 2-years & Sponsored 3- years) in

a. Dyestuff Technology

b. Fibres and Textiles Processing Technology.

c. Food Engineering and Technology

d. Oils, Oleochemicals and Surfactants Technology

e. Pharmaceutical Sciences and Technology

f. Polymer Engineering and Technology

g. Surface Coating Technology

h. Green Technology

i. Perfumery and Flavour Technology

4. Master of Technology (M. Tech.) (Full-time 2-years) in

a. Bioprocess Technology

b. Food Biotechnology

5. M.E. (Plastic Engineering) (Full-time 2-years & Sponsored 3- years)

6. M.Sc. (By Papers) (Full-time 2-years) in

Chemistry

Engineering Mathematics

Physics

Textile Chemistry

DOCTORAL COURSES [See Section 10 for details]**1. Ph.D. (TECH.) & INTEGRATED PH.D. (TECH.) in**

<i>Bioprocess Technology</i>	<i>Chemical Engineering</i>
<i>Dyestuff Technology</i>	<i>Fibres and Textile Processing Technology</i>
<i>Food Biotechnology</i>	<i>Food Engineering and Technology</i>
<i>Green Technology</i>	<i>Nanotechnology</i>
<i>Oils, Oleochemicals & Surfactants Technology</i>	<i>Pharmacy[®]</i>
<i>Pharmaceutical Technology</i>	<i>Polymer Engineering and Technology</i>
<i>Surface Coating Technology</i>	<i>Plastic Engineering</i>

Ph.D. (TECH.) in

<i>Civil Engineering</i>	<i>Electrical Engineering</i>
<i>Electronics Engineering</i>	<i>Mechanical Engineering</i>

[®] Ph.D. (Tech.) in Pharmacy has following four branches:

<i>Pharmaceutics</i>	<i>Pharmaceutical Chemistry</i>	<i>Pharmacology</i>	<i>Pharmacognosy</i>
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1. PH. D. (SCI.) in

<i>Biochemistry</i>	<i>Biotechnology</i>	<i>Chemistry-Inorganic/Organic/Physical)</i>	<i>Physics</i>	<i>Mathematics</i>
<i>Food Science</i>	<i>Textile Chemistry</i>			

All Ph D programmes are now redesigned with course work as per UGC regulations.

POST GRADUATE DIPLOMA [See Section 11 for details]**POST GRADUATE DIPLOMA (2years-4 semesters) [conducted on Saturdays and Sundays only]**

Chemical Technology Management

HIGHLIGHTS:

1. A candidate, who fails to accept an offer of admission to any of the courses, made by the Institute, for whatever reasons, forfeits his/her claim for admission for that academic year (1st July to 30th June) and the seat may be offered to the next eligible candidate in the order of merit. The acceptance of the offer implies payment of the prescribed fees and deposit along with relevant documents by the date specified in the offer letter.
2. The Institute shall not enter into any correspondence with the candidates in the matter related to admission, such as incomplete forms, non-submission of necessary documents in given time period, non-submission of pay order/ demand draft of necessary application fees along with filled application form, absenteeism at the institutional tests for entrance tests for Master's and Ph D programmes, for any reason, non-acceptance of the offer of admission to any of the courses in given time period, etc.
3. No age limit is prescribed for admission to the ICT.

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

3. INSTITUTE AUTHORITIES



Professor G. D. Yadav

• Vice Chancellor

T: 91- 22- 33611001; F: 91-22-33611002/1020
vc@ictmbai.edu.ingd.yadav@ictmbai.edu.in



Professor S.R. Shukla

• REGISTRAR

T: 91- 22- 33611016 F: 91-22-33611002/1020
registrar@ictmbai.edu.in / sr.shukla@ictmbai.edu.in



Professor M. D. Teli

• Dean, Students Affairs & Human Resource Development

T: 91- 22- 33612811
dean.sahrd@ictmbai.edu.in md.teli@ictmbai.edu.in



Professor A.V. Patwardhan

• Dean, Academic Programmes

T: 91- 22- 3361 2019
dean.ap@ictmbai.edu.in
aw.patwardhan@ictmbai.edu.in



Professor K. G. Akamanchi

• Dean, Research, Consultancy and Resource Mobilisation

T: 91- 22- 33612214
dean.rcrm@ictmbai.edu.in / kg.akamanchi@ictmbai.edu.in



Professor K.S. Laddha

• Dean, Infrastructure and Campus Development

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Shri M. A. K. Kerawalla

Associate Dean, Infrastructure and Campus Development

T: 91- 22- 33612758
asdean.icd@ictmbai.edu.in
mak.kerawalla@ictmbai.edu.in



Professor P. R. Vavia

• Controller of Examinations

T: 91- 22- 33612220
control.exam@ictmbai.edu.in
pr.vavia@ictmbai.edu.in

4. HEADS OF DEPARTMENTS & COORDINATORS OF CENTRES



Professor V. G. Gaikar

- Head, Dept. of Chemical Engineering
- Coordinator, UGC Networking Resource Centre in Chemical Engineering
- Coordinator UGC Advanced Studies in Chemical Engineering

T: 91- 22- 3361 2013
vg.gaikar@ictmumbai.edu.in



Professor R. V. Adivarekar

Head, Dept. of Fibres and Textile Processing Technology
T: 91- 22- 3361 2801
rv.adivarekar@ictmumbai.edu.in



Professor (Smt.) P.V. Devarajan

Head, Dept. of Pharmaceutical Sciences and Technology
Coordinator, UGC Centre for Advanced Studies in Pharmaceutical Sciences and Technology • T: 91- 22- 3361 2201
pv.devarajan@ictmumbai.edu.in



Professor B. M. Bhanage

Head, Dept. of Chemistry
Coordinator, UGC DRS
T: 91- 22- 3361 2601
bm.bhanage@ictmumbai.edu.in



Dr. A. K. Sahu

Head, Dept. of Mathematics
T: 91- 22- 3361 2676
ak.sahu@ictmumbai.edu.in



Shri. Amogh Lokhande

- Librarian

Prof. M.M. Sharma Library
T: 91- 22- 3361 1126
library@ictmumbai.edu.in



Professor A. M. Lali

Coordinator, DBT-ICT Centre for Energy Biosciences
Coordinator, M.Tech. (Bioprocess Technology)
T: 91- 22- 3361 2014
am.lali@ictmumbai.e98du.in



Dr. Laxmi Ananthanarayan

Co-ordinator, Food Biotechnology
T: 91-22-3361 2506
l.anathanarayan@ictmumbai.edu.in



Professor P. M. Bhate

Head, Dept. of Dyestuff
I/c Head, Dept of Oils and Oleochemicals & Surfactant Technology
T: 91- 22- 3361 2701
pm.bhate@ictmumbai.edu.in



Professor Smita S. Lele

Head, Dept. of Food Engineering and Technology
Coordinator, UGC Centre for Advanced Studies in Food Engineering and Technology
T: 91- 22- 3361 2501
ss.lele@ictmumbai.edu.in



Professor R. N. Jagtap

Dept. of Polymer and Surface Engineering
T: 91- 22- 3361 2401
rn.jagtap@ictmumbai.edu.in



Dr. (Smt.) V. D. Deshpande

Head, Dept. of Physics
T: 91- 22- 3361 2651
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Dr. S. P. Deshmukh

Head, Dept. of General Engineering
T: 91- 22- 3361 2751
sp.deshmukh@ictmumbai.edu.in



Professor A. B. Pandit

Co-ordinator, ICT-DAE Centre for Chemical Engineering Education and Research
T: 91- 22- 3361 2017
ab.pandit@ictmumbai.edu.in



Professor N. Sekar

Coordinator, UGC CAS in Physico-Chemical Aspects of Textiles, Fibres, Dyes and Polymers
T: 91- 22- 3361 2707
n.sekar@ictmumbai.edu.in



Professor S.S. Bhagwat

Coordinator CTM Course
T: 91-22-3361 2015
ss.bhagwat@ictmumbai.edu.in

5. IMPORTANT FUNCTIONARIES AND SUPPORT STAFF



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- A. R.(Academic)
 - Information Officer
- T: 91- 22- 3361 1201
ar.acad@ictmumbai.edu.in



Shri A. M. Sathye

- A. R. (Administration)
 - Information Officer
- T: 91- 22- 3361 1156
ar.adm@ictmumbai.edu.in



Shri K. M. Ghodke

- OSD (F &A),
 - Information Officer
- T: 91- 22- 3361 1256
ar.fin@ictmumbai.edu.in



Shri R. B. Sawant

- Superintendent,(Acad)
- Admissions, Examinations, Registration, Thesis matters, Fellowship claims, Transcripts, etc. T: 91- 22- 3361 1202
rb.sawant@ictmumbai.edu.in



Shri S. H. More

- OSD(Acad) Examinations and all related work
- T: 91-22-3361 1203
sh.more@ictmumbai.edu.in



Ms. N. S. Kachway

- Sr. Clerk, (Acad.)
 - Roll Calls, Re-admission, Registration, Synopsis/ Thesis, Transcripts, Visiting Faculty, etc. T: 91- 22- 3361 1205
- pg.mohite@ictmumbai.edu.in



Shri S. V. Pawar

- Jr. Clerk, (Acad.)
 - PG admission
 - Thesis submission and examination
- T: 91- 22- 3361 1204
thesis@ictmumbai.edu.in



Smt. Lalita Chauhan

- Receptionist
 - General and Admission related Inquiries, I-Cards, etc. T: 91- 22- 3361 1160
- inquiry@ictmumbai.edu.in



Smt. Asha V. Bhangare

- Jr. Clerk, (Acad.)
- Scholarships, Freeships, Bonafide Certificate, Attestation, Rank Certificate etc. T: 91- 22- 3361 1208
sv.pawar@ictmumbai.edu.in



Shri A. B. Rane

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- Admission, Web site, Eligibility, Enrolment, Fellowships, Handle IPC Programme. T: 91- 22- 3361 1209
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ADMINISTRATIVE STAFF OF VICE CHANCELLOR'S AND REGISTRAR'S OFFICE



Kum. Sanghamitra A. Bhavsar

- P.A. to Vice Chancellor
- T: 91- 22- 3361 1001
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Smt. Rekha S. Patil

- Jr. Typist Clerk
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Smt. Anushka A. Bhandare

- Jr. Typist Clerk
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Shri Sachin B. Kadam

- Assistant to Registrar
- T: 91- 22- 3361 1016
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6. FACULTY OF INSTITUTE AND DISTINGUISHED VISITING FACULTY

6.1. VICE CHANCELLOR



PROFESSOR G. D. YADAV

B. Chem. Eng. (Mumbai, 1974). Ph.D. (Tech.) (1980), F.T.W.A.S., F.N.A., F.N.A.Sc., Ch.E., F.I.Chem.E.(UK), F.M.A.Sc., F.I.I.Ch.E., F.I.C.S.

R. T. Mody Distinguished Professor

Jagdish Chandra Bose National Fellow (DST-GOI)

Subjects Taught: Fundamental of Green Chemistry and Technology, Nano technology in Green Chemistry

Research Interests: Green Chemistry and Technology (Fundamental and applied aspects of green chemistry and engineering, particularly in the design and development of benign and eco efficient processes in the chemical and allied industries such as bulk chemicals, intermediates, pharmaceuticals, fine chemicals, perfumes and flavours, and inorganics); Catalytic Science and Engineering (New catalytic materials, phase transfer catalysis, ionic liquids, reactions in supercritical carbon dioxide, catalysis modelling and simulation, biocatalysis in non-aqueous media, synergism of chemical catalysis with microwaves and ultrasound, and cascade engineered catalysis, renewable materials as feedstock for value added chemicals, biorefinery); Nanomaterials and nanocatalysis (Solid acids, superacids and bases, supported metals as nanocatalysts, sulphated zirconia, UDCaT series of novel catalysts, ion exchange resins, heteropoly acids, clays, and zeolites, novel redox materials, carbon nanotubes); Biotechnology (Enzyme catalysis in pharmaceutical transformations in non-aqueous media, chiral separations, biomass conversion, biorefinery, Synergism of Microwaves and Enzymes); Energy Engineering (Petroleum Engineering, Flow through porous media, Network modelling, Novel methods of enhanced oil recovery; Coal conversion, Hydrogen generation and storage)

Research Students		Patents	Research Publications	Sponsored Projects	
Guided	Ongoing	(National and International)	International	Government	Private Industries
(single supervisor): Ph.D. - 61 Masters - 62	Ph.D. - 23 Masters - 12	56	241	Completed - 43 Ongoing - 05	Completed - 16

6.2. DEPARTMENT OF CHEMICAL ENGINEERING

Head: PROFESSOR V. G. GAIKAR



Professor V. G. Gaikar, F.N.A.E.

B.Chem.Eng (Mumbai, 1982), M.Chem.Eng. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1986)

Bharat Petroleum Professor of Chemical Engineering

Subjects Taught: Biochemical Engineering, Process Engineering, Advanced Separation Processes

Research Interests: Renewable Energy Resources, Reactive Separation Processes, Molecular Simulation for Reactive Sorption and Metal Ion Complexation, Interfacial Science and Engineering and Hydrotopry, Complex Fluid Behaviour, Synthesis of nanoparticles and development of applications

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 29 Masters - 67	Ph.D. - 13 Masters - 04	04	113	Completed - 14 Ongoing - 02	Completed - 02



Professor S. S. Bhagwat

B. Chem. Eng. (Mumbai, 1984), M.Chem.Eng. (Mumbai, 1986) Ph.D. (Tech.) (Mumbai, 1989)

Professor of Chemical Engineering

Subjects Taught: Chemical Engineering Thermodynamics I, Chemical Engineering Thermodynamics II, Thermodynamics of Phase Equilibria, Interfacial Science and Engineering.

Research Interests: Interfacial Science and Engineering, Microemulsions, Energy and Exergy Engineering, Absorption Cycles, Utilization of low grade energy.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 20 Masters - 58	Ph.D. - 18 Masters - 05	03	40	Completed - 04 Ongoing - 01	Completed - 08 Ongoing - 05



Dr. V. H. Dalvi

B.Chem. Eng. (Mumbai, 2002), M.S., P.D.ENG. (Enschede, The Netherlands, 2005), Ph.D. (Austin, USA, 2009)

DAE-Scientist Grade A (DAE-ICT Centre)

Subjects taught: Chemical Engineering Laboratory, Industrial Engineering and Chemistry

Research interests: Molecular Simulations, Process Simulations, Solar Thermal Systems



Dr. P. R. Gogate

B.Chem.Eng. (Mumbai, 1996), M.Chem.Eng. (Mumbai, 1998), Ph.D. (Tech.) (Mumbai, 2002)

Assistant Professor of Chemical Engineering

Subjects Taught: Advanced Chemical Reaction Engineering, Material and Energy Balance Computations, Computer Simulation Laboratory

Research Interests: Cavitation Reactors, Process Intensification, Wastewater treatment, Advanced Oxidation Processes, Sonocrystallization, Intensification of Enzyme synthesis and enzymatic reactions

Research Students		Research Publications		Sponsored Projects
Guided	Ongoing	National	International	Government
Masters - 09	Ph.D. - 07 Masters - 10	17	101	Completed - 03 Ongoing - 02



Dr. Neetu Jha

B.Sc.(Physics Honours) (Kolkata, 2002), M.Sc.(Physics) (Banaras Hindu University, 2004), Ph.D. (IIT Madras, 2009)

DAE-Scientist Grade A (DAE-ICT Centre)

Research interests: Carbon nanomaterials(Carbon nanotubes and graphene) and their energy related applications



Professor A. M. Lali

B.Chem.Eng. (Mumbai, 1980), M.Chem.Eng. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1988)

Professor of Chemical Engineering

Subjects Taught: Downstream Processing in Biotechnology, Advances in adsorptive and Chromatographic Separations, Bioprocess Simulation Modelling and Bioreactor Design, Separation Technology, Biochemical Engineering

Research Interests: Bioenergy, Biofuels and biomass to other bio/chemicals, Purification of proteins, nucleic acids, other biomolecules, natural & synthetic APIs, high value organic/inorganic chemicals, Continuous chromatography, Modeling and Adsorptive Separations, Biocatalysis and Biotransformations, Bioreactor design, Mixing and Dynamics of solid-liquid fluidized beds, Dynamics of gas-solid circulating fluidized bed, Process Integration and Intensification, Process development, characterization and scale-up

Research Publications	Sponsored Projects	
International	Government	Private
35	Completed - 13 Ongoing - 04	Completed - 13 Ongoing - 04



Mrs. K. V. Marathe

B.E. (Nagpur, 1981), M.Tech. (Nagpur, 1983)

Associate Professor of Metallurgical Engineering

Subjects Taught: Material Technology, Advanced Materials, Industrial Eng.Chem.

Research Interests: Membrane Separation, Waste Water Treatment, Corrosion, Development of Metal Matrix Composites.

Research Students		Research Publications	Sponsored Projects	
Guided	Ongoing	International	Completed	Ongoing
Masters - 18	Ph.D. - 02 Masters - 05	14	01	01



Dr. C. S. Mathpati

B. Chem. Eng. (Mumbai, 2004), M. Chem. Eng. (Mumbai, 2006), Ph.D. (Tech.) (Mumbai, 2010)

Assistant Professor of Chemical Engineering

Subjects Taught: Multiphase Reactors, Chemical Engineering Laboratory, Bioreactor Design and Control

Research Interests: Computational Fluid Dynamics, Multiphase Flow, Reactor Design, Interface Heat and Mass Transfer.

Research Students	Research Publications
Ongoing	International
Masters - 05	07



Dr. Parag R. Nemade

B. Chem. Eng (U.D.C.T., Mumbai, 2001), M.S. (Univ. of Colorado, Boulder, 2007), Ph. D. (Univ. of Colorado, Boulder, 2008)

DAE-ICT Scientist A

Subjects Taught: Advanced Separation Processes, Chemical Engineering Laboratory

Research Interests: Membrane Separations, Membrane Reactors, Solar thermochemical synthesis, Biosensors, Process Intensification and Waste minimization.

Research Students	Research Publications
Ongoing	International
Masters - 01	03



Professor A. B. Pandit

B.Tech. (B.H.U., 1980), Ph.D. (Tech.) (Mumbai, 1984), F.N.A., F.N.A.E., F.N. A.Sc. FASc.
UGC Research Scientist C

Subjects Taught: Design of Multiphase Reactors, Chemical Project Economics, Environmental Engineering and Pollution Control

Research Interests: Multiphase Rector Design, Cavitation Phenomena, Pollution control, Bubble Dynamics, Acoustic signal processing, Mixing and Hydrodyanics and Cavitational Transformations.

Research Students		Research Publications			Sponsored Projects	
Guided	Ongoing	National	International	Books	Government	Private
Ph.D. - 26 Masters - 57	Ph.D. - 14 Masters - 04	28	218	03	Completed - 08 Ongoing - 06	Completed - 04 Ongoing - 02



Prof. Anand V. Patwardhan

B.Chem.Eng.(Mumbai, 1983), M.Chem.Eng. (Mumbai, 1985), Ph.D. (Tech.) (Mumbai, 1988)

Professor of Chemical Engineering

Dean (AP)

Subjects Taught: Transport Phenomena, Green Technology, Computer Aided Process Design

Research Interests: Green Technology (utilisation of non-edible oils, CO₂, and H₂S; synthesis, characterisation, and applications of ionic liquids to chemical process development); Steam Reforming of Petroleum Feedstock and Biofuels; Membrane Synthesis and Membrane Separation; Non Conventional Ways of Hydrogen Production and Related Catalyst Development; Solvent Extraction Equipment; Flue Gas Conditioning).

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 06 Masters - 34	Ph.D. - 04 Masters - 04	01	35	Completed - 05 Ongoing - 01	Ongoing - 01



Dr. Ashwin W. Patwardhan

B.Chem.Eng. (Mumbai, 1993), M. S. (M.I.T., USA 1995), Ph.D. (Tech.) (Mumbai, 1998)

Associate Professor of Chemical Engineering

Subjects Taught: Material and Energy Balance Computations, Advanced Reaction Engineering, Process Modelling and Simulation.

Research Interests: Transport Phenomena, Reaction Engineering, Computational Fluid Dynamics.

Research Students		Research Publications	Sponsored Projects	
Guided	Ongoing	International	Government	Private
Ph.D. - 10 Masters - 35	Ph.D. - 04 Masters - 05	65	Completed - 09 Ongoing - 02	Completed - 01



Dr. V. K. Rathod

B. Tech. (Nagpur, 1999), M. Tech. (Nagpur, 2001), Ph.D. (Tech.) (Mumbai, 2006)

Associate Professor of Chemical Engineering

Subjects Taught: Heat Transfer, Advance heat transfer, separation processes, Fluid flow and Heat transfer, Multiphase Reactor, Material & Energy Balance calculation, pharmaceutical Engineering, Chemical Engineering Laboratory

Research Interests: Separation process, Extraction of Natural ingredients, Enzyme catalyzed reactions, Waste Treatment, Nuclear reprocessing, Separation of biomolecules, Enzyme Preparation and separation.

Research Students		Research Publications	Sponsored Projects	
Guided	Ongoing	International	Government	Private
Masters - 22 Ph.D. - 01	Ph.D. - 08 Masters - 12	17	Completed - 05 Ongoing - 02	Completed - 01 Ongoing - 01



Professor B. N. Thorat

B.Chem.Eng. (Mumbai, 1987), M.Chem.Eng. (1989), D.H.S.T. (BITS, 1991), Ph.D. (Tech.) (Mumbai, 2001)

Professor of Chemical Engineering

Subjects Taught: Advanced Transport Phenomena, Chemical Reaction Engineering, Instrumentation and Process Control, Unit Operations etc.

Research Interests: Drying Technology and Particle Handling, Process Development, Multiphase Reactors, Industrial Crystallization and Filtration, Food Processing etc.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 07 Masters - 32	Ph.D. - 13 Masters - 03	03	44	Completed - 01 Ongoing - 02	Completed - 04 Ongoing - 01



Dr. P. D. Vaidya

B.E. (Chem. Eng.) (Mumbai, 1998), M.Chem.Eng. (Mumbai, 2000), Ph.D. (Tech.) (Mumbai, 2005)

V. V. Mariwala Assistant Professor of Chemical Engineering

Subjects Taught: Instrumentation and Process Control, Industrial Process Control, Advanced Mass Transfer Operations, Transport Phenomena, Industrial Catalysts, Chemical Reaction Engineering, Environmental Engineering & Pollution Control, Separation Processes, Chemical Engineering Laboratory

Research Interests: CO₂ Capture and Utilization, Renewable Hydrogen Production, Wastewater Treatment

Research Students		Research Publications	Sponsored Projects	
Guided	Ongoing	International	Government	Private
Masters - 09	Ph.D. - 09 Masters - 09	28	Ongoing - 02	Ongoing - 01



Professor D. Ramkrishna

B.Chem. Eng. (Mumbai, 1960), Ph.D. (Minnesota, 1965), D.Sc. (Minnesota, 2005), N,A,E.

M.M. Sharma Distinguished Professor of Chemical Engineering, ICT

(H. C. Peffer Distinguished Professor,

Purdue University, School of Chemical Engineering West Lafayette, IN, USA)

Research Interests: Dispersed phase systems, Biochemical Engineering, Applied Mathematics
<http://cobweb.ecn.purdue.edu/~drops/abstract.html>



Professor M. M. Sharma

Emeritus Professor of Eminence

Institute of Chemical Technology

6.3.DEPARTMENT OF DYESTUFF TECHNOLOGY

Head: PROFESSOR P. M. BHATE



Professor P. M. Bhate

B.Sc. (Mumbai, 1974), B.Sc. (Tech.) (Mumbai, 1977), Ph.D. (USA, 1984)

Professor of Dyestuff Technology

Subjects Taught: Mechanism of Organic Reactions – M Tech and Ph D
Chemistry and Technology of Natural Dyes – M Tech and Ph D
Technology of Intermediates & Colorants – IV – B Tech
Chemistry of Intermediates & Colorants – I and II – B Tech
Chemistry and Technology of Naphthalene Intermediates – B Tech
Chemistry and Technology of Anthraquinone Intermediates – B Tech
Chemistry and Technology of Disperse Dyes and Optical Brighteners – B Tech
Technology of Organic Processes – B Tech

Research Interests: Fibre reactive dyes, vat dyes, carbohydrate chemistry, natural product synthesis.

Research Students	Research Publications	Sponsored Projects
Ongoing	International	Government
Ph.D. - 08 M. Tech - 02	04	Ongoing - 03



Professor N. Sekar

B.Sc.(Madras, 1979), B.Sc. (Tech.) (Mumbai, 1982), Ph.D. (Tech.) (Mumbai, 1987)

Professor in Tinctorial Chemistry

Subjects Taught: Chemistry and Technology of Intermediates and Colorants, Analytical Instruments in Colorants Chemistry, Chemistry and Technology of Agrochemicals and Petrochemicals, Fluorescent colorants in bio-imaging, colour and Constitution relations

Research Interests: Synthesis of High Performance Textiles Colorants, Functional Textile Colorants, Colorants in the area of energy, environment and nano-bio-electronics. Synthesis of fused heterocyclic compounds having fluorescence. Multicomponent synthesis in generating heterocyclic fluorophores. Nano-dispersible organic functional materials. Function of colors in biology and bio-compatible colorants. Laser dyes, TDDFT calculations and computational quantum chemistry, fluorescent probes in theranostic applications, green chemistry and perfumery chemistry.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 15	Ph.D. - 19 Masters - 03	06	25	Ongoing - 04	Completed - 01 Ongoing - 01



Dr. G. S. Shankarling

B. Sc. (Karnataka, 1991), B. Sc. (Tech.) (Mumbai, 1994), M. Sc. (Tech.) (Mumbai, 1997), Ph. D. (Tech.) (Mumbai, 2000)

Associate Professor of Dyestuff Technology.

Subjects Taught: Chemistry of Intermediates and Colorants, Technology of Intermediates and Colorants, Chemistry Perfumes and Flavours, Chemistry of Natural Colorants, Advanced Dyestuff Chemistry, Analysis of Intermediates and Dyes, Tinctorial Chemistry, Experimental Dyeing, Green Chemistry and Technology, Functional Colorants.

Research Interests:

Functional colorants: For solar cell, optoelectronics, laser, security, fluorescent, non-linear, thermochromic, photochromic and thermoplastic applications

Organic Synthesis: Perfumery Chemicals, Green Chemistry for fine chemical synthesis.

Process Development: Intermediates, Finechemicals and Dyes.

Pigments and Dyes: Inkjet colors, High performance pigments, Textile colors.

Research Students		Patents	Research Publications		Sponsored Projects	
Guided	Ongoing	(National and international)	National	International	Government	Private
Masters - 06 Ph.D. - 02	Ph.D. - 17 Masters - 07	14	02	18	02	Completed - 03 Ongoing - 03

6.4 DEPARTMENT OF FIBRES AND TEXTILE PROCESSING TECHNOLOGY

Head: PROFESSOR R. V. ADIVAREKAR



Professor R. V. Adivarekar

B.Sc. (Mumbai, 1985), B.Sc. (Tech.) (Mumbai, 1988), M.Sc. (Tech.) (Mumbai, 1990), Ph.D. (Tech.) (Mumbai, 1995)

Professor of Fibre Chemistry

Head, Department of Fibres and Textile Processing Technology

Subjects Taught: Technology of Printing, Techniques and Theory of Textile Colouration, Energy and Water Conversion in Textile Industry, Testing of Textiles Dyes and Auxiliaries, Biotechnology in Textiles, Advanced Textile Technology

Research Interests: Natural Dyes and Mordants; Dyeing of Textile; Printing of Textile; Mass Production and extraction of Microbial colourants; Manufacturing of Enzymes for textile Processing; Medical Textile; Colour fastness of textile materials; Functional Finishes, Detergency in Textiles etc.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 14	Ph.D. (Sci.) - 02/ Ph.D.(Tech.) - 03 Masters - 07	35	09	Ongoing - 01	Completed - 02 Ongoing - 02



Dr. R. D. Kale

B.Sc. (Mumbai, 1993), B.Sc. (Tech) (Mumbai, 1996), M. Tech. (Mumbai, 2005), Ph.D.Tech. (Mumbai, 2012),

Assistant Professor of Textile Chemistry

Subjects Taught: Technology of Textile Polymers, High Tech & Industrial Fibres, Tech of Non Wovens, Fibre Chemistry, Testing of Textile, Dyes & Chemicals

Research Interests:

- Modification of Synthetic Fibres by Melt Spinning,
- Use of Polyelectrolyte Multilayers for modification and imparting Novel Properties to Textile Polymers.
- Functional Finishes for Natural & Synthetic Fibres
- Processing of Polyester fibres at room temperature
- Synthesis and application of nano particles • Effluent treatment using nano particles
- Application of Nano technology in Textiles

Research Students		Research Publications		Sponsored Projects
Guided	Ongoing	National	International	Government
Masters - 01	Ongoing - 04	05	04	Completed - 01



Ms. Neha Khurana

B. Tech. Textiles (ICT, Mumbai), Pursuing Ph.D. (Tech)

Tutor

Subjects Taught: Technology of Textile Colouration, Nanotechnology in Textiles

Research Interests: Medical Textile, Functional Finishes, Detergency of Textiles, Testing of performance properties of textiles, Application of Nanotechnology in Textiles etc.

Research Publications	
National	International
01	01



Dr. (Mrs.) Usha Sayed

B.Sc. (Hon. Dist. 1977), B.Sc.(Tech.) (Mumbai, 1980), M.Sc (Tech.) (Mumbai, 1983), Ph.D. (Tech) (Mumbai, 1997)

Associate Professor of Dyeing and Printing

Subjects Taught: Technology of Fibers, Technology of Dyeing and Printing, Technical Textile, Technology of Finishing, Garment Processing, Preparation of Fabric, Testing of Textile.

Research Interest: Textile Processing, Recycling and Reuse of Dyes & Chemicals, Surfactants, Specialty Chemicals, Laundry Chemicals, Enzyme technology, Polymers, fibre science, Technical textiles, Photo fading studies, Leather Processing, Recycling of Papers, Laundering Recycling of Carpet, Recycling of Garments, Surface modification of Fibers, Natural finishes Dyeing With Natural Dyes, Studies of Bio Polymers, Processing of Wool & Silk, etc., Synthesis of cationic fixing agent and specialty chemicals and dyes.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 17	Ph.D. - 02 Masters - 01	06	06	Completed - 03	Completed - 01



Professor S. R. Shukla

B.Sc. (Hons.) (Shivaji, 1971), B.Sc. (Tech.) (Mumbai, 1974) Ph.D. (Tech.) (Mumbai, 1980); F.M.A.Sc.

Professor of Technology of Dyeing and Printing

REGISTRAR

Subjects Taught: 1. Techniques & Theory of Textile Colouration- B.Tech.- Sem IV; 2. Advanced Textile Technology- B.Tech.- Sem VIII; 3. Environmental Problems of Textile Processing: M.Tech. -Sem II; 4. Dyeing of Natural Fibres- M.Sc.- Sem II; 5. Dyeing of Manmade Fibres- M.Sc.- Sem II; 6. Green Chemistry in Textile Processing - M.Sc.-Sem III.

Research Interests: Use of UV radiations and ultrasonics in textile areas; Biotechnology in textile processing; Effluent treatment; Colour removal; Heavy metal removal and recovery; Depolymerization and recycling.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D - 17 Masters - 52	Ph.D. - 07 Masters - 04	93	104	Completed - 05 Ongoing - 01	Completed - 03



Professor M. D. Teli,

B.Sc. (Hons.) (Mumbai, 1973), B.Sc. (Tech.) (Mumbai, 1976), Ph.D. (Tech.) (Mumbai, 1981)

Professor of Textile Chemistry

Dean, Students Affairs and HRD

Subjects Taught: Technology of Fibres, Advanced Textile Chemistry/Technology, Modification of Fibrous Polymers, Technical Textiles

Research Interests: Chemical Processing and Modifications of all Natural and Synthetic Fibres and Thickeners, Wet and Melt spinning of Polymer Blend Fibres, Electro Kinetic studies, structure property relationships, Natural Dyes and their applications, Specialty Finishes with antibacterial and fragrance properties, Application of Nanotechnology and Biotechnology in Textiles, Sound absorbing and Medical textiles, Super absorbents and Plasma application for Coating and in Technical Textiles, Garment dyeing and finishing; etc.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 18 Masters - 72	Ph.D. - 06 Masters - 07	119	90	Completed - 04	Completed - 09



Ms. Priti B Tayade

B. Tech. Textiles (ICT, Mumbai), Pursuing Ph.D. (Tech)

Tutor

Subjects Taught: Technology of Textile Colouration

Research Interests: Natural dyes and mordants, Testing of Colour Fastness of textiles, Special Printing Effects, Synthesis, formulation and application of Textile Auxiliaries etc.

Research Publications
National
01

6.5 Department of Foods Engineering and Technology

Head: PROFESSOR S. S. LELE



Professor S. S. Lele

B.Chem.Eng. (Mumbai, 1977), M.Chem.Eng. (Mumbai, 1981), Ph.D. (Tech.) (Mumbai, 1990) F.M.A.Sc. (2006), Fellow of the Biotech society (India, 2010)

Professor of Biochemical Engineering

Head, Department of Foods Engineering and Technology

Subjects Taught: Principles of Food Preservation & Food Engineering, Fermentation Technology & Genetic Engineering; Advances in Food Technology & Engineering, Biochemical Engineering, Fundamentals of Food Science and Technology.

Research Interests: Food Product / Process development; Microalgal Metabolites; Enzyme Production from Indigenous Strains; Biological Effluent Treatments; Fruit and vegetable based dehydrated and nutritious product development.

Research Students		Patents	Research Publications		Sponsored Projects
Guided	Ongoing	Filed	National	International	Government
Ph.D. - 16 Masters - 52	Ph.D. - 13 Masters - 02	03	09	68	Completed - 05 Ongoing - 03



Dr. Laxmi Ananthanarayan

B.Sc. (Mumbai, 1978), B.Sc. (Tech.) (Mumbai, 1981), M.Sc. (Tech.) (Mumbai, 1983), Ph.D. (Tech) (Mumbai, 2010)

Associate Professor of Applied Biochemistry

Subjects Taught: Chemistry of food constituents; Nutrition; Technology of Plantation Products; Food Packaging; Current topics in Food science and Technology; Biochemistry lab; Food preservation lab; Food Tech Lab; Food Biotech Lab; Advances in Nutrition; Nutrigenomics; Biotechnology of Fermented Foods.

Research Interests: Traditional Foods, Fermented Foods; Fruit and Vegetable Processing; Millet Based Products; CAP / MAP Technology; Extrusion Technology; Protein Purification; Enzymology; Nutraceuticals; Natural Pigments; Microbial Metabolites.

Research Students		Research Publications			Sponsored Projects	
Completed	Ongoing	National	International	Book Chapter	Government	Private
Masters - 52	Masters - 06 Ph. D. - 06	01	22	01	Ongoing - 01	Completed - 01



Dr. U. S. Annapure

B.Tech. (Marathwada, 1993), M.Sc. (Tech.) (Mumbai, 1996), Ph.D. (Tech) (Mumbai, 2000,) BOYSCAST Fellow (DST-GOI, 2010)

Associate Professor of Food Chemistry
Co-chair UG Admission Committee, ICT
Warden Hostel No. 4

Subjects Taught: Under Graduate Courses: Food Chemistry, Principles of Food Preservation, Technology of Fermented Foods, Current Topics in Food Science and Technology, Food Microbiology Lab & Food Processing Lab, Post-graduate Courses: Advances in Food Technology, Advances in Food Engineering, Carbohydrate Chemistry and Technology, Fundamentals of Food Biotechnology, Advanced Food Biotechnology, Biotechnology of Fermented Foods, Food Processing Lab.

Research Interests: Extrusion Processing – Process and Product Development, Drying and dehydration of foods, Frying - Chemistry and Technology, Nutraceuticals – Chemistry, Technology and Product Development, Carbohydrates - Chemistry and Technology of minor grains and tubers, Traditional Foods, Product and Technology development, Enzyme applications in food processing, Down-stream processing of enzymes, antioxidants, antibiotics and Biomolecules, Plant tissue culture.

Research Students		Research Publications			Sponsored Projects	
Guided	Ongoing	National	International	Government	Private	
Ph.D. - 01 Master - 39	Ph.D. - 13 Masters - 09	05	27	Completed - 01	Completed - 02	



Dr. S. S. Arya

B.Tech. (Marathwada, 2002), M.Tech. (Mumbai, 2004), Ph.D. (Tech) (Mumbai, 2008)

Assistant Professor of Food Technology

Subjects Taught: Food Packaging, Food Microbiology, Chemistry of Food Constituents, Technology of Fruits, Vegetables and Grain, Technology of Cereals, Legume and Pulses, Current Topics in Food Science and Technology, Fundamentals of Food Biotechnology, Technical Analysis I and II(P), Food Microbiology (P), Food Chemistry (P), Food Analysis (P), Food Processing I (P)

Research Interests: Indian traditional foods, chemistry and preservation of foods, product development and processing, staling studies in cereal and cereal products, starch chemistry and technology, preservation of foods, application of newer technologies in preservation of traditional foods, Food Biotechnology, production and downstream processing of biomolecules, fermented foods, diabetic foods, functional foods, nutraceuticals, fruit and vegetable preservation and processing, Indian flat breads.

Research Students		Research Publications		Sponsored Projects	
Ongoing		National	International	Government	
Masters - 06	Ph. D. - 02 Masters - 06	02	11	Completed - 02	



Professor R. S. Singhal

B.Sc. (Hons.) (Mumbai, 1981), B.Sc. (Tech.) (Mumbai, 1981), M.Sc. (Tech.) (Mumbai, 1986), Ph.D. (Tech.) (Mumbai, 1990)

Professor of Food Technology

Subjects Taught: Food Additives and Ingredients, Food Chemistry, Nutraceuticals and Functional Foods, Technology of Dairy Products, Modern Techniques in Food Analysis, Food Safety and Toxicology, Biotechnology of Fermented Foods

Research Interests: Carbohydrate Chemistry and Technology, Food Product Development, Nutraceuticals, Chemistry and Technology of Traditional Foods, Biopolymers, Fermentative production and downstream processing of biomolecules

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 14 M.Tech. - 63	Ph.D. - 17 M.Tech. - 11	10	237	Completed - 03 Ongoing - 01	Completed - 08

6.6 DEPARTMENT OF OILS, OLEOCHEMICALS & SURFACTANTS TECHNOLOGY

I/c Head: PROFESSOR P. M. BHATE



Professor S. A. Momin

B.Sc. (Hons.)(Pune, 1972), M.Sc. (Tech.) (Mumbai, 1983), Ph.D. (Tech.) (Mumbai, 1987)

Professor of Oil Technology

Subjects Taught: Biochemistry of Oils and Lipids, Technology of Soaps and Detergents, Cosmetics Science I and II and Technology of essential oils and their applications, Advanced chemistry of Fats and Fatty acids.

Research Interests: The area of research interest is mainly Surfactants, Nutraceuticals, Cosmetics and Perfumery. The work involves development of surfactants, evaluation and formulation. The study of nutraceuticals involves the extraction of natural antioxidants and their applications to form the functional foods. The Cosmetics and Perfumery study deals with the formulation and the stability.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 04 M.Tech. - 27	Master - 03	08	10	Completed - 04	Completed - 02



Prof. D. N. Bhowmick

B.Sc. (Kanpur, 1970), B.Sc. (Tech.) (Kanpur, 1973), M.Sc. (Tech.) (HBTI, Kanpur, 1975), Ph.D. (IIT, Mumbai, 1987)

Professor of Oils, Fats and Waxes Technology

Subjects Taught: Chemistry & Technology of Oils, Fats & Surfactants; Biochemistry

Research Interests: Membrane separation processes Waste utilization, minor constituents of oils and fats, oleochemicals

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 17 Masters - 20	Ph.D. - 03	10	23	Completed - 07	Completed - 03



Dr. A. P. Pratap

B.Sc. (Tech) (Mumbai, 1999), M.Sc. (Tech) (Mumbai, 2001), Ph.D. (Tech.) (Mumbai, 2006)

Assistant Professor of Oils, Fats and Waxes Technology

Subjects Taught: Technology of Oil and Fat Production, Processing of Oil Bearing Materials, Processing of Oils, Fats and Waxes, Fat Based Products, Cosmetics and Perfumery, Processing of Oleochemicals and Cosmetics, Processing of Soaps, Detergents, Oleochemicals and glycerine, Triboapplication Laboratory, Waxes, Lubricants and Greases, Technology of Fat Based Products, Analysis of Oils, Fats and Waxes

Research Interests: Tribo applications of oils and fats, structural modifications of oils, fats and fatty acids, Petroleum products, lubricants, Additives and specialty products, microbial Bio surfactants etc.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 05	Ph.D. - 03 Masters - 11	11	12	Completed - 04 Ongoing - 02	Completed - 02 Ongoing - 02



Dr. J. T. Waghmare

B.Sc. (Tech) (Mumbai, 1998), M.Sc.(Tech) (Mumbai, 2002), Ph. D. (Mumbai, 2010)

Assistant Professor of Oils, Fats, and Waxes Technology

Subjects Taught: Analysis of, oleochemicals and surfactants, Analysis of oils, fats & waxes, Technology of edible fat production.

Research interests: Nutraceuticals, oxidation studies, structural lipids, designer lipids. application of surfactant, Cosmetics, perfume, flavor and fragrances, enzymology

Research Students		Research Publications		Sponsored Projects
Guided	Ongoing	National	International	Government
Masters - 01	04	02	06	Completed - 03

6.7 DEPARTMENT OF PHARMACEUTICAL SCIENCES & TECHNOLOGY

Head: PROFESSOR P. V. DEVARAJAN



Professor P. V. Devarajan

B.Pharm. (Mumbai, 1980), M.Pharm. (Mumbai, 1983), Ph.D. (Tech) (Mumbai, 1989)

Professor in Pharmacy

Head, Department Of Pharmaceutical Sciences & Technology

Subjects Taught: Pharmaceutics, Technology of Solid Dosage Forms, Technology of Sterile Dosage Forms, Drug Delivery Systems, Targetted Drug Delivery Systems(DDS).

Research interests: Nanomedicine for targeted delivery in infectious diseases(TB, malaria, brucellosis etc.), and cancer, Engineering nanoparticle shape, Scale-up methods for nanoparticles, nanocarrier based drug delivery systems for peptides, proteins and biotech molecules, Screening for new targeting ligands, Surfactant based innovative self assembled structures as DDS, Bioadhesive nasal and sublingual DDS, Controlled released DDS(NDA and ANDA), Bioenhanced DDS

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D.(Tech.) - 23 Masters - 50	Ph.D.(Tech.) - 18 Masters - 04	04	37	Completed - 06 Ongoing - 03	Completed - 15 Ongoing - 04



Professor K. G. Akamanchi

B.Sc. (Mumbai, 1973), B.Sc. (Tech.) (Mumbai, 1976), Ph.D. (Tech.) (Mumbai, 1985)

Professor in Pharmaceutical Technology

Dean, Research, Consultancy and Resource Mobilisation

Subjects Taught: Pharmaceutical Chemistry, Pharmaceutical Technology, Chemistry of Natural Products.

Research Interests: Catalysis, Design and development of new reaction systems and reagents,

hypervalent iodine(v) reagents and new transformations, process chemistry and technology for Drugs and Intermediates, Biotechnology with emphasis on membrane transport proteins isolation and characterization, antitubercular agents, Desig and synthesis of dendritic surfactants for nanomedicine.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 44 Masters - 71	Ph.D. - 13 Masters - 05	05	65	Completed - 13	Completed - 15 Ongoing - 01



Dr. Prajakta Dandekar-Jain

B.Pharm. (Mumbai, 2003), M.Tech. (Mumbai, 2006), Ph.D. (Tech.) (Mumbai, 2009)

Dr. John Kapoor Assistant Professor in Pharmaceutical Technology

Subjects Taught: Pharmaceutical and Medicinal Chemistry I, Pharmaceutical Analysis, Microbiology

Research Interests: Polymeric Nanoparticles, Infectious Diseases, Macrophage Targeted Drug Delivery System, Lung cancer, Lung infections, siRNA Delivery

Research Publications		Patents
International	National	National
14	01	04



Professor P. D. Amin

B.Pharm. (Mumbai, 1982), M.Pharm. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1988)

Professor in Pharmacy

Subjects Taught: Pharmaceutics, Pharmaceutical Technology, Dispensing Pharmacy, Hospital Pharmacy.

Research Interests: Exploration of Hot Melt Extrusion Technology in Innovative Drug Delivery system, Development and evaluation of Fixed Dose

Combinations, Improvisation Techniques for Manufacture and Evaluation of Solid Dosage Forms, Release modification designs for drug delivery system Design and Fabrication of Pharma machinery (R&D Models), Development of Added Functionality Excipients.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 13 Masters - 47	Ph.D. - 10 Masters - 04	27	18	Completed - 06 Ongoing - 06	Completed - 10 Ongoing - 04



Dr. G. U. Chaturbhuj

B. Pharm. (Shivaji, 1998), M. Pharm. (Mumbai, 2000), Ph.D. Tech. (Mumbai, 2012)

Assistant Professor of Pharmacy

Subjects Taught: Pharmaceutical Analysis

Research Interests: Synthesis of substituted Biphenyls, synthesis of drugs and drug intermediates by alternative, ecofriendly, industrially feasible routes, development of routes for synthesis of drug metabolites and analytical methods,

Polymer synthesis and pharmaceutical applications thereof

Research Students	Research Publications
Ongoing	International
Masters - 01	01



Professor M. S. Degani

B.Pharm. (Mumbai, 1982), M.Pharm. (Mumbai, 1985), Ph.D. (Tech.) (SNDT, 2001)

Sir Dorabjee Tata Professor in Pharmaceutical Chemistry

Subjects Taught: Pharmaceutical chemistry, Medicinal Chemistry, Organic Chemistry and Spectroscopy

Research Interests: Drug discovery chemistry including computer assisted design (structure and ligand based) followed by synthesis of focused compound libraries and their in vitro evaluation including cell based and enzyme based

approaches. Process chemistry research including Green chemistry aspects using ionic liquids; development of innovative processes for drug intermediates and fine chemicals and biosynthetic routes.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 08 Masters - 38	Ph.D. - 12 Masters - 05	05	32	Completed - 09 Ongoing - 02	Completed - 05 Ongoing - 01



Professor A. R. Juvekar

B.Pharm. (Shivaji, 1979), M.Pharm. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1995)

Professor in Pharmacology and Physiology

Subjects Taught: Anatomy and Physiology, Pharmacology, Clinical Pharmacy, Anatomy and Pathophysiology, Biochemistry, Topics in Pharmacology, Models for Drug Delivery system, Pharmacology Toxicology and Therapeutics.

Research Interests: Pre-clinical Pharmacodynamic activity evaluation in

diseases related to Inflammation, pain, ulcer Immunomodulation, Hepatoprotective, Central Nervous System, Cardio Vascular System diseases. Toxicology studies - Acute, Sub-acute, Chronic

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 11 Masters - 44	Ph.D. - 05 Masters - 06	41	16	Completed - 05 Ongoing - 01	Completed - 28



Professor K. S. Laddha

B.Pharm. (Mumbai, 1982), M.Pharm. (Mumbai, 1985), Ph.D. (Tech.) (Mumbai, 1994)

Professor of Pharmacy Dean (ICD)

Subjects Taught: Pharmacognosy, Phytochemistry and medicinal Natural Product

Research Interests: Extraction, isolation and characterization of phytoconstituents, Development of large scale extraction technologies,

Standardization of herbal drugs and formulations, Development of herbal drug formulations, Chemical Modification of phytoconstituents.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 07 Masters - 47	Ph.D. - 10 Masters - 05	39	12	Completed - 05	Completed - 10



Dr. Ratnesh Dharamchandra Jain

B.Pharm. (Bhopal, 2003), M.Pharm. (Mumbai, 2005), Ph.D. (Tech.) (Mumbai, 2009)

Ramanujan Fellow (DST, Govt. of India)

Subjects Taught: Research Methodology, Medicinal Natural Products

Research Interests: Nanoparticles, Molecular Imaging, Vaccines, siRNA delivery, Intracellular Infections, Drug Delivery Devices, Live cell Imaging, Intracellular trafficking

Standardization of herbal drugs and formulations, Development of herbal drug formulations, Chemical Modification of phytoconstituents.

Research Publications		Patents	Sponsored Projects
International	National	National	Government
10	02	03	Ongoing - 01



Professor V. B. Patravale

B.Pharm. (Mumbai, 1985), M.Pharm. (Mumbai, 1987), Ph.D. (Tech.) (Mumbai, 1992)

Professor of Pharmaceutics

Subjects Taught: Pharmaceutics, Cosmetics, Validation and regulatory Requirements, Advanced Pharmaceutics, Drug Delivery systems, Targeted Drug delivery.

Research Interests: Lipid and polymer based nano therapeutics, Nanosuspensions, Targeted drug delivery systems, Novel carriers and techniques for solubilization, Green technologies for nanoparticle generation, Exploitation of indigenous excipients for novel applications, Fabrication of equipments for micro/nanocapsules for scale-up, Medical devices, cosmeceuticals

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 10 Masters - 43	Ph.D. - 16 Masters - 06	15	53	Completed - 10 Ongoing - 03	Completed - 15 Ongoing - 02



Dr. S. S. Sathaye

B.Pharm. (Mumbai, 1983), M.Pharm. (Mumbai, 1986), Ph.D. (Tech.) (Mumbai, 2006)

Associate Professor of Pharmacy

Subjects Taught: Anatomy, Physiology, Pathophysiology, Pharmacology, Microbiology,

Research Interests: Toxicity evaluation as per regulatory guidelines. Developing phytoactives and enzymes as dietary health supplements,

immunomodulators, hepatoprotectives, aphrodisiac, appetite stimulant, anti-diabetic, anti-convulsants (In- Vitro and In-Vivo evaluation). Biotechnological applications in isolating biomolecule. Evaluation of Drug Delivery Systems and synthetic drugs using In Vitro and In -Vivo models (Efficacy and Toxicity).

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 21	Ph.D. - 06 Masters - 08	09	05	Ongoing - 03	Completed - 22



Dr. V. N. Telvekar

B.Sc. (Mumbai, 1992), B.Sc. (Tech) (Mumbai, 1995), M.Sc. (Tech) (Mumbai, 1997), Ph.D. (Tech) (Mumbai, 2003)

Assistant Professor of Pharmaceutical Chemistry

Subjects Taught: Medicinal Chemistry, Pharmaceutical Chemistry, Pharmaceutical Engineering, Process Technology of Drugs and Intermediates.

Research Interests: Development of novel reactions and methodology. Design of novel molecules using Computer aided drug design and finally synthesis of novel molecules by using novel methodology and their evaluation.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	International		Government	Private
Ph.D. - 01 Masters - 23	Ph.D. - 15 Masters - 03	40		Completed - 02 Ongoing - 01	Completed - 03



Professor P. R. Vavia

B.Pharm. (Mumbai, 1985), M.Pharm. (Mumbai, 1987), Ph.D. (Tech.) (Mumbai, 1991)

Professor of Pharmaceutics
I/c Controller of Examinations

Subjects Taught: Pharmaceutics, Advanced Pharmaceutics, Biopharmaceutics and Pharmacokinetics, Drug Delivery Systems.

Research Interests: Cyclodextrins based drug delivery systems, Nanosponge based drug delivery system, Bioencapsulation, Multiparticulate drug delivery system, Transdermal drug delivery systems, Protein and peptide drug delivery system, Lipid based colloidal formulations, Polymer synthesis for drug delivery, Modified release films, Melt Extrusion Technology, Oral liquid dosage forms, Techniques in solubilization, Soft Gelatin Capsule.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 29 Masters - 38	Ph.D. - 18 Masters - 05	21	72	Completed - 01 Ongoing - 05	Completed - 16 Ongoing - 06

6.8. DEPARTMENT OF POLYMER AND SURFACE ENGINEERING

Head: PROFESSOR R. N. JAGTAP



Professor R. N. Jagtap

B.Sc. (1989) B.Sc. (Tech.) (Mumbai, 1992), M.Sc. (Tech.) (Mumbai, 1996), Ph.D. (Tech.) (Mumbai, 1998)

Professor of Paint Technology
Head, Department Of Polymer And Surface Engineering

Subject Taught: Paint Technology, Technology of Printing Ink, Advances in surface coating Technology, Corrosion prevention and corrosion protection.

Research Interests: Living Radical Polymerization for Tailor-made, Polymers, Nanomaterials and Nanocomposite, Recycling of e-waste, Antimicrobial Paints, Heat reflective coatings, Corrosion, Ecofriendly coating.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 02 Masters - 22	Ph.D. - 13 Masters - 06	44	21	Completed - 01 Ongoing - 01	Completed - 05 Ongoing - 04



Professor P. A. Mahanwar

B.Sc. (Hons.) (Shivaji, 1987), B.Sc. (Tech.) (Mumbai, 1991), M.Sc. (Tech.) (Mumbai, 1994), Ph.D. (Tech.) (Mumbai, 1999)

Professor of Polymer Technology

Subjects Taught: High Polymer Chemistry, Processing of Plastics, Technology of Pigments, Polymer Additives, Powder Coatings, Polymer Composites, Advance Polymer Science.

Research Interests: Green Chemistry, Nanomaterial synthesis, Polymer Nanocomposites, Green Coatings.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 03 Masters - 32	Ph.D. - 06 Masters - 04	10	23	Completed - 04 Ongoing - 03	Completed - 04 Ongoing - 01



Dr. S. T. Mhaske

B.Sc. (Amravati, 1996), B.Sc. (Tech.) (Mumbai, 1999), M.Sc. (Tech) (Mumbai, 2001), Ph.D. (Tech). (Mumbai, 2007)

Assistant Professor of Technology of Plastics & PPV.

Subjects Taught: Compounding and Polymer Processing – I, Polymer & Processing Technology – III, Analysis & Pigment Synthesis, Characterization of Polymers, Synthesis & Characterization of Polymers, Paints Processing.

Research Interests: Novel approached synthesis of Nano particles, Polymer melt Rheology, Cellulose based Polymer Nanocomposites, Bio Nanocomposites, Synthesis of pigments using core shell and Sol gel techniques, synthesis of resins from renewable resources, Synthesis and Characterization of Resins, Water Borne Coatings, Insulating Varnishes, conductive coatings, anticorrosive coatings, Polymer Processing and Coloration and Colour Matching.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 09	Ph.D. - 05 Masters - 06	29	14	Ongoing - 02	Completed - 06 Ongoing - 04



Shri A. R. Rao

B.Tech. (Amaravati, 1998), M.Tech. (Mumbai, 2007)

Assistant Professor of Polymer Technology

Subject Taught: Compounding and polymer processing, Technology of Thermoplastics Identification and Analysis of Polymer, Polymer Processing-II, Chemistry and Technology of Plastics, Synthesis and Characterization of Polymers.

Research Interests: Polymer Blends and Alloys, Polymer Nanocomposites, Controlled radical Polymerization, Recycling of Polymers Biodegradable Polymers.

Research Publications		Sponsored Projects
National	International	Government
02	01	Completed - 01



Dr. A. S. Sabnis

B.Sc. (Mumbai, 1996), B.Sc. (Tech.) (Mumbai, 1999), M.Sc. (Tech) (Mumbai, 2001), Ph.D. (Tech). (Mumbai, 2006)

Assistant Professor of Technology of Polymers and Paint

Subjects Taught: Technology of Thermoset Resins, Basics of paint formulation, Paint Rheology, Instrumental Techniques for Paint Evaluation, Paint Film Defects & Remedies etc.

Research Interests: Waterbased coatings, electrical insulation, waste recycling in Polymer industry, Polyurea coatings technology, green route for polymer synthesis.

Research Students	Research Publications		Sponsored Projects	
Ongoing	National	International	Government	Private
Masters - 03	01	01	Ongoing - 01	Ongoing - 03



Dr. V. V. Shertukde

B.Sc. (1987), B.Sc. (Tech.) (Mumbai, 1990), M.Sc. (Tech.), (Mumbai, 1993) Ph.D. (Tech.) (Mumbai, 1997)

Associate Professor

Subjects Taught: Polymer Blends & Alloys, Polymer composites, Radiation curable coatings, Adhesion & Adhesives, Polyelectrolytes, High polymer chemistry, Polymer Science & Technology Technology of Elastomers, Advances in polymer science & Technology, Technology of Thermoset Resins, Polymer additives, Polymer Processing.

Research Interests: Polymer Composites/ Nanocomposites, Polymer Blends & Alloys, Recycling of plastics, Corrosion protection, Thermally stable polymers, Adhesives, Paper coatings etc.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.D. - 01 Masters - 18	Ph.D. - 04 Masters - 02	22	08	Completed - 01	Completed - 02



Professor Dr. M. R. Sawant

M.Sc. Ph. D., D.H. E.

Emeritus Fellow (All India Council of Technical Education)

Research Interest : Homogeneous and heterogeneous catalysis using metal oxides, Pesticide formulations, nano emulsion, Surfactant science

6.9 DEPARTMENT OF CHEMISTRY

Head: PROFESSOR B. M. BHANAGE



Professor B. M. Bhanage

B.Sc. (Pune, 1986), M.Sc. (Pune, 1988), Ph.D. (NCL, Pune, 1996)

Professor of Industrial and Engineering Chemistry
Head, Department of Chemistry

Subjects Taught: Organic Chemistry, Inorganic Chemistry, Materials Chemistry, Catalysis

Research Interests: Development of new method for organic synthesis such as sonochemistry, use of ionic liquids, Mechanistic studies; Catalysis – Homogeneous catalysis, Heterogeneous catalysis using modified silica, alumina, zeolites, metal oxides, etc.; Green Chemistry approaches to synthesis. Gas liquid reactions like hydroformylation, hydrogenation, carbonylations, carbon dioxide fixation into valuable chemicals, asymmetric synthesis using catalysis.

Research Students		Patents	Research Publications		Sponsored Projects	
Guided	Ongoing		Patents	International	Government	Private
Ph.D. - 07	Ph.D. - 14	Granted - 14 Applied - 05	19	126	Completed - 05 Ongoing - 02	Completed - 03 Ongoing - 01



Professor R.V. Jayaram

M.Sc. (University of Madras), Ph.D. (IIT, Madras)

Professor of Physical Chemistry

Co-ordinator: M.Tech (Green Technology)

Subjects Taught: Physical chemistry, Organic chemistry, Analytical chemistry, Catalysis and Green chemistry

Research Interests: Heterogeneous catalysis in organic synthesis, Green chemistry, synthesis and application of structurally ordered materials, amorphous alloys, functional polymers, adsorption techniques for removal of water pollutants

Research Supervision		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Completed	Ongoing
Ph.D. - 13 Masters - 08	Ph.D. - 11 Masters - 08	04	68	05	01



Dr. A. R. Kapdi (MRSC, AvH Fellow)

B.Sc. (Mumbai, 2000), M.Sc. (Mumbai, 2002), M.Res. (University of York, 2005), Ph.D. (University of York, 2008)

DST SERC-Fast Track Research Fellow

Subjects Taught: Organic Chemistry, Organometallics, Analytical Chemistry

Research Interests: Catalysis- Homogeneous catalysis using palladium and nickel based complexes, Heterogenization of the complexes on solid supports and application of both the methodologies in cross coupling and C-H bond Functionalization of heterocycles; Green Chemistry approaches to synthesis; Microwave assisted organic reactions in aqueous media.

Research Publications	Research Projects
International	Government
24	01



Dr. J. M. Nagarkar,

B.Sc. (1975), M.Sc. (1977), Ph.D. (Nagpur, 1984)

Associate Professor of Chemistry

Subjects Taught: General Chemistry, Physical Chemistry, Analytical Chemistry, Inorganic Chemistry

Research Interests: Heterogeneous and homogeneous Catalysis, Photocatalysis, Emulsification of oils, Electrochemical extraction' organometallic Chemistry

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Masters - 09	Ph.D. - 10	02	15	Completed- 02	Completed - 06



Miss. Manjiri Suresh Mulye

B.Sc.in Chemistry (Mumbai, 2008), M.Sc. in Physical Chemistry(Mumbai, 2010)

Tutor



Ms. Pallavi Sunil Parab

B.Sc.(Mumbai University,2008), M.Sc.(Mumbai University, 2010)

Tutor



Professor S. D. Samant

M.Sc. (Mumbai, 1976), Ph.D. (Mumbai, 1980)

Professor of Organic Chemistry

Subjects Taught: Organic Chemistry

Research Interests: Mechanistic organic chemistry, Synthesis of Biologically interesting compounds, New methods of Organic Synthesis, Chemistry of surfactants, Sonochemistry, Catalysis.

Research Students		Research Publications		Sponsored Projects	
Guided	Ongoing	National	International	Government	Private
Ph.d. - 43 Masters - 03	Ph.D. - 10	42	76	Completed - 10 Ongoing - 02	Completed - 02

6.10 DEPARTMENT OF GENERAL ENGINEERING

Head: DR. S.P.DESHMUKH



Dr. S. P. Deshmukh

D.M.E. (Ratnagiri, 1983), B.E. (Prod.) (Mumbai, 1986), M.E. (Prod.) (Mumbai, 1992), Ph.D. (Mumbai 2009)

Associate Professor-cum –Workshop Superintendent

Head, Department of General Engineering

Subjects Taught: Equipment Design & Drawing I, Engineering Graphics, Mechanical Engineering,

Research Interests: Polymeric Composites, Engineering Materials, Plastic Processing, Design of Molds, Analysis of Plastic component using CAD, CAE tools.

Research Students		Research Publications	
Guided	Ongoing	National	International
Masters - 10	Masters - 02 Ph. D. - 04	01	02



Shri. V. R. Gaval

B.E. (Production) (Mumbai, 1987), M.E. (Plastic) (Mumbai, 1989)

Assistant Professor of General Engineering

Subjects Taught: Mechanical Eng., Equipment Design and Drawing, Eng. Graphics, Structural Mechanics, Processing of Plastics, Plastics Product Design and Testing.

Research Interests: Polymeric composites, Nanocomposites, Injection mold Design.

Research Students	
Guided	Ongoing
14	02



Mrs. P. Goswami

B.E. (Elect.) (Jodhpur, 1990), M.E. (Instrumentation & Control, Panjab, 2008)

Assistant Professor of General Engineering

Subjects Taught: Electrical Engineering and Electronics

Research Interests: MATLAB simulations, Power systems and energy conservation.



Shri M. A. K. Kerawalla

B.E. (Elect.) (Mumbai, 1981), M.E. (Elect.) (Mumbai, 1984)

Associate Professor of Electrical Engineering



Shri A. C. Rao

B.E. (Mech.) (Mumbai, 1975), M.E. (Mech. with Plastic Eng.) (Mumbai, 1977)

Associate Professor of Mechanical Engineering

Subject Taught: Testing of Plastics, Plastic Product design, Processing of Plastics, Design and Fabrication of Molds and Dies, Principles of Plastic Machinery Design.

Research Interest: Design and Fabrication of plastic molds and Dies, Processing of Plastics ,Plastic Machinery Design,Analysis of plastic articles and molds/dies using CAD/CAM/CAE

Research Students		Research Publications	
Guided	Ongoing	National	International
ME (Plastics) - 25 Ongoing - 02	Ph.D.(Tech.) - 01 Ongoing - 02	10	05



Shri. R. S. N. Sahai

B.E. (Mech.) (1989), M.E. (Plastic Eng.) (Mumbai, 2004)

Assistant Professor of Mechanical Engineering

Subjects taught: Engg Graphics, GTMP, Processing of Plastics

Research Interests: Polymeric composites, Nanocomposites, Injection mold Design

Research Students	
Guided	Ongoing
Masters - 03	Masters - 01



Dr. D. D. Sarode

B.E. (Civil) (Mumbai, 1986), M.E. (Structural) (Mumbai, 1990), Ph. D. (I.I.T. Bombay, 2010), P. G. D. (Const. Management) (Mumbai, 1988), D.C.S.T. (Mumbai, 1999)

Associate Professor of Civil Engineering

Subjects Taught: Engineering Mechanics & Strength of Materials, Structural Mechanics and Process Equipment Design I

Research Interests: Construction Chemicals - Plasticisers, Anticorrosive coatings and inhibitors Hydration of cement and its structure, Concrete Technology – Mineral and chemical admixtures, Bacterial Concrete, Formwork for R.C.C. Structures. Composite Materials – Glass and Carbon fiber composites and its use in Engineering. Research in Geotechnical Engineering

Research Students		Research Publications	
Guided	Ongoing	National	International
Masters - 04	Masters - 03 Ph.D. - 02	10	05

6.11 DEPARTMENT OF MATHEMATICS

Head: DR. A. K. SAHU



Dr. A.K. Sahu

B.Sc. (Utkal, 1976), M.Sc. (Utkal, 1979), Ph.D. (IIT, Mumbai, 1992)

Associate Professor of Engineering Mathematics

Head, Department of Mathematics

Subject Taught: Appl. Math. I, II, III & IV, Chem. Eng. Math., Computer Application (F.Y.B.Tech.), Numerical Methods, Mathematical Biology, Computer Application II (M.Sc.), Software Lab. II (M.Sc.), Math. II (F.Y.B. Pharm.)

Research Interests: My basic interest is in Mathematical modeling, Momentum and Heat transfer in Laminar and Turbulent Flows. In general analytical solutions are not possible for the governing equations for complex flow geometry. Therefore the equations are solved numerically. For this Purpose, finite difference, control volume method and finite element methods are used.

Research Students		Research Publications		Sponsored Projects
Guided	Ongoing	National	International	Government
M.Phil. - 01	Ph.D. - 01	07	06	Ongoing - 01



Dr. Ajit Kumar

B.Sc. (Patna, 1995), M.Sc. (Mumbai, 1997), Ph.D. (Mumbai, 2002)

Assistant Professor of Mathematics

Subjects Taught: Applied Mathematics I, II & IV (B. Chem. Eng). Computer Application to Engineering, Computer Programming, Applied Mathematics I, & IV, Statistics and Simulation (Theory & Lab) (B.Tech.), Computational Math. Lab. (Masters), Applied Linear Algebra (M.Sc.) Software Lab (M.Sc.) Optimization Techniques (M.Sc.)

Research Interests: Optimization Techniques, Statistical Analysis, Differential Geometry, Mathematical Pedagogy

Research Publications		Sponsored Projects
National	International	Government
01	03	Ongoing - 01



Dr. Aatira Gopalkrishnan Nedungadi

B.Sc. (Maths), University of Pune, M.Sc. In Mathematics (IIT, Bombay). Ph.D. In Mathematics (I.I.Sc., Bangalore)

Subject Taught: Applied Mathematic I (FY B.Tech. & F. Y. B. Chem. Engg.)

Research Interests: Time Series Analysis, Dynamical System and Mathematical Modeling

Publications
International
02



Dr. Smrutiranjana Mohapatra

Bsc. (Sambalpur, 1999), M.Sc. (Sambalpur, 2004), Ph.D. (IIT Guwahati, 2009)

Assistant Professor of Mathematics

Subjects Taught: Applied Mathematics II

Research Interests: Water wave scattering by spherical or cylindrical structures and bottom topography, Hydrodynamic Loading, Ice-cover problems, Scattering by Very Large Floating Structure (VLFS).

Research Publications
International Journals
07





Ms. Renu Rusta

B.Sc. (Hon.) Mathematical Statistics (Delhi, 1984), M. STAT. (Indian Statistical) (Delhi, 1986)

Tutor

6.12 DEPARTMENT OF PHYSICS

Head: DR. V.D. DESHPANDE



Dr. (Smt.) V. D. Deshpande

M.Sc. (Delhi, 1978), M.Phil. (Delhi, 1980), Ph.D. (Delhi, 1986)

Associate Professor of Colour Physics

Head, Department of Physics

Subjects Taught: Applied Physics, Colour Physics.

Research Interests: Polymer nanocomposites, Polymer blends: Crystallization kinetics, Mechanical and optical properties, Orientation behaviour, structure-property relationship; Colour Physics: Colour assessment of dyed textiles; Polymer embedded nano-drug delivery; Renewable energy—solar thermal application, Coatings for solar collector for various solar applications

Research Students		Research Publications		Sponsored Projects
Guided	Ongoing	National	International	Government
Masters - 05	Ph.D. - 08 Completed - 01	05	07	Completed - 06



Dr. R.R. Deshmukh

B.Sc. (Pune, 1991), M.Sc. (NMU Jalgaon, 1994), B.Ed. (Mumbai, 1995), Ph.D. (Mumbai, 2002)

Associate Professor of Physics

Subjects Taught: Heat, Optics, Lasers and Fibre Optics, Solid State Physics, Thin films, Chromatographic Techniques

Research Interests: Plasma Technology, Polymer Physics, Functionalization of nano-particles. Molecular tailoring of surfaces using plasma for biomedical applications, textile physics, Electro-optical properties of Polymer Dispersed Liquid Crystals. Polymer nano composites materials.

Research Students		Research Publications			Sponsored Projects
Guided	Ongoing	National	International	Book / Chapter	Government
Masters - 02	Ph.D. - 06	03	15	01	Completed - 05 Ongoing - 02



Dr. Mohan Narayan

B.Sc. (Mumbai, 1988), M.Sc. (Mumbai, 1990), Ph.D. (Madras, 1999)

Associate Professor of Physics

Subjects Taught: Quantum Mechanics, Statistical Mechanics, UG Lab, Postgraduate Quantum Mechanics.

Research Interests: Theoretical High Energy Physics, Cavitation and Nucleation phenomena.

Research Publications	
National	International
02	17



Dr. S. M. Pawde

B.Sc. (Nagpur, 1980), M.Sc. (Nagpur, 1982), Ph.D. (Mumbai, 1994)

Associate Professor of Physics

Subjects Taught: Chemical Physics, Optics, Electronics

Research Interest: Dielectric and piezoelectric properties of polymers, polymer blends and composites.

Research Students	Research Publications		Sponsored Projects
Guided	National	International	Government
Ph.D. - 01 Masters - 04	06	11	Completed - 04



Shri. S. Kasthurirangan

B.Sc. (Mumbai, 2005), M.Sc. (Mumbai, 2007)

Assistant Professor of Physics

Subjects Taught: Optics, Laser, Chemical Physics

Research Interests: Accelerator-based Atomic and Molecular Physics, Ion-Atom and Electron-Atom Collisions, Physics of Highly Charged Ions, Colour Physics

6.13 PROFESSOR M.M. SHARMA LIBRARY

Head: Shri A. S. Lokhande



Shri A. S. Lokhande

*B. Sc. (Mumbai, 2001), B. L. I. S. (Pune, 2002), M. L. I. S. (Pune, 2003),
Maharashtra SET, UGC -NET*

Librarian

Research Interest: Librarianship, Bibliometrics, Citation Analysis

6.14 DBT-ICT- CENTRE FOR ENERGY BIOSCIENCES

COORDINATOR: PROFESSOR A. M. LALI



Dr. Annamma Anil

B.Sc. Mumbai 1999, M. Sc. Mumbai 2001, Ph.D. Mumbai 2006

Assistant Professor of Biochemistry

Subjects Taught: Biological Sciences, Enzyme and Microbial Kinetics, Protein and Enzyme Engineering and Technology, Bioconversion and Downstream processing

Research Interests: Proteomics & Structural Chemical Biology, Integrative Biotransformations for commercial products, Protein and Enzyme Engineering, In silico Affinity Design for Ligands and Substrates, Purification of Natural molecules and Secondary agriculture and its products

Research Publications		Sponsored Projects	
National	International	Government	Private
01	01	Completed - 01 Ongoing - 02	Completed - 03 Ongoing - 05



Dr. Pooja Joshi

*B.Sc HNB Garhwal University (Srinagar, 1994), Msc (Biosciences)
(IITRoorkee, 1996), Ph.D. (TERI University, 2006)*

Research Scientist in Intellectual Property

Subjects Taught: Patents and IPR

Research Interests: Intellectual Property Rights in Life sciences, Plant Tissue Culture

Research Publications	
National	International
01	03



Dr. Tejashri Kulkarni

B.Sc. Mumbai 1999, M. Sc. Mumbai 2001, Ph.D. Mumbai 2008

Research Scientist

Subjects Taught: Patents and IPR

Research Interests: Patentability Analysis, Technology Patenting, Technology Transfer, Solid acid catalyzed reactions

Research Publications
National
01



Mr. Shamlan M. S. Reshamwala

B.Sc. (Mumbai 2001), M. Sc. (Mumbai 2003)

Research Scientist

Subject Taught: Biosystems Engineering, Biochemistry

Research Interests: Over-expression and secretion of recombinant proteins; enzyme engineering for improved catalysis and robustness; utilization of cheap feedstocks for biosynthesis of transportation fuels and fine chemicals.

Research Publications	Patent Applications
International	Indian
02	01



Dr. Rekha Matlani

B.Sc. (Gwalior 1996), M.Sc. (CHRI, Gwalior 1998), Ph.D. (DRDE, Gwalior 2002)

Associate Professor of Microbiology

Subjects Taught: Molecular biology and biotechnology, Recombinant DNA technology

Research Interest: Research area includes targeted and purposeful alteration of metabolic pathways found in an organism to utilize cellular pathways for chemical transformation. This multidiscipline field draws principles and expertise of computational sciences, biochemistry, and molecular biology. Designing tools for engineering microbes and analyze the metabolic flux, for production of amino acids and biofuels. Research also encompasses enzyme engineering toward increased pH, and temperature tolerance for industrial applications

Research Publications		Sponsored Projects
National	International	Government
02	20	Completed - 04 Ongoing - 01



Dr. Abhishek Mule

B.Sc. Mumbai 2002, M. Sc. Mumbai 2004, Ph.D. Mumbai 2009

Research Associate

Subjects Taught: Microbiology, Fermentation Technology, Bioprocess Technology

Research Interests: Interest Downstream processing, process optimization, large scale production of metabolites, technology transfer, effluent treatment, mass cultivation of microorganism, scientific reporting

Research Publications	
National	International
07	04



Dr. S. B. Kale

B. Pharm. (Pune, 2001), M.Sc. (Bioprocess Tech.) (Mumbai, 2004), Ph. D. (Tech.) (Mumbai, 2008)

Assistant Professor of Bioprocess Technology

Subjects Taught: Unit operations in Bioprocessing, Bioanalytical Techniques, Advanced Topics in Adsorptive and Chromatographic Separations

Research Interests: Downstream processing (DSP) of biomolecules (Proteins, polysaccharides and other biopolymers), synthetic and natural API; Adsorption, fermentation, Process integration and intensification; Process Characterization, QbD and PAT, Protein and API characterization; Biocatalysis and Media engineering; Ligand design, Bionanoparticles, valorisation of primary agricultural products and biomimetic synthesis

Research Publications	Sponsored Projects	
International	Government	Private
13	Completed - 02 Ongoing - 02	Completed - 08 Ongoing - 05



Dr. Gunjan Prakash

B.Sc. (Meerut, UP 1998), M. Sc. (Banasthali Vidyapith, Rajasthan 2000), Ph.D. (IIT, Delhi 2006)

Research Scientist in Microbiology

Subjects Taught: Biological Sciences, Microbiology, Modelling and Bioreactor Design

Research Interests: Algal Molecular Biology, Algal Biotechnology, Plant Biotechnology, Fermentation

Research Publications		Sponsored Projects	
National	International	Government	Private
02	10	Ongoing - 01	Ongoing - 01



Dr. Reena Pandit

B.Sc. (Mumbai 1997), M. Sc. (Mumbai 1999), Ph.D. (Mumbai 2007)

Research Scientist

Subjects Taught: Biological Sciences, Biochemistry, Green Bio- Technology

Research Interests: Algae Biotechnology, Bioactive compounds, Animal Tissue culture

Research Publications		Sponsored Projects
National	International	Government
07	01	Ongoing - 01



Dr. Supriya Ratnaparkhe

B.Sc. (Ahmedabad 1992), M. Sc. (Ahmedabad 1994), M.Phil. Space Application Centre (Ahmedabad 1996), Ph.D. Virginia Tech (USA 2009)

DBT Energy Biosciences Overseas Fellow

Research Interests: Plant Biotechnology, Molecular Biology, Plant Cell Wall Characterization, Biomass Degradation, Glycoside Hydrolases, Carbohydrate Binding Modules, Protein Engineering

Research Publications
International
04



Manju Bishan Sharma

B.Sc. Shimla, H.P 2002, M. Sc. Amritsar, Punjab 2004.

Research Associate

Research Interests: Microbial diversity, Molecular Biology, Metagenomics, Glycoside Hydrolases, Carbohydrate Binding Modules, and Protein Engineering

Research Publications	
Papers International	Book Chapters (International)
04	01



Dr. Fatima D'Souza

B.Sc. Mumbai 1992, M. Sc. Mumbai 1994, Ph.D. Mumbai 2000

Research Scientist

Research Interests: Process Development, Characterization and Scale-up, Bioassay Development, Protein Characterisation, Affinity Support design, purification of food enzymes, therapeutic proteins and peptides, Drug Development

Research Publications	Sponsored Projects	
International	Government	Private
02	Completed - 02	Completed - 01



Dr. Aruna Mahesh

B.Sc Ahmedabad 1995, M.Sc Vadodara 1997, Ph.D Mumbai 2003

Research Scientist

Research Interests: Molecular and Synthetic Biology applications towards optimizing microbial pathways and syntheses of value-added chemicals, Bioseparations

Research Publications
International
04

6.15 ADJUNCT FACULTY



Dr. N. C. Debnath

B. Sc. (Hons.) (Calcutta, 1970), M. Sc. (Delhi, 1973), Ph. D. (Calcutta, 1979)

Scientist C (Professor Grade)
Department of Physics



Dr. N. J. DeSouza

B.Sc. (1953), M.Sc. (1956), Ph.D. (1962), AIIM (Geneva), OOE (Zurich)

Adjunct Professor
Department of Pharmaceutical Science and Technology
Co-Coordinator, Entrepreneur Development Cell



Ms. Rita Doctor

B.A. (Mumbai, 1962), M.A. (Mumbai, 1965)

Adjunct Professor and Counsellor



Dr. A. K. Kalkar

M.Sc. (Jabalpur, 1966), Ph.D. (Mumbai, 1972)

Adjunct Professor
Department of Physics



Dr. S. V. Panse

M.Sc. (Mumbai, 1969), Ph.D. (Mumbai, 1996)

Adjunct Professor
Department of Physics



Dr. A. L. Ravinmohan

B.Tech. (IIT, Mumbai, 1967), Ph.D. (California, USA, 1971)

Adjunct Professor

Department of Oils, Oleochemicals and Surfactants



Dr. M. Sriram

Adjunct Professor of Chemical Engineering

6.16. HON. PROFESSORS



Prof. A. S. Mujumdar

Hon. Professor of Chemical Engineering

(Department of Mechanical Engineering & Director, Mineral, Metal & Materials Technology Centre(M3TC) National University of Singapore)

Research Interests: Drying of Paper, Steam Drying, Computational Fluid Dynamics, Electro-Osmosis Dehydration, Time-Dependent Melting/Freezing Phenomena, Novel Spout/Fluidized Bed Drying, Transport Processes of Impinging and Opposing Jets, Chemical Heat Pumps for Industrial Drying. Focus on innovative ideas. Approach: mission-oriented but based on fundamentals. New: Explosive boiling actuated micro-devices.



Professor J.B. Joshi

(J.C. Bose National Fellow)

Department of Chemical Engineering

(Homi Bhabha Professor, HBNI, Mumbai)

Research Interests: CFD, Multiphase Reactors

Shri S. B. Patel

M/s Shirish Patel and Associates Department of Chemical Engineering

Dr. M. V. Karwe

Department of Food Engineering and Technology

Shri S. M. Mokashi

Former M.D., Xytel India Pvt. Ltd Department of Chemical Engineering

Dr. H. C. Pradhan

Department of Physics

Dr. Shriram Manohar

Department of Chemistry

Dr. A. Sapre

Reliance Industries Ltd

Department of Chemical Engineering

Dr. N.V. Iyer

Department of Oils, Oleochemicals and Surfactants

6.17. ENDOWMENT POSITIONS : DISTINGUISHED VISITING FELLOWS, PROFESSORS AND LECTURERS (2010-2011)**GENERAL****● Professor B.D. Tilak Distinguished Lectureship****Professor S. P. Thyagarajan**

Pro-Chancellor of the Sri Ramacahndra University,
Chennai

● Professor B.D. Tilak Visiting Fellowships (4-6No.)**Dr. Shridhar R. Gadre**

Professor of Physical Chemistry
Department of Chemistry
University of Pune
Pune - 411 007.

Rajendra D. Kokane

167A/5344, Arun-niwara,
Kannamwar Nagar:-II
Vikhroli (e), Mumbai-400 083

Dr. P.G. Rao

Director, CSIR- North Eastern Institute of Science and Technology

Dr. Surendra Kulkarni

Technology Director and Chief Technology Officer
Dow India Ltd.

Dr. Arvind Varma

R. Games Slayter Distinguished Professor and
Head School of Chemical Engineering,
Purdue University,
West Lafayette, In 47907, USA

● Golden Jubilee Visiting Fellowships (8-12 No.)**Dr. Pankaj Doshi**

Scientist, CE Division,
NCL, Pashan Road,
Pashan, Pune-8

Professor Sergei A. Eremin

Professor, Leader Researcher
Head of Res. Group of Immunoassay
Dept. Chem. Enzymology Faculty of Chemistry, Moscow State University
Moscow, Leninsky Gory ,1

Dr. Guruswamy Kumaraswamy

National Chemical Laboratory
Polymer Science and Engineering Division, Pune - 411008, India.

Dr. Ashish V. Orpe

Chemical Engineering Division
National Chemical Laboratory
Pune - 411008, India.

Dr. Suresh Bhat

Scientist Polymer Chemistry
National Chemical Laboratory
Pune - 411008, India.

Dr. S.K.Patil

Ex - Scientist BARC
4/63, MIG colony,
Chittaranjan Nagar, Rajawadi,
Mumbai - 400 007.

Professor Garry L. Rempel (UGC- CAS Fellow)

Bayer Inc./ NESRC Industrial Research Chair
in Advanced Rubber Technology,
University of Waterloo

Dr. Anand Prakash

Department of Chemical and Biochemical Engineering
The University of Western Ontario
London, Ontario Canada N6A 5B9

- **Dr. Balwant S. Joshi Distinguished Visiting Professorship in Chemical Engineering / Chemical Technology/ Applied Chemistry**

Professor Arup Chakraborty

Robert T. Haslam Professor of Chemical Engineering
Professor of Chemistry
Professor of Biological Engineering
Massachusetts Institute of Technology
USA

Department of Chemical Engineering

- **Dr. G. P. Kane Visiting Professorship in Chemical Engineering**

Professor K. Kesava Rao

Professor in Indian Institute of Science , Bangalore

- **The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering**

Professor Dibakar Bhattacharya

University of Kentucky,
College of Chemical Engineering and Materials Engineering
169 F. Paul Anderson Tower,
Lexington, KY 40506-0046

- **Shri V.V. Mariwala Visiting Professorship in Chemical Engineering**

Professor Alirio E. Rodrigues

LSRE - Laboratory of Separation and Reaction Engineering
Associste Laboratory LSRE/LCM

Departamento de Engenharia Química
Faculdade de Engenharia da Universidade do Porto
Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

- **Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering**

Dr. Amit Biswas

Head, Technology Services & Emerging Technologies
Research Technology Group, Reliance Industries Ltd.

- **Professor R.A. Rajadhyaksha Memorial Lecture Series**

Professor Sujit Banerjee

Georgia Institute of Technology
School of Chemical & Biomolecular Engineering,
311 Ferst Drive, N.W.
Atlanta, GA 30332-0100

- **Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship in Chemical Engineering**

Professor Sirshendu De

Department of Chemical Engineering,
Indian Institute of Technology
Kharagpur – 721 302.
West Bengal

- **K. J. Somaiya Visiting Professor of Chemical Engineering Endowment**

Dr. KSMS Raghavarao

Scientist 'F'
Head, Department of Food Engineering,
Central Food Technological Research Institute

- **Shri. B. S. Rajpurohit Visiting Faculty and Oration Endowment**

Professor P. Balaram

Director,
Indian Institute of Science,
Bangalore – 560 012

Department of Chemistry

- **Dai-Ichi Karkaria Ltd. Visiting Fellowship**

Dr. Imamichi
M. D., Shimadzu Analytical India Pvt. Ltd.
1st floor, Rushabh Chamber,
Makwana Road, Marol,
Andheri (E.), Mumbai – 400 059.

- **Dai-Ichi Karkaria Ltd. Visiting Fellowship**

Dr. Imamichi
M. D., Shimadzu Analytical India Pvt. Ltd.
1st floor, Rushabh Chamber,
Makwana Road, Marol,
Andheri (E.), Mumbai – 400 059.

- **The Dharamsi Morarji Chemical Co. Visiting Fellowship in Chemistry**

Dr Bipin Alreja
President
NEURITAS ADVISORY
61 Deccan Court
259 S V Road, Bandra
Mumbai 400 050,

- **The (Late) Shri. G.D.Gokhale Endowment Lectureship**

Dr. Anil Kumar, FNA, FASc, FNASc
JC Bose National Fellow
Chairman, Physical Chemistry Division,
National Chemical Laboratory,
Pune 411008

- **Spinco Biotech-Ramnathan Lectureship**

Dr Amit Bandopadhyay
General Manager, Analytical Instruments Dept.
Blue Star Limited.

Department of Dyestuff Technology

- **Shri K.H. Kabbur Memorial Silver Jubilee Lectureship**

Dr. Pramod Kumbhar
Director- Research and Business Development-
Asia Pacific SI Group Ltd.
Thane-Belapur Road
Navi Mumbai-400705

- **Professor K. Venkatraman Lectureship**

Dr. Ashokkumar M. Malte
Consultant to an Agrochemical Company,
B/602, Raunak Tower,
2nd Pokhran Roa,
Thane – 400 606.

- **Pidilite Industries Ltd. Visiting Fellowship**

Dr. C.N.Sivaramakrishnan
Founder Trustee: Society of Dyers
and Colourist Education Charity
Block 11/12 Modi Kunj
K.A.Subramaniam Road
Matunga, Mumbai 400019

Department of Food Engineering and Technology

- **Professor A. Sreenivasan Felicitation Lectureship**

Dr Mrs Kalpagam Polasa,
Scientist F, Head of Food and Drug Toxicology
Research Centre
National Institute of Nutrition(ICMR)
Hyderabad 500 007

- **Marico Industries Visiting Fellowship**

Mrs. Chinmayee Deulgaonkar
B- 402, Krishna Towers, Atmaram Savant Road,
Ashok Nagar, Kandivali (E.),
Mumbai – 400 101.

- **ICT- Lupin Visiting Fellowships for Bioprocess Technology**

Dr. S. Shivaji (SSL)
Scientist G (Vice Chancellor-grade Scientist)
Centre for Cellular and Molecular Biology (CSIR), Hyderabad
Dr. Girish Mahajan (SSL)
D1/44, Green Fields Rocks End CHS Limited,
Jogeshwari-Vikroli Link Road,
Andheri (E), Mumbai - 400093

Department of Oils, Oleochemicals and Surfactants Technology

- **Professor J.G. Kane Memorial Lectureship**

Dr. Smita M. Jadhav
Nerul Navi Mumbai – 400 706.

- **Professor J.G. Kane Visiting Professorship in Chemical Technology**

Dr. Sitaram Dixit
Independent Consultant for the Home &
Personal Care Chemical Industry,
Mahavir Trinkets, 307 - 310, C Wing,
Off. LBS Road, Behind Huma Big Cinemas,
Near Railway Station, Kanjur Marg
(West), Mumbai 400078. Maharashtra India.

- **Cipla Distinguished Fellowship in Pharmaceutical Science**

Dr. Vijay B. Walame

Professor & Head, Department of Organon of Medicine
& Homoeopathic Philosophy, 1110 New Shukrawar peth, 'Tarang', Sathe Colony, Pune. 411 002

- **Themis Medicare- UICT Diamond Jubilee Distinguished Fellowship in Pharmaceutical Sciences**

Dr. P. S. Ramani

Retired Professor and Head :
Department of Neuro and Spinal Surgery
L.T.M. Medical College and Hospital,
Sion, University of Mumbai

- **Professor (Mrs.) M.R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology**

Dr. Rajiv Sarin

DMRT MD FRCR (Lond)
Designation: Director ACTREC & Professor in Radiation Oncology &
In-Charge, Cancer Genetics Unit

Dr. Shobhona Sharma (nee Banerji)

Professor
Department/Institute/University: Department of Biological Sciences
Tata Institute of Fundamental Research
Homi Bhabha Road,
Mumbai 400 005

- **"Professor S.K. Pradhan Endowment" in Pharmaceuticals Science & Technology"**

Professor S. Durani
Professor of Chemistry
Bio-Organic Laboratory
Department of Chemistry
Indian Institute of Technology Bombay
Powai, Mumbai 400076

- **"Professor V. M. Kulkarni Endowment Fund"**

Dr. Kanjaksha Ghosh

Director
Department of Hemostasis and Thrombosis,
National Institute of Immunohaematology

- **AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar**

Dr. Dhiren R. Thakker

317, Dalton Drive
Raleigh, NC 27615
Email : dhiren_thakker@unc.edu

Dr. Harish Padh

Vice Chancellor
Sardar Patel University, Vallabh Vidyanagar,
Gujrat.

7. PROFILES OF DEPARTMENTS AND CENTRES OF EXCELLENCE

7.1 Department of Chemical Engineering [CHEM ENGG]

7.1.1. What is Chemical Engineering?

Chemical engineering is the branch of engineering that applies scientific and mathematical principles to design and develop processes by which available chemicals can be converted into a variety of useful products. Chemical Engineering is applicable to a wide range of technologies, including the production of energy, materials, electronics, and pharmaceuticals, the processing of food, and environmental protection and remediation. Development of the high-quality materials and large-scale processes characteristic of industrialized economies is an achievement of chemical engineering. Those chemical engineers involved in the design and maintenance of large-scale manufacturing processes are known as process engineers. It is true that chemical engineers are comfortable with chemistry, but they do much more with this knowledge than just make chemicals. In fact, the term "chemical engineer" is not even intended to describe the type of work a chemical engineer performs. Instead it is meant to reveal what makes the field different from the other branches of engineering.

Chemical Engineering is an ever evolving and fascinating branch of engineering having exceptionally high science orientation. It is highly science based and the most versatile disciplines. Chemical engineering enjoys a special and critical place in scientific and engineering disciplines. It deals with world of atoms, molecules and molecular transformations and right from inception. As ecological sustainability takes on ever greater significance in the twenty-first century, there is likely to be a sustained demand for chemical engineers to collaborate with ecologists, mechanical engineers, electrical engineers, material scientists and others in planning eco-industrial projects. Such projects would integrate several different industrial and biological processes into synergistic complexes to produce materials and products needed by society.

7.1.2. Modern Chemical Engineering

The modern discipline of chemical engineering encompasses much more than just process engineering. Chemical engineers are now engaged in the development and production of a diverse range of products, as well as in commodity and specialty chemicals. These products include high performance materials needed for aerospace, automotive, biomedical, electronic, environmental, and space and military applications. Examples include ultra-strong fibers, fabrics, adhesives and composites for vehicles, bio-compatible materials for implants and prosthetics, gels for medical applications, pharmaceuticals, and films with special dielectric, optical, or spectroscopic properties for opto-electronic devices. Additionally, chemical engineering is often intertwined with biology and biomedical engineering. Many chemical engineers work on biological projects such as understanding biopolymers (proteins) and mapping the human genome.

A new paradigm of "borderless chemical engineering science" is emerging. The demands from the society on 'cleaner' technologies rather 'clean-up' technologies, the emergence of 'performance chemicals and materials,' etc., is driving the profession towards achieving a symbiotic relationship with other disciplines. It has always been dealing with pollution prevention, atom economy, recycle, as the Solvay process would suggest. The term 'green chemical engineering' as a mantra for sustainable development and responsible care is at the centre-stage for all activities related to chemical engineering. Future course of an engineering discipline is reflected in current research areas within its folds. The expedition ahead for Chemical Engineering, based on the research profile of Chemical Engineering schools world over suggests that it is embracing biology, bio-engineering, tissue engineering, bio-processing, green chemistry and green engineering, and material science and nanotechnology in a big way and has been a truly working on scales from atom to atmosphere. Readily available computing power is changing the nature of research activity forever. A high level of mathematics and computational methods are intertwined with chemical engineering. The advent of new measurement techniques is reducing the length scale of investigation to nano and molecular scales irreversibly in many cases. Chemical Engineering thus appears poised for a major expansion. Chemical engineers are getting directly involved in development of new products and new technologies which improve the quality of life which requires highly interdisciplinary work, new ways of treating diseases—a domain of medical practitioners

only till very recently, and development of application specific materials and fluids with complex structure at various length scales.

Chemical Engineering is not just Chemistry but a discipline itself with own characteristics. A proficiency in basic sciences such as Chemistry, Physics, Biology, Mathematics and their applications is necessary to effectively conduct the molecular transformations at scales varying from thousands of tonnes to few kilograms per day in economically attractive and environmentally safe manner. Each reaction with unique characteristics gives challenging opportunities to conduct it at profitable scale to produce increasingly purer products as per market demands with minimum energy input in shortest time without producing waste or by-products. Each combination of Reaction and Reactor is, therefore, a challenge to the Chemical engineer to make it faster, simpler and cheaper.

7.1.3. Borderless and Versatile Engineering Profession

Over the last 25 years, Chemical Engineering has evolved developing interfaces with newer areas, including Biochemical Engineering, Nano Technology, and Energy Engineering taking advantage of developments in High performance computations, Electronics and Instrumentations and Information Processing. Although the basic responsibility of a Chemical engineer remains in design, testing, scale-up, operation and control of chemical plants, the interface helps the Chemical Engineers to enter into these newer areas at ease. Large Manufacturing facilities such as cements, petroleum refineries, oil and natural gas exploration and semiconductor Industries, biofuels and biotransformations, nuclear reactors, all involve Chemical engineering operations. Chemical engineers find good job opportunities in a wide spectrum of industries involving speciality chemicals, pharmaceuticals, drugs, paints, dyes, vegetable oils and foods.

Because of excellent analytical skills Chemical Engineers(CE) can work in areas from chemoinformatics to bioinformatics, drug delivery systems, molecular modelling, to handling systems from nanoscales to global scales for environmental impact and climate change. The versatility of Chemical Engineering education, therefore, makes a wide choice of career options available to the CE candidates. There is a huge scope for higher studies in Chemical Engineering because of highly science based discipline and requirement of R&D in the country.

7.1.4. International Standing of Department

The Department of Chemical Engineering is the number one Chemical Engineering Department in the Country by all the standards: teaching, research and industrial relationship, as has been rated by the international surveys conducted by Professor Jude Sommerfield of Georgia Tech, USA since 1964 for every five year period as well as every year and also during the 5-year period during 2004-2009 which included all IITs and IISc. Besides it is among top 10 departments in the world and in terms of productivity as measured by papers per faculty per dollar spent, it is number one in the world. The number of papers published in peer reviewed journals per faculty is also the highest in India. The FIST programme of DST has revealed that the Chemical Engineering Department is the Best Department in all engineering departments in India.

This is again the record which has been held due to the research contributions of faculty in international journals of repute. The value and impact of our research is reflected in highest number of papers per faculty member, highest impact factor per paper, and highest number of citations for papers of Chemical Engineering Department. The Department is recognized as the UGC Centre for Advanced Studies for a record time since 1989 and as UGC Networking Resource Centre in Chemical Engineering, since 2008; only one of its kind and further supported by DST-FIST programme with state-of-the-art research facilities.

7.1.5. Connectivity with Industry

The faculty has been acting as consultants to industry and the earnings are the highest for any engineering department in India. Collaborative Academic Programs have been initiated with international institutes such as Purdue University, Kansas University, University of Saskatchewan, ICGEB, and, CSIR labs. Many foreign universities have shown interest in collaborating with Chemical Engineering faculty, and the most striking is a string of Canadian Universities desirous of signing MOUs with this department.

7.1.6. Accolades and Awards

A number of awards have come to the faculty members in Chemical Engineering including Jagdish Chandra Bose National Fellowship, fellowships of Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences in India, Indian National Academy of Engineering and Indian Institute of Chemical Engineers. Not only faculty members but students also have bagged number of awards. Even home paper or design papers of the final year students have been repeatedly rated as the best by the Indian Institute of Chemical Engineers and the Ambuja Cement and Sir P.C. Ray Awards have come several times to ICT which itself is a record. All these awards recognize excellence in the field of Chemical Engineering.

7.1.7. Employment Opportunities

Our graduates, number over 30-35 per year are accepted with full fellowships in leading universities including MIT, Minnesota, UCB, Caltech, Wisconsin-Madison, Princeton, Stanford, Texas A and M, University of Texas, University of Delaware, Purdue University, and many more. All students are placed in some of the leading industries in India, with salaries ranging from Rs. 3.5 lakhs to Rs. 14.00 lakhs per annum and these are hard core industries and not the software companies. Several leading industrialists and owners of fortune-500 company owners are our graduates, including top planners and policy makers, who have been bestowed with Padma awards.

7.1.8. Research Interests of Faculty

The Chemical Engineering faculty has been well known for their publications in peer reviewed high impact factor journals, patents and industrial consultations in a variety of research interests.

Major Thrust of Research Areas

- Development of Novel Reactors, Reactions and Separation Processes
- Analysis of Multiphase Phenomena
- Computational Fluid Dynamics for Multiphase Systems
- Novel Catalytic Materials and Processes
- Surfactant Science and Hydrotropy
- Organic Chemical Processes Development
- Biotechnology and Downstream Processing
- Adsorptive and Chromatographic Separations
- Green Technology
- Cavitation Phenomena, Sonochemistry
- Membrane Based Separation Processes

In the global context, the priority research areas as identified by the Chemical Engineering Department are:

- Multiphase reactions, multiphase reactors and separation processes
- Energy engineering with an emphasis on the renewable energy resources
- Bio-Technology and Bio-medicines
- Environmental Protection and Safety
- Nanoscience and Nano-Technology
- Green Technology
- Materials Technology

7.1.9. Laboratory and Research Facilities

All Chemical Engineering laboratories and faculty offices have been remodeled during past 3 years. The labs are equipped with state-of-the-art instruments and have gone a total face-lift. UG students are provided computational facility in the main laboratory, including latest software required for modeling and simulation. Some of the sophisticated equipment which have been acquired and used continuously are: GC-MS, LC-MS, SEM, TEM, AFM, IC, FTIR, HP-TLC, HPLC, GC, XRD, DSC, DTA/TGA, AAS, Laser-Doppler anemometer, image analysers, pore and particle size analysers, autoclaves of different sizes and MOCs, catalyst screening bench top autoclave assembly, supercritical fluid phase monitor and reactor, microwave reactors, computer workstations, laminar flow apparatus, fermenters, and many others. Advanced instrumental facilities have been created under industry sponsored projects as well.

7.1.10. Fellowships

Fifteen Ph.D. fellowships are offered every year under UGC CAS in Chemical Engineering; besides there are 20 Ph.D. fellowships under ICT-DAE Centre for Chemical Engineering Education and Research. Several projects are secured by the faculty in the areas of expertise from central agencies such as DST, DBT, CSIR, including Indian and foreign companies; this number varies from year to year. Interested candidates must appear for the entrance examination for a Ph. D. degree, whether funded government or industry. For GATE qualified students the UGC fellowships are currently Rs 14000 p.m. plus 30% HRA, which are likely to be revised. For non-GATE students, they are Rs. 10,000 p.m. only.

There is a unique fellowship instituted by Dow Chemicals for Ph.D. (Tech.) in Chemical Engineering for a lady student at a value of Rs 25,000 p.m. with a contingency grant of Rs 1.00 lakh per year, for a period of 4 years. Thus, there will be 4 such lady students at a time. The candidate is required to participate in 10 hours of undergraduate lab./teaching per week. The grand purpose of this fellowship to induct woman chemical engineering faculty in Indian universities and institutes and it was started in 2009. The Centre for Green Technology, which is established in joint collaboration with University of Mumbai also offers 15 UGC SAP Ph.D. fellowships for conducting research, some of which are available under the guidance of concerned Chemical Engineering faculty. Some fellowships will also be offered during 2010-11 under the Centre for Nanomaterials and Nanotechnology of University of Mumbai to work with faculty of chemical engineering.

Apart from Master of Chemical Engineering programme, the department also participates in two interdisciplinary M. Tech. courses - Perfume & Flavour Technology, and Bioprocess Technology. At least 19 Masters fellowships offered for GATE qualified students in the first round and typically this number is around 30+ when the admissions are closed. Besides, about 10-15 M. Tech. students in Bioprocess Technology (with a special reference to downstream processing) work under the guidance of Chemical Engineering faculty.

7.1.11. Interdisciplinary and Cross Disciplinary Programmes

Several faculty members guide Ph.D. students in all disciplines of Chemistry and Biotechnology, on inter disciplinary topics and several chemistry graduates have benefitted by their training in the Department of Chemical Engineering.

7.1.12. Visiting Faculty Endowments

There are several endowments created to invite the best of professionals and academics to the ICT. Some eminent faculty from institutes such as MIT, Purdue, Cambridge, Monash University, University of California, Berkeley, University of California, Santa Barbara, National University of Singapore, Montreal, University of Michigan, Michigan State University, University of Alberta, RMIT Australia, IIT-Chicago, Cambridge University, University of Manchester, IIT-Bombay, IIT-Kanpur, IIT-Madras, National Chemical Laboratory, have taught UG and PG courses in ICT under these endowments.

These lectures form part of audit courses for research students. Besides, public lectures are organized under each endowment.



GC with TCD Detector



High Pressure Reaction System



HPCL with ELSD Detector



Ion Chromatography



LC-MS



Particle Size Analyzer



Preparative HPLC



High Pressure Reaction System

7.2. Department of Dyestuff Technology [Dyes]

All chemical technology programmes are designed to lay a sound foundation in basic sciences and chemical engineering such as separation processes, chemical reaction engineering, transport phenomena, chemical engineering economics, instrumentation and process control, The basic sciences syllabi is the same for both chemical engineering and chemical technology courses, including mathematics and computation. As a consequence, B.Tech. students from these 7 branches of chemical technology are treated on par with chemical engineering graduates for higher studies in western universities.

Department of Dyestuff Technology is unique in India and provides UG and PG degrees in Intermediates and Dyestuff Technology. The department was born out of the research interests and tradition of ICT, particularly, the world-class research initiated by Prof K. Venkataraman, the first Indian Director of ICT, whose treatises on dyestuff chemistry are reference books translated into foreign languages. Leading organic chemical technologists and industrialists have been alumni of this department. Contrary to popular belief, there is a lot of excitement in courses offered by this Department including new eco-friendly dyestuffs, laser dyes, and biotechnological aspects of dyes, nanotechnology and green chemistry.

This department has a tradition of creating several first generation entrepreneurs, and many dyestuff companies have origins in research conducted in this department. Since this course combines high level chemistry with technology, and downstream processing, graduates are accepted in other industries including pharmaceuticals and fine chemicals. This department is also a part of the UGC Centre for Advanced Studies in Physico-chemical Aspects of Textiles, Fibres, Dyes and Polymers, which was the first Centre in ICT, established in 1963. Three fellowships are allotted under this Centre for Ph.D. including those under research schemes.

The B. Tech. (Dyestuff) course is an organic chemistry accented course. The main focus is on the training towards the laboratory as well as large-scale synthesis of colorants (dyes and pigments). Colorants can be prepared either through synthesis or from natural sources. The synthetic colorants are prepared through multi step synthesis, which requires insight into synthetic organic chemistry. The colorants thus prepared are used for textiles, foods pharmaceuticals, and for hi-tech applications. The education provided to undergraduate students is a perfect blend of chemistry and engineering. Research at this department is focused on many high technology areas such as lasers, ink jet printing, optical recording devices and high performance pigments for various end uses. The department also participates in an interdisciplinary Masters course in Perfume and Flavour Technology.



DSC-TGA



Freeze Drier



HPLC



Particle Size Analyzer

7.3. Department of Fibres & Textile Processing Technology [Textile]

Started in 1934 with the inception of the UDCT, this department has provided some of the leading textiles technologists in the country; the main focus of training being textiles processing. It has been recognized by the UGC as a 'Centre of Advanced Studies' along with three other departments, right from 1963 when the UGC started this programme. Five Fellowships are allotted under this Centre for Ph.D. (Tech.) and Ph.D. (Sci.) together. The faculty also offers guidance in the areas of Nano, Bio and Green Technology.

The textile industry is now rejuvenating with only sky as limit to its multifaceted progress. The B. Tech. course content focuses primarily on the wet processing of a variety of textile materials and encompasses fibre-to-finish approach with emphasis on the latest technology, industrial requirements, environmental impact, polymer science, specialty chemicals, technical textiles and smart textiles, marketing etc. It covers a complete spectrum of natural and man-made fibres, with special reference to their chemistry, procurement/synthesis, structure - properties relationship and applications in various fields. The technology and the chemical processing are studied in depth which include pre-treatment, coloration and finishing with specialty applications in mind. The courses are taught in terms of the chemistry and applications of the colorants and auxiliary chemicals. An introduction to garment manufacturing, processing, merchandising, the testing of all the fibres, specialty chemicals and dyes is given in the theory and practical courses. Besides the apparel, the hi-performance fibres and super fibres for use in technical and industrial textiles are also introduced. Being Application Technology, the graduates grab variety of positions that include hard core textile industry, process houses, garment industry, dyestuff and specialty manufacturers and suppliers, and testing houses; in their departments such as production, R & D and marketing. The graduates have been luminaries in their fields in India and have also started their own industries.

The Department offers admission to M. Tech. and Ph.D. (Tech.) in Fibres and Textile Processing, Ph.D. (Sci.) in Chemistry, Biotechnology programmes and the intake of students varies based on the vacancies with the faculty members.

The Department has also started M.Sc. (Textile Chemistry), two year course by papers with an intake capacity of 20 from academic year 2010-11 and is gaining popularity with B.Sc. (Chemistry) students from all over the country.



Atomic Absorption Spectrophotometer



DSC



DTG



Electrokinetic Analyser

7.4. Department of Food Engineering and Technology [Foods]

Mission

“Establishing a center of excellence to provide demand driven, value-based and quality technical education to make India a developed country through socio-economic transformation.”

Vision

- To improve food, especially Indian traditional foods, in terms of nutrition, safety and functionality employing fundamental and applied sciences.
- To produce trained personnel of highest standards for the benefit of the industry and society, in the field of Food Engineering & Technology and Food Biotechnology.
- To provide leadership in areas of education, research, innovations and solutions in food and biotech sciences, technology and engineering to direct overall activity towards economic growth of India.

Food Engineering and Technology (FET) Department of Institute of Chemical Technology was established in 1943 offering B. Sc. (Tech.) degree in Chemistry of Foods & Drugs. Subsequently in 1949, the first in the country, full-fledged degree course in Food Technology was started. In 1966 with the commencement of M.Sc. (Tech) program in Fermentation Technology, the department was renamed as Food & Fermentation Technology. Later, the national pattern of 12+4 B.Tech degree was followed and the department was renamed as “Food Engineering & Technology Department” and is recognized as the Center of Advanced Studies (CAS- Phase I) by the UGC. Besides many government agencies (MHRD, AICTE, DAE, TEQIP, MOFPI, RGSTC) and the private industry have been supporting us.

The FET Department offers masters degree programme in Food Technology and other specializations. The first batch of M. Tech. in Food Biotechnology (supported by the Department of Biotechnology) will be graduating in June 2011. Our Department also participates in interdisciplinary M. Tech. programs in Perfumery & Flavor Technology and Bioprocess Technology. The M. Tech. BPT was coordinated by the FET Department since inception of this program in 1992 till 2009. In addition we offer Ph.D. programs in Biochemistry, Food Technology and Biotechnology. Currently there are 4 recognized guides for doctoral program and 49 PhD fellows are working on various projects including Food Technology, Nutrigenomics and Bioprocess Technology.



DSC 1



Extruder 12



GC-MS 3



Gel Documentation



HPLC



Humidity Chamber

7.5. Department of Oils, Oleochemicals and Surfactants Technology [Oils]

After WW-II, the Department for Technology of Oils, Fats and Waxes was started, which was headed by Professor J.G.Kane, whose work on non-edible oils was exceptional. The department has been in forefront for its quality education. Several of its alumni have been industrialists and reputed educationists.

7.5.1. What is this Technology?

The lipids are a class of biochemical compounds, many of which occur naturally in plants and animals. The lipids constitute a very large class of compounds, many of which play essential roles in organisms. Among the most important lipids are fats and oils, waxes, steroids, terpenes, fat-soluble vitamins, prostaglandins, phosphoglycerides, sphingolipids, and glycolipids. Phospholipids, for example, occur in all living organisms, where they are a major component of the membranes of most cells. The main use of fats commercially is in the production of soaps and other cleaning products. Oleochemicals are chemicals derived from biological oils or fats. The hydrolysis or alcoholysis of oils or fats form the basis of the oleochemical industry. The formation of basic oleochemical substances like fatty acids, fatty acid methyl esters (FAME), fatty alcohols, fatty amines and glycerols are by various chemical and enzymatic reactions. Intermediate chemical substances produced from these basic oleochemical substances include alcohol ethoxylates, alcohol sulfates, alcohol ether sulfates, quarterner ammonium substances, monoacylglycerols (MAG), diacylglycerols (DAG), structured triacylglycerols (TAG) and sugar esters. The importance of these chemicals is thus evident.

This Department has been pioneering in the field of Oil Technology. The curriculum has been designed to provide an in-depth knowledge of chemistry and technology of oils and fats, and their industrial applications. Career opportunities exist in oils mills and refineries, oleochemicals, soap and detergent manufacturing industries, surfactants and specialty chemical manufacture producing auxiliary chemicals, Paints. Cosmetics, Perfumery and raw materials used in the above industries. Several short and long term projects instituted by sponsoring bodies for process/product development have been supervised by the faculty as part of their routine research activity.

This Department offers 2 Ph.D. fellowships per year under non-SAP status by UGC. It also participates in M. Tech. in Perfumery and Flavour Technology course.



7.6. Department of Pharmaceutical Sciences and Technology [PHARMA]

The department is a UGC Centre of Advanced Studies in Pharmaceutical Sciences and Technology, and supported under DST-FIST program, has the unique distinction of running two distinct programmes at UG and PG level– Pharmacy and Pharmaceutical Technology.

7.6.1. Bachelors Programmes

Bachelor in Pharmacy(B.Pharm)

The B. Pharm course at ICT started in 1958, and was the first B.Pharm course in the state of Maharashtra. The course involves a detailed study of Pharmaceutics, Pharmaceutical and Medicinal Chemistry, Pharmacology, Pharmacognosy and Pharmaceutical Analysis. The course is supported with in depth courses in basic sciences namely organic chemistry, physical chemistry, inorganic chemistry, biochemistry, microbiology and other relevant subjects like biotechnology, forensic pharmacy, management and regulatory affairs. The focus is on development of an expertise in the chemistry of drugs, their formulations, their effects, dosage regimen, drug toxicity and interactions, with adequate knowledge of the manufacturing of drugs(API's) and dosage forms and novel drug delivery systems and regulatory requirements. This course is approved by AICTE and Pharmacy Council of India.

Bachelors in Technology (B.Tech-Pharmaceuticals and Pharmaceutical Chemistry)

This course, a part of the B. Tech. programme, commenced in 1943 as B. Sc. (Tech.) in Pharmaceuticals and Fine Chemicals. The course involves a detailed study of chemical engineering including chemical reaction engineering, unit operations, separation processes, instrumentation and process control, and energy and material balance and is supported with basic science subjects like chemistry, mathematics, physics, biochemistry and microbiology. With this basic background the focus is on development of expertise in manufacturing process technology and chemistry of API, drug intermediates and fine chemicals, manufacturing of dosage forms and study of medicinal natural products and biotechnology. Students are also introduced to pharmacology and regulatory requirements. The course involves a detailed study of the manufacturing process technology and the chemistry of API, drug intermediates and fine chemicals and manufacturing of dosage forms. This course is approved by AICTE of India.

7.6.2. Master's Programmes

The department conducts the Masters in Pharmacy (M.Pharm) in three braches viz., Pharmaceutics, Pharmaceutical Chemistry and Medicinal Natural Products, which includes the disciplines of Pharmacology and Pharmacognosy. The department also conducts M. Tech (Pharmaceutical Technology).

7.6.3. Thrust areas of Research

The research focus of the department covers the entire gamut of areas related to Pharmaceutical Sciences and Technology. The major thrust areas are highlighted below:

- Drug Discovery and Medicinal Chemistry
- Drug Delivery Science and Technology
- Pharmacological screening
- Pharmacognosy and Phytochemistry
- Pharmacological models
- Pharmaceutical Analysis
- Nanomedicine and Nanotechnology
- Process Chemistry and Technology
- Green Technology
- Biotechnology and Nanobiotechnology

Faculty members publish their research in peer reviewed, high impact factor journals, file patents, have extensive collaboration with industry, and provide consultancy in all the above areas. Research in the department is actively supported by grants from government organizations (UGC, DST, DBT, ICMR, CSIR, DAE, AICTE, AYUSH, etc.) and Industries both Indian and foreign. The department has extensive collaborations with several foreign universities (Italy, Sweden, USA, UK) and a number of institutes all over India.

7.6.4. Research Facilities

The department is equipped with facilities for research in the thrust areas mentioned above. Some of the sophisticated instruments in the department includes Computer workstations – hardware and software for Molecular Modeling and CADD applications in drug discovery and drug delivery, parallel synthesizers, infrastructure for drug delivery – high pressure homogenizers, freeze dryers, particle size analyzers, zetasizer, refrigerated ultracentrifuges, fluorescence microscope, texture analyzer, FT-IR, differential scanning calorimetry, Atomic absorption spectrophotometer, GC-MS, HPLCs, GCs, GPC, polarimeter, NMR, tablet presses, coaters, Mathis coater, Erweka, Soxhlet extractors, ELISA readers, sterile facilities for cell culture, infrastructure for stability studies as per ICH guidelines, animal house with facilities for animal experiment including metabolic cages, Biopac, etc.

7.6.5. Fellowships

Under UGC-CAS, the department receives 15 Ph.D fellowships every year. These fellowships are offered for Ph.D degrees in Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy and Pharmaceutical technology. In addition, fellowships are available under the category – Single Girl Child. At least 10 UGC fellowships are available for GPAT/ GATE qualified students for M.Pharm. and M.Tech. (Pharmaceutical Technology).

Many students with DST-ISPIRE fellowships, UGC-CSIR Fellowships, DBT-Fellowships, Fellowships under centre of Green Technology are also admitted in the department.

7.6.6. Interdisciplinary programmes

The department actively participates in other programmes of the institute M.Tech(Bioprocess Technology), M.Tech(Green Technology), M. Tech(Perfumery). Faculty members also supervise the projects of students in these disciplines.

7.6.7 Visiting Fellow Endowments

A number of endowments have been instituted in the department by our alumni to honour our retired faculty, and others have been instituted by the Pharma Industry wherein experts from various disciplines in Pharmacy and allied areas, are invited to deliver lectures. These endowments serve to provide platforms to enable interaction of the experts with students and faculty members of the department.



CADD



Freeze Dryer



Rotary Teblet



Teblet Coating

7.7. Polymer and Surface Engineering [Polymer] [Coatings]

The department of Polymer and Surface Engineering has undergone changes in its nomenclature and was established in 1946. Earlier it was known as Paints, Pigments and Varnishes (PPV) Section and was steered in the beginning by none other than Professor N.R. Kamath, a famous chemical engineer, graduate of first batch of B.Sc. (Tech.), in 1936, who later migrated to IIT-Bombay as Head of Chemical Engineering and Deputy Director. The B.Sc. (Tech.) courses in plastics and paints technologies were started in 1946 and have been popular throughout the world. Several small and medium industries covering plastics, paint, printing ink, adhesive, sealers and allied industries have been founded by the graduates of the Department and maintained excellent connectivity with industry.

The Department runs two B. Tech. programmes: Polymer Engineering and Technology, and Surface Coating Technology.

7.7.1. What is Polymer Science and Engineering

Polymers are macromolecule that contains many monomer units, typically tens of thousands to millions. While many polymers occur naturally as products of biological processes, synthetic polymers are made by chemical processes that combine many monomers, together in chains, branched chains, or more complicated geometries. Starch, cellulose, proteins, and DNA are examples of natural polymers, while polyolefins, nylon, PET, ABS, Teflon, and PEEK etc. are examples of the synthetic variety. Both classes possess a number of highly useful properties that are as much a consequence of the large size of these molecules as of their chemical composition. Although most synthetic polymers are organic, that is, they contain carbon as an essential element along their chains, other important polymers, such as silicones, are based on noncarbon elements.

The rapid pace of advances in polymers, particularly after World War II, has been remarkable and the birth of this discipline in ICT in mid-1940s was timely. Synthetic polymers are so well integrated into the fabric of society that we take little notice of our dependence on them, whether it is health, medicine, clothing, transportation, housing, defense, energy, electronics, employment, space, and trade. Without a doubt, synthetic polymers have large impacts on our lives.

Although progress in polymer science and engineering can be considered ground-breaking, opportunities are abundant for creating new polymeric materials and modifying existing polymers for new applications; depolymerization and polymer recycling; oxo and biodegradable polymers; nano-composites, and the like. Scientific understanding is now replacing empiricism, and polymeric materials can be designed on the molecular scale to meet the ever more demanding needs of advanced technology. The possible control of synthetic processes by biological systems is promising as a means of perfecting structures. New catalysts offer the opportunity to make new materials with useful properties, and the design of new specialty polymers with high-value-added applications is an area of rapidly increasing emphasis. Theory, based in part on the availability of high-speed computing, offers new understanding and aids in the development of improved techniques for preparing polymers as well as predicting their properties. Analytical methods, including an array of new microscopic techniques particularly suited to polymers, have been developed recently and promise to work hand-in-hand with theoretical advances to provide a rational approach to developing new polymers and polymer products. The field of polymer science and engineering therefore shows no sign of diminished vigor, assuring new applications in medicine, biotechnology, electronics, and communications that will multiply the investment in research many times over in the next few decades.

The education provided to the students is the blend of practice and theory related to polymer science and engineering. The students learn to develop systems which are economically feasible and environmentally acceptable.

7.7.2. What is Surface Coating Technology?

Coating applied on other surface of the materials for the decoration and protection. The surface coating change aesthetic properties such as color, gloss, texture and functional properties like resistance to wear, chemical attack, permeability, weathering resistance without changing the bulk properties. These materials includes

coatings, adhesives, sealants, varnishes, enamels, lacquers. Initially coating were solvent based however, the volatile organic compounds are compelling to develop ecofriendly coatings like water based, high solids coatings, powder coatings and radiation curable coatings. In general, organic coatings are based on a vehicle, usually a resin, which, after being spread out in a relatively thin film, changes to a solid. This change, called drying, may be due entirely to evaporation (solvent or water), or it may be caused by a chemical reaction, such as oxidation or polymerization. The materials providing the hiding are the opaque materials called pigments, dispersed in the vehicle, contribute colour, opacity, and increased durability and resistance.

The physical, chemical and mechanical properties of a material surface determine its applicability in many technical devices. Numerous applications could not be realized without the use of surface modifications, coatings and thin film technology. Therefore, the need for efficient and effective methods of surface modification is becoming increasingly evident to allow the production of far superior products in terms of wear resistance, corrosion protection, enhanced biocompatibility, thermal insulation, improved optical and altered electronic properties. Coating technologies of particular interest include physical and chemical vapor deposition, thermal spraying, electrochemical deposition, sol-gel-syntheses, and plating. Surface modification includes directed energy techniques such as ion, electron and laser beams as well as etching procedures and thermo-chemical diffusion. Beyond that, mono-layers (e.g. SAM, Langmuir-Blodgett) have attained high significance in preparing thin films to modify biomedical surfaces. Recent novel techniques to prepare patterned surfaces (e.g. nano-imprint lithography, micro-contact printing) have proven their potential for the fabrication of integrated circuits and bioactive implants. Thus, this course offers an exciting field of study.

New trends related to surface engineering and coating technology for the synthesis of functional materials surfaces including novel fabrication methods, materials and applications, new characterization techniques as well as numerical simulation and modeling are some of the areas of research.

The department is part of UGC Centre for Physico-chemical Aspects of Textiles, Fibres, Dyes and Polymers. It is well equipped and offers 3 Ph.D. fellowships under the UGC SAP meritorious fellowship scheme.



Batch Mixer



DMTA



DSC



Extruder



GPC



Injection Moulding

7.8. ICT-DAE Centre for Chemical Engineering Education and Research

7.8.1 Preamble:

The Institute of Chemical Technology (ICT) and the Department of Atomic Energy (DAE) signed a Memorandum of Agreement (MOU) in 2006 having far reaching benefits for Indian S and T, which was based on the excellent relation between these two organizations and successful completions of projects by ICT faculty of Chemical Engineering. The MOU covers the following activities.

- (A) Instituting an interdisciplinary Ph.D. programme in Chemical Engineering.
- (B) Undertaking R&D projects in the areas of common interest and related to nuclear, fuel cycle and advanced technologies.

DAE Research Institutions, namely, Bhabha Atomic Research Centre (BARC) and Indira Gandhi Centre of Atomic Research (IGCAR) are premier multidisciplinary R&D organizations engaged in research with the objective of generating knowledge and techniques for nuclear power production, advancement of science, use of radioisotopes in industry, health and agriculture as well as research in frontier areas of science and technology. BARC and IGCAR have multi-disciplinary groups of experts who have used as well as contributed to the development of processes and technologies related to thermal and fast nuclear reactors, fuel cycle and related areas. BARC and IGCAR have pursued research and development in chemical engineering in a rigorous way for many years in the areas defined by DAE's mission oriented programmes as well as projects of national interest. BARC and IGCAR support academic programmes within the DAE and also in the academic institutions and research centres in various parts of the country.

ICT is one of the foremost academic institutions in India, and has the entire necessary infrastructure in terms of trained manpower (including students) and a long tradition of research and development in the field of Chemical Engineering and Chemical Technology. ICT has also had long and fruitful experience of working with BARC and other units of DAE on research projects related to Chemical Engineering and process technologies and have completed them meeting the high standards expected by DAE. On the national level, ICT is a major resource Institution in terms of technology development and fundamental research at the cutting age on the global scale. They have also entered into an MoU with Homi Bhabha National Institute (HBNI) for collaborating on academic programs especially suited to the requirements of DAE institutions.

In the Xth and XIth Five Year Plan, BARC and ICT had undertaken a joint research programme encompassing several DAE research projects in the Chemical Engineering field. Through the Virtual Centre, called, DAE-ICT Centre for Knowledge Based Engineering, BARC scientists and ICT faculty have collaborated and very successfully completed several projects. In view of the success of the collaborative programme through the Centre for Knowledge Based Engineering, BARC and IGCAR proposed to enlarge the scope of collaboration by establishing a DAE-ICT Centre for Chemical Engineering Education and Research that will synergise the strengths of both these organisations; on the one hand, ICT has proven track record in training high quality manpower and in conducting research in Chemical Engineering and technology, on the other hand BARC and IGCAR have demonstrated over decades their ability to conduct multi-disciplinary, mission oriented R&D leading to a large number of indigenous and innovative chemical engineering processes, equipment and instruments, and technologies.

DAE has to develop several innovative technologies to tackle the problems of efficient nuclear fuel utilisation in the second and third stages of nuclear power programme. This requires a pool of qualified, motivated and talented young research scientists with multidisciplinary expertise. The number of Ph.D. level chemical engineers is small in this country and the number of chemical engineers entering DAE is even less. Thus, the number of Ph.D. scholars working on energy related programmes needs to be increased. Further, these scientists need to have wider knowledge of both basic sciences and allied engineering subjects besides chemical engineering, which is essential for the development of innovative technologies. However, the present education system imparts expertise only in selected areas. To satisfy the need of greater number of Ph.D. scholars well versed in basic sciences and chemical engineering, DAE and ICT wish to take an initiative for imparting doctoral education in chemical engineering with multidisciplinary character.

7.8.2. Scope of Collaboration

1. To provide doctoral degrees to promising candidates with talent and aptitude for carrying out advanced research and development activities in science and technology.
2. To furnish a multidisciplinary, flexible and innovative Ph. D. research programme in Chemical Engineering with special emphasis on :
 - (a) Acquisition of proficiency in research, knowledge, data generation and analysis, mathematical modeling, and management with sharpening skills in innovative experimental methods and problem-solving capabilities;
 - (b) Creation of a pool of young talented, dedicated and committed individuals with passion and involvement in pursuing research and development as a career;
 - (c) Inculcation of attitude, temper, and outlook for developing social commitment as well as high level of scientific ethics and integrity.
3. To evolve a symbiotic relationship between the UICT and DAE Institutions in such a way that it enables the Collaborative Programme to grow and develop, and in turn ensures that research projects of relevance to the objectives of DAE research institutions are integrated with creative and innovative content.
4. To select students on the basis of an all-India test and subsequent interview jointly conducted by ICT and BARC/IGCAR.
5. To promote effective linkages on a continuing basis between ICT, BARC and IGCAR and the Industry for joint research projects and training programmes and other academic activities related to these Institutes. The expertise and experience so gained shall be shared with other Universities in the country at large.
6. To disseminate the new knowledge in the form of publications, theses, seminars and conferences.

7.8.3 Ph. D. Programme in Chemical Engineering

7.8.3.1. Induction of Students

It is proposed to introduce a PhD programme with an initial intake of about 20 students per year, drawn from Chemical Engineering, Metallurgical and Mechanical Engineering disciplines at the Bachelors and Masters Levels, and also from Chemistry, Physics, Biology and Mathematics streams with Masters degree. The Masters Degree holders in Engineering will have to spend a minimum duration of 3 years, the Bachelors degree holder in Engineering 4 years and M.Sc. degree holder in science stream 5 years for earning the Ph.D. degree. The students will be selected on the basis of all India written test and interview conducted jointly by ICT and DAE.

7.8.3.2. Course Work, In-Plant Training and Research

a) Course Work

The proposed curriculum will have a fine balance of basic and engineering sciences. The curriculum will contain adequate fundamental and core courses to equip the students adequately to make them practising chemical engineers, as enumerated below. At the same time, they will have a background for starting independent research career.

7.8.3.3. Areas of teaching and research

- (a) Chemical Engineering
- (b) Process Technology
- (c) Bio-technology
- (d) Materials Technology

7.8.3.4. Typical List of courses to be taken by the Post Graduates in Science

- (a) Material and Energy Balance Computations

- (b) Industrial and Engineering Chemistry
- (c) Generation and Transmission of Power
- (d) Electrical Engineering and Electronics
- (e) Applied Mechanics and Strength of Materials.
- (f) Momentum Transfer
- (g) Heat Transfer
- (h) Mass transfer
- (I) Unit Operations
- (j) Chemical Reaction Engineering
- (k) Engineering Graphics
- (l) Project Engineering Management and Economics
- (m) Biochemical Engineering
- (n) Advanced Separation Processes
- (o) Process simulations
- (p) Materials Processing and fabrication technology
- (q) Nuclear Reactor Theory
- (r) Nuclear Chemical Engineering
- (s) Statistical Methods of Analysis
- (t) Instrumental methods of analysis
- (u) Nuclear chemistry
- (v) Radiation chemistry
- (w) Chemical Engineering Thermodynamics
- (x) Process Hazard Analysis and Safety

7.8.3.5. Typical List of courses to be taken by the Engineering Graduates/ Post Graduates

- (a) Quantum Mechanics
- (b) Structure – Property Relationships
- (c) Materials Physics and Chemistry
- (d) Advanced Chemical Engineering Thermodynamics
- (e) Nuclear Reactor Theory
- (f) Nuclear Chemical Engineering
- (g) Process simulation and optimization
- (h) Transport phenomena
- (I) Advanced Reactor Engineering
- (j) Advanced Mass Transfer
- (k) Statistical methods of analysis
- (l) Instrumental methods of analysis
- (m) Nuclear chemistry
- (n) Radiation chemistry
- (o) Process Hazard Analysis and Safety

7.8.3.6. In-Plant Training

All the students before starting PhD research will undergo in plant training for a period of one to three months in the process industry. Some students will undergo training in DAE.

7.8.3.7. Research Projects

The Ph.D. scholars will take up research projects primarily defined by BARC and IGCAR. However, there will be a certain degree of flexibility for selecting research projects outside the areas of relevance to DAE. To take advantage of the excellent laboratory and library facilities at the DAE institutions, the faculty and students will be provided access to conduct experiments and use of the library and computational facilities at the DAE institutions.

7.8.4. COLLABORATION WITH HOMI BHABHA NATIONAL INSTITUTE (HBNI)

7.8.4.1. Preamble:

There was a dire need to recognize the common interests of ICT and HBNI constituent institutions (CIs) in pursuit of knowledge through doctoral and master's programmes. There is a possibility of the candidates admitted in some of the CIs of HBNI may study at the ICT and carry out the projects under the joint supervision of the faculty members from the ICT and the scientists and faculty members from the CIs of HBNI. It will be mutually beneficial to have lectures by the ICT faculty members at the HBNI, and by the HBNI faculty members and scientists at the CIs of HBNI at the ICT. For the purpose of academic programmes, the following units of DAE are the Constituent Institutions (CIs) of the HBNI are included:

1. Bhabha Atomic Research Centre (BARC), Mumbai
2. Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam
3. Raja Ramanna Centre for Advanced Technology (RRCAT), Indore
4. Variable Energy Cyclotron Centre (VECC), Kolkata
5. Saha Institute of Nuclear Physics (SINP), Kolkata
6. Institute of Plasma Research (IPR), Gandhinagar
7. Institute of Physics (IOP), Bhubaneswar
8. Harish-Chandra Research Institute (HRI), Allahabad
9. Tata Memorial Centre (TMC), Mumbai
10. Institute of Mathematical Sciences (IMSc), Chennai

The two Institutes shall recognize each other's research guides in the disciplines of common interests. The identified faculty members of each Institute may function as Honorary Professors of the other Institute and may participate in the teaching programmes of the other Institute in honorary capacity, as per the Rules of the respective institute. The Honorary professors will enjoy the library facilities of each other's institutes like regular faculty. However, a separate request must be made to avail of book borrowing facilities. In order to share expertise, some seats may be given on priority basis to the faculty and students of the other Institute in the academic/research programmes of one Institute, which are mainly for the in-house persons and where limited access is available for persons coming from outside, such as training programmes, seminars, workshops, etc. The research facilities at one Institute should be made available to the students/scientists/faculty of the other Institute through the involvement of research supervisors or the technology advisors, as per the norms of the respective institute, as follows:

1. A student registered for a post-graduate course in one Institute shall be governed by the Rules of that Institute and will earn the credits of the course as per the prescribed norms. However, a student from one Institute will be permitted to enroll for equivalent courses in the other Institute and earn the credits by attending the courses and clearing the respective evaluation procedures, provided such courses are duly approved by the parent Institute. Thus, the two Institutes shall recognize the credits earned by the students in the institute other than the one where they are enrolled.

2. To facilitate the process of a student attending the course work in the partner Institute, the supervisor of the student in the Parent Institute shall put up a proposal (in consultation with the appropriate academic bodies of the Institute concerned) to the Dean (HBNI)/Dean(ICT), as the case may be.
3. A research guide in one Institute may select a faculty member from a partner institute as a co-guide for guiding a Master's or doctoral student working under his/her guidance; provided such a declaration is recorded at the time of registering the student, with consents from the Heads of both the Institutes. However, collaboration among faculty of each institute, without any such formal arrangement will be within the frame-work on the MOU. This may be required for joint publications.
4. A student with a co-guide should be permitted to work in the specified laboratories of the organization to which the co-guide belongs and avail the facilities there from, and the organization should have no objection to the inclusion of the outcome of the research under this programme in the thesis of the student.
5. Any liability arising out of the work done by a student in the co-guide's organization shall be the responsibility of the co-guide and the parent Institute of the student shall not be responsible for the same.
6. Any patent emerging out of the research work under such a programme shall be with the authorship of candidate, guide, co-guide, and the parent Institute and shall be filed as per the respective ordinances, regulations and rules of the Institute.
7. In case the co-guide leaves his organization, or retires the guide may accept a co-guide from the same organization, provided the new co-guide is recognized. In case such a co-guide is not available, the entire responsibility of successful completion of the programme shall lie with the guide. If the retired person remains with the institute or with other institute of HBNI, as an emeritus scientist, he/she will be permitted to continue as co-guide till the period of his/her new assignment.
8. In addition to the recognized research supervisor, a student may be advised by a Technology Advisor, who need not be recognized Ph.D. Guide, from the other Institute. The Technology Advisor shall be a person of high repute in the area of research being pursued by the student. The Technology Advisor shall be chosen by a research guide, with consent of the Director, ICT and Director of the respective constituent Institution of the HBNI.

Institute of Chemical Technology (ICT) is one of the Institutes recognized by the Department of Atomic Energy for its DGFS- 2011 programme It is a Two-Year DAE Graduate Fellowship scheme for Engineering Graduates and Post-Graduates in Physics for joining M.Tech in specified specializations

Department of Atomic Energy (DAE) -DGFS programme

Qualifying Degrees and Disciplines:

B.E/ B.Tech in Mechanical, Chemical, Metallurgical, Civil, Electrical, Electronics, Computers, Instrumentation and Engineering Physics.

OR

M. Sc. in Physics, Chemistry, Biosciences, Geology, and Geophysics.

A minimum of 60% (aggregate) in the qualifying degree is an essential requirement. Science candidates are further required to have secured a minimum of 60% (aggregate) in B.Sc. also.

Screening and Selection of candidates is through a written test or on the basis of valid GATE score. Applications for the programme are to be submitted to DAE as per advertisement in National newspaper and Employment News. (for details visit website: <http://oces.hbni.ac.in>)

7.8.5. Qualification Criteria for Admission and Registration for Ph.D. (Tech.) in Chemical Engineering and the Course Requirements

Category	Basic Qualification for Admission	Basic Qualification for Admission
1.	B. E. in Chemical Engineering / B. Tech in Chemical Engineering / B. Chem. In Chemical Engineering / B. Tech. in Chemical Technology (ICT) in first class or equivalent	Course work for M. Chem. Engg. (credit courses).(to be completed in 2 semesters from the date of admission)courses related to nuclear Engineering (to be completed in 3 semesters from the date of admission) •Nuclear and Reactor Physics •Nuclear Chemical Engineering •Chemistry of Radionuclides •Material Science in Nuclear Engineering
2.	Bachelors degree in Chemical Engineering or Chemical Technology in first class or equivalent + Course work in BARC training school	4 – 5 courses including one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)
3.	Bachelors degree in any branch of Engineering (except Chemical Engineering / Technology) I first class or equivalent + Course work in BARC training school	8 – 10 courses and one Seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 4 semesters from the date of admission)
4.	Masters degree in Chemical Engineering Masters degree in Chemical Technology (ICT) in first class or equivalent	courses related to nuclear Engineering (to be completed in 2 semesters from the date of admission) •Nuclear and Reactor Physics •Nuclear Chemical Engineering •Chemistry of Radionuclides •Material Science in Nuclear Engineering
5.	M. Tech. Degree in Chemical Engineering from HBNI + Course Work in BARC training school	Minimum number as required by UGC guidelines.
6.	M. Tech. Degree in any branch of Engineering (except Chemical Engineering / Chemical Technology) from HBNI + Course Work in BARC training school	4 – 5 courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)
7.	M. Sc. Degree in Physics / Chemistry Mathematics in first class or equivalent + Course work in BARC training school	8 – 10 courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC.(to be completed in 4 semesters from the date of admission)
8.	B. Sc. Degree in Physics / Chemistry / Mathematics in first class (Rank in top 3 in University)	(I) Typically 20 courses related to comprising of: (to be completed in 4 years from the date of admission) B. Chem. Eng. Level courses (Credit courses) •Applied Mathematics – I, II and III •M. E. B. C. •Momentum and Mass transfer •Energy Engineering •Chemical Engineering Operations •Heat Transfer

		<ul style="list-style-type: none"> •Advanced Mass Transfer •Advanced Reaction Engineering •Thermodynamics of Phase Equilibrium •Advanced Separation Processes •Advanced Reactor Engineering Nuclear Engineering Level courses (courses) <ul style="list-style-type: none"> •Nuclear and Reactor Physics •Nuclear Chemical Engineering •Chemistry of Radionuclides •Material Science in Nuclear Engineering Any candidate who completes the above course work and completes minimum of 1 year of Research project can be considered for award of M. Tech. degree in Chemical Engineering
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7.9. UGC Networking Resource Centre in Chemical Engineering

7.9.1. Preamble

The spectacular and consistent performance of the Department of Chemical Engineering, having been rated as number one for past several decades, including 2009-10, which has been revealed by the international surveys, has earned it much recognition, accolades and awards. Apart from the Centre of Advanced Studies, the UGC has recognized it further by awarding the first ever Networking Resource Centre in Chemical Engineering, in October 2008, to undertake following activities:

1. Research, training and skills development of the faculty and research scholars through periodic discussion, workshop and summer/winter schools
2. Capacity building by adopting faculty and departments for augmenting their research skills and to mentor them
3. Hosting and facilitating researcher from other institutes/universities to carry out key experiments
4. Augmentation of information resource facility of the department to provide quality research information to other institutes/researchers
5. To enhance and build state of the art in-house research infrastructure and other research facilities in the department.

The rapidly changing face of research in chemical engineering offers new opportunities for integrating new research areas within its fold and several workshops, courses, demonstration experiments, regular experiments and seminars have been organized by the Centre. The objective of many of these activities is to acquaint the Chemical Engineering community especially from academic institutions with the emerging face of our discipline, and the how to meet the new challenges that it poses to contribute at the leading edge. The idea is also to train the academic fraternity so that overall research and development in chemical engineering is promoted. The interactive workshops also aim at initiating a dialogue on how the new face of Chemical Engineering can be used to address problems, specific to us as a growing nation. The vacation periods, long weekends and week-long programmes are undertaken which are publicized on the homepage of the institute and also communicated to all chemical engineering departments. Not only the ICT faculty but experts from other institutes, industries, and visiting professors from foreign universities have delivered lectures and interacted with young faculty.

7.9.2. Rules & Guidelines for Registration of Teachers from UGC and/ Or AICTE Approved Colleges for Ph. D.

Under this programme the Centre is required to generate human resource and keep on organizing seminars, workshops, and laboratory sessions for the benefit of teachers and students. One of the primary requirements is to create qualified doctoral degree holding teachers who in turn will generate quality students. Following are the salient points of this programme proposed by the Centre.

1. Teachers who have been in the services of any Engineering and Technology Colleges approved by the UGC/AICTE are entitled for registration for Ph D with Chemical Engineering faculty of the ICT.
2. A minimum service of two years and permanent placement in the concerned college will be the basic criterion.
3. The teacher must have a consistently good academic record with minimum first class in bachelors and/or masters degree from a reputed university.
4. The college management should undertake the responsibility of releasing the person for experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned teacher and his supervisor, which will be approved by the Co-coordinator of the Centre. A bond in this regard should be signed and approved by the Director, ICT.
5. Teachers can work in the ICT labs during vacations and holidays and after their office hours if they come from colleges in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Coordinator of the Centre.
6. A maximum period of 5 years extendable by 1 year will be allowed in case of teachers who are part time but put in at least 3 months full time work in a year in the labs. In such cases, part of the experimental work could be allowed to be done in their premises for which their management will provide them with necessary facilities. The characterization and other sophisticated analysis must be done in ICT. Exclusive theoretical work should be discouraged as much as possible to give the teacher a hands-on experience and bringing them into an environment of research. However, this will be left to the individual supervisor's discretion, who should take abundant precaution to avoid unethical practices.
7. The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in international journals with decent impact factors. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
8. The registered teachers as Ph D students should not register any Masters students with themselves in his/her own college to avoid research by proxy. The candidate as well as his/her supervisor must give an undertaking, with a counter signature of the concerned principal to this effect to avoid degeneration of this novel concept into a Ph D by unscrupulous means.
9. If the teacher intends to join the ICT on leave without pay for a period of three years, then the candidate could be eligible for the UGC fellowship under our SAP programme.
10. Teachers with Masters Degree will be allowed to undertake benefit of this scheme. Those who have got Bachelor's Degree ought to take leave from their colleges in order that they complete the theory part of the Masters Programme for direct Ph.D.
11. All regular admissions criteria are applicable to these candidates and they must also do the course work required for Ph.D. programme.

7.10. DBT-ICT Centre for Energy Biosciences

7.10.1. Preamble

Growing concerns over global warming and depleting fossil fuels have necessitated large scale efforts to develop alternative and renewable fuel technologies. Biological sciences in coordination with applied and engineering sciences have a key role to play in discovering and inventing biofuel options for the country and world at large. Several biofuel options hold potential for an agricultural country like India. While these options are extensively being explored around the world, India presents its own unique characteristics that need to be considered while devising technologies that are sustainable in the Indian context. Low cultivable land per capita and rising needs for water, energy and food of growing population present challenges that are of different kind than elsewhere in the world. As a result there is need to focus on development of India specific biofuel technologies and/or suitable adaptation of available technologies.

In order to carry out focused molecule-to-plant research and development for short term and long term biofuel technologies, the Department of Biotechnology, Ministry of Science and Technology, Government of India has funded and established a centre of excellence as DBT-ICT Centre for Energy Biosciences on our premises.

The Centre aims at developing sustainable biofuel technologies in the following areas:

Sustainable technologies for cellulosic alcohols (ethanol and higher alcohols like butanol) using non-food non fodder agricultural lignocellulosic residues like rice straw, wheat straw, cotton and castor stalk etc.

1. Lignocellulosic Biofuels
2. Algal biotechnology and algal biofuels
3. Bio-Oil from biomass & algae and its conversion to biofuel

To result in an economically viable and environmentally sustainable set of technologies, extensive models of the economic and environmental life cycle impacts of each technology will be developed. These models will be used to guide the research.

The Centre has been established as a state-of-the-art facility to carry out multidisciplinary research and development in the following disciplines:

- Molecular Engineering at the interface of Biology, Chemistry and Engineering
- Synthetic Biology
- Recombinant DNA technology
- Protein Engineering and Microbial Proteomics
- Metabolomics and Metabolic Engineering
- Fermentation Technology
- Enzyme Technology
- Downstream processing and Separation Technologies\
- Bioinformatics and Molecular modeling

The Centre undertakes to carry out different biofuel and industrial biotechnology projects in a mission mode. Integration of various disciplines makes this project very unique and at the cutting edge of global research activities.

The Centre employs research scientists from different disciplines from molecular biology, fermentation technology to chemical engineering, who work together in a unique integrated fashion to take science and technology from bench scale to plant scale. However, while ICT possesses uniquely integrated capabilities to engineer efficient processing and bioconversion steps required in the projected technologies, it is desirable that it also collaborates with other Institutes and Organizations that have proven experience in science and technology of strain improvement, crop improvement, fermentation engineering and enzyme production, as well as life cycle and sustainability evaluation of the technologies being developed. Thus, collaborations are being forged with some of the leading and established Research Institutes and Companies in the world. The

following Collaborations are already in place at this time and more Institutes may become part of this exercise in time.

1. School of Chemical Engineering, Purdue University, Indiana, USA
2. Department of Chemical Engineering, University of Saskatchewan, Canada
3. International Centre of Science and High Technology, UNIDO, Trieste, Italy
4. International Centre for Genetic Engineering and Biotechnology, New Delhi
5. Queensland University of Technology, Brisbane, Australia
6. India Glycols Ltd., India

The Centre was formally inaugurated on 30th of May 2009. Having been functional for more than a year, the concerted efforts at the Centre have resulted in a technology for lignocellulosic ethanol which is expected to make production of ethanol more competitive than by any other known technology. The necessary intellectual property protection has been ensured and MoU has been signed with India Glycols Ltd, India to set up a 10 ton biomass/day plant at their Kashipur site in Uttarakhand by mid 2010. Focused work on algal biotechnology has also been initiated at the Centre with adequate emphasis on all three aspects of algal biofuel technology namely, cellular engineering, growth & reactor engineering and downstream process technology.



Continuous Pretreatment Pilot Plant



Fermentation Lab



Liquid Chromatography and Mass Spectrometry Lab



Molecular Biology Section



Gas Chromatography and Mass Spectrometry Lab



Pilot Plant Assembly (Nanofiltration)

When the ICT was part of the University of Mumbai, a proposal was submitted by the University of Mumbai to the UGC, under the scheme of University with Potential for Excellence (UPE). The proposal for the above Centre was presented to the UGC on 4th August, 2005, the University had promised to introduce the subjects related to Green Chemistry in the undergraduate curricula of different branches of chemical engineering and chemical technology as well as the new programmes at the PG and Ph D level. The proposal was accepted in totality and the University of Mumbai received a grant of Rs. 30 crores, in which the Centre for Green Technology was to be established with Rs 9.00 crores with specific objectives and milestones. Meanwhile, the ICT was converted into a deemed university and the UGC agreed to have the Centre as a joint ownership of ICT and University of Mumbai, with co-ordination to be done by the ICT.

The idea of this Centre has been in the long tradition of research conducted at the ICT and the world wide recognition given to the faculty there. The direct linkages with the industry of the ICT is recognised by the all leading academics and practitioners in the industry, who have felt a need for the national centre of excellence in Green Technology. Synthetic chemicals are used to make virtually every man-made product and play an important role in the everyday life of people around the world. Such products can protect crops and increase yields, prevent and cure disease, result in longevity, allow faster modes of communication and transport, entertain, provide insulation to reduce energy use and offer countless other benefits that make life better for people. Many of these benefits are subtle and not connected to the chemical industry by general public. As with other large manufacturing industries, the chemical industry (CI) can also have a negative impact on human health and the environment when the production and use of chemicals are not managed responsibly. From the use of non-renewable resources for fuel and feedstocks (e.g. oil and gas), to the release of pollutants from factories during production, to the disposal of final products that contain hazardous waste, each stage of the lifecycle of a product produced by the CI can affect man and the environment.

The material and energy demands of modern society hinge critically on the viability and progress of the chemical and allied industries that are central to many other sectors. The world chemical industries are experiencing massive changes as we enter the 21st century. Commodity chemical manufacture is migrating increasingly towards developing countries, where labour and raw material costs are lower. For both commodity and specialty chemicals there is growing demand worldwide that production ought to have less impact on the environment and that it moves toward long-term sustainability. Various treaties, legislations and programmes are directed at energy efficiency and efforts to reduce waste and develop sustainable production.

The focus on environment and sustainability has popularised terms such as "atom economy", "eco efficiency", "E factor" and in particular "green chemistry" that define strategies and methods to develop sustainable processes, quantify waste generation, and implement the use of alternate resources. Although chemical engineering programs have been teaching material and energy balance right from the inception of the discipline, the emphasis on resource conservation, waste minimization and hazard reduction was not apparent. During the last two decades, spectacular progress has been made in understanding chemicals as molecules and the structure- activity relationships with reference to their properties which are exploited for specific end uses. As these concepts and their applications – which are termed as "green chemistry, green technology, green engineering"- infiltrate the chemical and allied industry, today's engineering graduates must gain familiarity with and be able to apply them. Further, the paradigm shift from commodities to specialties requires a broader perspective of process chemistry and global aspects of the industry than has traditionally been part of an engineering education.

The dozen principles of green technology are :

1. Pollution Prevention at Source
2. Atom Economy
3. Less Hazardous Chemical Synthesis
4. Designing Safer Chemicals
5. Safer Solvents
6. Design for Energy Efficiency
7. Use of Renewable Feedstocks (Biomass, Biowaste)
8. Reduce Derivatives
9. Catalysis – Chemical and Biological
10. Design for Degradation
11. Real-time Analysis for Pollution Prevention
12. Inherently Safer Chemistry for Accident Prevention

The manufacturing activity of specialty chemicals is conveniently classified into several unit processes such as, hydrogenation, oxidation, nitration, esterification, halogenation, alkylation and acylation, sulphonation etc. All these unit processes will be carefully investigated for a large number of real applications in terms of chemistry, mechanism, alternative routes and solvents, catalysts and kinetics. These are highly polluting processes. At least one of processes is used in a chemical plant and thus the use of principles of green chemistry and technology become very important in making them eco-friendly.

The methodology that would be followed for this part of the project consists of the following steps:

- a. In each category a few industrially important processes will be selected for investigation. The reactions will be studied with respect to the mechanism and the various parameters affecting it. On a laboratory scale, new starting materials, reagents, catalysts, solvents, etc., will be tried. Processes involving water as a solvent will be developed.
- b. Alternative energy sources: Energy is costlier and scarce in India. Hence, alternate eco friendly energy sources such as solar energy, UV light, ultrasound, microwaves, shall be tried to get certain benefits.
- c. Computational work: Theoretical studies based on computational work and molecular modeling for the above.

Multi-step synthesis for manufacture is a characteristic feature of intermediate, drug and fine chemicals. Added to this is the structural complexity. Under process intensification program the main aim is to develop new and more efficient reaction systems to reduce number of steps by way of developing tandem reaction sequence to be carried out in one pot. To develop new catalytic system towards developing for single step modification to merge multiple transformation steps to a single step transformation. This will not only give an advantage of short production cycle, less consumption of chemicals, less utility requirement and above all, overall yields will be higher.

Nano materials are used for making catalysts, composites, newer construction materials, storage devices, electronics, etc. The composites can be prepared from clays and polypropylene, nylon, polyester and styrenics especially, HIPS, SAN and ABS. The bond between clay and matrix is enhanced by chemical/physical modification of clay. The interaction between clay and polymer matrix will be established in this study through physicochemical analysis. Similarly use of nano tubes for controlled permeability can also be established. Green processes can be developed in this area.

The research activity of the Centre will be focused on a number industrial segments relevant to the ICT expertise as well as emerging areas:

1. Green synthesis of bulk chemicals
2. Refinery processes – Novel catalysts and energy efficient process development
3. Synthesis of nanomaterials- catalysts and composites
4. Pharmaceuticals and drug synthesis – chirality
5. Multi-step intermediate synthesis to be converted into cascade engineered synthesis
6. Synthesis of fine and superfine chemicals.
7. Synthesis of biodegradable chemicals
8. Synthesis of safer and benign chemicals having minimum impact or zero impact on environment.
9. Process equipment design and operation to support the above activities.
10. Carbohydrate based feedstock for catalytic processes

7.12 Department of Chemistry

Department of Chemistry was established in 1951 to cater the responsibility of teaching basic chemistry. The Department shoulders the responsibility of conducting chemistry courses, theory as well as practical, for the under-graduate programmes of all the three branches, viz., B. Chem. Engg., B. Tech., and B. Pharm. The Department also offers admission to Ph.D. (SCL) Chemistry, Ph.D. (Sci.) Biotechnology, Ph.D. (Tech.) Chemical Engineering programmes and the intake of students varies based on the vacancies with the faculty members. Department has started M.Sc. (Chemistry), two year course by papers with an intake capacity of 20 from academic year 2010-11.

The Department is active in teaching, research and industrial collaborative work. Considering the contributions the Department has been recognized by the University Grants Commission, Under Special Assistance Programme (SAP), Departmental Research Support (DRS-I). Through this programme the Department has 10 Ph.D. fellowships to offer. The faculty members are actively engaged in research areas of current relevance. The research work carried out in the Department is funded by the research projects sponsored by national funding agencies like UGC, CSIR DAE, IGCAR and DST Some of the faculty members are carrying out research in collaboration with reputed organizations from both India and abroad. In the last five years, the department has published more than 200 research publications in international journals of repute with an average impact factor of more than two. The work is also recognized well in terms of large number of citations (more than 5000). The faculty members are actively engaged in several extra-mural academic activities, like the Indian National Chemistry Olympiad (INChO), National Initiative for Undergraduate Science (NIUS). They are also committee/board members of several academic bodies. Currently the department has 45 Ph.D. and 37 M.Sc. students. The students who have obtained doctoral degrees from the Department get attractive placements in industries and research institutions. The research students of the Department assist the faculty in conducting undergraduate courses. This helps them in their personal development.

Department has sophisticated instruments like FT-IR, UV-VIS spectrophotometers, GC-MS, gas chromatographs, HPLC, Zetameter, viscometer, microwave synthesizer, digital polarimeter, computer workstation, Electrochemical workstation, vapor pressure reactor, supercritical carbon dioxide reactor/extractor, surface area analyzer, high pressure reactors. The Department has several endowments through which experts from various leading research institutions working in frontier areas in Science and Technology are invited for lectures and interaction.



BET Surface Area Analyzer



Micro Reactor



Organic Synthesis Laboratory



Supercritical Carbon Dioxide Reactor-extractor

7.13. Department of General Engineering

General Engineering Department of the Institute was established in the year 1954 and is involved in teaching undergraduate as well as postgraduate students of the institute. The department is running a full time master's course M. Tech. in Plastics Engineering from 1972. Students having basic qualification in Mechanical, Production, Plastic/ polymer and chemical engineering and technology are eligible for admission to this course. The course deals with processing of plastics, composites, design of processing tools and machinery, and testing and development of new materials for industrial as well as domestic applications. Apart from laboratories such as workshop, electrical and electronics, applied mechanics and strength of materials, the department has provision for special facilities of processing of plastic and polymer composites, testing of plastics, and computer aided design and drawing laboratories. These laboratories cater to the needs of the under graduate and post graduate students of the department and institute. The department has plastic processing equipment such as micro-processor controlled injection molding machine with molds of standard mechanical test pieces, blow molding machine, rotational molding machine, and single screw extruder. Department have licensed CAD software such as Mold flow, Pro-engineer and Solid Works with high end computer facilities. It also has testing machines such as UTM, impact tester, MFI tester, hardness tester etc. GATE qualified candidates of M.Tech. in Plastics Engineering receive AICTE fellowships and TEQIP program fellowships. Doctoral students of Plastics Engineering will get 1 UGC SAP fellowship peryear.

Department is having specialized teaching faculty from mechanical, plastics, production, civil, electrical and electronics branches. Most of the faculties are guides for the master's and doctoral programs of the institute in the area of their specialization. Students can take up research in multidisciplinary areas.



7.14. Department of Mathematics

Department of Mathematics has research expertise mainly in the areas of Computational Fluid Dynamics, Mathematical Modeling, Singular Perturbation Theory, Numerical Methods, Optimization Techniques, Statistical Analysis, Mathematical Pedagogy, Time Series Analysis, and Dynamical System etc.

In the year 2011, the Department of Mathematics has received a major grant of Rupees fifty five lakhs and two faculty positions from the UGC under its innovative schemes for starting a Master's programme in Engineering Mathematics. Under this scheme the department has started a M.Sc. Programme in Engineering Mathematics, which is one of the unique Master's programme in the country. This programme is highly interdisciplinary in nature.

The department has a dedicated computer lab with a capacity of 50 computers having all modern computational facilities.

The department takes pride in conducting regular workshops and training programmes in Mathematics and Mathematical software for students and teachers of mathematics.

The department also takes necessary steps to improve the standard of the weak students, particularly in Mathematics by making some special arrangements.

Presently the department has a P.D. and a Ph.D. student, and has two government sponsored research projects.

7.15. Department of Physics

Department of Physics at the ICT has the distinction of being one of the earliest Departments in the Institute. It was started as Optics Section in 1935 which was subsequently changed as Physics Section in the Second Five Year Plan and then to Department of Physics under MUICT. Department of Physics undertakes undergraduate and post graduate teaching in Physics. The Department is one of the participating departments of Centre of Advanced Studies in Physio-Chemical Aspects in Textiles, Fibers, Dyes funded by UGC. The department has made significant contributions in the field of Material Science (Study of Polymer/Polymer composites & nano composites and their various properties), Solar Thermal Applications, Nano-aided Drug Delivery. The research in Colour assessment of dyed textiles and colour perception is also carried out in this department. Currently 15 doctoral students are working on various topics RELATED TO Material science and CSP. Faculty members have actively participated and attended national and international seminars / workshops and presented their papers. A good number of papers are published in peer reviewed journals. Faculty members have research projects from industry and various government funding agencies. Faculty is also engaged in Industrial consultancy. Faculty contributes actively towards spreading awareness for Physics Education and Research by way of giving popular talks in degree colleges.

THRUST AREAS OF RESEARCH:

1. Polymer/Polymer Composites and nano-composites : i) Study of crystallization kinetics in polymers, polymer composites & polymer-nanocomposites, Orientation studies of Polymers/Polymer composites & nanocomposites, Structure property relationship in Polymers/Polymer composites & nanocomposites, ii) Surface modification of polymer materials using plasma for improvement of adhesion of printability properties iii) Study of electrical, thermal, mechanical, dielectric and piezo electric properties of polymers and their composites.
2. Solar Thermal Applications: Designing of reflector shape, Determination of efficiency of collection of solar radiations, Studying configuration & surfaces of absorber pipes under different parameters, Generation of steam upto 250° C for refrigeration and other industrial applications.
3. Colour Assessment of Dyed Fabric, Study of Geometric Attributes of Colour.
4. Synthesis of Nanoparticles,

5. Nano Aided Drug Delivery; a new endeavor is undertaken in collaboration with Dept. of Pharmacology.
6. Theoretical and Mathematical treatment to certain biomolecules in collaboration with DBT center.



Data Flash Colour Instrument



Differential Scanning Calorimeter



Plasma Generator



RT-20 Rheometer



Universal Tensile Machine



8. ADMISSION TO BACHELOR'S COURSES

ADMISSION TO FIRST YEAR OF FOUR YEARS- B.CHEM.ENGG., B.TECH. (SEVEN BRANCHES) AND B.PHARM. DEGREE COURSES IN ICT, MUMBAI

(FOR THE ACADEMIC YEAR 2012– 2013)

All these admissions will be conducted separately by and at the ICT by Counselling.

- The Institute of Chemical Technology (ICT) has been awarded the Deemed University status vide MHRD notification No. F.9-61/2005-U.3 dated September 12, 2008. It is the only state funded Deemed University with A grade from MHRD for the excellence in the education being imparted. Being state funded Deemed University, ICT shall abide by the rules and regulations of the Govt. of Maharashtra including admission criteria and reservations as per the State Govt. Thus, ICT shall i) Retain same admission structure for the First Year of B. Chem. Engg. and B. Tech. (seven branches) courses as in the past, i. e., 70 % admissions for All Maharashtra- based on MHT-CET 2012 score and 30 % admissions for All India (including Maharashtra)- based on AIEEE 2012 score. ii) Conduct the First Year of B. Pharm. admissions with 100 % admissions for All Maharashtra- based on MHT-CET 2012 score.
- The schedule of the admissions will be displayed on the ICT Notice Board and the website www.ictmumbai.edu.in and candidates are requested to visit the website from time to time to note the changes, if any.
- **AIEEE Round- I will be conducted prior to MHT-CET Round- I of ICT. After three rounds of AIEEE Quota, if any seats remain vacant for any reason whatsoever, those will be transferred to MHT CET Quota.**
- Candidates are required to submit separate forms for the admission to the courses conducted at the ICT. Forms will be available for sale at the ICT counter by payment of cash, or by post, as well as in downloadable form on the ICT web site, separately for MHT-CET 2012 quota and AIEEE 2012 quota admissions. candidates belonging to the State of Maharashtra are also eligible for admission to the AIEEE quota seats.
- Statutory reservations for candidates belonging to backward class categories (Maharashtra State only) as per the relevant rules and regulations of the Government of Maharashtra are applicable for all the admissions conducted on the basis of MHT-CET score (70% seats) for the First Year of B.Chem.Engg. and B.Tech. (seven branches) and 100% seats for the First Year of B.Pharm.
- Admission to any undergraduate (UG) courses at the ICT is offered on the basis of merit alone, which is decided according to the marks secured by the candidates at the qualifying examinations and the entrance tests.

Admission quota for B. Chem. Engg. / B.Tech. (seven branches) / B.Pharm. courses are as follows:

[B. CHEM. ENGG. AND B.TECH. (SEVEN BRANCHES)]

a) State of Maharashtra Level:

MHT-CET 2012 score based seats (70% of total sanctioned intake)

b) All India (all States and Union Territories including Maharashtra) Level:

AIEEE 2012 score based seats (30% of total sanctioned intake)

[B.PHARM.]

State of Maharashtra Level:

MHT-CET 2012 score based seats (100% of total sanctioned intake)

Abbreviations used in the brochure:

AICTE	All India Council for Technical Education
AIEEE	All India Engineering Entrance Examination 2012
APCI	'Admission Process by Counselling for the ICT' (APCI) for MHT-CET 2012 quota and AIEEE 2012 quota by and at the ICT
DTE	Directorate of Technical Education, M.S., Mumbai
EWS	Economically Weaker Section
Govt.	Government
HSSC	Higher Secondary School Certificate
ICT	Institute of Chemical Technology (University under Section 3 of UGC Act 1956), N. M. Parekh Marg, Matunga, Mumbai 400 019.
MHT-CET	Maharashtra Health Technical - Common Entrance Test- 2012, conducted by Competent Authority of Govt. of Maharashtra scheduled on 10-05-2012.
MS	Maharashtra State
PH	Physically Handicapped
SSC	Secondary School Certificate
TFWS	Tuition Fee Waiver Scheme of the AICTE

Definitions:

'**Candidate**' means an applicant who has appeared for **MHT-CET 2012** and/ or **AIEEE 2012**, and who has submitted **separate Application Form/s** at the ICT in the prescribed format to seek admission to the first year of the four year B. Chem. Engg./ B. Tech. (seven branches) / B. Pharm. course in the ICT for the academic year 2012- 13.

'**Admission Process by Counselling for the ICT' (APCI)** means the complete admission process for MHT CET quota as well as AIEEE quota in the ICT, which includes submission of application form for admission to the ICT, Counselling round(s) at the ICT and securing admission in the ICT.

'**Competent Authority**' means the Registrar, ICT to effect separate '**Admission Process by Counselling for the ICT' (APCI)**, by implementing these admission rules and also act as an appellate authority for representations, if any. All the decisions by the Registrar, ICT in relation to APCI for the first year of the four years Degree course in B.Chem.Engg./ B.Tech. (seven branches) / B. Pharm. course in the ICT shall be final and binding on the candidates participating in the APCI.

'**Inter-se-merit**' means the order of merit, as defined by Merit list of eligible candidates, who have applied separately for the **APCI** of the ICT. This merit list shall be prepared by the Registrar, Institute of Chemical Technology, Mumbai.

'**Representative of the Competent Authority**' means an officer appointed to assist the Registrar, ICT for APCI as per the directives of the Registrar, ICT.

'**State Government**' means the Government of Maharashtra.

Role of the Authorities of ICT in the process of First Year Admission of the four year- B.Chem.Engg., B.Tech. (seven branches) and B.Pharm. courses:

- The Registrar, ICT shall be the authority to invite applications, process them, declare schedule of admission process, and complete the allotment and admissions of the students through **APCI**.
- The Registrar, ICT shall also deal with the representations received from the candidates pertaining to allotment and admissions in the ICT and act as Grievance Redressal Authority and Appellate Authority.
- Overall the decisions taken in relation to the admissions by the Vice Chancellor, ICT shall be final and binding on all concerned.

8.1. BACHELOR'S COURSES OF STUDIES, INTAKE CAPACITY AND ADMISSION CRITERIA

All UG courses are post - HSSC / XIIth Std. Four- Year Semesterised Degree Courses.

- 1. Bachelor of Chemical Engineering (B.Chem.Engg.) [01]**
Intake capacity: Total 75 Seats (See Table below for seat distribution)
- 2. Bachelor of Technology (B.Tech.) in**
Intake capacity: Total 136 Seats (See Table below for seat distribution)
 - (a) Dyestuff and Intermediates Technology [02]
 - (b) Fibres and Textiles Processing Technology [03]
 - (c) Food Engineering and Technology [04]
 - (d) Oils, Oleochemicals and Surfactants Technology [05]
 - (e) Pharmaceuticals Chemistry and Technology [06]
 - (f) Polymer Engineering and Technology [07]
 - (g) Surface Coating Technology [08]
- 3. Bachelor of Pharmacy (B.Pharm.) [09]**
Intake capacity: Total 30 Seats (See Table below for seat distribution)

NUMBERS IN SQUARE BRACKET INDICATE COURSE CODE

TABLE: Seat Distribution of UG Courses according to Branch, Type and Category
(Sanctioned intake shown against each course is as per the approved intake for the academic year 2012-13)

Admission Type and Category	B.CHEM. ENGGG. [01]	B.PHARM. [09]	B.TECH. BRANCHES							Total B. Tech.
			DYES [02]	TEXTILE [03]	FOODS [04]	OILS [05]	PHARMA [06]	POLYMER [07]	COATINGS [08]	
AIEEE general Seats (A) #	22	--	06	09	05	05	06	05	05	41
MHT-CET based general seats@	27	15	07	13	06	05	06	06	05	48
MHT-CET based Reserved Seats@	26	15	07	12	05	06	06	05	06	47
Total MHT-CET Seats (B)	53	30	14	25	11	11	12	11	11	95
TOTAL SANCTIONED SEATS (A+B)	75	30	20	34	16	16	18	16	16	136

These seats are based on AIEEE 2012 valid score. @ These seats are based on valid MHT-CET 2012 score.

NOTES:-

- The Sanctioned intake shown in above Table are as approved by AICTE for the year 2012-13.
- The AICTE shall communicate to the State Government / ICT the approved new Course/s, the changes in the intake capacity of the existing course/s, if any, before 30th June 2012.
- AICTE approvals to start new course / the changes in the intake capacity of the existing course communicated to the State Government / ICT after 30th June 2012 will not be included in the APCI of the academic year 2012-13.

8.2. ELIGIBILITY CRITERIA FOR ADMISSION TO B.CHEM.ENGG., B.TECH. (SEVEN BRANCHES) AND B.PHARM.

Candidate applying for admission to any Undergraduate course at the ICT must be an Indian National.

8.2.1. Eligibility Criteria for application to AIEEE score based seats (30% of total sanctioned intake capacity for F.Y. B.Chem. Engg., B.Tech. (seven branches)

A candidate should have passed the HSSC/Std.XII Examination of Maharashtra State Board of Secondary and Higher Secondary Education or the Indian School Certificate (Std. XII) Examination or any other equivalent Higher Secondary (Std. XII) Examination of a Council Board outside Maharashtra State with English, Physics, Chemistry, and Mathematics subjects and secured not less than 50% marks (i. e., 150 out of 300), in the subjects of Physics, Chemistry and Mathematics taken together **at one and the same sitting**.

Note: In case the maximum marks in individual subjects are other than 100 or total marks other than 300, then while converting marks out of 100 or total out of 300, no rounding off of the marks will be done. If letter grades are assigned instead of marks at SSC, HSSC or its equivalent examination the candidate must obtain the certificate of conversion of letter grades into equivalent marks from the authority, competent to issue such certificates. Such certificates are required to be produced at the time of submission of application form.

Additional Eligibility Criteria - AIEEE- 2012 Score card with non-zero score (e-statement may be submitted in place of attested photocopy of the original, if the original score card is not received by the last date of submission of application form at the ICT). However, at the time of counselling round at the ICT, original Score Card must be submitted, failing which, a seat may not be offered to the candidate even if eligible otherwise.

Candidates are advised to keep in touch of the ICT Notice Board/ website www.ictmumbai.edu.in for the schedule of admission rounds.

8.2.2. Eligibility Criteria for application to MHT-CET score based seats (70% of total sanctioned intake capacity for F.Y. B.Chem.Engg., B.Tech.(seven branches)

Candidate must fulfil any one of the eligibility criteria as listed in the following table.

TABLE: Eligibility Criteria for Application in MHT-CET Quota

Sr. No.	Type of candidature for Maharashtra State candidates	Eligibility requirement
1.	Type – A (Maharashtra State candidate)	Candidate Passing SSC (Std. X) and HSSC (Std. XII) examination from a recognized institution in Maharashtra State. and Candidate is Domiciled in the State of Maharashtra.

Sr. No.	Type of candidature for Maharashtra State candidates	Eligibility requirement
2.	Type – B (Maharashtra State candidate)	Does not satisfy as Type - A Candidature and Candidate/Father or Mother of the candidate is Domiciled in the State of Maharashtra.
3.	Type – C (Sons or daughters of central Govt. / Govt. of India Undertaking employee)	Does not satisfy as Type -A and Type-B Candidature and Father/Mother of the candidate is an employee of the Government of India or Government of India Undertaking who is posted and reported to duty in Maharashtra State before the last date for submitting the Application. Such candidates are required to submit certificate from concerned authority as prescribed in Pro Forma A.
4.	Type – D (Sons and daughters of Maharashtra State Govt. / Maharashtra State Govt. undertaking employee)	Does not satisfy as Type –A, Type-B and Type-C Candidature and Father/ Mother of the candidate is an employee of the Government of Maharashtra/ Government of Maharashtra Undertaking. Such candidates are required to submit the proof of his/her father/ mother being the employee of Government of Maharashtra/ Government of Maharashtra Undertaking as prescribed in Pro-Forma A 1.

Note: Candidate can claim **ONLY one type** of candidature while submitting the application form. **The Indian National candidates who are not of Type-A, Type-B, Type-C or Type-D will be the Outside Maharashtra State Candidate (OMS) and such OMS candidates will be eligible for admission only through AIEEE quota.**

A candidate should have passed the HSSC/Std.XII Examination of Maharashtra State Board of Secondary and Higher Secondary Education or the Indian School Certificate (Std. XII) Examination or any other equivalent Higher Secondary (Std. XII) Examination of a Council/Board outside Maharashtra State with English, Physics, Chemistry, and Mathematics subjects and secured not less than 50% marks (i. e., 150 out of 300), [45% marks (i.e. 135 out of 300) for the backward class candidates only from Maharashtra State] in the subjects of Physics, Chemistry and Mathematics taken together **at one and the same sitting.**

Note: In case the maximum marks in individual subjects are other than 100 or total marks other than 300, then while converting marks out of 100 or total out of 300, no rounding off of the marks will be done. If letter grades are assigned instead of marks at SSC, HSSC or its equivalent examination the candidate must obtain the certificate of conversion of letter grades into equivalent marks from the authority, competent to issue such certificates. Such certificates are required to be produced at the time of submission of application form.

Additional Eligibility Criteria - MHT-CET 2012 score card with minimum 55% marks i.e. 110 marks out of 200 marks (minimum 50% marks i.e. 100 marks out of 200 marks in case of candidates of Backward class categories belonging to Maharashtra state only) in the subjects Physics, Chemistry and Mathematics at the **MHT-CET 2012** examination.

Candidates are advised to keep in touch of the ICT Notice Board/ website www.ictmumbai.edu.in for the schedule of admission rounds.

8.2.3. Eligibility Criteria for application to MHT-CET score based seats (100% of total sanctioned intake capacity for F.Y. B. Pharm.)

Candidate should have passed the HSSC/Std.XII examination of Maharashtra State Board of Secondary and Higher Secondary Education or the Indian School Certificate (Std. XII) Examination or any other equivalent Higher Secondary (Std. XII) Examination of a Council/Board outside Maharashtra State with subject English, Physics, Chemistry and Biology/ Mathematics **AND** secured not less than 50% marks (i.e. 150 out of 300) [45% marks (i.e. 135 out of 300) in case of candidates of Backward class categories belonging only to Maharashtra State] in the subjects Physics, Chemistry and Biology/Mathematics added together (Maximum of marks obtained in Biology or Mathematics shall be considered for the purpose of addition).

Note: In case the maximum marks in individual subjects are other than 100 or total marks other than 300, then while converting marks out of 100 or total out of 300, no rounding off of the marks will be done. If letter grades are assigned instead of marks at SSC, HSSC or its equivalent examination the candidate must obtain the certificate of conversion of letter grades into equivalent marks from the authority, competent to issue such certificates. Such certificates are required to be produced at the time of submission of application form.

Additional Eligibility Criteria - MHT-CET 2012 score card with minimum 55% marks, i.e. 110 marks out of 200 marks (minimum 50% marks i.e. 100 marks out of 200 marks in case of candidates of Backward class categories belonging to Maharashtra state only) in the subjects Physics, Chemistry and Biology/ Mathematics at the **MHT-CET 2012** examination. (Maximum of marks obtained in Biology or Mathematics shall be considered for the purpose of addition).

Candidates are advised to keep in touch of the ICT Notice Board/ website www.ictmumbai.edu.in for the schedule of admission rounds.

8.2.4. Eligibility Criteria for application to additional 5 % seats available under AICTE Tuition Fee Waiver Scheme

- This scheme shall be applicable and mandatory to all AICTE approved institutes.
- Up to 5 percent of sanctioned intake per course shall be available for these admissions. These seats shall be supernumerary in nature.
- The Waiver is limited to the tuition fee as approved by the Government. All other Fees, except tuition fees will have to be paid by the beneficiary for the entire duration of the course.
- In the event of non-availability of students in this category the same shall not be given to any other category of applicants and it will remain vacant.
- The admissions will be based on merit alone in the General merit list as per the criteria of annual income less than Rs. 2.5 Lakhs.
- If a candidate belonging to backward class category/ minority opts for a seat under TFWS, he/ she forfeits the benefits otherwise available to his/ her category.
- Each beneficiary student admitted under this scheme shall not be allowed to change the course under any circumstances.
- The admission to these additional seats will be done along with the admission through MHT-CET quota.
- All such additional seats shall be treated as TFWS seats of MHT-CET quota.
- Candidates willing to opt for these additional TFWS seats will have to specify their willingness and submit income certificate from the appropriate competent authority of the Maharashtra State, stating that his/her parent's annual income is less than Rs. 2.50 lakhs for the year 2011-12 from all sources at the time of submitting the application form.

IMPORTANT NOTE:

- Candidates from the state of Maharashtra are eligible to take admission to the ICT through MHT CET quota and /or through AIEEE quota. Also, they are eligible to take any seat through the Centralized Admission Process (CAP) conducted by the DTE/ Health University for all the Engineering/ Technology/ Medical colleges in Maharashtra and vice-versa for the academic year 2012-13.

8.3. RESERVATION POLICIES:

8.3.1. Reservation for Backward Class Category Candidates:

The percentage of seats reserved for Backward Class category candidates from Maharashtra State are as per the details shown in the Table below. These are the minimum percentages of reservation exclusive of the backward class candidates securing allotment through General Merit by virtue of merit. If a candidate fails to claim reservation for Backward Class **at the time of submitting application form at the ICT**, he/ she will be treated as **General category candidate**.

Sr. No.	Category of Reservation	Reservation (%)
1.	Scheduled Castes and Schedule caste converts to Buddhism (SC)	13.0
2.	Schedule Tribes (ST)	7.0
3.	Vimukta Jati and Denotified Tribes (VJ/DT NT(A))	3.0
4.	Nomadic Tribes (NT-B)	2.5
5.	Nomadic Tribes (NT-C)	3.5
6.	Nomadic Tribes (NT-D)	2.0
7.	Other Backward classes (OBC)	19.0
	Total	50.0

Notes:

- A) The overall reservation for backward class candidates from the State of Maharashtra will not exceed 50% of the total seats under MHT-CET quota. **No reservation is applicable for AIEEE quota.**
- B) Candidates belonging to **Special Backward Class (SBC)** will be offered reservation up to 2% of the seats available for Maharashtra candidates which are coming under the purview of the Competent Authority subject to condition that any seats remaining vacant in the reserved category at the end of Round-IB of allotment. SBC Candidates having original category OBC will be considered at par with OBC Candidates.
- C) **The Caste Certificate and the Caste/ Tribe Validity Certificate:-**
(Refer Notification by DTE, 2A/ADM/2012/CERTIFICATES/33 dt. 09/01/2012)
 - **The Caste Certificate:** The candidates belonging to SC, ST, VJ/DT NT (A), NT (B), NT(C) , NT(D), SBC and OBC category are required to submit the attested photo copy of Caste Certificate **at the time of submitting application form at the ICT, failing** which the category claimed, will not be granted and the candidate will be treated as a **General Candidate**.

- **The Caste Validity Certificate:** The candidates belonging to SC, ST, VJ/DT NT (A), NT (B), NT (C) , NT(D), SBC and OBC category are required to produce attested photo copy of Caste Validity Certificate issued by Scrutiny Committee of Social Welfare Department at the time of submission of the application form for the admission.

D) **Non-Creamy Layer Certificate:**

A candidate claiming benefit of reservation under the categories VJ/DT NT(A), NT(B), NT (C), NT (D), SBC and OBC above will be required to produce "Non-Creamy Layer Certificate" in the name of the parent as per Annexure-A as specified in the Government Resolution No. CBC/10/2008/CR 697/BCW-5, dated 27th February 2009. The certificate should be valid up to 31st March 2013. Such a Non Creamy Layer Certificate shall have to be produced at the time of submitting application form, failing which the category claim will not be considered and the candidate will be treated as a General Candidate.

Documents for supporting the reservation claim for Backward Class:

The documents required for supporting the backward class reservation claim made by the candidate are as per the details in the following table.

TABLE: Documents in Support of Reservation as Backward Class Candidate

Sr. No.	Category of Reservation	Documents required for supporting the Backward class reservation claim	Authority issuing the document
1.	SC/ ST	1. Caste Certificate stating that the caste is recognized under Backward class category in Maharashtra State.	Executive Magistrate in Maharashtra State
		2. Caste Validity Certificate	Divisional Caste Certificate Scrutiny Committee of the respective Divisional Social Welfare Office.
2.	VJ/DT NT(A)/ NT(B)/ NT(C)/ NT(D)/ OBC/ SBC	1. Caste Certificate stating that the caste is recognized under Backward class category in Maharashtra State.	Executive Magistrate in Maharashtra State
		2. Caste Validity Certificate	Divisional Caste Certificate Scrutiny Committee of the respective Divisional Social Welfare Office.
		3. Non-Creamy Layer Certificate valid Up to 31st March 2013	Sub Divisional Officer/ Deputy Collector/ Collector of the district.

8.3.2. Reservation for Physically Handicapped Candidates:

As per the provisions in Clause 39 of Equal Opportunities, Protection of Rights and Full Participation Act 1995, **total three (3) per cent** seats within sanctioned intake capacity of the ICT shall be reserved for Physically Handicapped candidates (P1, P2, P3 as explained below) taken together. **[only Maharashtra State candidates of Type A, B and D are only eligible to apply for admission against these seats in MHT-CET quota]**. Allotment of the seats reserved for the Physically Handicapped candidates shall be done on the basis of a respective inter-se merit of such candidates.

The percentage of disability should not be less than 40% for claiming PH reservation.

- P1 - Visually impaired (Blind) candidates.
- P2 - Speech & hearing impaired (Deaf & Dumb) candidates.
- P3 -Candidates with Orthopaedic disorders, learning disabilities, Dyslexia, Dyscalculia, Dysgraphica, Spastic.

(Refer Proforma – B/ B1 for claiming this provision.)

Note: It should be noted that the Physically Handicapped candidates on admission to B. Chem. Engg., B. Tech. (seven branches) and B. Pharm. degree courses will not be given any exemptions or additional facilities in the academic activities.

8.3.3. Reservation for Female Candidates:

As per the provisions in Govt. Resolution No. GEC-1000/ (123/2000)/ Tech. Edu.-1, dated 17th April, 2000, 30% of the seats available under MHT-CET quota shall be reserved for female candidates in all the courses. This reservation shall be applicable for General, SC, ST, VJ/DT NT(A), NT(B), NT(C), NT(D) and OBC categories. There shall be no reservation for female candidates under Defence, Physically Handicapped and SBC categories.

8.3.4. Reservation for Candidates who are Sons/Daughters of Defence Service Personnel:

Five (5) % seats of the total sanctioned intake under MHT-CET quota, subject to a maximum of five (5) seats shall be reserved for sons/daughters of Defence service personnel. These seats are available as State Level seats. Admission against the Defence category seats will be made strictly on the basis of inter-se-merit of respective categories.

In addition to the basic eligibility criterion mentioned in rule no. 8.2.1, 8.2.2 & 8.2.3 and satisfying any of the following criteria candidates are eligible to seek admission against seats for sons/daughters of defence service personnel.

- Candidate is a son/daughter of ex-service personnel who is domiciled in Maharashtra State (Def-1).
- Candidate is a son/daughter of active service personnel who is domiciled in Maharashtra State (Def-2).
- Candidate is a son/daughter of active service personnel (Def -3)
 - Who is transferred to Maharashtra State but is not domiciled in Maharashtra State
 - Who is not domiciled in Maharashtra State but his/her family is stationed in Maharashtra State under the provision of retention of family accommodation at the last duty station on the grounds of children's education, provided further that, such candidate should have appeared and passed the HSC (Std.XII) examination of Maharashtra State Board of Secondary and Higher Secondary Education or its equivalent examination from a school/college situated in the State of Maharashtra.

Note: This provision is NOT available to the children of **CIVILIAN STAFF** working/ worked with the Indian Defence Services.

IMPORTANT: All such candidates who fail to substantiate claims made (such as reservation category, PH, Defence etc.) with necessary supporting documents shall be converted to GENERAL category and/or such applications will be rejected as the case may be. Once such candidates are converted to GENERAL category and they will have to fulfill the minimum eligibility criteria as set out for a GENERAL category candidate.

8.4. STEPS OF ADMISSION PROCESS BY COUNSELLING FOR THE ICT (APCI):

(Refer time schedule for each of the following stages displayed on the ICT Notice Board and website www.ictmumbai.edu.in)

Step I: Purchase of Application Form:

The candidate seeking admission to First Year of the four year B.Chem.Engg./ B.Tech. (seven branches)/ B.Pharm. course at the ICT shall purchase and fill the appropriate application form. The application form is non refundable and non-transferable under any circumstances.

Separate forms should be filled up for different courses to which the candidate is seeking admission, namely,

- B.Chem.Engg., B.Tech. (seven branches) (single form) while applying for AIEEE quota.
- B.Chem.Engg., B.Tech. (seven branches) (single form) while applying for MHT-CET quota.
- B.Pharm. (separate form) while applying for MHT-CET quota.

The admission form and Handbook will be available for sale at the ICT counter by payment of cash. The fees for application form along with Handbook are given elsewhere.

The forms may also be ordered by post or downloaded from the ICT web site, www.ictmumbai.edu.in

While ordering by post, the payment should include the amount equal to the "By Post" amount and be made only by a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "**Institute of Chemical Technology, Mumbai**", payable at Mumbai.

Payment by Cheque or Money Order will not be accepted.

The admission form along with a copy of the Handbook will be sent by **Registered Post Parcel**.

Step II: Submission of Application Form:

All the relevant entries in the application form must be completed in legible handwriting or may be typewritten. Incomplete forms will be rejected and no correspondence will be made in this regard.

Writing contact details such as Mobile No./ Telephone No. and email address in the application form is essential. Do not leave any space blank.

The duly filled form along with attested photocopies of required certificates to substantiate the claims made in the application form should be submitted, by the last date notified, at ICT counter or sent to the ICT by Post/ Courier, etc. along with a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "**Institute of Chemical Technology, Mumbai**", payable at Mumbai and it is non-refundable and non-transferable under any circumstances. **Payment by Cheque or Money Order will not be accepted.**

The application form has a tear-off receipt at the bottom with the application number. The receipt should be filled in by the candidate and shall be signed and stamped by the clerk at the counter while accepting the form. **This receipt should be preserved and the application number must be stated for any future correspondence and presented at the time of Counselling.**

Applications received after the due date will not be considered for generating merit list. ICT is not responsible for the non-receipt / delay occurred by Post/ Courier, etc. Incomplete applications shall be rejected without entering into any correspondence with the applicant.

- The candidates seeking admission at the ICT must submit only attested photocopies of all the documents as given in **Table below** along with the application form.
- Attachment of any certificates will not be accepted separately after submission of the application form.

- The candidates belonging to the backward class categories will be required to submit **The Caste Certificate, Caste validity Certificate and Non creamy layer certificate wherever applicable** at the time of submitting the application form, failing which the category claimed, will not be granted and the **candidate will be treated as a General candidate.**
- The candidates shall not attach a copy of any other certificate which is not asked for, such as certificates for participation in sports, cultural activities, etc.
- The photocopies of certificates or documents attached to the application form should be attested by the Principal of the College from which the candidate has passed qualifying examination or Gazetted Officer or Special Executive Magistrate or Head Master of a Secondary School or teaching staff of a Government /Govt. Aided College / Polytechnic not below the rank of an Assistant Professor.
- If the candidate produces any certificate, which is not in Marathi, Hindi or English language, authenticated Marathi, Hindi or English version of the same, duly attested by a Gazetted Officer shall also be produced.
- Original certificates should not be attached with the application form. However, those must be made available at the time of counselling, failing which the admission cannot be granted.

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

TABLE: Documents to be attached with the application form

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
I	All Candidates	1. SSC (Std. X) mark sheet, 2. HSSC (Std. XII) mark sheet, 3. School Leaving certificate after passing HSSC (Std. XII), 4. Certificate of Indian Nationality of the candidate* AND 5. MHT-CET 2012 score card/ AIEEE 2012 Score card. (e-statement of AIEEE score may be submitted instead of attested photocopy of the Original score card, if it is not received by the last date of submission of application form at the ICT)
II	Type – A candidates	Domicile certificate of Candidate indicating that he/ she is domicile in the state of Maharashtra. (In addition to the document nos. 1-5 mentioned in Sr. No. I)
III	Type – B candidates	Domicile certificate of Candidate or father/ mother of candidate indicating that he/ she is domicile in the state of Maharashtra. (In addition to the document nos. 1-5 mentioned in Sr. No. I)
IV	Type – C candidates	Certificate from the employer in the Pro forma – A stating that father/ mother of the candidate who is a central government/ Govt. of India undertaking employee and presently posted in Maharashtra. (In addition to the document nos. 1-5 mentioned in Sr. No. I)
V	Type – D candidates	Certificate from the employer in the Pro forma - A1 stating that father/ mother of the candidate is a Maharashtra government/ Maharashtra government undertaking employee (In addition to the document nos. 1-5 mentioned in Sr. No. I)
VI	Backward class Category Candidates belonging to SC/ ST	Caste certificate stating that the caste is recognized under Backward class category in Maharashtra State, Caste/ Tribe Validity certificate. (In addition to the document nos. 1-5 mentioned in Sr. No. I)

VII	Backward Category Candidates belonging to VJ/ DT NT(A)/ NT(B)/ NT(C)/ NT(D)/ OBC/ SBC categories	Caste certificate, Caste/ Tribe Validity certificate, Non Creamy Layer Certificate valid up to 31st March 2013. (In addition to the document nos. 1-5 mentioned in Sr. No. I)
VIII	Physically Handicapped Candidates	Certificate in the Pro forma B/ B-1 . (In addition to the document Nos. 1-5 mentioned at Sr. No. I)
IX	Candidates seeking the benefit of AICTE tuition fee waiver scheme (TFWS)	Income certificate of Parents/ Guardians issued by the competent authority (Respective Tehsildar) of Govt. of Maharashtra stating that the income is less than Rs.2.5 Lakhs for the year 2011-12 (In addition to the document nos. 1-5 mentioned in Sr. No. I)
X	Candidates who are sons /daughters of Defence service personnel:	Certificate in the Pro forma – F1/ F2/ F3 as applicable. (In addition to the document nos. 1-5 mentioned in Sr. No. I and as per the type of the candidate)

*** Certificate of Indian Nationality: -**

The certificate of Indian Nationality, Which is usually issued by the Tahasildar/ Executive Magistrate/ Dy. Collector of the concerned Taluka/ District wherein the candidate ordinarily resides. In lieu of the "Certificate of Indian Nationality" any one of the following certificate will also be acceptable-

- The School leaving Certificate indicating the Nationality of the candidate as 'Indian'.
- Indian Passport in the name of the candidate, issued by appropriate authorities.
- Birth Certificate of the Candidate indicating the place of birth in India.

If the Candidate fails to produce any one of the above mentioned certificate/documents indicating Nationality then such candidates Nationality shall be considered based on the undertaking given on Rs. 100 Non-Judicial Stamp Paper.

Domicile Certificate: Domicile certificate issued by the Maharashtra State's appropriate authorities will be considered valid. The domicile certificate of Mother of the candidate shall be supported with marriage certificate and legal proof of change in name if any. Such candidates will be required to submit birth certificate clearly mentioning the name of the mother.

Candidate should carry all the ORIGINAL DOCUMENTS and receipt of application with one attested set of photocopies at the time of Counselling Round.

If requisite attested photocopies are not attached to the application form at the time of submission of application form at the ICT the candidate may lose the claim of the respective type of candidature. The incomplete or incorrectly filled up application forms may be rejected at any stage and in such cases the candidate will be responsible for the rejection of the application form.

Step III – Display of Merit Lists for MHT-CET Quota and AIEEE Quota:

Each eligible candidate who has submitted the duly filled application form, on or before the last date prescribed for the submission, will be assigned a Merit Number. Common merit lists will be generated for F. Y. B.Chem.Engg. and for F. Y. B.Tech. (seven branches), separately for MHT-CET 2012 and AIEEE 2012 quotas on the basis of marks scored in respective tests. The merit lists will be based on General Merit Number (and shall include Category wise Merit Number for MHT-CET quota).

A separate merit list will be generated for F.Y. B.Pharm. on the basis of marks scored at MHT-CET 2012, which will include General Merit Number and Category wise Merit Number.

- Separate **provisional merit lists** will be displayed on the ICT Notice Board and the website

www.ictmumbai.edu.in, any time after 3rd working day from the closing date for submission of the admission forms.

- For duly filled applications sent 'by Post', the candidate should take care to despatch the form and attested photocopies of relevant documents well in time so as to reach ICT on or before the last date of submission. The 'Inward Stamp with Date' of ICT will be the proof of receiving the form on a particular date.
- Candidate has to carefully check his/ her information in the provisional merit list displayed on the ICT website. If there is any grievance/ discrepancy/ mistake in the information, it must be pointed out along with all requisite proofs at the ICT, by e-mail at admission@ictmumbai.edu.in, admission.ict@gmail.com OR by fax at 022-3361 1020 (Attn.- Admission) OR Personally within TWO days. Such discrepancies will be rectified and then the **final merit list** will be displayed on the website. Candidate has to assure himself/herself about the change.
- **AFTER SCHEDULED DATE NO FURTHER CHANGE WILL BE ENTERTAINED.**
- Allotment of a Merit number does not indicate or assure admission to any seat.
- Relative merit in case of tie:

In the case of candidates securing **equal number of marks in MHT-CET 2012**, their relative merit will be fixed on the basis of the order of preference given below:

- a. A candidate securing higher marks out of 100 in the subject of Mathematics in **MHT-CET 2012**.
- b. A candidate securing higher marks out of 50 in the subject of **Physics in MHT-CET 2012**.
- c. A candidate passing the **SSC (Std X) or equivalent examination with higher percentage of aggregate marks**.
- d. A candidate securing **higher marks out of 100 in Mathematics at SSC (Std. X) or Equivalent Examination**.
- e. Birth date of candidate (**Elder candidate will be given preference**).

Note: While converting the marks, if the converted marks work out to be a figure with fraction, fraction up to two decimal places will only be considered.

SEPARATE APCI ROUNDS WILL BE CONDUCTED FOR

- i. MHT-CET QUOTA FOR B.CHEM.ENGG., B.TECH. (seven branches)
- ii. AIEEE QUOTA FOR B.CHEM.ENGG., B.TECH. (seven branches) and
- iii. MHT-CET QUOTA FOR B.PHARM.

Step IV- AIEEE / MHT-CET Based Admission by Counselling for Round- I :

CANDIDATE SHOULD CARRY ALL THE ORIGINAL DOCUMENTS, RECEIPT OF APPLICATION, ONE ATTESTED SET OF PHOTOCOPIES AND THE PAY ORDER/ DD OF REQUISITE AMOUNT OF FEES, AT THE TIME OF COUNSELLING ROUND. CANDIDATE FAILING TO BRING ANY OF THESE WILL BE DISQUALIFIED FOR THE COUNSELLING ROUND.

- Admission will be given to the candidate as per the respective inter-se-merit by Counselling at the ICT and the number of seats available at that point of time. The candidate has to confirm his/ her admission immediately by submitting to ICT all the required original certificates and paying the prescribed fees by Demand Draft/ Pay Order of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"Institute of Chemical Technology, Mumbai"**, payable at Mumbai.
- The list of admitted candidates will be subsequently displayed on the website and Notice Board of the ICT.

Step V- AIEEE/ MHT-CET Based Admission by Counselling for Round- II

Candidate should carry all the ORIGINAL DOCUMENTS, receipt of application, one attested set of photocopies and the pay order/ DD of requisite amount of fees, at the time of counselling round.

The seats remaining vacant at the end of Round-I due to non-reporting, non-allotment, cancellation of admissions will be filled in this round (Refer schedule on ICT Notice Board and Website).

The two quotas, i.e., Admissions through the AIEEE merit and the admissions through the MHT-CET merit, shall be treated separately.

Eligibility for Round- II

- All those who have submitted duly completed application form for admission in ICT and have secured place in the merit list of ICT are eligible.
- Those who have not taken/could not get admission in the first round of MHT-CET quota/ AIEEE quota at the ICT.
- The candidates admitted to the ICT in the first round are eligible to get change of Branch during Round- II.

The admissions in Round II will be given in the following order-

1. Candidates already admitted in the Round- I of MHT-CET quota or AIEEE quota at the ICT shall be given first priority for change of Branch on Merit and without violating the reservation criteria. This will be conducted immediately before the Round II.
2. All other eligible candidates for admission in Round- II shall be given second priority on Merit and without violating the Reservation Criteria.

Step VI- AIEEE/ MHT-CET Based Admission by Counselling for Round- III

Candidate should carry all the ORIGINAL DOCUMENTS, receipt of application, one attested set of photocopies and the pay order/ DD of requisite amount of fees, at the time of counselling round.

The procedure for Round- III will be exactly similar to that of Round- II.

The seats remaining vacant at the end of Round- II due to non-reporting, non-allotment, cancellation of admissions will be filled in this round (Refer schedule on ICT Notice Board and Website).

Eligibility for Round III

- All those who have submitted duly completed application form for admission in ICT and have secured place in the merit list of ICT are eligible.
- Those who have not taken/could not get admission in the first and second rounds of MHT-CET quota/ AIEEE quota at the ICT.
- The candidates admitted at the ICT in the first and second rounds are eligible to get change of Branch during Round- III.

The admissions in Round- III will be given in the following order-

1. Candidates already admitted in the Rounds I and II of MHT-CET quota or AIEEE at the ICT shall be given first priority for change of Branch on Merit and without violating the reservation criteria. This will be conducted immediately before the Round III.
2. All other eligible candidates for admission in Round III shall be given second priority on Merit and without violating the reservation criteria.

8.5. ADMISSION ROUNDS FOR 30% AIEEE QUOTA: FOR B.CHEM.ENGG. & B.TECH. (SEVEN BRANCHES)

- a) All eligible candidates who have been assigned non zero AIEEE score based merit number shall be considered for admission by counselling in these AIEEE quota rounds for the seats available in the ICT.
- b) The admissions shall be effected by **Counselling**. Eligible candidates who are desirous of seeking admission shall remain present exactly as per schedule displayed on ICT Notice Board and Website at Institute of Chemical Technology (ICT), N. M. Parekh Marg, Matunga, Mumbai 400 019 and will get an opportunity to select a seat of his/ her choice from available seats at the point of his/ her merit number. If the candidate is unable to attend the Counselling round, he/she may authorize a person as per **Proforma C** to remain present for Counselling at the ICT. Candidates who report late during Counselling will be considered for Seats available at that time.
- c) The number of candidates to be called for counselling round is always higher, generally about 3-4 times of the seats available, and it will be displayed on the Notice Board and the ICT website at least 3 days before the date of a counselling round. Call for attending a counselling round does not guarantee allotment of a seat to the candidate.
- d) The Rounds II and Round III are meant for filling those seats remaining vacant and those vacated due to cancellations respectively at the end of Round I and Round II.
- e) If candidate fails to attend a counselling round at the ICT for admission, candidate can attend subsequent rounds as per their General Merit No. for the available seats.
- f) The candidate has to confirm his/ her admission immediately by submitting all the required original certificates and paying the prescribed fees by Demand Draft/ Pay Order of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"Institute of Chemical Technology, Mumbai"**, payable at Mumbai.
- g) The list of admitted candidates will be subsequently displayed on the Notice Board of the ICT and the website www.ictmumbai.edu.in

8.5.1. AIEEE Based Admission by Counselling for Round - I

- All the candidates, who have been called for counselling, through website and ICT Notice Board shall be considered for admission for the available seats.
- If a candidate is unable to produce original certificates at the time of his/ her admission on account of admission already secured to some other institution, he/ she shall **produce a certificate from the Head of the Institution where he/ she has already taken admission** indicating that he/ she has been admitted to a particular course in that institution on a particular date and hence original certificates have been retained in that institution (**Proforma-D**). The candidate will have to produce the copies of the certificates duly attested by the Head of the concerned Institution. Such candidates shall **be required to pay the fees immediately at the time of admission and such candidates shall** be permitted to submit the required original certificates within 3 working days. Non-compliance will automatically lead to cancellation of the offer to a seat and the refund of fees will be made as per the cancellation rules.
- The original School/ College Leaving Certificate (after qualifying examination) of such candidates will be retained by the ICT. Also, all relevant original certificates will not be returned to any candidate once admitted to a course at the institute, unless the candidate formally cancels his/ her admission through prescribed procedure.

8.5.2. AIEEE Based Admission by Counselling for Round - II

- Round -II is meant for filling the seats remaining vacant at the end of Round -I and seats vacated due to non reporting/ non-allotment, cancellations up to the commencement of Round -II.
- Vacancies in AIEEE quota available for Round - II will be displayed on the ICT website as well as on the Notice Board around THREE days before the scheduled date along with the time. Any additional vacancies created due to any cancellation of admission, before the actual start of Round - II will also be added and declared at the start of round II.

• **AIEEE Based Round II**

(A) Internal Round I:-

- Candidates already admitted in the Round I shall be given first priority, according to their inter se merit, for getting a change of course/ branch.
- Candidates are advised to observe website and the notice board of the ICT till the admission process is complete for possible change of preference to a course.
- This round will be held one day prior to the External Round II and the vacancies will be updated on the website and the notice board of ICT at or before 4.00 p.m. on the same day for information to candidates willing to join External Round II.

(B) External Round II:-

Those who could not attend/ could not get their choice in admission Round I at the ICT can attend this round for the seats available after Internal Round II.

- (c) Depending on the number of vacant seats after Round I, sufficient number of candidates with merit numbers starting from the next number to those called for Round I will be called for Round II by display on the website and the ICT Notice Board to attend the External Round II. Also, all the candidates from merit list of round I are eligible.
- (D) It may be noted that the Number of vacant seats after Round-I will remain unaltered, however, due to change of course/branch by the candidates already admitted to the ICT during internal Round I, the availability of particular course/ branch will change. It will be known ONLY after 4.00 p.m. on the day of internal round I, i.e., earlier day.
- (E) Candidates are advised to keep in touch of the schedule that will be displayed on the website and notice board of ICT.

8.5.3. AIEEE Based Admission by Counselling for Round - III

In case seats remain vacant after Round-II, Round-III will be conducted as per schedule in the same manner as that of Round-II.

NOTES:-

1. Candidates must report as per his/her scheduled time. Candidates who report late during Counselling will be considered for Seats available at that time.
2. **In case any seats remain vacant after AIEEE Round - III, those will be transferred to MHT-CET quota and no more AIEEE based admission rounds will be conducted.**

8.6. ADMISSION ROUNDS FOR 70% MHT-CET QUOTA FOR B.CHEM.ENGG., B.TECH. (SEVEN BRANCHES) AND 100 % MHT-CET QUOTA FOR B.PHARM.

All eligible candidates who have been assigned MHT-CET **score** based merit number shall be considered for admission in these rounds for the seats available in the ICT.

Note: The admission procedure for B.Chem.Engg., B.Tech. (Seven Branches) and B.Pharm will be same except the time schedule of the admission rounds.

8.6.1. MHT-CET Based Admission Round - I

The Round- I consists of seven stages **1-A to 1-G**. The admissions in Round-I shall be effected by **Counselling**. Every eligible candidate who is desirous of seeking admission shall remain present exactly as per schedule at Institute of Chemical Technology (ICT), N. M. Parekh Marg, Matunga, Mumbai 400 019 and will get an opportunity to select a seat of his/ her choice from available seats at the point of his/ her merit number. If the candidate is unable to attend the Counselling round, he/she may authorize a person as per **Pro forma C** to remain present for Counselling at the ICT. Candidates who report late during Counselling will be considered for Seats available at that time.

The Round- II and Round- III are meant for filling those seats remaining vacant and those vacated due to cancellations respectively at the end of Round- I and Round- II.

All the candidates, who have been assigned Merit number, shall be considered for admission for the available seats. However, if candidate fails to attend Counselling round at the ICT for admission, candidate can attend subsequent rounds as per their General Merit No. for the available seats as per reservation.

MHT-CET Based Round- I-A:

(For All the Candidates including all the Backward Category, PH and Defence candidates)

Eligible candidates: All the candidates of all the categories (general/ Backward/ Male/ Female/ PH/ Defence) as per merit list will be considered for admission at the ICT as per their inter se merit.

Seats Available: See Table.

General notes:

The candidate may select any seat from the seats available at his/ her merit number.

Backward class category candidates shall be admitted in General category by virtue of their merit OR in their respective category of reservation, if General category seats are not available as per their merit.

- SBC category candidates shall be admitted in General category by virtue of their merit OR in their original category of reservation, if General category seats are not available as per their merit.

For the female candidates, the seat availability shall be checked in the following order:

1. The seats reserved for females in General category,
2. The seats (seats which are open for both male and female candidates) in General category,
3. The seats reserved for females in respective caste category,
4. The seats (seats which are open for both male and female candidates) in their respective caste category, and the first available seat in that order shall be allotted to them.

- **PH category candidates shall be admitted in General category by virtue of their merit OR in PH category as per following order.**

1. Seats reserved for PH category.
2. The seats (seats which are open for both male and female candidates) in General category.

- **DEFENCE category candidates shall be admitted in General category by virtue of their merit OR in defence category as per following order.**

1. Seats reserved for defence category.
2. The seats (seats which are open for both male and female candidates) in General category.

MHT-CET Based Round - I -B:

(For respective reserved category candidates if seats are available)

Eligible candidates: All Backward class candidates as per General Merit list as per their inter se merit.

Seats Available: On completion of Round- I-A, if any of the Backward class categories mentioned above, does not get the required number of female candidates for the percentages laid down, the seats so remaining vacant shall be filled in from amongst all the candidates (male/ female) belonging to respective Backward category only.

General note: The Backward class category candidates already admitted in Round- I-A but desirous of **seeking a change to a seat that was not available** to them at that point of time shall attend this round for a change. Those Backward class category candidates who are not admitted in Round - I-A may attend this round for a fresh admission.

MHT-CET Based Round - I- C:

(For Special Backward Class (SBC) category candidates)

Eligible candidates: All candidates belonging to Special Backward Class as per their inter se merit.

Seats available: On completion of Round- I-B, if any of the Backward class categories do not get the required number of candidates for the percentages laid down, the seats so remaining vacant shall be filled in from amongst all the candidates (male and female) of Special Backward Class (SBC) category, as per their inter se merit, **limited to the extent of TWO PER CENT SEATS OF SANCTIONED INTAKE** capacity of different courses in various institutes.

General notes:

- The seats to be offered to SBC candidates shall be made available from any of the categories of reservation wherever vacancies exist after Round - I-B. Such seats for SBC category shall be filled, if available.
- Any seat (to which a candidate may have been admitted in earlier rounds) falling vacant due to change in admission i.e. admission to a different seat in the current round, shall be made available to the next candidate in merit subject to the conditions mentioned under '**seats available**'.

The SBC category candidates already admitted in the earlier rounds in their original category but desirous of **seeking a change to a seat that was not available to them** at that point of time shall attend this round for a change. Those SBC category candidates who are not admitted in Round - I-A and Round - I-B may attend this round for a fresh admission.

(For respective Group 1, 2 and 3 of Backward class category candidates)

Eligible candidates: All Backward class category candidates as per merit list as per their group inter se merit.

Seats available: On completion of Round - I-C, the seats remaining vacant in the respective group of backward class categories as mentioned below shall be offered to candidates from the respective group with reference to their intersemerit, for each of the group.

Group 1:

- I. Scheduled Castes and Scheduled Castes converts to Buddhism (SC)
- II. Scheduled Tribes including those living outside the specified areas (ST)

Group 2:

- I. Vimukta Jati/ DeNotified Tribes (VJ/DT (NT-A))
- II. Nomadic Tribes (NT-B)

Group 3:

- I. Nomadic Tribes (NT-C)
- II. Nomadic Tribes (NT-D)
- III. Other Backward Class (OBC)

General notes:

- For example, the seats remaining vacant in SC or ST categories after Round - I-C, shall be offered to all the SC and ST candidates as per their group inter se merit.
- The Backward category candidates already admitted in Round I-A/ Round I-B/ Round I-C but desirous of **seeking change to a seat that was not available to them** at that point of time shall attend this round for a change.
- The Backward class category candidates, who are not admitted in Round I-A/ Round - I-B/ Round - I-C, may attend this Round for a fresh admission.
- Seats falling vacant due to changes in admissions shall be made available to the next candidate in merit from the respective group.

(For All Backward Class Category Candidates)

Eligible candidates: All Backward category candidates as per the intersemerit.

Seats available: The seats remaining vacant in Backward class categories after completion of Round - I-D, shall be made available to the candidates of all the Backward class categories together on the basis of the inter se merit.

General Notes:

The Backward category candidates already admitted in Round - I-A/ 1-B/ 1-C/ 1-D but desirous of **seeking change to a seat that was not available to them** at that point of time, shall attend this round for a change.

The Backward category candidates who are not admitted in Rounds 1-A/ 1-B/ 1-C/ 1-D may attend this round for a fresh admission. Seats falling vacant due to changes in admissions shall be made available to the next Backward category candidate in merit.

MHT-CET Based Round- I-F: For all Physically Handicapped and Defence candidates (separately)

The seats for physically handicapped remaining vacant after completion of Round-I-E, shall be considered for allotment to the candidates of the category of Physically Handicapped (P-1, P-2 and P-3 taken together), on the basis of their combined inter se merit.

The seats of defence remaining vacant after completion of Round-I-E, shall be considered for allotment to the candidates of the category of defence (D-1, D-2 and D-3 taken together), on the basis of their combined inter se merit.

MHT-CET Based Last Round - I-G:

(All the candidates including Backward class candidates as per General Merit)

Eligible candidates: All the candidates (General/ Backward/ Male/ Female) of all the categories as per their General inter se merit.

Seats available: After completion of Round - I-F, the seats remaining vacant, if any, shall be filled with reference to inter se merit of all the candidates (General/ Backward/ Male/ Female).

General notes:

- All the candidates already admitted in Round-I-A/ I-B/ I-C/ I-D/ I-E/I-F, but desirous of **seeking a possible change to a seat that was not available to them** at that point of time, shall attend this round.
- Those candidates who are not admitted in Rounds I-A/ I-B/ I-C/ I-D/ I-E/ I-F earlier, may attend this round for a fresh admission.
- Seats falling vacant due to such changes in admission shall be made available to the next candidate in merit.
- If a candidate is unable to produce original certificates at the time of his/ her admission on account of admission already secured to some other institution, he/ she shall **produce a certificate from the Head of the Institution where he/ she has already taken admission** indicating that he/ she has been admitted to a particular course in that institution on a particular date and hence original certificates have been retained in that institution (**Proforma D**). The candidate shall produce the attested copies of the certificates duly attested by the Head of the concerned institution. Such candidates shall be required to pay the fees immediately at the time of admission and they shall **be permitted to submit the required original certificates within 3 working days**.
- If a candidate is offered admission, his/ her original School/ College Leaving Certificate (after qualifying examination) will be retained. All relevant original certificates will not be returned to any candidate once admitted to a course at the institute unless the candidate cancels his/ her admission.

8.6.2. MHT-CET Based Admission Round - II:

The candidate must remain present at the given time of Counselling at the Institute of Chemical Technology (ICT), N. M. Parekh Marg, Matunga, Mumbai 400 019 as per the schedule. If he/ she fail to report in time he/ she will lose the claim of seat(s)/ admission in that round. **The candidate has to pay the prescribed fees immediately if the seat is offered to him/ her as per his/ her merit at the time of Counselling itself, along with all requisite original documents as mentioned in Annexure I.** If the candidate fails to pay the fees and/or to submit original documents at the time of Counselling, the claim of the candidate will be lost and his/ her seat will be offered to the next candidate in merit. However, if candidate fails to attend Counselling Round II at the ICT for admission, candidate can attend subsequent round as per their General Merit No. for the available seats in the ICT if seats are available, as per reservation.

Submission of Documents and Payment of Fees at the time of confirmation of admission in Round - II

- Candidates shall submit all the original certificates needed to substantiate the claims made in the application regarding eligibility and reservation as specified in Annexure I.
- If a candidate is unable to produce original certificates at the time of his/ her admission on account of admission already secured to some other institution, he/ she shall **produce a certificate from the Head of the Institution where he/ she has already taken admission** indicating that he/ she has been admitted to a particular course in that institution on a particular date and hence original certificates have been retained in that institution (**Proforma-D**). The candidate will have to produce the copies of the certificates duly attested by the Head of the concerned Institution. Such candidates shall be required to pay the fees immediately at the time of admission and permitted to submit the required original certificates within 3 working days.
- If a candidate is offered admission, his/ her original School/ College Leaving Certificate and other requisite certificates will be retained. These original certificates will not be returned to any candidate once admitted to a course at the institute, unless the candidate cancels his/ her admission.
- The detailed schedule and tentative course/branch wise vacancies available for Round - II will be made available on the ICT website as well as on the Notice Board around three (3) days before the scheduled date of Round - II. Any additional vacancies created due to cancellation of admission, before the start of Round - II will also be added.

Seats Available for Round - II are all the vacant seats by end of Round - I and the seats **falling vacant due to cancellations** till start of Round - II. Seats remaining vacant from 30% female reservation of respective backward class as well as General category candidates shall be treated as **General seats of that respective category**. Vacant seats of Physically Handicapped and defence category candidates shall be treated as General- open.

Steps of Round – II

The admissions in Round II will be given in the following order-

1. Candidates already admitted to the ICT in the Round I shall be given first priority for change of course/ branch on Merit and without violating the reservation Criteria in each course/branch. The order in which seats are allotted will be exactly the same as in 1-A to 1-F except Gender reservation. Thus, there will be 2-A to 2-F sub rounds except gender reservation.
2. All other eligible candidates for admission in Round II shall be given second priority on Merit and without violating the reservation criteria.
3. It may be noted that the Number of vacant seats after Round-I will remain unaltered, however, due to internal change of course/branch by the candidates already admitted to the ICT, the availability of particular course/ branch will change. It will be known ONLY at the time of counselling.

The candidates are required to submit the documents specified in Annexure I along with the prescribed fee at the time of counselling.

8.6.3. MHT-CET Based Admission Round - III:

In case any seats are vacant after Round-II, Round-III will be conducted as per schedule in the same manner as that of Round-II.

NOTES:-

1. Candidates must report as per his/her scheduled time. Candidates who report late during Counselling will be considered for Seats available at that time.
2. **After completion of the admission process even if any seat remain vacant due to cancellation or due to any other reason, no additional admission rounds will be conducted to fill the vacancies and APCI shall be frozen.**

8.7. FEES, CONCESSIONS, CANCELLATIONS AND REFUND:

8.7.1 Fees prescribed:

The candidates admitted during 2012-13 are required to pay fees as shown in following table. However revision in fees, if any, by the State Government will be binding on the students who will be admitted in the year 2012-13.

Sr. No.	Fees	MHT-CET [Open category]	MHT-CET [Beneficiary Under TFWS]	MHT-CET & AIEEE [Reserved Category From Maharashtra State Only]	AIEEE [All Open Category and Reserved Category From Other Than Maharashtra State]
1.	Tuition fee	Rs.15,000/-	Nil	Nil	Rs.15,000/-
2.	Development fee	Rs.19,150/-	Rs.19,150/-	Nil	Rs.19,150/-
3.	Other fees	Rs.14,110/-	Rs.14,110/-	Rs.50/-	Rs.14,110/-
4.	Library Deposit	Rs.500/-	Rs.500/-	Rs.500/-	Rs.500/-
5.	Student Diary	Rs.300/-	Rs.300/-	Rs.300/-	Rs.300/-
6.	Alumni Asso.	Rs. 525/-	Rs. 525/-	Rs. 525/-	Rs. 525/-
GRAND TOTAL		Rs. 49,585/-	Rs. 34,585/-	Rs. 1,375/-	Rs. 49,585/-
Eligibility fee of Rs. 500/- is applicable to candidates other than Maharashtra State Board					

The fees such as Development fees and other fees which are not reimbursed by the Govt. of Maharashtra during subsequent years of the course will have to be paid by all the students.

Notes:-

- For confirmation of seat allotted, all candidates have to submit immediately a Demand Draft/ Pay Order in favour of '**Institute of Chemical Technology, Mumbai**', payable at Mumbai, of appropriate values as shown in above TABLE.
- The candidates who will be beneficiary under TFWS Scheme will not be charged tuition fees for admission. The candidate applying for TFWS benefit should bring as two separate DDs of Rs. 15,000/- and Rs. 34,585/-. In case the TFWS is not available at the point of his/her merit, he/ she shall have to pay full fees.
- Candidate who is Domicile of Maharashtra state and belonging to Backward Class category, if admitted through MHT-CET or AIEEE quota, will be eligible for fee concessions as applicable by Maharashtra State rules.
- Candidates claiming fee concession under Backward Class category shall produce the Caste Validity Certificate at the time of submission of application form. Candidates claiming fee concession under OBC, SBC, VJ/ DT NT(A), NT(B), NT(C) and NT(D) category shall also produce Non-Creamy layer certificate Valid up to 31st March 2013.
- Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).

8.7.2 Library Deposit:

Library Deposit received from the students shall be refunded after successful completion of the course or after cancelling the admission. Unless there is any recovery, no deduction shall be made from the Library Deposit. However, the amount of Library Deposit shall be credited to institute, if the candidate does not apply for refund, within 3 complete financial years after the student actually leaves the institution; or, within 3 complete financial years after the date of successful completion of the course, whichever is earlier.

8.7.3 Reimbursement of Tuition Fee:

Candidates claiming concession under the categories of EBC and sons and daughters for teaching and non-teaching staff of primary, secondary and higher secondary schools shall pay entire fee as applicable at the time of admission and subsequently candidates have to apply to the respective authorities for reimbursement of tuition fees. The quantum of reimbursement received by the institute from the concerned authorities shall be disbursed to the candidate.

8.7.4 Cancellation of Admission and Refund of Fees:

Refund of tuition fee, development and other fees after cancellation of admission secured at ICT. (AICTE guidelines No. AICTE / Legal/ 04(01)/ 2007, April 2007)

Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed Proforma - E and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below –

Sr. No.	Situation	Refund
1	Request received before date of start of Academic session and seat could be filled by the institute on or before MHT-CET Round III.	Entire fee less Rs.1000/-
2	Request received after the start of Academic session and seat could be filled by the institute on or before MHT-CET Round-III.	Entire fee less the total fee on Pro rata basis. (Tuition, development, other and hostel fee)
3	Request received before/ after the start of Academic session and seat could not be filled by the institute in MHT-CET Round-III.	No refund (except Library deposit)

Notes:

1. Academic session means start of lectures and practicals.
2. For calculation of amount on the pro-rata basis, one month shall be treated as one unit e.g. if the candidate cancels the admission on third day after start of academic session and seat could be filled before the cut off date, then cancellation charges will be the higher amount of (Total fees) /12 or Rs. 1000/-.

NO CHANGE OF COURSE IS PERMITTED AFTER THE LAST ROUND IS OVER OR AFTER THE COMPLETION OF THE FIRST YEAR OF THE COURSE.

9. MASTER'S DEGREE PROGRAMMES:

COURSES OF STUDIES, ADMISSION CRITERIA AND CAPACITY

1. All Full- time Master's courses are Two-Years Semesterised programmes [partly by papers (two semesters) and partly by thesis (two semesters)] with fellowship for GATE/ GPAT qualified candidates.
 2. All Sponsored Master's courses are Three-Years Semesterised programmes for sponsored candidates [partly by papers (four semesters) and partly by thesis (two semesters)] without fellowship.
 3. All M. Sc. courses are Two- Years Semesterised programmes only by papers.
- (See **Table 9.1** below for different courses).

TABLE 9.1: MASTERS DEGREE COURSES

SR. NO.	DEGREE	BRANCH	INTAKE		
			OPEN	SC	ST
COURSES WITH FELLOWSHIP					
1.	M. Chem. Engg (Full-time 2-years)	Chemical Engineering	18*	03*	01*
2.	M. Tech. (Full-time 2-years)	Dyestuff Technology	04*	06*	04*
3.		Fibres and Textile Processing Technology	09*		
4.		Food Engineering and Technology	04*		
5.		Oils, Oleochemicals and Surfactants Technology	04*		
6.		Pharmaceutical Sciences & Technology	04*		
7.		Polymer Engineering and Technology	04*		
8.		Surface Coating Technology	04*		
9.	M. Pharm. (Full-time 2-years)	Pharmaceutics	03*		
10.		Pharmaceutical Chemistry	03*		
11.		Medicinal Natural Products@	02*		
12.	M.E. (Plastic Engg.) (Full-time 2-years)	General Engineering	05*		
13.	M. Tech. (Full-time 2-years)	Bioprocess Technology	24#	04#	02#
14.		Food Biotechnology	08€	01€	01€
15.		Green Technology		20β	
16.		Perfumery & Flavour Technology		5¥	
COURSES WITHOUT FELLOWSHIP					
17.	M. Chem. Engg. (Sponsored 3-yrs)	Chemical Engineering	10		
18.	M. Tech. (Sponsored 3-years)	Dyestuff Technology	10		
19.		Fibres and Textile Processing Technology	10		
20.		Food Engineering and Technology	10		
21.		Oils, Oleochemicals and Surfactants Technology	10		
22.		Pharmaceutical Sciences & Technology	10		
23.		Polymer Engineering and Technology	10		
24.		Surface Coating Technology	10		

SR. NO.	DEGREE	BRANCH	INTAKE		
			OPEN	SC	ST
COURSES WITHOUT FELLOWSHIP					
25.	M.E. (Plastic Engg.) (Sponsored 3-years)	General Engineering	10		
26.	M. Tech. (Sponsored 3- years)	Green Technology	30		
27.		Perfumery & Flavour Technology	10		
28.	M.Sc. (Full-time 2-years) (by papers)	Chemistry	20		
29.		Engineering Mathematics	20		
30.		Physics	20		
31.		Textile Chemistry	20		

* The tentative seat distribution given is for intake (Sr. No. 1-12 in Table 9.1) of GATE/ GPAT qualified candidates eligible to receive UGC Fellowship (Subject to sanction).

The Vice-Chancellor, ICT reserves the right to change the course/ branch wise distribution of these fellowships, based on availability of the candidates. The selection for the UGC Fellowships shall be based on the GATE/ GPAT score (Level 1- Table 9.2) and the performance in the Institute's written test (Level 2 and Level 3 – Table 9.2), as the case may be.

@ Medicinal Natural Products" includes the subjects related to Pharmacognosy and Pharmacology.

The seat distribution given is for intake (Sr. No. 13 in Table 9.1) of GATE/ GPAT qualified candidates eligible to receive DBT Fellowship.

€ The seat distribution given is for intake (Sr. No. 14 in Table 9.1) of GATE qualified candidates eligible to receive DBT Fellowship.

β (Sr. No. 15 in Table 9.1). Efforts are underway to get fellowships sanctioned. At the moment, the ICT will not guarantee any fellowship for this programme.

¥ (Sr. No. 16 in Table No. 9.1) Subject to availability of fellowships from FAFFI, ICEOFF.

- The fee structure for Sponsored 3 - years Master's courses (Sr. No. 17 - 25, 26 and 27 in Table 9.1) is different and no fellowships are available to these students.

- No fellowships are available to any of the M. Sc. Courses by papers (Sr. No. 28 - 31 in Table 9.1).

9.1 Eligibility Criteria for the Admission (Indian Nationals)

9.1.1 M.Chem.Engg., M.Tech.

(Sr. Nos. 1-8 Full time 2-years and Sr. Nos. 17-24 Sponsored 3-years in Table 9.1)

The candidate should have passed any one of the following Bachelor's degrees of the ICT or any equivalent examination of a post-HSSC four-year degree course of IIT/NIT or any University recognized by the UGC, with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State].

Additionally, Candidates from the following different courses will be eligible for admission to M. Chem. Engg. course at ICT only if they have undergone "minimum 120 hours of class-room teaching /contact hours of Mathematics course(s) at the UG level.

- B. Chem.Engg. or B.E. / B.Tech. in Chemical Engineering/ Biotechnology/ Biochemical Engg.
- B. Sc. (Tech.) (Technology of Intermediates and Dyestuff) / B.Tech. (Dyestuff Technology).
- B. Tech. (Textile Processing/ Textile Chemistry), B.Sc. (Tech.) (Textile Processing / Chemistry), B.Text. (Textile Chemistry), B.E. (Textile Chemistry or Textile Technology), B.Tech. (Textile Chemistry or Textile Technology), B.Tech. (Fibres and Textile processing Technology/ Fibre Technology) with significant emphasis on chemical processing of textiles.

- iv. B.Tech. (Food Engineering and Technology) or B.E./ B.Tech. in Food Engineering/ Food Technology/ Food Science/ Food Process Technology/ Food Process Engineering, or B.Sc. (Tech.) (Food Technology).
- v. B.Sc. (Tech.) (Oils Technology) or B. Tech. (Oils, Oleochemicals and Surfactants Technology).
- vi. B.Sc. (Tech.) (Pharmaceutical Sciences and Technology) or B. Tech. (Pharmaceutical Chemistry and Technology).
- vii. B.Tech. (Polymer Engineering and Technology /Surface Coating Technology); B.Sc. (Tech.) (Technology of Plastics or Technology of Paints), B.Sc. (Tech.) (Rubber Technology), B.E. (Polymer Engg. / Plastic Engg.), B.E. (Petrochemical Engineering/ Technology).
- viii. B.Sc. (Tech.) (Paints Technology / Plastics Technology), B.Tech. (Paints Technology / Polymer Engineering and Technology), B.Chem.Tech. (Paints Technology / Polymer Engineering / Polymer Technology / Plastic Technology), B.E. (Paints Technology / Polymer Engineering / Polymer Technology / Plastic Technology / Plastic Engineering).

9.1.2 M.Pharm. (Sr. Nos. 9-11 Full time 2-years in Table 9.1)

The candidate should have passed the Bachelor's degree in Pharmacy (B. Pharm.) of the ICT or any UGC recognized University, with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State].

The following THREE specializations are offered for M. Pharm.

- Pharmaceutics (Sr. No. 9 in Table 9.1)
- Pharmaceutical Chemistry (Sr. No. 10 in Table 9.1)
- Medicinal Natural Products (Sr. No. 11 in Table 9.1)

For specialization, option form will be given at the time of admission offered. Once a candidate is offered a seat in any one specialization, according to the availability of seats at the time of allotment and in the order of merit and preference given by the candidate, no request for any transfer or change of preference shall be entertained. However, if seat falls vacant, the candidate shall be transferred to the higher preference and it shall remain binding on the candidate.

9.1.3 M.E. (Plastic Engineering) (Sr. No. 12 Full time 2-years and Sr. No. 25 Sponsored 3-years in Table 9.1)

The candidate should have passed B.E. or B.Tech. in Mechanical engineering/ Electrical Engineering/ Plastics engineering / Polymer engineering / Production Engineering /Chemical Engineering/ Chemical Plant Engineering of any post-HSSC for four year degree course of IIT/NIT or any University recognized by the UGC, with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State].

9.1.4 M.Tech. (Bioprocess Technology) (Sr. No. 13 Full time 2-years in Table 9.1)

The eligibility criterion for the admission to this course is as mentioned in 9.1.1 above. In addition, candidates with B.Pharm. degree of the ICT or any other equivalent degree of any University recognized by the UGC, of four-year degree course after HSSC/Std. XII, with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State] are eligible.

9.1.5 M.Tech. (Food Biotechnology) (Sr. No. 14 Full time 2-years in Table 9.1)

The candidate should have passed B. Tech. degree in Food Engineering and Technology of the ICT or any other equivalent degree of any University recognized by the UGC, of four-year degree course after HSSC/Std. XII,

with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State].

OR

B.Tech./ B.Sc. (Tech.) /B.E. in Food Engineering and Technology /Food Engineering /Food Technology /Food Science /Food Process Technology /Food Process Engineering/ Dairy Technology/ Biotechnology/ Chemical Engineering/ Biochemical Engineering/ Pharmaceutical Technology/ Oil Technology or any equivalent degree of full four-year's duration of any University recognized by the UGC. Three year degree programmes in these disciplines are not recognized for admission.

9.1.6 M.Tech. (Green Technology) (Sr. No. 15 Full time 2-years and Sr. No. 26 Sponsored 3-years in Table 9.1)

The candidate should have passed any one of the following Bachelor's/ Master's degrees of ICT or any equivalent examination of IIT/NIT or any University recognized by the UGC, with first class (i.e., 60% of the marks in aggregate or equivalent CGPA). [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State].

B.Chem. Engg./ B. Sc.(Tech.)/B.Tech (in any branch of Chemical Technology)/ B. Pharm.

OR

M. Phil. (Chemistry, Biology, Microbiology, Biotechnology, Biochemistry)

OR

M.Sc. (Chemistry, Biology, Microbiology, Biotechnology, Biochemistry).

9.1.7 M.Tech. (Perfumery and Flavour Technology) (Sr. No. 16 Full time 2-years and Sr. No. 27 Sponsored 3-years in Table 9.1)

The candidate should have passed B. Sc. (Tech.)/ B. Tech. Degree in Dyestuff Technology/ Food Engineering & Technology / Food Engineering/ Oils, Oleochemicals & Surfactants Technology/ Pharmaceuticals Technology of the ICT or any equivalent examination of four-year degree course of any University recognized by the UGC, after HSSC/Std. XII, with first class (aggregate of 60% of marks and above or an equivalent CGPA). [55% for the backward class candidate only from Maharashtra State].

9.1.8 Master's ([Sponsored 3- Years courses] (Sr. Nos. 17-27 in Table 9.1)

These courses are meant only for industry / academic - sponsored candidates. Candidates must possess two years teaching or industrial experience. The eligibility criteria shall be as described in Section 9.1.1, 9.1.3, 9.1.6 and 9.1.7 above.

All regular admissions criteria are applicable to these candidates.

In addition, for such candidates, the following shall be applicable:

1. The candidate should be a) full time industrial/ R& D employee with at least two years experience in a chemical or allied industry or dealing with chemical business or b) a permanent teacher having full time teaching experience of at least two years in Engineering and Technology College.
2. The industry/ college management should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned teacher and his supervisor, which will be approved by the Head of Department/ Centre Co-coordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
3. Candidates can work in the ICT laboratories during holidays and also after their office hours. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his/ her supervisor which will be authenticated by the Head of Department/Centre Co-coordinator.
4. Part of the experimental work could be allowed to be done in their premises for which their management will provide them with necessary facilities.

9.1.9 M.Sc. (Chemistry) by papers, Full time 2-years (Sr. No. 28 in Table 9.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc. with Chemistry at the third year of the course of any University recognized by the UGC; and passed the qualifying examination with at least 55% of the marks in aggregate or equivalent CGPA (50% for the backward class candidates only from Maharashtra State) are eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

9.1.10 M.Sc. (Engineering Mathematics) by papers, Full time 2-years (Sr. No. 29 in Table 9.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc. with Mathematics at the third year of the course and any two of chemistry, physics and statistics as the two other subjects at the first and second years of any University recognized by the UGC; and passed the qualifying examination with at least 55% of the marks in aggregate or equivalent CGPA (50% for the backward class candidates only from Maharashtra State) are eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

9.1.11 M.Sc. (Physics) by papers, Full time 2-years (Sr. No. 30 in Table 9.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc. with Physics at the third year of the course of any University recognized by the UGC; and passed the qualifying examination with at least 55% of the marks in aggregate or equivalent CGPA (50% for the backward class candidates only from Maharashtra State) are eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

9.1.12 M.Sc. (Textile Chemistry) by papers, Full time 2-years (Sr. No. 31 in Table 9.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc. with Chemistry at the third year of the course of any University recognized by the UGC; and passed the qualifying examination with at least 55% of the marks in aggregate or equivalent CGPA. [50% for the backward class candidates only from Maharashtra State] are only eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

9.2 GRADUATE APTITUDE TEST IN ENGINEERING (GATE) & GRADUATE PHARMACY APTITUDE TEST (GPAT) FOR THE UGC FELLOWSHIPS

- 1) The candidates seeking admission to the degrees of M.Chem.Engg./ M.Tech./ M.E.(Plastic Engg.) are required to qualify the **Graduate Aptitude Test in Engineering (GATE)** conducted at the national level.
- 2) The candidates seeking admission to M.Pharm. are required to qualify the **Graduate Pharmacy Aptitude Test (GPAT)** conducted at the national level. GPAT qualified candidates are also eligible for admission to M.Tech (Bioprocess Tech.) and M.Tech. (Green Tech.) courses.
- 3) Rules for availing GATE/ GPAT scholarships:
 - a. The Fellowships (subject to sanction and availability) are awarded only to the candidates who have passed the GATE/GPAT examination with valid score and on the basis of merit. NON GATE/NON-GPAT candidates, if admitted, are not eligible for these Fellowships.
 - b. The student must give an undertaking to the effect that he/she would not leave the course midway in order to be eligible to receive the Fellowship. During the course of studies, the student shall not receive any emoluments, salary, stipend, etc., from any other source.
 - c. The student receiving the fellowship must secure minimum 60% marks or CGPA of 6.00 during the first and the second semester examinations to become eligible for continuation of the Fellowship at the existing rate during the second, third and fourth semesters, respectively.
 - d. According to UGC rules, a student who secures marks below 60% or CGPA below 6.00 in the first and/or second semester examination shall be eligible to get a reduced fellowship at the rate of Rs. 1,000/- p.m. only.
 - e. In case of failure at the semester I examination, the fellowship shall be discontinued during the remaining period of the course. The fellowship may also be discontinued at any kind of misconduct by the student receiving the same. The fellowship once discontinued shall not be restored, even if a student secures 60% marks or CCGPA of 6.00 at the second semester.
 - f. The Fellowship amounts are normally disbursed every month after starting the Fellowship, subject to receiving the grant from the UGC. The fellowship amount shall be disbursed only after receiving the appropriate grant from the UGC.
- **The Institute shall not be responsible for non-receipt of fellowship grant from UGC in time. The students will be required to give an Undertaking in writing to this effect.**

9.3 ADMISSION CRITERIA

Admission to the Master's courses (Sr. No. 1- 15 in Table 9.1) are available subject to the rules given below:

- These admissions will be based on GATE/GPAT score, as applicable.
- The first preference for admission to a course/ branch will be given to the candidates qualifying Bachelor's course with valid GATE/GPAT score, as applicable from the respective discipline (Level 1 - Table 9. 2).
- Only after filling the vacancies by such candidates, the candidates possessing a qualifying Bachelor's degree with valid GATE/GPAT score from any other course/branch will be considered for admission. (Level 2 - See Table 9. 2)
- Preparation of the merit list will be done at two levels, Level 1 and Level 2 separately.
- Sponsored candidates without valid GATE/ GPAT score will be treated as Level 2 and/or Level 3, as applicable and separate merit lists will be generated for them.

Level 1: Merit list will be prepared on valid GATE/ GPAT score in the specified subject and no written test will be conducted. Admissions through Level 2 shall be made only if any seats remain vacant after exhausting the merit list from Level 1.

Level 2: Merit list will be prepared on the basis of valid GATE score (in any subject) and written test (based on the syllabus specified by the Department for the course in which the candidate is seeking admission) on the basis of **70:30**. In case of interdisciplinary shift of course/ branch, interviews will be conducted to find the suitability of the candidate. There will be an external expert on the interview committee. However, no marks will be assigned to the interview.

Level 3: Merit list will be prepared on the basis of written test alone (based on the syllabus specified by the Department for the course in which the candidate is seeking admission).

Table 9. 2: Criterion for Preparation of Merit List

Department conducting the written test	Course in which the candidate is seeking admission	Preparation of first Merit list
Chemical Engineering	M.Chem.Engg.	Level 1 & 2
	M.Tech. in Bioprocess Technology	Level 2
Dyestuff Technology	M.Tech. in Dyestuff Technology	Level 2
	M.Tech. in Perfumery & Flavour Technology	Level 2
Fibres & Textile Processing Technology	M.Tech. in Fibres & Textile Processing Technology	Level 2
	M.Sc. in Textile Chemistry	Level 3
Food Engineering & Technology	M.Tech. in Food Engineering & Technology	Level 1 & 2
	M.Tech. in Food Biotechnology	Level 1 & 2
Oils, Oleochemicals & Surfactants Technology	M.Tech. in Oils, Oleochemicals & Surfactants Technology	Level 2
	M.Tech. in Pharmaceutical Science and Technology	Level 2
Pharmaceutical Sciences & Technology	M.Pharm.	Level 1
	M.Tech. in Polymer Engineering & Technology	Level 1 & 2
Polymer & Surface Engineering	M.Tech. in Surface Coating Technology	Level 1 & 2
	M.E. in Plastic Engineering	Level 2
General Engineering	M.Tech. in Green Technology	Level 2
	M.Sc. in Chemistry	Level 3
Chemistry	M.Sc. in Engineering Mathematics	Level 3
Mathematics	M.Sc. in Physics	Level 3
Physics		

- The admission procedure for M.Chem.Engg. M.Tech. and M.Pharm. courses will be conducted after declaration of GATE/GPAT results, as required. The candidates who are qualified with valid GATE/ GPAT score and appearing for final semester examination of the qualifying Bachelor's course must have obtained aggregate 60% of the marks or equivalent CGPA [55% of the marks or equivalent CGPA for the backward class candidate only from Maharashtra State] at the end of 6th semester of the qualifying Bachelor's course. Only a provisional admission will be offered in such cases. For confirmation of admission, at a later date, however, overall 60% of the marks in aggregate or equivalent CGPA [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State] are necessary at the qualifying examination.

- In case the candidate is admitted to a course/ branch other than the one in which he/ she has obtained qualifying Bachelor's degree, he/she will have to undergo at least **Three Make-Up Credit Courses** (to be decided by the department admitting such candidate).
- Preference will be given to GATE/GPAT qualified candidates; however, Non-GATE/ Non-GPAT candidates may also apply. The merit of Non-GATE candidates will be totally based on the written test designed on the basic course, the syllabus of which shall be provided by each Department and displayed on the ICT website.
- Design of written test would be such that basic knowledge in the discipline in which the candidate is seeking admission is tested. The syllabus for the written test will be available on the ICT website. The duration of test shall be 01 hour.
- The final merit lists would be prepared on the basis of the criteria given above.
- The group of selected candidates, unless selected on a specific project, may be given a presentation about all research activities in the department and available projects for selection of project/ guide. The final• The admission procedure for M.Chem.Engg. M.Tech. and M.Pharm. courses will be conducted after declaration of GATE/GPAT results, as required. The candidates who are qualified with valid GATE/ GPAT score and appearing for final semester examination of the qualifying Bachelor's course must have obtained aggregate 60% of the marks or equivalent CGPA [55% of the marks or equivalent CGPA for the backward class candidate only from Maharashtra State] at the end of 6th semester of the qualifying Bachelor's course. Only a provisional admission will be offered in such cases. For confirmation of admission, at a later date, however, overall 60% of the marks in aggregate or equivalent CGPA [55% of the marks in aggregate or equivalent CGPA for the backward class candidate only from Maharashtra State] are necessary at the qualifying examination.
- In case the candidate is admitted to a course/ branch other than the one in which he/ she has obtained qualifying Bachelor's degree, he/she will have to undergo at least **Three Make-Up Credit Courses** (to be decided by the department admitting such candidate).
- Preference will be given to GATE/GPAT qualified candidates; however, Non-GATE/ Non-GPAT candidates may also apply. The merit of Non-GATE candidates will be totally based on the written test designed on the basic course, the syllabus of which shall be provided by each Department and displayed on the ICT website.
- Design of written test would be such that basic knowledge in the discipline in which the candidate is seeking admission is tested. The syllabus for the written test will be available on the ICT website. The duration of test shall be 01 hour.
- The final merit lists would be prepared on the basis of the criteria given above.
- The group of selected candidates, unless selected on a specific project, may be given a presentation about all research activities in the department and available projects for selection of project/ guide. The final allotment of the research guides will be done by the Departmental committee based on the merit and preferences given by the candidate and admissible rules and regulations.
- All these rules also apply to the candidates who shall be conducting their research work leading to a Degree under any type of sponsored projects (Govt. or Private).
- The candidates who have cleared the qualifying examination in one sitting will be preferred.

9.4 APPLICATION PROCEDURE FOR MASTER'S COURSES

For admissions at the ICT for any of the Master's courses, a candidate should obtain appropriate application form(s) for the course to which he/she is seeking admission; along with Handbook. **(Refer time schedule for each of the following stages displayed on ICT website www.ictmumbai.edu.in)**

9.4.1 Step I: Purchase of Application Form

The candidate shall purchase and fill the appropriate application form/s, separate for each course of choice and separate for Full time and Sponsored courses, namely,

- M.Chem.Engg.
- M.Pharm.
- M.Tech. (each branch separately)
- M.E. (Plastic Engg.)
- M.Sc. (each branch separately)

The admission form and Handbook will be available for sale at the ICT counter by payment of cash. The fees for application along with Handbook are given elsewhere in this Handbook.

The forms may also be ordered by post or downloaded from the ICT web site, www.ictmumbai.edu.in. The payment, while ordering by post, should include the amount equal to the "By Post" amount and be made only by a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "**Institute of Chemical Technology, Mumbai**", payable at Mumbai and it is non-refundable and non transferable under any circumstances.

Payment by cheque or money order will not be accepted.

The admission form, requested by post, will be sent by **Registered Post Parcel** along with the Handbook.

9.4.2 Step I: Purchase of Application Form

All the relevant entries in the application form must be completed in legible handwriting or may be typewritten. Incomplete forms will be rejected and no correspondence will be made in this regard. **Writing contact details such as Mobile No./ Telephone No. and email address in the application form is essential. Do not leave any space blank.**

The duly filled form along with attested photocopies of required certificates to substantiate the claims made in their application form should be submitted, by the last date notified, at ICT counter or sent to the ICT by Post/ Courier, etc. along with a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "**Institute of Chemical Technology, Mumbai**", payable at Mumbai and it is non-refundable and non transferable under any circumstances. **Payment by cheque or money order will not be accepted.**

The application form has a tear-off receipt at the bottom with the application number. The receipt should be filled in by the candidate and shall be signed and stamped by the clerk at the counter while accepting the form. **This receipt should be preserved and the application number must be stated for any future correspondence.**

Applications received after the due date will not be considered for generating merit list. ICT is not responsible for the delay occurred by Post/ Courier, etc. Incomplete applications shall be rejected without entering into any correspondence with the applicant.

- The candidates seeking admission at the ICT must submit attested photocopies of all the documents as given in **Table 9.3** below along with the application form.
- Attachment of any certificates will not be accepted separately after submission of the application form.
- The candidates belonging to the SC/ ST categories will be required to submit **The Caste Certificate,**

the Caste/ Tribe Validity Certificate as applicable at the time of submitting the application form, failing which the category claimed, will not be granted and the **candidate will be treated as a General candidate.**

- The candidates shall not attach a copy of any other certificate which is not asked for, such as certificates for participation in sports, cultural activities, etc.
- The photocopies of certificates or documents attached to the application form should be attested by the Principal of the College or Gazetted Officer or Special Executive Magistrate or Head Master of a Secondary School or teaching staff of a Government /Govt. Aided College / Polytechnic not below the rank of a Lecturer.
- If the candidate produces any certificate, which is not in Marathi, Hindi or English language, authenticated Marathi, Hindi or English version of the same, duly attested by a Gazetted Officer shall also be produced.

TABLE 9.3: Documents to be attached with the Application form for PG admissions

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
I	All Candidates	1. SSC (Std. X) mark sheet, 2. HSSC (Std. XII) mark sheet, 3. All Mark sheets of Bachelor's Course 4. Bachelor's degree certificate 5. College Leaving / Transfer certificate 6. Migration certificate (within one month after confirmation of admission) 7. Industrial / Teaching experience/ Gap Certificate, if any 8. GATE/GPAT score card.
II	Backward class Candidates belonging to SC/ ST Categories	Caste certificate, Caste/ Tribe Validity certificate, as applicable. (In addition to the documents mentioned in Sr. No. I)
III	Backward class Candidates belonging to VJ/ DT (NT(A))/ NT(B)/ NT(C)/ NT(D)/OBC/ SBC categories (Maharashtra State candidates only)	Caste certificate, Caste/ Tribe Validity certificate, Non Creamy Layer Certificate valid up to 31st March 2013. (In addition to the documents mentioned in Sr. No. I)

- **Original certificates should not be attached with the application form. However, those must be made available at the time of admission, failing which the admission cannot be granted.**

9.5. Rules and Regulations about Reservation

Reservation in admission only for SC/ST categories on All India basis is applicable to all the Masters' courses M.Chem.Engg., M.Pharm., M.Tech.(all branches), M.E.(Plastic Engg.) M.Sc., as per the Government norms.

9.5.1 Caste Certificate and Caste/ Tribe Validity Certificate.

- a) **Caste Certificate:** The candidates belonging to the backward class categories will be required to submit the Caste Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.
- b) **Caste Validity Certificate:** The candidates belonging to the SC/ST category will be required to submit the Caste/Tribe Validity Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.

9.6 Fees, Concessions, Cancellations and Refund

9.6.1 Fees prescribed:

The candidates admitted in the first year during 2012-13 are required to pay fees as shown in following table:

Sr. No.	Fees	Open category and SC/ST candidates from 'Other Than State of Maharashtra'	Reserved Category Candidates from Maharashtra State Only
1.	Tuition fee	Rs. 15,000/-	Nil
2.	Development fee	Rs. 20,000/-	Nil
3.	Other fees	Rs. 10,000/-	Rs. 50/-
4.	Library Deposit	Rs. 500/-	Rs. 500/-
5.	Student Diary	Rs. 300/-	Rs. 300/-
6.	Alumni Asso.	Rs. 1,050/-	Rs. 1,050/-
	GRAND TOTAL	Rs. 46,850/-	Rs. 1,900/-
Eligibility fee of Rs. 500/- is applicable to candidates other than ICT students			

- The fee structure for M. Sc. by papers in Chemistry, Physics and Textile Chemistry will be same as above.
- The fees for M. Sc. by papers in Engineering Mathematics are Rs. 25,000/- per year. (Additional Fees at Sr. No. 4, 5, 6 in above table and eligibility fee, as applicable).
- The fees for 3-years sponsored courses shall be Rs. 1,00,000/- per year. (Additional Fees at Sr. No. 4, 5, 6 in above table and eligibility fee, as applicable).
- The fees such as Development fees and other fees which are not reimbursed by the Govt. of Maharashtra during subsequent years of the course will have to be paid by all the students.
- No fellowships are available for Sponsored 3 - years Master's courses (Sr. No. 17 - 25, 26 and 27 in Table 9.1)

Notes:-

- a) For confirmation of seat allotted, all candidates have to submit Demand Draft/ Pay Order in favour of **'Institute of Chemical Technology, Mumbai'**, payable at Mumbai, of appropriate values as shown in above TABLE.

- b) Candidate who is Domicile of Maharashtra state and belonging to Backward Class category if admitted, will be eligible for fee concessions as applicable by Maharashtra State rules.
- c) The SC/ST Candidates belonging to 'other than state of Maharashtra' will have reservation in admission only and they will have to pay full fees at the time of admission. They should submit their fee concession claims to their respective state Govt. through ICT office. If and when their fee concession amount is received, they will be given reimbursement of the due fees paid.
- d) Candidates claiming fee concession under Backward Class category shall produce the Caste Validity Certificate at the time of submission of application form. Candidates claiming for fee concession under OBC, SBC, VJ/ DT NT(A), NT(B), NT(C) and NT(D) category shall also produce Non-Creamy layer certificate Valid up to 31st March 2013.
- e) Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).

9.6.2 Library Deposit:

Library deposit received from the students shall be refunded after successful completion of the course or after cancelling the admission. Unless there is any recovery, no deduction shall be made from the Library deposit. However, the amount of Library deposit shall be credited to institute, if the candidate does not apply for refund, within 3 complete financial years after the student actually leaves the institution; or, within 3 complete financial years after the date of successful completion of the course, whichever is earlier.

9.6.3 Reimbursement of Tuition fee:

Candidates claiming concession under the categories of EBC and sons and daughters for teaching and non teaching staff of primary, secondary and higher secondary schools shall pay entire fee as applicable at the time of admission and subsequently candidates have to apply to the respective authorities for reimbursement of tuition fees. The quantum of reimbursement received by the institute from the concerned authorities shall be disbursed to the candidate.

9.6.4 Cancellation of admission and Refund of fees:

Refund of tuition fee, development and other fees after cancellation of admission secured at ICT

Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed **Pro forma - E** and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below

Sr. No.	SITUATION	REFUND
1	Request received before the date of start of academic session.	Entire fee less Rs.1000/-
2	Request received after the date of start of for academic session.	Entire fee less the total fee one month. (Tuition, development, other and hostel fee)

3	Request received after 30 days from the date of start of academic session.	No refund (except Library Deposit)
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Notes:

- 1) Academic session means start of lectures, which will be displayed on the ICT website and Notice Board.
- 2) For calculation of amount on the pro-rata basis, one month shall be treated as one unit.

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.



10. Doctor of Philosophy (Ph. D.) Programmes

10.1 Courses of Doctoral Studies

Table 10.1 shows the various doctoral programmes (by research) in various disciplines in Science and Technology. Apart from original research, all Ph.D. programmes have a course work component effective from September 2009.

TABLE 10.1: DOCTORAL (Doctor of Philosophy) DEGREE COURSES

No.	DEGREE	COURSE
1.	Ph. D. (Tech.) in Chemical Technology	Bioprocess Technology
2.		Chemical Engineering
3.		Dyestuff Technology
4.		Fibres and Textile Processing Technology
5.		Food Biotechnology
6.		Food Engineering and Technology
7.		Green Technology
8.		Nanotechnology
9.		Oils, Oleochemicals & Surfactants Technology
10.		Pharmacy@
11.		Pharmaceutical Technology
12.		Polymer Engineering and Technology
13.		Surface Coating Technology
14.		Plastic Engineering
15.	Ph. D. (Tech.) in Technology	Civil Engineering
16.		Electrical Engineering
17.		Electronics Engineering
18.		Mechanical Engineering
19.	Ph. D. (Sci.)	Biochemistry
20.		Biotechnology
21.		Chemistry (Inorganic/Organic/Physical)
22.		Food Science
23.		Mathematics
24.		Physics
25.		Textile Chemistry

Intake Capacity: There is no prescribed intake capacity for any of the Doctoral courses/ branches since the number of available fellowships and the requirement by the research supervisors varies every year. Several research projects, either funded by various government agencies or private industries, have provisions for fellowships. No admission to a Ph.D. course is done without fellowship, although the amounts vary depending on the source of funding and the candidate's qualifications.

@ **Ph. D. (Tech) in Pharmacy** is offered in four different branches: (i) Pharmaceutics, (ii) Pharmaceutical Chemistry, (iii) Pharmacology and (iv) Pharmacognosy. Candidates shall fill up a single form for all these courses. Separate written tests will be conducted for each of the above branches. Candidates may appear for written tests in one or more of these and a separate merit list will be prepared for each.

- Candidates admitted to **Ph.D. (Tech.) in Chemical Technology (Sr. No. 1 - 14)** conduct research under the recognized faculty from the Department of Chemical Engineering, all Departments of Chemical Technology, DBT-ICT Centre for Energy Bio-sciences and ICT-DAE Centre for Chemical Engineering Education & Research.
- Candidates admitted to **Ph.D. (Tech.) in Technology (Sr. No. 15 - 18)** conduct research under the recognized faculty from the Department of General Engineering.
- Candidates admitted to **Ph.D. (Sci.) in Biochemistry (Sr. No. 19), Biotechnology (Sr. No. 20), Chemistry (Inorganic/Organic/Physical) (Sr. No. 21)** conduct research under the recognized faculty from the departments which include Department of Chemistry, Department of Chemical Engineering, all Departments of Chemical Technology, DBT-ICT Centre for Energy Bio-sciences, ICT-DAE Centre for Chemical Engineering Education and Research.
- Candidates admitted to **Ph.D. (Sci.) in Food Science (Sr. No. 22)** conduct research under the recognized faculty from the Department of Food Engineering & Technology. **[See Section 10.3.1]**
- Candidates admitted to **Ph.D. (Sci.) in Mathematics (Sr. No. 23)** conduct research under the recognized faculty from the Department of Mathematics.
- Candidates admitted to **Ph.D. (Sci.) in Physics (Sr. No. 24)** conduct research under the recognized faculty from the Department of Physics.
- Candidates admitted to **Ph.D. (Sci.) in Textile Chemistry (Sr. No. 25)** conduct research under the recognized faculty from the Department of Fibres & Textile Processing Technology. **[See Section 10.3.1]**

10.2 Fellowships for Doctoral Programmes

10.2.1 UGC-SAP Meritorious Fellowships for Ph.D. Programmes:

The Empowered Committee of the UGC has taken several innovative steps to encourage Science and Technology research and building of infrastructure in Universities and Colleges. Thus, UGC has been providing these fellowships to all Departments recognized under Special Assistance Programme (SAP) or non-SAP Departments. The number of fellowships sanctioned by UGC for a particular department depends on its track record of producing Ph.D.s, number of publications in peer reviewed journals, and the SAP status. Those qualified with a GATE/ GPAT score receive fellowship with HRA, whereas non-GATE students get a consolidated amount.

1. 20 UGC-SAP fellowships in Department of Chemical Engineering
2. 15 UGC-SAP fellowships in the Centre for Physico-chemical Aspects of Textiles, Fibres, Dyes and Polymers to be distributed among the Dept. of Fibres & Textile Processing Technology and Dept. of Dyestuff Technology).
3. 15 UGC-SAP fellowships in Department of Food Engineering & Technology
4. 15 UGC-SAP fellowships in Department of Pharmaceutical Sciences & Technology
5. 10 UGC-SAP fellowships in Department of Chemistry
6. 05 UGC-SAP fellowships in Department of Polymer and Surface Engineering
7. 02 UGC-Non-SAP fellowships in Department of Oils, Oleochemicals & Surfactants Technology
8. 15 UGC-SAP fellowships for Green Technology (with University of Mumbai)

10.2.2. Inspire Fellowship from Department of Science and Technology, Govt. of India:

First Rank holders in Bachelor's degree or Master's degree in Engineering/ Technology/ Pharmacy of any UGC/ AICTE recognized Indian University or Institute/ Statutory Body in India can apply for award of INSPIRE FELLOWSHIP, a scheme of the Government of India to avail research grants for a period of five years for doing research leading to Ph.D. (Tech.) degree. The Bachelor's degree holders with INSPIRE FELLOWSHIP need to register for Integrated Ph.D. (Tech.) degree from the beginning of the research. Application format and necessary documents for application are available on the website www.inspire-dst.gov.in. Eligible candidates may even apply directly to DST and after getting provisional acceptance, they may be considered for admission at ICT, subject to fulfillment of other criteria including institutional entrance tests.

10.3 Eligibility Criteria for the Admissions:

10.3.1. A Eligibility Criteria for Admission to Ph.D. (Tech.)/ Ph.D. (Sci.)

- For **Ph.D. (Tech.)** courses at Sr. No. 1-14 in Table 10.1, the candidate must have passed the Master's degree examination in the Chemical Engineering / Chemical Technology (any branch at ICT)/ Pharmacy/ Plastic Engineering of ICT or any other UGC recognized University as equivalent thereto with First Class [60% marks or equivalent CGPA (55 % marks in case of reserved category or equivalent CGPA)].
- For **Ph.D. (Tech.)** courses at Sr. No. 15-18 in Table 10.1, the candidate must have passed the Master's degree examination in Civil/ Electrical/ Electronics/ Mechanical/ Production/ Industrial/ Instrumentation Engineering from any UGC recognized University as equivalent thereto with First Class [60% marks or equivalent CGPA (55 % marks in case of reserved category or equivalent CGPA)].
- For **Ph.D. (Sci.)** courses at Sr. No. 19-21, 23 and 24 in Table 10.1, the candidate must have passed the Master's degree examination in the respective faculty of Science of any University recognized by UGC with minimum of 55 % marks or equivalent CGPA (50 %marks or equivalent CGPA for reserved category). ICT reserves the right to call a candidate for entrance examinations based on the number of seats available for Ph.D. (Science) admission at ICT. The application fees of the candidates who are not called for entrance examinations will be refunded (after deducting 10% administrative charges) in due course of time.
- For **Ph.D. (Sci.)** course at Sr. No. 22 in Table 10.1, in Food Science the candidate must have passed the M. Sc. examination in Food Science, Agricultural Science, other allied fields like Dairy Science, Sugar, other Food Commodity Sciences, Post-Harvest Technology, Food Processing, Nutrition and Home science of any University recognized by UGC with minimum of 60 % marks or equivalent CGPA (55 % marks or equivalent CGPA for reserved category).
- For **Ph.D. (Sci.)** course at Sr. No. 25 in Table 10.1, in Textile Chemistry, the candidate must have passed the M. Sc. examination in Textile Chemistry/ Textile Clothing/ Life Sciences/ Biochemistry/ Microbiology/ Chemistry of ICT or of any University recognized by UGC with minimum of 60% marks or equivalent CGPA (55 % marks or equivalent CGPA for reserved category).

Further, candidates from any of these streams must clear the written test and interviews of the institute which are based on the syllabus of M.Sc. (Textile Chemistry).

- The candidates who have passed the Master's degree by Research of any University recognized by UGC may be considered for admission only if they hold fellowship from any recognized funding agency.
- In addition, the candidates must undergo institutional written test and interview to qualify for admission through merit.
- The candidates qualified in NET/ GATE/ GPAT/ CSIR/ DBT/ – JRF examinations or other equivalent examinations and holding valid fellowship will be preferred.

Apart from regular full time on- campus candidates, following candidates are also eligible to take admission to Ph.D. (Tech.)/ Ph.D. (Sci.):

- (I) Permanent full time teachers of College/ Institute (See 10.3.1.B for details)
- (ii) Employees of National laboratories/ Government Institutions (See 10.3.1.C for details)
- (iii) Employees of Industry (See 10.3.1.D for details)

NOTE:- The selection of all the candidates for Ph.D. (Tech.) including GATE/ GPAT- JRF qualified candidates shall be based on the score in the qualifying examination, performance in the written test and interview (if short listed in written test) conducted by the Institute. However, Persons qualified in NET/ CSIR/ DBT-JRF and holding valid fellowship are exempted from the Written Test.

These rules also apply to the candidates who conduct research on sponsored projects (Govt. or Private) leading to a degree.

10.3.1. B Eligibility Criteria for Teachers for admission to Ph. D. (Tech.) / Ph. D. (Sci.)

Following are the requirements in addition to the criteria mentioned under heading 10.3.1. A above.

- a) The candidate should be a permanent teacher having full time teaching experience of at least two years in Degree College or five years in Junior college.
- b) Teachers who have been in the service of any Engineering and Technology College approved by the UGC/ AICTE are entitled for registration for Ph D. (Tech.) with the faculty of the ICT.
- c) Teachers who have been in the service of any Science College approved by the UGC are entitled for registration for Ph D. (Sci.) with the faculty of the ICT.
- d) The college management should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned teacher and his supervisor, which will be approved by the Head of Department/ Centre Co-ordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
- e) Teachers can work in the ICT laboratories during vacations and holidays and after their office hours if they come from colleges in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
- f) A maximum period of 5 years extendable by 1 year will be allowed in case of teachers who carry out research part time but put in at least 3 months full time work in a year in the ICT labs. In such cases, part of the experimental work could be allowed to be done in their premises for which their management will provide them with necessary facilities. The characterization and other sophisticated analysis must be done in ICT. Exclusive theoretical work should be discouraged as much as possible to give the teachers a hands on experience and to bring them into an environment of research. However, this will be left to the individual supervisor's discretion, who should take abundant precaution to avoid unethical practices.
- g) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- h) Teachers registering themselves as Ph.D. student of ICT should not register any Masters students with themselves in his/her own college to avoid research by proxy. The candidate as well as his/her supervisor must give an undertaking, with a counter signature of the concerned principal to this effect to avoid degeneration of this novel concept into a Ph.D. by unscrupulous means.
- i) If the teacher intends to join the ICT on leave without pay for a period of three years, then the candidate may be eligible for the UGC fellowship under our SAP programme, provided he/ she successfully clears the Institutional entrance tests.

- j) All regular admissions criteria are applicable to these candidates and they must also do the course work required for Ph.D. programme.

10.3.1. C Eligibility Criteria for Candidates Working in National Laboratories/ Government Institutions for Admission to Ph. D. (Tech.) / Ph. D. (Sci.)

Following are the requirements in addition to the criteria mentioned under heading 10.3.1. A above.

- a) The candidate should be a permanent employee working in National Laboratories/ Government Institutions having minimum 2 years of service.
- b) The management of the organisation should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned candidate and his supervisor, which will be approved by the Head of Department/ Centre Co-coordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
- c) Such candidates can work in the ICT laboratories during vacations and holidays and after their office hours if they come from organisation in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-coordinator.
- d) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- e) All regular admissions criteria are applicable to these candidates and they must also do the course work required for Doctoral programme.

10.3.1. D. Admission for Industry -sponsored in-house candidates to Ph.D. (Tech.) / Ph.D. (Sci.)

Following are the requirements in addition to the criteria mentioned under heading 10.3.1. A above.

1. The candidate should have minimum 2 years of industrial experience.
2. Industry should have a well-equipped Research & Development and Quality Control laboratory with at least one Ph.D. employee working in the set up in the relevant area.
3. Industry is required to get recognition from ICT by the following procedure:
 - i. After receiving request from an industry, a Committee appointed by the Vice Chancellor, ICT will make a visit to the industry laboratory. The ICT appointed Committee will consist of Dean (RCRM) as Chairman with a Professor nominated by the Vice Chancellor and the Head of the Department in the area of proposed research.
 - ii. The committee will evaluate the activities and the competence of the R & D of industry following the guidelines of similar to those proposed by DSIR. All the expenses in connection with the visit will be borne by the industry concerned. The ICT committee will make recommendations to the Vice Chancellor, ICT for approval. The industry R & D will be recognized by the approval of the Vice Chancellor, ICT. In case the laboratory is already recognized by DSIR, the visit by ICT committee will not be necessary.
 - iii. Once the R & D laboratory is recognized by the ICT, the industry is required to pay Rs. 5 lakhs for first four years (typical duration of Ph.D. work) and necessary contingency amount of Rs. 50,000/- per candidate per year (in the name of ICT, to be utilized by the Research Guide) for the conduction of the research activity. After four years, the renewal of the recognition will continue by payment of Rs. one lakh per year. Further, the industry should try to get recognition for their R&D set up from DSIR, based on the recommendation of the ICT appointed Committee.

4. During a year, an industry may nominate up to two employees (with required qualification) for registering for the doctoral degree at ICT under the supervision of ICT faculty.
5. The candidate is required to pay all the Ph.D. fees (over and above laboratory eligibility fees) as proposed by the ICT at appropriate time and will not be eligible for any fellowship. Also, the other requirements, like eligibility criteria, qualifying institutional tests, completion of course work, etc. need to be fulfilled by the industry candidate.

10.3.1. E. Rules and Eligibility Criteria for admission to Integrated Ph.D. (Tech.)

Institute of Chemical Technology (ICT) has a proven track record in training high quality manpower and in conducting research in Chemical Engineering, Chemical Technology, Pharmacy and Allied sciences. In view of the need of attracting talented graduates to Research career in Engineering and Technology, and for enhancing the number of quality Ph.D.s, ICT has initiated a programme of Integrated Ph.D. (Tech.) in Chemical Engineering, Chemical Technology. This programme is not available for Integrated Ph. D. (Tech.) in Pharmacy.

The Integrated Ph.D. (Tech.) Degree Programme is designed to identify candidates with strong potential for a career in Research and to Develop Human resources for the India's future needs in Chemical Engineering and Chemical Technology.

The programme has the following objectives:

- (i) To provide avenues for Doctoral degrees to candidates with talent and aptitude for carrying out advanced research and development activities in Technology.
- (ii) To furnish a multidisciplinary, flexible and innovative Doctoral research programme with special emphasis on
 - (a) Acquisition of proficiency in research, knowledge, data generation and analysis, mathematical modelling, and management with sharpening skills in innovative experimental methods and problem solving capabilities.
 - (b) Creation of a pool of young talented, dedicated and committed individuals with passion and involvement in pursuing research and development as a career.
 - (c) Inculcation of attitude, temper and outlook for developing social commitment as well as high level of scientific ethics and integrity.
- (iii) To disseminate the new knowledge in the form of publications, patents, theses, seminars and conferences. Efforts will also be made to help the society and the industry and hence the economy of the country.

Selection of candidates:

The candidate, applying for the Integrated Ph.D. (Tech.) programme, must have a Bachelor's degree in Chemical Engineering or Chemical Technology with more than 65% marks or equivalent CGPA (60% marks or equivalent CGPA for candidates from reserved category) of ICT or from any accredited or AICTE recognized Engineering and Technology Institute. A valid GATE score is mandatory.

Selection process:

- i. The candidates will be selected on the basis of an Institute level written test and an Interview.
- ii. The candidate must score a minimum of 50% in the written examination of the Institute to qualify for the interview.
- iii. The selection of the candidates shall be strictly on merit and on the basis of performance in the written test and interview conducted by the ICT.
- iv. The list of qualifying candidates will be prepared on the basis of marks in written test and Interviews in 70:30 ratio.

Course Work and Registration for Integrated Ph.D. (Tech.):

- a) The registration of the candidate of integrated Ph.D. (Tech.) shall be initially for Master's degree in the same discipline until he/she completes the Course work.
- b) The candidates will have to complete the course work of Master's degree in the same discipline with a minimum CGPA of 7.0 before change of registration to Ph.D. (Tech.) degree. Since the programme has an objective of developing best human resources in Research, it is essential that the selection of the candidates is done with utmost care. They are also emphasized about successful completion of the course work.
- c) The candidate may be permitted to carry the credits of equivalent course, work of at least two semesters, if it is completed in IITs/NIT/HBNI, or any other reputed Government/ AICTE recognized Institution that has signed an MoU with ICT for transfer of credits, provided as the course work is certified by the competent authority of that Institution. Such candidates may be exempted from taking the respective course work required for the Ph.D. (Tech.) programme. These candidates should be encouraged to take 4 audit courses related to their own research topic.
- d) Integrated Ph.D. (Tech.) candidates shall first register for Master's degree and only after successful completion of course work for Master's and in the month of April of second year their registration will be changed to Doctoral degree. The certificate for completion of course work will be mandatory for this.
- e) The Registration and review of progress of these candidates will follow the same procedures as for other Ph.D. (Tech.) candidates registered in the Institute.
- f) Any candidate who completes the course work as specified above and completes minimum of 1 year of Research project will be awarded the Master's degree in respective discipline, if he/she wishes to discontinue further research or fails to acquire requisite CGPA of 7.0 in Master's programme.
- g) Candidate having poor performance in the Master's course work (as given above) will not be registered for Ph.D. (Tech.) degree and may be allowed to submit a thesis on the basis of one year of research work to get Master's degree.
- h) On successful completion of the entire programme the candidate will be awarded both the degrees, respective Master's and Ph.D. (Tech.) (Dual Degree) at the end of the programme.
- i) Integrated Ph.D. (Tech.) INSPIRE fellows will be given Master's fellowship till 31st March of the second year. They will be given Provisional master's degree certificate to become eligible for the Ph.D. (Tech.) fellowship from April, 01 of the second year.

Course Work for Ph.D. (Tech.)/ Ph.D. (Sci.):

As per the UGC directives and the Ph.D. reforms initiated at ICT, following are the rules governing the course work for a Ph.D. degree programme:

1. All candidates registered at ICT for the Ph.D. degree from academic year 1st July, 2009 will have to complete the course work.
2. Every Ph.D. candidate will complete two Credit courses (theory) and three Audit courses (theory) during the entire duration of Ph.D. The total credit points should be minimum 15.
3. All the course work must be completed before submission of synopsis for the thesis.
4. The selection of the credit and audit courses will be by mutual consultation between the Candidate and the Research Supervisor.
5. The candidate can select any courses offered by ICT that he/ she had not undergone earlier at ICT or elsewhere, either as credit or audit courses.
6. The candidate may choose to take the courses at Institute(s) other than ICT, provided there is an MOU signed between the Institute and ICT for transfer of credits.
7. For the audit courses, a minimum 75% attendance is compulsory.

8. Each course instructor will issue an Attendance certificate in a prescribed format to the candidate at the end of the semester on completion of the course.
9. Submission of copies of attendance certificates will be compulsory at the time of submission of synopsis of the thesis for the Ph.D. Degree.
10. The Attendance Certificates for the audit courses will be maintained by candidate and sent to the Academic Office through the Supervisor and Head of the Department at the time of the submission of the synopsis.

10.3.2 Ph. D. Programmes under ICT-DAE Centre and UGC Netowrking Centre in Chemical Engineering

Ph.D. (Tech.) Programme in Chemical Engineering under ICT-DAE Centre for Knowledge Based Engineering

This Ph.D. programme will induct maximum 20 students per year.

In view of the success of the collaborative programme through the Centre for Knowledge Based Engineering (KBE), BARC and IGCAR proposed to enlarge the scope of collaboration by establishing a ICT-DAE Centre for Chemical Engineering Education and Research that will synergize the strengths of both these organizations. ICT has proven track record in training high quality manpower and in conducting research in Chemical Engineering and Technology. On the other hand, BARC and IGCAR have demonstrated over the decades their ability to conduct multi-disciplinary, mission oriented R&D leading to a large number of indigenous and innovative chemical engineering processes, equipment and instruments, and technologies. DAE and ICT have entered into MoU to establish the ICT-DAE Centre for Chemical Engineering Education and Research, to cover the following activities.

- (A) Instituting an interdisciplinary Ph.D. programme in Chemical Engineering.
- (B) Undertaking R&D projects in the areas of common interest and related to nuclear reactor, fuel cycle and advanced technologies.

The ICT-DAE Ph.D. Degree Programme is designed to identify candidates with strong potential for a career in Research and to develop Human resources for India's Nuclear Energy Programme. DAE and ICT agreed to jointly work for setting up the ICT-DAE Centre for Chemical Engineering Education and Research for implementing the following objectives:

- (I) To provide avenues for Doctoral degrees to Ph. D. scholars with talent and aptitude for carrying out advanced research and development activities in Science and Technology.
- (ii) To furnish a multidisciplinary, flexible and innovative Ph. D. research programme in Chemical Engineering with special emphasis on:
 - (a) Acquisition of proficiency in research, knowledge, data generation and analysis, mathematical modelling, and management with sharpening skills in innovative experimental methods and problem solving capabilities;
 - (b) Creation of a pool of young talented, dedicated and committed individuals with passion and involvement in pursuing research and development as a career;
 - (c) Inculcation of attitude, temper and outlook for developing social commitment as well as high level of scientific ethics and integrity.
- (iii) To evolve a symbiotic relationship between the ICT and DAE Institutions in such a way that it enables the Collaborative Programme to grow and develop, and in turn ensures that research projects of relevance to the objectives of DAE research institutions are integrated with creative and innovative content.
- (iv) To select students on the basis of an all-India test and subsequent interview jointly conducted by ICT and BARC/IGCAR.
- (v) To promote effective linkages on a continuing basis between ICT, BARC and IGCAR and the Industry for joint research projects and training programmes and other academic activities related to these Institutes. The expertise and experience so gained shall be shared with other Universities in the country at large.

(vi) To disseminate the new knowledge in the form of publications, patents, theses, seminars and conferences. Effort will also be made to help the society and the industry and hence the economy of the country.

The Ph.D. scholars will take up research projects primarily defined by BARC and IGCAR. However, there will be a certain degree of flexibility for selecting research projects outside the areas of relevance to DAE. To take advantage of the excellent laboratory and library facilities at the DAE institutions, the faculty and students will be provided access to conduct experiments and use of the library and computational facilities at the DAE institutions.

The research projects will be defined by the collaboration team, enumerating the work methodology, the components of research to be done at ICT and BARC / IGCAR, the starting point and the end goals and the performance indicators.

1. Selection of candidates:

1.1 Qualifications

a) Masters degree in Chemical Engineering, Metallurgical and Mechanical Engineering

The engineering post-graduate candidates should have a good academic record (more than 60 % marks) or equivalent CGPA and above at the graduation /post-graduation level. Although GATE is not essential, qualifying GATE with minimum 85 percentile would be desirable.

b) Bachelors degree in Chemical Engineering, Metallurgical and Mechanical Engineering

The engineering graduate candidates should have a good academic record with more than 65 % marks or equivalent CGPA and above at the graduation/ post-graduation levels. The Engineering graduates should have preferably cleared GATE examination with at least 85 percentile score.

c) M.Sc. degree in Chemistry, Physics and Mathematics.

The Science post-graduate students should have a good academic record with minimum 65% marks or equivalent grade in graduate and post graduate examinations.

Candidates qualified in CSIR/NET examination will get preference.

(In exceptional cases candidates with B.Sc. qualification and a minimum 70% marks in qualifying examination will be considered for the programme)

d) DAE employees with above qualifications

DAE scientists and employees in DAE establishments with above qualifications will be considered only on recommendation from respective DAE establishment's competent authority.

2. Selection process:

2.1 The candidates will be selected strictly by merit on the basis of performance in the all India written test and interview conducted jointly by ICT faculty and DAE experts. External experts can be invited for the interviews.

2.2 The candidate must score a minimum percentage of 50 % in the written examination of the Institute to qualify for the interview.

2.3 The list of qualifying candidates will be prepared on the basis of marks in written test and interviews in 70:30 ratio.

3. Course Work and Registration:

The Details of the course work prescribed to candidates with different backgrounds is given in guidelines separately.

3.1 For post-graduates in Engineering, the rules and regulations of Ph.D. Programme are the same as other candidates pursuing Ph.D. in the Institute. (See 10.3.1 A)

3.2 The Engineering graduates and Post-graduates in Science will initially register for M. Chem. Engg. and M.Tech in Chemical Engineering degrees, respectively, and will have to complete the course work with FIRST class before applying for transfer of registration to Ph.D. degree in Chemical Engineering. They will follow the ICT's rules for transfer of registration to Ph.D. degree.

3.3. The Post-graduate candidates in Science qualified in CSIR/NET examination can be considered for the selection without written test. However, they will have to appear for the interviews. On selection they will have to clear the **course work** as prescribed in guidelines for the programme.

Since the DAE programme has an objective of developing human resources in Chemical Engineering, it is essential that the selection of the candidates is done with utmost care. They are also emphasized about successful completion of the course work.

3.4 DAE scientists/engineers with Master's degree holders in Chemical/Mechanical /Metallurgical Engineering disciplines can be considered for admission to the ICT-DAE programme of Ph.D. in Chemical Engineering provided they clear the Institute's entrance examination and interview.

3.5 The candidates with B. Tech./ M.Sc. degree from DAE establishments will be considered for the programme on a case- to-case basis, only if they have completed successfully the DAE-BARC Training School programme and/or completed equivalent course work in other recognized and reputed institutes such as IITs, HBNI, to get sufficient number of credits as prescribed by the Institute for Master's degree course work. These candidates will have to clear the entrance examination and interviews. The DAE candidates may be permitted to carry the credits of equivalent course work if it is completed in reputed Government/AICTE/ICT recognized Institutions, such as IITs, NITs, HBNI, BARC training school, etc. so long as the course work is certified by the competent authority of such Institution. Such candidates are exempted from taking up the course work required for the Ph.D. programme. But these candidates should be encouraged to take audit courses related to their own research topic.

3.6 Only after the successful completion of the course work the candidate's registration for Ph.D. programme will be confirmed. The certificate for completion of Course work will be mandatory for final registration to the Ph.D. degree programme.

3.7 The Registration and progress review of the candidates will follow the same procedures as the other Ph.D. candidates registered in the Institute.

3.8 Any candidate who completes the course work as specified against each category and completes minimum of 1 year of Research project can be considered for award of M. Tech. degree in Chemical Engineering.

Course work- Typical List of subjects to be taken by Science Post Graduates, Engineering Graduates & post-graduates:

Material and Energy Balance Computations	Chemical Reaction Engineering	Momentum Transfer
Industrial and Engineering Chemistry	Biochemical Engineering	Heat Transfer
Generation and Transmission of Power	Advanced Separation Processes	Mass transfer
Electrical Engineering and Electronics	Nuclear Chemical Engineering	Unit Operations
Applied Mechanics and Strength of Materials	Structure - Property Relationships	Engineering Graphics
Process simulation and optimization	Materials Physics and Chemistry	Process simulations
Materials Processing and fabrication technology	Advanced Reactor Engineering	Nuclear chemistry
Classical and Statistical Quantum Mechanics	Statistical methods of analysis	Transport phenomena
Instrumental methods of analysis	Advanced Mass Transfer	Sources of energy
Nuclear Reactor Theory	Radiation chemistry	
Advanced Chemical Engineering Thermodynamics	Project Engineering Management and Economics	

Guidelines for Ph.D. (Tech.) in Chemical Engineering under ICT-DAE Centre

Category 1: B.E. in Chemical Engineering / B.Tech (Chem.Engg.) / B.Chem.Engg. / B.Tech.(Chem.Tech.) (ICT)
Required Courses:

- (i) Course work for M.Chem.Engg. (credit courses). (to be completed in 2 semesters from the date of admission)
- (ii) 4 Credit courses related to Nuclear Engineering (to be completed in 3 semesters from the date of admission)

Nuclear and Reactor Physics	Chemistry of Radionuclides
Nuclear Chemical Engineering	Material Science in Nuclear Engineering

Category 2: Bachelor's degree in Chemical Engineering + Course work in BARC Training School
Required Courses:

- (i) 4 credit courses including one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)
- (ii) If the candidate has completed equivalent course work in reputed and recognized Institute such IIT, the credit transfer can be permitted for the candidates from DAE establishments.

Category 3: Bachelor's degree in any branch of Engineering (Mechanical/Metallurgical) (except Chemical Engineering / Chemical Technology) + Course work in BARC Training School
Required Courses:

8 courses and one Seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 4 semesters from the date of admission)

Applied Mathematics – I, II and III	Material and Energy Balance Computations
Momentum and Mass transfer	Energy Engineering
Chemical Engineering Operations	Heat Transfer
Chemical Reaction Engineering	Design and Analysis of Experiments

Category 4: Master's degree in Chemical Engineering / Master's degree in Chemical Technology (ICT)

Required Courses: 4 credit courses related to nuclear Engineering (to be completed in 2 semesters from the date of admission)

Nuclear and Reactor Physics	Nuclear Chemical Engineering
Chemistry of Radionuclides	Material Science in Nuclear Engineering

Category 5: M.Tech. Degree in Chemical Engineering from HBNI + Course Work in BARC Training School
Required Courses: NIL

Category 6: M.Tech. Degree in any branch of Engineering (Mechanical/Metallurgical) (except Chemical Engineering / Chemical Technology) from HBNI + Course Work in BARC Training School

Required Courses:

- (I) 5 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)

Category 7: M.Sc. Degree in Physics / Chemistry / Mathematics + Course work in BARC Training School

Required Courses:

- (i) 10 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by GPC. (To be completed in 4 semesters from the date of admission)

Category 8: M.Sc. Degree in Physics / Chemistry/ Mathematics

Required Courses:

- (i) 14 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. The typical courses will be those listed below (similar to Category 9) (to be completed in 4 semesters from the date of admission)

Category 9: B.Sc. Degree in Physics / Chemistry / Mathematics

Required Courses:

- (i) Typically 20 credit courses related to comprising of: (to be completed in 4 years from the date of admission)
- (a) B. Chem. Level courses (Credit courses)
- (b) M. Chem. Level Courses (Credit courses)

Advanced Momentum transfer	Thermodynamics of Phase Equilibrium
Advanced Heat Transfer	Advanced Separation Processes
Advanced Mass Transfer	Advanced Reactor Engineering
Advanced Reaction Engineering	

(a) Nuclear Engineering Level courses (audit courses)

Nuclear and Reactor Physics	Nuclear Chemical Engineering
Chemistry of Radionuclides	Material Science in Nuclear Engineering

10.4 APPLICATION PROCEDURE FOR PH.D. COURSES

For admissions at the ICT for all the Ph.D. courses, a candidate should obtain appropriate application form(s) for the course to which he/she is seeking admission; along with Handbook.

(Refer time schedule for each of the following stages displayed on ICT Notice Board and website www.ictmumbai.edu.in)

10.4.1 Step I: Purchase of Application Form

The candidate shall purchase and fill the appropriate application form/s, separate for each course of choice, namely,

- Ph.D. (Tech.) (separate for each course)
- Ph.D. (Sci.) (separate for each course)

The admission form and Handbook will be available for sale at the ICT counter by payment of cash. The fees for application along with Handbook are given elsewhere of this Handbook.

The forms may also be ordered by post or downloaded from the ICT web site, www.ictmumbai.edu.in. The payment, while ordering by post, should include the amount equal to the "By Post" amount and be made only by Pay Order/DD of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "Institute of Chemical Technology, Mumbai", payable at Mumbai and it is non-refundable and non transferable under any circumstances. **Payment by cheque or money order will not be accepted.** The admission form along with a copy of the Handbook will be sent by **Registered Post Parcel**.

10.4.2 Step II: Submission of Application Form

All the relevant entries in the application form must be completed in legible handwriting or may be typewritten. Incomplete forms will be rejected and no correspondence will be made in this regard. **Writing contact details such as Mobile No./ Telephone No. and email address in the application form is essential.**

The duly filled form along with attested photocopies of required certificates to substantiate the claims made in their application form should be submitted, by the last date notified, at ICT counter or sent to the ICT by Post/ Courier, etc. along with a **Pay Order/ DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of "Institute of Chemical Technology, Mumbai", payable at Mumbai and it is non refundable and non transferable under any circumstances. **Payment by cheque or money order will not be accepted.**

The application form has a tear-off receipt at the bottom with the application number. The receipt should be filled in by the candidate and shall be signed and stamped by the clerk at the counter while accepting the form. **This receipt should be preserved and the application number must be stated for any future correspondence.**

Applications received after the due date will not be considered for generating merit list. ICT is not responsible for the delay occurred by Post/ Courier, etc. Incomplete applications shall be rejected without entering into any correspondence with the applicant.

- The candidates seeking admission at the ICT must submit attested photocopies of all the documents as given in **Table 10.3** along with the application form.
- Attachment of any certificates will not be accepted separately after submission of the application form.
- The candidates belonging to the SC/ ST categories will be required to submit **The Caste Certificate, the Caste/ Tribe Validity Certificate wherever applicable** at the time of submitting the application form, failing which the category claimed, will not be granted and the **candidate will be treated as a General candidate.**
- The candidates shall not attach a copy of any other certificate which is not asked for, such as certificates for participation in sports, cultural activities, etc.
- The photocopies of certificates or documents attached to the application form should be attested by the Principal of the College or Gazetted Officer or Special Executive Magistrate or Head Master of a Secondary School or teaching staff of a Government /Govt. Aided College / Polytechnic not below the rank of a Lecturer.

- If the candidate produces any certificate, which is not in Marathi, Hindi or English language, authenticated Marathi, Hindi or English version of the same, duly attested by a Gazetted Officer shall also be produced.

TABLE 10.4.3: Documents to be attached with the Application form for Ph.D. admissions

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
I	All Candidates	<ol style="list-style-type: none"> 1. SSC (Std. X) mark sheet, 2. HSSC (Std. XII) mark sheet, 3. All Mark sheets of Bachelor's Course 4. Bachelor's degree certificate 5. All Mark sheets of Master's Course 6. Master's degree certificate 7. College Leaving / Transfer certificate 8. Industrial/ Teaching experience/ Relieving letter/ Gap Certificate, if any
II	Backward class Candidates belonging to SC/ ST Categories	Caste certificate, Caste/ Tribe Validity certificate, as applicable. (In addition to the documents mentioned in Sr. No. I)
III	Backward class Candidates belonging to VJ/ DT (NT(A))/ NT(B)/ NT(C)/ NT(D)/OBC/ SBC categories (Maharashtra State candidates only)	Caste certificate, Caste/ Tribe Validity certificate, Non Creamy Layer Certificate valid up to 31st March 2013. (In addition to the documents mentioned in Sr. No. I)

- **Original certificates should not be attached with the application form. However, those must be made available at the time of admission, failing which the admission cannot be granted.**

10.5 Rules and Regulations about Reservation

Reservation in admission for SC/ST categories is applicable to all Ph.D. courses (all branches) as per the Maharashtra government norms.

- a) Caste Certificate: The candidates belonging to the backward class categories will be required to submit the Caste Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.
- b) Caste Validity Certificate: The candidates belonging to the SC/ST category will be required to submit the Caste/Tribe Validity Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.

10.6 Fees, Concessions, Cancellations and Refund

10.6.1 Fees prescribed:

The candidates admitted in the first year during 2012-13 are required to pay fees per year as shown in following table:

Sr. No.	Fees	Ph.D. (Tech.)/ Ph.D. (Sci.)	
		Open category and SC/ST candidates from 'other than State of Maharashtra'	Reserved Category Candidates from Maharashtra State Only
1.	Tuition fee	Rs. 15,000/-	Nil
2.	Development fee	Rs. 25,000/-	Nil
3.	Other fees	Rs. 10,000/-	Rs. 50/-
4.	Library Deposit	Rs. 500/-	Rs. 500/-
5.	Student Diary	Rs. 300/-	Rs. 300/-
6.	Alumni Asso.	Rs. 700/-	Rs. 700/-
GRAND TOTAL		Rs. 51, 500/-	Rs. 1, 550/-
Eligibility fee of Rs. 500/- is applicable to candidates other than ICT students.			

The fees such as Development fees and other fees which are not reimbursed by the Govt. of Maharashtra during subsequent years of the course will have to be paid by all the students.

Notes:-

- For confirmation of seat allotted, all candidates have to submit Demand Draft/ Pay Order in favour of '**Institute of Chemical Technology, Mumbai**', payable at Mumbai, of appropriate values as shown in above TABLE.
- Candidate, who is Domicile of Maharashtra state and belonging to Backward Class category, if admitted, will be eligible for fee concessions as applicable by Maharashtra State rules.
- The SC/ST Candidates belonging to 'other than state of Maharashtra' will have reservation in admission only and they will have to pay full fees at the time of admission. They should submit their fee concession claims to their respective state Govt. through ICT office.

The fees such as Development fees and other fees which are not reimbursed by the Govt. of Maharashtra during subsequent years of the course will have to be paid by all the students.

Notes:-

- For confirmation of seat allotted, all candidates have to submit Demand Draft/ Pay Order in favour of '**Institute of Chemical Technology, Mumbai**', payable at Mumbai, of appropriate values as shown in above TABLE.

- b) Candidate, who is Domicile of Maharashtra state and belonging to Backward Class category, if admitted, will be eligible for fee concessions as applicable by Maharashtra State rules.
- c) The SC/ST Candidates belonging to 'other than state of Maharashtra' will have reservation in admission only and they will have to pay full fees at the time of admission. They should submit their fee concession claims to their respective state Govt. through ICT office.
- d) Candidates claiming fee concession under Backward Class category shall produce the Caste Validity Certificate at the time of submission of application form. Candidates claiming for fee concession under OBC, SBC, VJ/ DT NT (A), NT (B), NT(C) and NT (D) category shall also produce Non-Creamy layer certificate Valid up to 31st March 2013.
- e) Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).

10.6.2 Library Deposit:

Library deposit received from the students shall be refunded after successful completion of the course or after cancelling the admission. Unless there is any recovery, no deduction shall be made from the Library deposit. However, the amount of Library deposit shall be credited to institute, if the candidate does not apply for refund, within 3 complete financial years after the student actually leaves the institution; or, within 3 complete financial years after the date of successful completion of the course, whichever is earlier.

10.6.3 Reimbursement of Tuition fee:

Candidates claiming concession under the categories of EBC and sons and daughters for teaching and non teaching staff of primary, secondary and higher secondary schools shall pay entire fee as applicable at the time of admission and subsequently candidates have to apply to the respective authorities for reimbursement of tuition fees. The quantum of reimbursement received by the institute from the concerned authorities shall be disbursed to the candidate.

10.6.4 Cancellation of admission and Refund of fees:

Refund of tuition fee, development and other fees after cancellation of admission secured at ICT.

Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed **Pro forma - E** and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below

SR. NO.	SITUATION	REFUND
1.	Request received within 10 days from the date of admission	Entire fee less Rs.1000/-
2.	Request received within 30 days from the date of admission	Entire fee less the total fee for one month. (Tuition, development, other and hostel fee)
3.	Request received after 30 days from the date of admission	No refund (except Library Deposit)

Note: For calculation of amount on the pro-rata basis, one month shall be treated as one unit.

ALL RIGHTS REGARDING THE ADMISSIONS AT THE ICT ARE RESERVED WITH THE VICE CHANCELLOR, ICT.



11. Post Graduate Diploma in Chemical Technology Management

The ICT has a rich tradition of first generation entrepreneurs as its graduates. In order to groom our Ph.D. students into etiquettes of business management, a certificate course in Chemical Technology was started for the ICT students. This popular course is now converted into a PG Diploma Chemical Technology Management to give Ph.D. research students and industry personnel, an orientation in business and technology management of chemical industry and to sharpen entrepreneurship skills.

The course covers topics such as Chemical Technology Management, Product/Process Design and Development, Finance Management, Marketing management, Intellectual Property Rights (IPR) and other laws, Communication, HRD, Project Management, Team and Organization Management.

The course is run with the assistance of the UDCT Alumni Association, with several alumni and other experts from within and outside ICT, having vast experience. This is a two-year Semesterised course conducted on Saturdays and Sundays. The course commences in January, every year and the admission procedure may commence from October, every year (see website www.ictmumbai.edu.in).

Type NO.	ELIGIBILITY AND TYPE OF CANDIDATE	SEATS
1.	Candidates registered for Ph.D. (Tech.)/ Ph.D. (Sci.) in the ICT, who have completed the course work required for Ph.D. and have spent at least a year in their Ph.D. programme	10
2.	Candidates registered for Ph.D. (Tech.)/ Ph.D. (Sci.) in any other University / Institute of repute, who have completed the course work required for Ph.D. and have spent at least a year in their Ph.D. programme	10
3.	Industry- sponsored candidates working for not less than 3 years, having Master's degree in Chemical Technology/ Chemical Engineering/ Science/ Pharmacy/ Mathematics or any other equivalent course	10

- Admission will be conducted on the basis of written test & interview (equal weightage).
- In case the candidates from a particular type are not available, the seats may be transferred to other type of candidature on the basis of merit.
- Fees once paid shall not be refunded.
- The post-graduate diploma in Chemical Technology Management (30 seats) is meant for candidates registered for Doctoral degree from the ICT or other institutes/Universities as well as for industry personnel.

PG Diploma in Chemical Technology Management	
Ph.D.- Registered Candidates	Industry Sponsored Candidates
Rs. 15,000/-	Rs. 45,000/-

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

12. EXAMINATION PATTERN

12.1 Semester Examinations

12.1.1. Examination Schedule: All the courses at Bachelor's and Master's level are Semesterised and credit based from 2009-10. There is a continuous evaluation of the students on grade basis through continuous internal assessment B.Chem.Engg./ B.Pharm./ B.Tech./ M.Chem.Engg./ M.Pharm./ M.Tech./ M.E.(Plastic Engg.)/ M.Sc. (by papers), The Odd semester (Semester-I, III, V and VII) examinations shall be held in the month of December/ January and Even Semester (Semester-II, IV, VI and VIII) examinations in the month of April/May every year.

Students are advised to read the Regulation R-9, given below, carefully.

12.1.2. Application Forms: The application form for appearing the examination/s, together with the prescribed fees, must be submitted TO THE Accounts Section along with prescribed fees before the specified dates, which are notified well in advance on the ICT Notice Board. Examination forms will be accepted after the last date only up to one week with late fees. Thereafter, it is not obligatory for the institute to accept the forms.

12.1.3. No examination form shall be accepted unless the examination fee is fully paid in cash.

12.1.4. Master's courses (Regular 2 years) have theory courses in Semester-I and II. Those who take admission to Master's courses (Sponsored 3 years) may split those courses over first two years. That is, Semester-I courses may be taken in Semester-I & III, and Semester-II courses may be taken in Semester-II & IV.

12.1.5. Doctoral courses students have to undergo minimum 2 Theory Credit courses. They will have to follow the same procedure of applying for admission to the examination in the subjects selected by them for credit courses during the respective examination schedule. Doctoral students are therefore advised to submit the list of their choice of Credit and Audit courses with clear mention of course, semester and subject code within 15 days of their admission to the Academic Office. The form may be downloaded from ICT intranet.

12.1.6. Repeat Semester Examinations (Regulation R-14): To provide an avenue to improve the performance of the students a provision of repeat semester examination is made. These examinations for Bachelor's and Master's courses are generally held within a month after declaration of the results of regular semester examinations. Those who want to take repeat examinations should apply for the same with the necessary fee in a stipulated period; notice for the same shall be displayed on the ICT Notice Board.

12.1.7. There is a provision of amendment of result of an examination (**Regulation R-13**). For these, separate applications should be submitted to the office within the prescribed time.

12.1.8. The students undergoing theory courses at all levels (UG, Master's and Ph.D.) may please note that a provision exists for them to see their assessed answer books for Continuous Evaluations, Mid-Semester and Final Semester examinations. They may discuss their marks obtained with the concerned teacher within 3 days after a notice is put up by the teacher displaying the marks awarded, with prior appointment at the convenience of the teacher.

12.2. Regulation Relevant to Examination

R.9 Credit System and Mode of evaluation

1. Introduction

All the courses at ICT are credit based and the evaluation is grade based.

Credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits may be based on different parameters, such as student workload, learning outcomes and contact hours. It is a student-centric system based on the student workload required to achieve the objectives of a programme. It should facilitate academic recognition of the courses and mobility of the students. Credits assignment is based on the principle that Credits can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. As per the AICTE norms 2L/week of lectures are 2 credits, while 2h/week of practicals/tutorials are 1 credit. This may be taken as the basis.

Student workload consists of the time required to complete all prescribed learning activities such as attendance at lectures/practicals, seminars, projects, etc. Credits are allocated to all the educational components of a study programme and indicate the quantity of work each component requires to achieve its specific objectives.

Evaluation is an important component of any teaching-learning process. The Institute gives emphasis on continuous evaluation with considerable freedom to the teacher in deciding the mode of evaluation of the students. The performance of the student is documented by a grade at the end of the semester. The grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance is a prerequisite for applying the grading system.

2. Course Credits

In general a certain quantum of work measured in terms of credits is laid down as the requirement for a particular degree. The student acquires credits by passing courses every semester, the amount of credit associated with a course being dependent upon the number of hours of instruction per week in that course.

There are mainly two types of courses in the Institute - lecture courses and laboratory courses. Lecture courses consist of lecture (L) and tutorial (T) hours. Laboratory courses consist of practical (P) hours. The credit (C) for a course is dependent on the number of hours of instruction per week in that course, as given below:

(1) 1h/week of lecture (L) or tutorial (T) = 1 credit

(2) 2h/week of Practicals (P) = 1 credit

(3) Credit (C) for a theory course = No. of hours of lectures per week +

No. of hours of tutorials per week = L + T

(4) Credits (C) for a Laboratory course =

$\frac{1}{2}$ x No. of hours of laboratory course per week

Credits will be assigned to In-plant, Seminar, Projects and other mandatory course requirements also and these will be mentioned in the respective syllabi. There may be some non-credit requirements. A student is required to earn credits as mentioned in the syllabus.

3. Evaluation

3.1 Weight ages of different modes of assessments shall be as under.

	In-Semester evaluation		End-Semester-Exam	Components of continuous mode
	Continuous mode	Mid Semester-Exam		
Theory	30%	30%	40%	Quizzes, class tests (open or closed book), home assignments, group assignments, viva-voce assignments, discussions
Practicals	50%	-	50%	Attendance, viva -voce, journal, assignments, project, experiments, tests

3.2. In-Semester Evaluation:

- It is expected that the teacher would conduct at least two assessments under the continuous mode in a Semester.
- The teacher will announce at the beginning of the respective course the method of conducting the tests under the continuous mode and the assignment of marks
- In-semester performance of all students should be displayed and sent to the academic office by the teacher at least 15 days before the end-semester examination.
- For the theory courses, there will be one mid-semester test for each course to be held as per the schedule fixed in the Academic Calendar.
- For mid –semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses.

3.3. End-Semester examination:

- The End- semester examination will cover the full syllabus of the course and will be conducted as per the Institutional time table at the end of each semester.
- For End- semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses

3.4 Passes and Failures

- The candidates who obtain 40% and more marks of the total marks of a subject head shall be deemed to have passed the respective subject head.
- The candidates who obtain marks less than 40% of the total marks of a subject head shall be deemed to have failed in the respective subject head (Grade FF).

3.5 Grades:

- The performance of a student shall be documented by a Letter grade. Each letter grade has a Grade point associated with it. The Grades and Grade points shall be assigned to each head of passing and both will be indicated in the mark-list of the semester examination.
- The total marks (in-semester + end-semester) of a candidate in a subject head are converted into a letter grade, based on the relative (and sometimes the absolute) performance of the student.

Letter Grade	Grade Point
AA	10
AB	9
BB	8
BC	7
CC	6.5
CD	6
DD	5.5
EE	5

- c. For granting class, a grade point of 6.0 and above will be considered equivalent to First class.
- d. The grades to be allotted in the case of students who fail or do not appear at the end-semester examination shall be as under.

Letter Grade	Grade Point	Explanation
FF	0	The candidate fails in subject head. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.
XX		The candidate has not kept term for the subject head due to attendance less than requisite. Further see 3.5(h) below. In the above cases, the candidate has to repeat the respective course by paying the fees.
I	0	The candidate has kept term for the subject head, has taken all the internal examinations with satisfactory performance, but has failed to take the end-semester examination or repeat examination due to genuine reasons. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.
FR	0	The candidate has exhausted all the permissible chances to clear the end-semester examinations. The candidate has to register for the respective semester again for all the subject heads or will be out of the respective degree course as per the rules.
DR	0	(i) The candidate hasn't participated in academic programme. (ii) The candidate has taken a drop for the subject head; - provided he/she intimates the same (i or ii) at least 7 days in advance of the commencement of the end-semester examination for the respective year.

- e. Grades **FF** and **I** are place-holders only and do not enter into CPI/SPI calculations directly. These grades get converted to one of the regular grades after the end-semester examination.
- f. A candidate with an **FR** grade is not eligible for any repeat examination in that course and has to register for that semester by paying the appropriate fees.

- g. I grade will not be continued beyond the permissible number of end-semester/repeat examinations [Refer to current Regulation R.9 (9) and R.9 (10)]. In the six consecutive exams conducted by the institute, irrespective of whether the candidate fails to take any of these exams.
- h. **'XX' Grade:** The grade **XX** in a course is awarded if – (i) candidate does not maintain the minimum 75% attendance in the Lecture/Tutorial/Practical classes, (ii) candidate receives less than 20% of the combined marks assigned for continuous assessment and mid-semester examination, and (iii) candidate indulges in a misconduct/uses unfair means in the examination, assignments, etc., of a nature serious enough to invite disciplinary action in the opinion of the teacher.

(**Note:** Award of the **XX** grade in the case of h (iii) above shall be done by Disciplinary Action Committee (DAC)).

- i. The names/roll numbers of students to be awarded the **XX** grade should be communicated by the teacher to the Academic office as per academic calendar before the last date of submission of the application for end-semester examination.

3.6. Awarding the grades

The grading scale ranks the students statistically on the basis of the overall performance of the students of a given class in the given subject head. Therefore, statistical data on students' performance is a prerequisite for applying the grading system. While assigning grades in a given subject head, it is essential to know the **average marks (AM)** obtained by the students who have passed the subject head and the **highest marks (HM)** obtained in the same subject head.

3.6.1. If the **average marks (AM)** obtained by the students who have passed the subject head is $< 60\%$, the interval AM shall be awarded grade CC and the other grades shall be decided as follows:

- i. AA, AB, BB, and BC grades shall be decided between the AM and HM by dividing the range in equal intervals.
- ii. CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

3.6.2. If the **average marks (AM)** obtained by the students who have passed the subject head is such that $60\% \leq AM < 70\%$, the interval AM shall be awarded grade BC and the other grades shall be decided as follows:

- i. AA, AB, BB grades shall be decided between the AM and HM by dividing the range in equal intervals.
- ii. CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

3.6.3. If the **average marks (AM)** obtained by the students who have passed the subject head is $70\% \leq AM < 80\%$, the interval AM shall be awarded grade BB and the other grades shall be decided as follows:

- i. AA and AB grades shall be decided between the AM and HM by dividing the range in equal intervals.
- ii. BC, CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

4. SPI and CPI

- a) Semester Performance Index (SPI): The performance of a student in a semester is indicated by Semester Performance Index (SPI), which is a weighted average of the grade points obtained in all the courses taken by the student in the semester and scaled to a maximum of 10. (SPI is to be calculated up to two decimal places.)

A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA = \frac{\left(\sum_{i=1}^n c_i g_i \right)}{\left(\sum_{i=1}^n c_i \right)}$$

Where

'n' is the number of subjects for the semester,

'c_i' is the number of credits allotted to a particular subject, and

'g_i' is the grade-points awarded to the student for the subject based on his performance as per the above table.

SGPA will be rounded off to the second place of decimal and recorded as such.

- b) Cumulative Performance Index (CPI): An up to date assessment of the overall performance of a student from the time he entered the Institute is obtained by calculating Cumulative Performance Index (CPI) of a student. The CPI is weighted average of the grade points obtained in all the courses registered by the student since he entered the Institute. CPI is also calculated at the end of every semester (upto two decimal places).

Starting from the first semester at the end of each semester (S), a Cumulative Grade Point Average (CGPA) will be computed as follows:

$$CGPA = \frac{\left(\sum_{i=1}^m c_i g_i \right)}{\left(\sum_{i=1}^m c_i \right)}$$

Where

'm' is the total number of subjects from the first semester onwards up to and including the semester S,

'c_i' is the number of credits allotted to a particular subject, and

'g_i' is the grade-points awarded to the student for the subject based on his performance as per the above table.

CGPA will be rounded off to the second place of decimal and recorded as such.

- a) The CGPA, SGPA and the grades obtained in all the subjects in a semester will be communicated to every student at the end of every semester / beginning of the next semester.
- b) When a student gets the grade 'FF', or 'I' in any subject head during a semester, the SGPA and CGPA from that semester onwards will be tentatively calculated, taking only 'zero' grade point for each such 'FF' or 'I' grade. When the 'FF' grade(s) has / have been substituted by better grades after the repeat examination or subsequent semester examination, the SGPA and CGPA will be recomputed and recorded.

5. Repeat End-Semester Examination

- 5.1. For those candidates who fail in a subject head or are eligible for appearing at the repeat examination, Repeat End-Semester Examination will be conducted within one month from the declaration of the results of regular end-semester examination, as per Regulation R.14.
- 5.2. The marks obtained by candidates in the in-semester examinations (continuous assessment and periodic test) will be carried forward in such cases.

5.3. Grading the performance in the Repeat Examination: The grades will be assigned as per 3.5 and 3.6 above. However, for a candidate taking any repeat examination or subsequent regular semester examination or performance improvement examination shall be awarded one grade lower than that decided on the basis of the actual marks obtained; provided 'EE' grade obtained in such an examination shall remain 'EE'. For reference see the table below.

Grade obtained in repeat or subsequent end-semester examination	Grade to be assigned	Grade point
AA	AB	9.0
AB	BB	8.0
BB	BC	7.0
BC	CC	6.5
CC	CD	6.0
CD	DD	5.5
DD	EE	5.0
EE	EE	5.0

5.4. End-semester and repeat examination: Candidate's performance in these examinations will be displayed on proper notice board and after 3 days of such display the marks will be sent to the Academic Office. No revaluation of these examinations will be allowed.

6. Passing of a Semester examination

A candidate shall be declared as '**PASSED**' any semester examination if he/she has

- Cleared all heads of passing by securing grades EE or higher in all the heads;
- Passed all the heads of passing such as project, seminar, training, etc as per the rules;
- Satisfactorily completed all the mandatory requirements of the course;
- Paid all the Institute dues;
- No case of indiscipline pending against him/her.

7. Eligibility for the Award of a Degree

A candidate shall be declared eligible for the award of a degree, if he/she has cleared all the semester examinations as given in (6) above.

8. Allowed to keep terms (ATKT)

- 8.1** A candidate who has I grade in one or more heads of passing of an odd semester of an academic year shall be allowed to keep terms for the respective even semester.
- 8.2.** A candidate shall be allowed to keep terms for the subsequent academic year if he/she has FF or I grades in not more than two heads of passing from all the heads of passing of the two terms of the previous academic year taken together. Such a candidate shall be declared as **FAILED, ATKT**.
- 8.3.** A candidate who has not cleared Semester-I and II as per clause 6 above shall not be eligible to register for semester-V and VI.
- 8.4.** A candidate who has not cleared Semester-III and IV as per clause 6 above shall not be eligible to register for semester-VII and VIII

9. Repeating a course

9.1 A student is required to repeat the course of a subject head under the following situations:

- (a) A student who gets an **XX, FR, or DR** grade in a course; or
- (b) A student has exhausted all permissible chances to clear the subject head.

9.2 A candidate from second, third and fourth years who remains absent for the regular end-semester examination of a semester and the corresponding repeat examination for **ALL SUBJECTS** shall have to take fresh admission for the corresponding year; unless the candidate has dropped out / terminated from the course.

9.3 If a candidate at the Second, Third or Fourth year fails to pass any semester examination in not more than 4 consecutive examinations, including the repeat examinations, from the date of registering for the respective year, the candidate shall have to take readmission for the corresponding year again in which the failure has occurred, provided the course is not changed.

10. Improvement of performance

A candidate will be allowed to appear at the entire examination after the regular end-semester examination as per the respective rules to improve the performance. In such a case if the result of the examination repeated –

1. Is better than the previous one, the previous result shall be declared null and void; and
2. Is worse than the previous one, the result of the subsequent examination shall not be declared.
3. However, awarding of final grade will be made under the provision of sub clause 5.3 above.

11. Exit Rules for poorly performing students

A candidate shall be excluded from a course under the following conditions:

- a. If he/she does not keep two consecutive terms without giving any reasonable justification (as prescribed by the institute) for doing so.
- b. If he/ she fails to fulfill all the requirements of his/her respective degree within the prescribed period from the date of taking admission to the course.

12. Miscellaneous

- c. Although CPI will be given in the Semester grade report, the final degree certificate will not mention any **Class** whatsoever.

Notwithstanding anything said above, if a course is revised /restructured then transient provisions applicable at the time of revision /restructuring shall be applicable.

12.3. Regulation R-13 (Amendment of Results)

In rare cases the result of a candidate might be wrongly represented due to errors inadvertently committed by the persons involved in the preparation of the results. Such a wrong representation is also possible due to intentional tampering with the results. The regulations below are meant for correcting the results under such conditions, when revealed.

(A) Amendment of result with errors

(1) In case where it is found that the result of an examination has been affected by errors, the Controller of Examination shall have the power to amend such result in such a manner as shall be in accordance with the true position and to make such declaration as is necessary, with the necessary approval of the Dean (Academic Programmes), Provided the errors are reported/detected within 6 months from the date of declaration of results. Errors detected thereafter shall be placed before the UGPC or PGPC, as the case may be.

(2) Error means-

- i) Error in computer/date entry, printing or programming and the like
- ii) Clerical error, manual or machine, in totaling or entering of marks on ledger/register
- iii) Error due to negligence or oversight of examiner or any other person connected with evaluation, moderation and result preparation.

(B) Amendment of result affected by fraud, malpractices, etc.

In any case where the result of an examination has been ascertained and published and it is found that such result has been affected by any malpractices, fraud or any other improper conduct whereby an examinee has benefited and that such examinee, and in the opinion of the UGPC or PGPC, as the case may be, been party of privy to or connived at such malpractice, fraud or improper conduct, the UGPC or PGPC shall have the power at any time notwithstanding the issue of the Certificate or the award of a Prize or Scholarship, to amend the result of such examinee and to make such declaration as the UGPC or PGPC considers necessary.

12.4. Regulation R-14 (Repeat Semester Examination)

Repeat semester examination is a special feature of the examinations at the Institute. It provides an avenue for the students, who do not perform well in the main semester examination. A repeat examination therefore should be conducted immediately after the main examination.

- (1) For each regular semester examination, one repeat semester examination shall be provided.
- (2) A repeat semester examination shall be equivalent in all respect to the corresponding regular semester examination.
- (3) A repeat semester examination should commence after 15 days from the date of declaration of the results of verification of marks; preferably within one month from the date of declaration of the semester examination results.
- (4) The time tables for the repeat examinations shall be put up immediately after the declaration of the results of the regular semester examinations.
- (5) The candidates who have failed, or have got ATKT, or have obtained less than 50% marks in one or more subject heads and desire to improve the performance may be permitted to appear at the repeat examination.
- (6) The last date of submission of application forms for the repeat examination shall be minimum two days after the declaration of the results of the verification of marks.
- (7) The rules for the conduct of the repeat examination shall be the same as the regular semester examination.
- (8) The result of a repeat examination of a candidate shall override the respective result of the regular examination.

Repeat Practical Examination

Repeat examination in practical subject is permitted to the students in the following cases:

- (1) Candidate has obtained 50 % marks in Continuous Assessment and appeared for regular End Semester practical examination and Failed. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).
- (2) Candidate has obtained 50 % marks in Continuous Assessment and could not appear for regular End Semester practical examination due to valid Medical reason and/ or family bereavement. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).
- (3) The candidates not fulfilling the above two criteria shall get a Year Drop.

12.5. Work Practice or In-Plant Training

The Regulations require that the B. Chem. Eng. and B.Tech. students work for at least six weeks, while the B. Pharm. Students work for at least four weeks, in approved industries at the end of the third year of the respective courses (i.e. at the end of the sixth semester) and to submit a satisfactory report to the Head of the department. The Heads of Department normally arrange for the placement of the students for the works practice.

(3) The candidates not fulfilling the above two criteria shall get a Year Drop.

12.6. Malpractice at the Examination (Regulation R-16)

Very strong action will be taken against students using, attempting to use, aiding, abetting, instigating or allowing using "unfair means" at the examination. This will be reported to the Unfair Means Inquiry Committee and the action taken by the Vice Chancellor shall be final.



13. ELIGIBILITY, ENROLMENT AND TRANSFER LEAVING / MIGRATION CERTIFICATES

Applicable only to the candidates who have been offered seats)

13.1 Transfer Certificate

A student admitted to the ICT is required to submit within a month from the commencement of the term, a Transfer Certificate/ Leaving Certificate / Migration Certificate from the Principal of the College last attended by him/ her.

13.2. Provisional Statement of Eligibility

No student from other University/ Board can be admitted to any of the ICT courses without submission of a "Provisional Statement of Eligibility" to be procured from the ICT office. An application for a provisional statement of eligibility may be made only when a student is informed that he/ she is allotted a seat in the ICT. However, candidates should keep all the necessary documents, such as statement of marks, passing certificate, migration certificate, etc., ready for obtaining the provisional statement of eligibility. The provisional eligibility will be confirmed only after due verification of the statement of marks and passing certificate from the candidate's parent University/ Board. The charges levied by the parent University of the Student for this purpose will have to be borne by the concerned candidate. The information regarding equivalence of examinations may be obtained from the Assistant Registrar (Academic) of the ICT.

IMPORTANT INSTRUCTIONS

The ICT does not recognize degrees from overseas Universities/ Boards, on a regular basis. However, candidates desirous of seeking admission to the ICT, on the basis of qualifications obtained in overseas Universities/Boards may be considered for the admission on the merits of each individual case. For this purpose, passing certificates, transcripts of record and a copy of the syllabus, containing the details of the courses of studies pursued in the various subjects at the examination passed by the applicant (duly countersigned by the High Commissioner of India in the country or the officer authorized by him) and standard of passing laid down at the examination should be forwarded to the office well in advance. In case the certificates or transcripts are in a language other than English, these certificates and the English translation of the same, duly certified by a competent authority, should be sent. The candidate should enclose all the permissions stipulated by the concerned Government Departments.

13.3. Enrolment Certificate

The students admitted after passing the XII standard (HSSC) Examination are required to submit to the ICT the duly filled in enrolment form, along with a copy of Statement of Marks and the prescribed fee at the time of admission. The enrolment form can be obtained from the office of the ICT.

14. ACADEMIC YEAR, CODE OF CONDUCT AND DISCIPLINE

14.1 Commencement of Academic Year

- ✓ The date of commencement of the first semester of the academic year 2012-13 shall be July 02, 2012.
- ✓ All Bachelor's (2nd Year Onwards) and Master's courses shall start from 2nd July 2012.
- ✓ The academic calendar for all the Bachelor's and Master's courses is divided into two semesters.

14.2 Academic Calendar 2012-2013

UNDERGRADUATE

B.Chem.Engg./ B.Tech. / B.Pharm.

(A) Division of Semesters for All UG Courses

First Semester: 2nd July, 2012 (Mon) to 15th December, 2012 (Sat).

Diwali Vacation: 10rd November, 2012 (Sat) to 24th November, 2012 (Sat).

Inter-semester Break : 17th December, 2012 (Mon) to 21st December, 2012 (Fri)
(Only for UG Students)

Second Semester: 24th December, 2012 (Mon) to 15th May, 2013 (Wed).

Summer Vacation: 16th May, 2013 (Thu) to 29th June, 2013 (Sat).

(B) Examination Schedule : Semester - I

Mid Semester - I : 10th September, 2012 (Mon) to 12th September, 2012(Wed)

End Semester- I

a) Theory: 26th November, 2012 (Mon) to 4th December, 2012 (Tue).

b) Practical: 5th December, 2012 (Wed) to 15th December, 2012 (Sat).

c) Evaluation & Declaration of Results: 31st December, 2012 (Mon).

(C) Examination Schedule : Semester - II

Mid Semester - II: 25th February, 2013 (Mon) to 27th February, 2013 (Wed).

End Semester - II

a) Theory: 22nd April, 2013 (Mon) to 30th April, 2013 (Tue).

b) Practical: 2nd May, 2013 (Thu) to 10th May, 2013 (Fri).

c) Evaluation & Declaration of Results: 14th May, 2013 (Tue).

NOTE :

- First year B.Chem.Engg. / B.Tech. / B.Pharm. Semester-I Time table will be declared only after start of these courses.
- All Undergraduate courses (including First Year) will have same Calendar for Semester -II.

POSTGRADUATE

M.Chem.Engg./ M.Tech. / M.Pharm / M.E. (Plastic Engg.) & M.Sc. (by Papers)

(A) Division of Semesters for All PG Courses

Semester - I: 2nd July, 2012 (Mon) to 31st December, 2012 (Mon).

Semester - II: 1st January, 2013 (Tue) to 29th June, 2013 (Sat).

(B) Examination Schedule : Semester - I

Mid Semester - I : 22nd October, 2012 (Mon) to 24th October, 2012 (Wed).

End Semester - I

a) Theory : 24th December, 2012 (Mon) to 31st December, 2012 (Mon).

b) Practicals : 17th December, 2012 (Mon) to 21st December, 2012 (Fri).

(C) Examination Schedule : Semester - II

Mid Semester - II: 4th March, 2013 (Mon) to 6th Mar, 2013 (Wed).

End Semester - II

a) Theory: 2nd May, 2013 (Wed) to 9th May, 2013 (Thu).

b) Practical: 22nd April, 2013 (Mon) to 30th April, 2013 (Tue).

NOTE :

- The Master's courses [M.Chem.Engg./ M.Tech. / M.Pharm. / M.E.(Plastic Engg.)] partly by papers and partly by research do not have any vacation. They may avail leave by application.
- The M.Sc. courses by papers will observe Diwali and summer vacations as per UG courses.

14.3 Requirement of Attendance

The attention of the students is drawn to the Regulation R-1 regarding the attendance of the student and Grant of Term.

As per R-1(2), the minimum attendance necessary for granting a term (Semester) in each subject shall be minimum of 75% of the lectures and practicals, taken separately, out of the total number of lectures and practicals conducted in a semester. The students shall be deemed to have submitted the undertaking about the attendance after the admission has been secured at the ICT.

14.4 Identity card

At the beginning of each academic year, a regular bonafide student is issued a smart Identity Card with his/her latest photograph printed it, on payment of the necessary charges. The students must wear the I-card while on campus. I-card is also necessary for appearing at all tests and examinations. If a student leaves the course halfway, after taking admission, he/she must surrender the I- Card in the Academic office.

14.5 Working hours

- Academic Timings: The academic working hours of the institute are between 8.30 a.m. to 5.30 p.m., with lunch break from 12.35 to 1.30 p.m.
- Office Hours:
 - * 10.30 a.m. to 6.00 p.m., with lunch break from 1.00 to 1.30 p.m. – on all working days.
 - * Cash Counter: 11.00 a.m. to 1.00 p.m. and 1.30 p.m. to 4.00 p.m.

The office will remain closed on second and fourth Saturdays of a month, in addition to Sundays and public holidays.

14.6 General

The medium of instruction for all courses is English.

Physical fitness: The Vice Chancellor at his discretion may refer any candidate to the appropriate medical authority for ascertaining the physical fitness of the candidate to undergo the requirements of the course. The report of medical authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information. It is to be noted that physically handicapped candidates are not provided with any additional facilities as far as the academic activities pertaining to the course is concerned.

The Vice Chancellor may verify the antecedents of any candidate through the appropriate police authority. The report received from police authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information.

Notwithstanding anything contained in these Rules, if the Govt. / Institute takes any policy decision pertaining to F.Y. admissions, the same shall be brought in to effect at that point of time.

14.7 Conduct and discipline for all students:

Students while studying at ICT, if found indulging in any anti-national activity contrary to the provisions of Acts and Laws enforced by Government or in any activity contrary to Rules of discipline, will be liable to be expelled from the Institute without any notice by the Vice Chancellor of the Institute.

Action against ragging: Maharashtra Prohibition of Ragging Act 1999 which is in effect from 15th May 1999 has the following provisions for Action against Ragging.

- a) Ragging within or outside of any educational institution is prohibited,
- b) Whosoever directly or indirectly commits, participates in, or propagates ragging within or outside any educational institution shall, on conviction, be punished with imprisonment for a term up to 2 years and/ or penalty, which may extend to ten thousand rupees.
- c) Any student convicted of an offence of ragging shall be dismissed from the educational institution and such student shall not be admitted in any other educational institution for a period of five years from the date of order of such dismissal.
- d) Whenever any student or, as the case may be, the parent or guardian or a teacher of an educational institution complains, in writing, of ragging to the head of the educational institution, the head of the educational institution shall, without prejudice to the foregoing provisions, within seven days of the receipt of the complaint, enquire into the matter mentioned in the complaint and if, prima facie, it is found true, suspend the student who is accused of the offence, and shall, immediately forward the complaint to the police station having jurisdiction over the area in which the educational institution is situated, for further action. Where, on enquiry by the head of the educational institution, it is found that there is no substance, prima facie, in the complaint received; he/ she shall intimate the fact, in writing, to the complainant. The decision of the head of the educational institution shall be final.
- e) If the head of the educational institution fails or neglects to act in the manner specified in section "d" above when a complaint of ragging is made, such person shall be deemed to have abetted the offence and shall, on conviction, be punished as provided for in section "b" above.

If any of the statement made in application form or any information supplied by the candidate in connection with his or her admission is later on at any time, found to be false or incorrect, his or her admission will be cancelled, fees forfeited and he or she may be expelled from the Institute by the Vice Chancellor.

Note:

The orders issued by the Hon'ble Supreme Court/High Court/Government regarding Prohibition of Ragging Act, will be made applicable as and when issued. The same shall be binding on all concerned.

See detailed booklet appended in this Handbook.

15. Professor M.M. SHARMA LIBRARY

Established in the year 1933, it functions as the central library of the institute. In terms of the subject collection, it is one of the best Special Libraries in the country. It performs a dual role of an Academic Library as well as a Research Library, catering to the information needs of the in-house students and faculty, in particular, and, the academic and research community, in general. It is housed in a separate two-storey building and follows a completely open-access concept. It has a specialized collection in Chemical Engineering, Chemical Sciences, Chemical Technology and Pharmacy and their allied fields.

We have been assiduously working on creating a 'library culture' and took pains to generate endowments to support journals subscriptions and acquisition of books to some extent. Perhaps, ours is one of the rare universities in India where such type of endowments exist.

1. Indian Oil Corporation Endowment (Rs 5 lakhs)
2. Dr Mooljibhai Shivabhai Patel Trust (Rs 5 lakhs)
3. Colour Chem Ltd (Rs 5 lakhs)
4. Professor M.M. Sharma Library Endowment (Rs 75 lakhs)
5. UDCT Golden Jubilee Library Endowment (Rs 10 lakhs)
6. Polyolefins Industries Ltd. (Rs 5 lakhs)
7. BLA Industries (Rs 5 lakhs)
8. Hindustan Organics Chemicals Ltd. (Rs 5 lakhs)
9. Tata Electric Companies (Rs 10 lakhs)
10. Gharda Chemicals Ltd. (Rs 5 lakhs)
11. Associated Cement Companies Ltd. (Rs 20 lakhs)
12. Tata Chemicals Ltd. (Rs 5 lakhs)

Only 50% interest accrued on these endowments is utilized for the Library.

Specialty areas: Chemistry, Applied Chemistry, Chemical Technology, Chemical Engineering, Pharmacy, Energy & Environmental Engineering, Biotechnology, Food Technology & Fermentation, Polymer Science & Technology, Textile Science & Technology, Oils & Surfactants, Dyestuff Technology.

Library Collection: Number of volumes: 72123; Number of scientific and technical journals subscribed: 129 (Foreign:108 + Indian:21); Theses & Dissertations: 4211; CD-ROMs:1243; Online Journals (via IP) from Elsevier (Scencedirect), Springer, Wiley, Taylor & Francis, The American Chemical Society (ACS) and The Royal Society of Chemistry (RSC).

Facilities offered: The bona fide students and faculty of the institute has book-lending facility. Photocopying facility is available for all users, on payment. Internet and online journals access facility is available for the bona fide research students and faculty. Reference and Referral service is also provided. Book Bank facility is also provided. The library offers access to primary databases like SCIFINDER, through the UGC-INFLIBNET Consortium, and, Scopus, Reaxys and Food Science and Technology Abstracts (FSTA).

Book Bank: Under this scheme, students belonging to the backward classes receive the benefits of Book bank scheme. Two books shall be issued per student under the scheme, in addition to the two normal books issued from the library. The due date shall be stamped on the book(s) issued. In case of damage or loss of book(s), all the rules applicable to the loss of library book will apply to these books also.

Library Timings: The library is open from 8.30 A.M. to 8.30 P.M. on all working days and from 11.00 A.M. to 6.00 P.M. on Sundays, Holidays and the 2nd and the 4th Saturdays of every month. The photocopying facility is extended for users between 10.30 A.M. and 6.30 P.M. on all working days, except the Sundays, the 2nd and 4th Saturdays and the Public Holidays. The library remains closed on the Independence Day, the Republic Day, Ganesh Chaturthi and Dasara.

16. HOSTELS AND COUNSELLING SERVICES

16.1. Preamble

Hostel accommodation on the ICT campus used to be a privilege in the past. Hostel No. 1, which is popularly called the Old Hostel, was built in 1951, as University and Birla Hostel, with provision of accommodation for students of all departments of the University of Mumbai. Students admitted on All India basis were given preference. In 1966, The so-called New Hostel (now Hostel No. 2) was built for accommodating UG and research students; however, the capacity was still inadequate. In 1987, a Joint Hostel (now Hostel No.3) was built to accommodate both ICT and JJ School of Architecture, which was exclusively reserved for ICT students in mid 1990s.. There was no hostel facility for girls till 1993. During mid-1990s, a 66-seater girl's hostel (now Hostel No. 4) was built. Hostel No. 5, a 7-storey building for 352 students was built during early 2000s and occupied in 2005. The hostel surroundings and grounds were beautified during 2007-9 and Hostel No. 2 and 3 reserved for girls. Hostel No. 1, 4, and 5 accommodate boys whereas Hostels 2 and 3 accommodate girls.

16.2. Process of Allocation of Hostels

1. Hostel No. 1, 4, and 5 are allotted to boys. Hostel No. 2 and 3 are only for ladies. All hostels are unaided and maintained by the Institute. Hostel No. 1 is allotted to 1st year undergraduate and Master's degree students and no senior undergraduate will be allotted two hostel. Hostel 3 will have first year undergraduate and Master's and Doctoral students.
2. The total number of hostel accommodation seats available for the students at the ICT is nearly 855 (for all courses and years) including 210 lady students.
3. Total number of seats available for fresh admissions is about 228 per year, which includes all Undergraduates, Master's and Doctoral students out of which seats available for the first year UG admissions (B.Chem.Engg., B.Pharm. and B.Tech.) are limited to only 30 girls and 90 boys. Those for first year Master's degree (M.Chem.Engg., M.E., M.Tech., M.Sc., M.Pharm.) are limited to 19 girls and 50 boys and those for new doctoral students are limited to about 30 boys and 9 girls. The seats of post graduate students, especially doctoral are subject to completion of degree work by earlier students.

Accommodation in hostels cannot be guaranteed to all candidates, who are advised to verify personally by contacting the hostel office.

(Phone: 91-22-33611452, Time: 9.00 a.m. to 5.00 p.m.) e mail: hostel@ictmumbai.edu.in.

4. Admission will be offered on **'first come- first served'** basis. Preference is given to out-station students who come from places beyond Mumbai and suburbs (i.e., beyond Virar, Titwala, Ambernath and Panvel). As a proof of stay beyond Mumbai and suburbs, they are required to submit certified copies of ration card and school-leaving certificate. Any false representation in this regard will be strictly dealt with.
5. Prescribed application form for accommodation to hostels may be purchased (Rs. 50/- in cash) from the Hostel Office situated at Ground Floor of Hostel No. 5. The Master's and Doctoral students are required to submit their applications through the Heads of the concerned Departments. The duly completed application form along with residence proof should be submitted at the Hostel Office.
6. The Hostel Office will advise aspirant students if a seat can be allotted to him/her. Once a seat is offered, the payment of charges should be made by separate Demand Draft/Pay order at the Hostel Office situated at Ground Floor of Hostel No. 5, as given below and a receipt for the same should be procured.
 - (i) **Accommodation Fees** (as per 11.3.1 below) by a Demand Draft/Pay order drawn in favour of **'Institute of Chemical Technology, Mumbai'**, payable at Mumbai.
 - (ii) **Common Charges** (as per section 11.3.2 below) by a Demand Draft/Pay order drawn in favour of **Warden, ICT Hostels'** payable at Mumbai.
 - (iii) The student will be then allotted the accommodation by the Hostel Office.
 - (iv) The Wardens reserve the right to change/transfer a student from one room to other for convenience of the administration. Also, every year the student may be shifted from the accommodation provided in earlier year.

16.3. Hostel Fees

16.3.1 Accommodation Fees:

(Including Electricity and Development Charges) for the Year 2011-12 for the academic year

Hostel	Category	Type of Accommodation	No. of Seats	Fees, Rs.
Hostel No. 1	Boys	Single Seated	52	15,000/-
		Triple Seated	144	12,000/-
		Six Seated	18	12,000/-
Hostel No. 2	Girls	Single Seated	27	15,000/-
		Double Seated	22	12,000/-
		Triple Seated	69	12,000/-
Hostel No. 3	Girls	Double Seated	88	15,000/-
		Triple Seated	9	15,000/-
Hostel No. 4	UG Boys	Double Seated	66	12,500/-
Hostel No. 5	UG Boys and Ph. D. Boys	Double Seated	332	17,000/-
		Triple Seated	33	17,000/-

Accommodation fees should be paid by a Demand Draft/ Pay order in the name of 'Institute of Chemical Technology, Mumbai' payable at Mumbai. No Cash payments will be accepted.

16.3.2 Common charges to all Hostels – Rs. 3000/- per year to be paid at the beginning of every year by all students – UG, Master's and Doctoral.

- i) Students Sports & Cultural Activity Fees Rs. 2000/- per year
- ii) Other Fees / Charges (Mess Depreciation, Insurance, etc.) Rs. 1000/- per year

Thus, total hostel charges per year are Accommodation Fees for particular seat plus Rs. 3000/-.







The hostel accommodation fees for Ph.D. students who are in receipt of HRA are paid by the Institute and the HRA component is fully retained by the Institute. These students need to pay the common charges themselves to ensure a hostel seat.

16.4. Hostel Messes

It is mandatory for all hostel students to join the Hostel Mess allotted to them. Each mess is run by the students on co-operative "no-loss - no-profit" basis under the Control of the concerned Warden. Hostel students have been managing their messes since 1951, with an excellent tradition and managerial skills. Typical mess charges including breakfast and two meals a day are around Rs. 1300/- per month. Mess Deposit Advances / Monthly Expenses will be extra as per the norms of the respective messes. Mess deposit of Rs. 4,000/- is required to pay at the time of joining of Mess, which will be refunded at the end of the stay.



16.5. Hostel Management

Hostel No.	Warden	Telephone
HEAD WARDEN - PROF. S. S. BHAGWAT		
1	<p>Dr. G S. Shankarling (Department of Dyestuff Technology) Email: gs.shankarling@ictmumbai.edu.in</p> 	No. 3361 2708
2.	<p>Dr. D.D. Sarode Department of General Engineering) Email: dd.sarode@ictmumbai.edu.in</p> 	No. 3361 2760
3.	<p>Dr. Mrs. Shalini Arya (Department of Food Engineering & Technology) Email: ss.arya@ictmumbai.edu.in</p> 	No. 3361 2513
4.	<p>Dr. U. S. Annapure (Department of Food Engineering & Technology) Email: us.annapure@ictmumbai.edu.in</p> 	No. 3361 2507
5	<p>Prof. S. S. Bhagwat (Department of Chemical Engineering.) Email: ss.bhagwat@ictmumbai.edu.in</p> 	No. 3361 2011
Hostel Office	<p>Shri. F. M. Tariq (Administrative officer) Email: fm.tariq@ictmumbai.edu.in</p> 	No. 3361 1452

16.6. General

1. Guest Rooms are available at Hostel No. 2 (only lady guests) and Hostel No. 5 for visitors/parents who wish to make a short visit to meet their Wards studying at ICT on payment basis.
2. Hostels are equipped with T.V. Room, Reading Room, Playground, Health Centre, Gymkhana and Study Room Facilities.
3. Physicians visit the hostel health centre on all working days at designated times.
4. All students are covered under Accident Policy of the Institute.
5. Each hostel block is supervised by a Warden, who is a faculty member of the Institute.
6. It is mandatory that all the new entrants to the hostels get their hostel admission forms signed by the Student's Counsellor - Prof. (Ms) Rita Doctor, whose office is located on the first floor, Godrej Students Centre) (Tel No. 91-22-3361 1351; email: rf.doctor@ictmumbai.edu.in) within a short time after joining the hostel.

16.7. Discipline and Decorum

1. The entire campus of ICT is smoking-free including public places and hostels.
2. Smoking and drinking liquor is strictly prohibited. Disciplinary action will be taken against anybody involved in misdemeanour and illegal activities.

3. All senior students must create a conducive and healthy atmosphere in the rich tradition of the ICT and the hostels. Several hostel residents have attained very high positions in their profession, as industrialists, educators and policy makers and brought laurels to the institute; including Padma awards of President of India. Three Directors of the ICT- Former Directors, Professor M.M. Sharma and Prof J.B. Joshi, the incumbent Director (Vice Chancellor) Professor G.D. Yadav as well as the Registrar, Professor S. R. Shukla have been hostel residents on this campus. Prof Yadav has also served as the Warden, and Head Warden, earlier. Professor Bhagwat, Dr. Shankarling, Dr. Annapure and Dr. Arya who are hostel wardens currently were themselves ICT Hostel residents during their student days. Several other faculty members have also been hostel residents. Faculty and staff quarters are also situated near the hostels bringing a sense of community feeling. Faculty members participate in the programmes arranged by the hostelites and often make themselves available for counselling, whether they are wardens or not. Hostel Day is a special annual day in the lives of hostelites to show their skills and talents in sports, cultural programmes and the like.
4. Another grand tradition of the hostels is that the past students, from all over the world, try to assist the hostel activities by providing monetary help, either personal donations or company sponsorships.
5. Action against ragging: Maharashtra Prohibition of Ragging Act 1999 is in effect from 15th May 1999. (See details later from UGC in this regard]. Any case of ragging should be reported by the victim in writing within three days of the incident to the respective warden with copies marked to the Head Warden, Professor S. S. Bhagwat (ss.bhagwat@ictmumbai.edu.in), the Dean-Student Affairs and Human Resource Development, Professor M. D. Teli (md.teli@ictmumbai.edu.in), and the Registrar, Professor S. R. Shukla (registrar@ictmumbai.edu.in).

16.8. Counselling Services

Counseling services are available for the benefit of all the students of the Institute - right from First year to those doing their Doctorate. The Counselor – Professor (Ms) Rita Doctor, with her in-depth knowledge of Philosophy and Psychology, has been actively participating in this important activity. The Counselor deals with all types of personal and academically related problems and students are free to meet her from Tuesday to Friday any time between 11.30 a.m. and 4.30 p.m.

It is mandatory for all the first year students (UG and PG) including hostelites to meet the Counselor in her office on 1st floor, Godrej Students Centre) (Intercom No. 1351), in groups of ten for an interactive session. Interactive Sessions are held from time to time to make the students aware of their plus points and weak points. Later on, a one – to – one session is held in order to help them develop confidence and overcome difficulties which may be too personal.



17. TECHNOLOGICAL ASSOCIATION

The Technological Association (TA) is an official organization of the faculty and students of the ICT. It was founded along with the foundation of the UDCT in 1933. The president of the association is the Vice Chancellor of the Institute. Currently Professor G. D. Yadav, Vice Chancellor, is the President of the TA and Professor P. M. Bhate is the Vice-President. The students and the faculty are the members of the association. The association organizes various co-curricular and extra-curricular activities for the students. Intercollegiate festivals **Manzar, Funtech and Sportsaga**, are the most enjoyable and dynamic events in the Institute. It is organized in the month of January/February and celebrated for three days. It provides a platform for the students to showcase their talents in various fields like sports, quizzes, fine arts, etc. The TA organizes its Annual Day in the same month of March.

Bombay Technologist: The Bombay Technologist is the annual technical journal of the Technological Association, started in 1951. The journal publishes technical articles in the thrust areas of science and technology, written mainly by the UG and PG students of the Institute. The three best articles in each volume get prizes. The Best Post-Graduate student in the Institute is given the 'Bombay Technologist Best Post-Graduate Student' award. To foster the talents of the ICTians in non-technical areas, the journal has also instituted 'Bombay Technologist Creativity' Award.

The Bombay Technologist also supports partial travel and registration expenses of students presenting technical papers within India.

The Spirit: The Institute also publishes an in house periodical, 'The Spirit', in which articles by the students on non-technical topics are published. The faculty and students' activities in the ICT are also presented in this magazine.



18. Culture of Endowments

The ICT has sanctioned positions of 108 faculty (29 Professors, 38 Associate Professors and 41 Assistant Professors) and a support staff of 240.

The ICT has a tradition of establishment of endowments with an objective of supporting faculty positions, foreign travel assistance, merit-cum-means scholarships, staff welfare, library, campus development, research fellowships and seed money for research by young faculty. There are 90 endowments in the Institute. All these endowments have been established through generous donations by alumni, industries, philanthropists and well wishers. Only part of the interest (upto 50-70%) is used towards the purpose of the endowment and the remaining is ploughed back into the corpus allowing it to grow with time.

18.1. Faculty endowments

1. R.T. Mody Professor of Chemical Technology and Director (1933)
2. Sir Dorabji Tata Reader in Pharmaceutical Chemistry (1943)
3. Singhanee Reader in Chemical Engineering (1936)
4. Singhanee Lecturer in Chemical Engineering (1936)
5. Singhanee Lecturer in Pharmacy (1943)
6. Singhanee Lecturer in Paint Technology (1946)
7. Singhanee Associate Lecturer in Chemical Engineering (1936)
8. Singhanee Associate Lecturer in Food Technology (1945)
9. Sir Homi Mehta Reader in Oil Technology (1943)
10. Sir Homi Mehta Associate Lecturer in Food Technology (1943)
11. Darbari Seth Professor of Inorganic Chemical Technology (1995)
12. BPCL Professor of Chemical Engineering (2001)
13. V.V. Mariwala Chair in Chemical Engineering (2004)
14. J.G. Kane Chair of Oil Technology (2008)
15. M.M.Sharma Distinguished Professor of Chemical Engineering (2009)
16. Narotam Sekhsaria Professor of Chemical Engineering (2009)
17. R.A. Mashelkar Chair of Chemical Engineering (2009)
18. K.V.Mariwala-J.B. Joshi Chair of Chemical Engineering (2009)
19. Gunavati Kapoor Chair in Pharmaceutical Technology (2009)
20. Dr. John Kapoor Lecturer in Pharmaceutical Technology (2010)

18.2. Visiting Professors/Fellows/Lecturers/Orations Endowments

There are 46 endowments which have helped us immensely in attracting the best professionals to the Institute from all over the world who have interacted with UG and PG students, faculty and alumni. The honoraria range from Rs. 5000 to 1.25 lakhs for a period of one day to 15 days. Some eminent faculty from institutes such as MIT, Purdue, Cambridge, Monash, UC Berkeley, UCSB, Montreal have taught UG and PG courses in ICT under these endowments. These lectures will form part of audit courses for research students. Besides, public lectures are organized under each endowment. All departments have been benefitted and the list is as follows:

A. Institute Level

1. Professor B.D. Tilak Distinguished Lectureship
2. Professor B.D. Tilak Visiting Fellowships.
3. Golden Jubilee Visiting Fellowships.
4. Colour Publications-ICT Foundation Day Lectureship
5. Dr. Balwant S. Joshi Distinguished Visiting Professorship in Chemical Engineering/ Chemical Technology/ Applied Chemistry
6. Ambuja Visiting Professor for Economics
7. Ambuja Visiting Professor for Society, Science and Technology
8. Shri. B.S. Rajpurohit Visiting Fellow and Oration Endowment

B. Department of Chemical Engineering

1. Dr. G.P. Kane Visiting Professorship in Chemical Engineering.
2. The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering.
3. Shri V.V. Mariwala Visiting Professorship in Chemical Engineering
4. Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
5. Professor R.A. Rajadhyaksha Memorial Lecture series.
6. Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship in Chemical Engineering
7. K.J. Somaiya Visiting Professor of Chemical Engineering (Green Chemistry and Technology)
8. Ambuja Visiting Professor in Environmental Engineering (1997)
9. Professor Arun S. Mujumdar Visiting Professor in Chemical Engineering (2009)

C. Department of Dyestuff Technology

1. K.H. Kabbur Memorial Silver Jubilee Lectureship.
2. Professor K. Venkatraman Lectureship.
3. Pidilite Industries Ltd. Visiting fellow in Dyestuff Science & Technology.

D. Department of Fibres and Textile Processing Technology

1. Professor G.M. Nabar Endowment Lectureship.
2. L.N. Chemicals UICT Diamond Jubilee Visiting Fellowship.
3. B.Sc. (Tech.) (Textiles) Class of 1966 Visiting Fellowship.

E. Department of Food Engineering and Technology

1. Professor A. Sreenivasan Felicitation Lectureship.
2. Marico Industries Visiting Fellowship
3. UICT - Lupin Visiting Fellowship for Bioprocess Technology

F. Department of Oils, Oleochemicals and Surfactants Technology

1. Professor J.G. Kane Visiting Professorship in Chemical Technology
2. Professor J.G. Kane Memorial Lectureship

G. Department of Pharmaceutical Sciences and Technology

1. CIPLA Distinguished Visiting Fellowship in Pharmaceutical Sciences
2. Themis Medicare - UICT Diamond Jubilee Distinguished Fellowship in Pharmaceutical Sciences
3. Professor (Mrs.) Malati R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology
4. AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
5. Professor S.K. Pradhan Endowment
6. Professor V.M. Kulkarni Endowment

H. Department of Polymer and Surface Engineering

1. Shri K. S. S. Raghavan - Chemical Weekly Visiting Professorship in Polymer Science and Technology
2. Indian Plastics Institute (IPI)-UICT Diamond Jubilee Visiting Fellowship in Polymer Processing
3. Chemimpex Rastogi-UICT Diamond Jubilee Visiting Fellowship in Surface Coatings.
4. Synpol-UICT Diamond Jubilee Distinguished Visiting Fellow in Science & Technology of Pigment
5. Tipco-UICT Diamond Jubilee Distinguished Visiting Fellow in Thermosets
6. Jayvee Organics & Polymers(P)Ltd. Visiting Fellowship in polymer Additives and Compounding
7. Parmanand F. Parikh Endowment

I. Department of Chemistry

1. Dai-Ichi Karkaria Ltd. Visiting Fellowship
2. The Dharamsi Morarji Chemical Co. Visiting Fellowship in Chemistry
3. The (Late) Shri. G. D. Gokhale Endowment Lectureship
4. Spinco-Biotech - Ramanathan Lectureship

J. Department of Physics

1. Dr. Mooljibhai Shivabhai Patel Trust Visiting Fellowship in Polymer Physics

18.3. Scholarships for UG Students

The ICT supports 251 students under merit-cum-means scholarships. The range is Rs. 3000/- to Rs. 75,000/ per annum per person through several endowments, private trust and annual commitments by alumni. All economically deprived students are given assistance in the form of tuition fees, hostel fees, mess bills and travel assistance to present papers in national conferences. During 2009-10, two endowments were established for supporting UG students –Dr Kangle Endowment (Rs. 5.00 lakhs) and Swati Bhagwat Endowment (Rs. 1.25 lakhs); whereas M/s Borogue have started 12 UG scholarship of US\$ 500 per student, for students of Polymer Engineering and Technology (10) and Chemical Engineering (2).

Shri. Sharad C. Patel Merit cum Means Scholarship (One UG student in Chem. Engg.) (Rs. 50,000/-)

ISCMA Scholarship By Dr. Kishore M. Shah, President, ISCMA (Rs. 5000/- Cash + Certificate)
(for 16 students of different technology branches)

Ashvin J. Desai Merit cum Means Scholarship for UG students (Rs. 1,20,000/-)

Shri Keshao Bapurao Kulkarni Scholarship Endowment for UG students of Department of Dyestuff
Technology (Rs. 1,00,000/-)

Dr. Kishore Manilal Shah Endowment Merit-cum- Means Scholarship (2) from Department of Dyestuff
Technology

B.Chem. Engg. 1982 Batch Alumni Loan Scholarship (2) from Dept. of Chem. Engg. Rs. 40,000/-

Bayer Scholarship for Ph.D. and Master Students

18.4. Ph.D. Fellowships Endowments

1. Prof. M. M. Sharma Endowment (2 Ph D Fellows)
2. Dow-ICT Woman Chemical Engineers Ph D Fellowship
3. Narottam Sekhsaria Foundation (2 Ph D Fellows)



19. UDCT ALUMNI ASSOCIATION

UDCT Alumni Association (UAA) was formed in 1989 to foster fellowship and provide a forum to bring together the alumni of UICT, its past and present faculty members on a common platform and to promote the activities of the ICT in India and abroad and to institute awards, fellowships and grants. Several well wishers are members of UAA. All current students are invited to join UAA as well wiser members and participate in all activities. For the last 20 years, UAA has striven hard to achieve its objectives with valuable and timely support of the members, well wishers and through donations or membership fees. UAA currently has more than 3500 life members and 14 Patron members. The main objectives of UAA are:

1. Providing direct financial assistance to ICT :

- To support infrastructure development of the institute
- To support student activities along with Technological Association
- To support needy students
- To provide books in special areas such as management

2. Enhancing studentship at ICT :

- Sponsoring factory visits
- Arranging lectures, seminars, symposia, workshops
- Awarding best students of ICT for their meritorious performance
- Encouraging, promoting, supporting providing, spreading and arranging for education and research in Chemical Technology, Chemical Engineering, Pharmaceutical Sciences and related Basic Sciences, Management studies and related topics.
- The Post Graduate Diploma Course in Chemical Technology Management (CTM) for the Ph.D. students in ICT is fully supported by UAA

3. Organizing Institution level events :

- Instituting the UAA Dhirubhai Ambani Lifetime Achievement Award every year to the person who excels in the chemical field internationally.
- Organizing ICT Foundation Day celebrations
- Awarding UAA Distinguished Alumnus awards every year to three or four distinguished persons for their contributions to teaching, research, industry, defence public/government
- UAA Annual Day celebrations
- Training and Placement Service to current students and alumni.

4. Managing the Alumni Network :

- Managing the database of all alumni
- Increasing UAA Membership - Any present or past student faculty member or a well-wisher can become a life member of the UAA. It has a membership of about 3500
- Maintaining UAA Website
- Issuing UAA bulletins
- Promoting ICT at national and international level

5. UAA Chapters

- UAA has local chapters in different cities in the country and also abroad in UK, USA, Singapore, Australia and Thailand.

20. VARIOUS GOVERNMENT CONCESSIONS IN FEES AND THEIR REQUIREMENTS

Following are the category-wise/ concession-wise requirements to be fulfilled by the students at the time of admission to the ICT.

The various types of application forms will have to be procured by the students at the time of admission and the duly completed forms along with necessary documents **MUST BE SUBMITTED TO THE GENERAL OFFICE WITHIN FIFTEEN DAYS**, failing which, the ICT will not be held responsible for not getting the sanction of relevant concessions from the Govt.

A. Govt. of Maharashtra Freeship/ Govt. of India Scholarship

Reserved Category students from SC/ST/VJ/DT (A)/NT-B/NT-C/ NT-D/OBC/SBC can apply for Govt. of Maharashtra Freeship / Govt. of India Scholarship.

RULES:

Govt. of India Scholarship - Annual Income limit for **VJ/DT(A)/ NT-B/ NT-C/ NT-D/ OBC/ SBC** students should be **below** Rs.1,00,000/- p.a. and for **SC/ ST** students **below** Rs.2,00,000/- p.a. to submit claim for Govt. of India Scholarship.

Govt. of Maharashtra Freeship - Annual Income limit for **VJ/DT(A)/ NT-B/ NT-C/ NT-D/ OBC/ SBC** students should be **above** Rs.1,00,000/- p.a. and for **SC/ ST** students **above** Rs.2,00,000/- p.a. to submit claim for Govt. of Maharashtra Freeship.

NOTE:- UGC/ Private fellowship holders (only applicable to PG students) can submit claim for Govt. of Maharashtra Freeship only. They cannot apply for Govt. of India Scholarship.

The Application Form should be filled up On Line by the HSSC Board students. Such students should take out print of the filled form along with attested photocopies of the following documents and submit to the Academic Office (Mrs. Asha Bhangre). Students from other than HSSC Board should fill up paper version of the application form.

1. Income Certificate of the parents for year 2011-12.

- ✓ For Freeship – Income Certificate of the parents for year 2011-12 from Tehasildar OR latest Form 16 A of the parents obtained from the employer.

AND

Non Creamy Layer Certificate for the current year (Only for VJ/DT(A)/NT-B/NT-C/ NT-D/OBC/SBC, Not for SC/ ST) – valid up to 31st March 2013.

- ✓ For Scholarship – Income Certificate of the parents for year 2011-12 from Tehasildar.

2. For Fresh **ST** students other than Mumbai Board - Change of District Certificate (Zilla Badal Dakhala)

3. Caste Certificate - signed by Special Executive Magistrate.

4. Caste Validity Certificate

5. Ration Card

6. Mark sheet of the last annual examination passed.

7. Admission Fee receipt of 2012-13.

8. In case of **GAP** period in education **GAP CERTIFICATE** must be submitted.

9. Hosteller claiming Govt. of India Scholarship should submit Hostel Certificate for the academic year 2012-13.

B. Hostel Allowance

Reserved Category candidates of SC/ ST/ VJ-NT/ SBC categories, staying in Hostel and applying for Govt. of India Scholarship can apply for Hostel allowance.

After admission to hostel, students should obtain the form from the General Office.

The attested copies of the following documents should be attached with the Application Form.

1. Income Certificate of the parents for year 2011-12 from Tehasildar.
2. Caste Certificate - signed by Special Executive Magistrate.
3. Caste Validity Certificate.
4. Mark sheet of the last annual examination passed.
5. Admission Fee receipt of 2012-13.
6. Hostel Certificate and Hostel fee receipt for the academic year 2012-13.

C. Govt. of Maharashtra Freeship to Sons & Daughters of Primary and Secondary School Teachers

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Service Certificate of parent should be countersigned by **Education Inspector** with **Date of Retirement** mentioned therein.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2012-13.

D. Freeship to Economically Backward Class (EBC) Students

Income Limit for the EBC Students to claim this freeship is Rs. 1,00,000/- p.a.

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Income Certificate of the parents for year 2011-12 from Tehasildar.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2012-13.

E. Freeship to Sons & Daughters of Ex-Servicemen

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Ex-Serviceman Certificate.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2012-13.

F. Merit cum Means Based Scholarship of Government of India

(Muslim, Sikh, Buddhist, Christian, Zoroastrians (Parsi))

For application form, eligibility criteria and documents to be submitted please see www.dte.org.in. After completing the form along with required documents, it should be submitted to the ICT Academic office (Mrs. Asha Bhangre).

G. Government of Maharashtra Scholarship for the Minority Communities Students Pursuing Technical and Professional Education

(Muslim, Sikh, Buddhist, Christian, Zoroastrians (Parsi) and Jain minority communities)

For application form, eligibility criteria and documents to be submitted, please see www.dte.org.in. After completing the form along with required documents, it should be submitted to the ICT Academic office (Mrs. Asha Bhangre).



21. UNIVERSITY GRANTS COMMISSION

REGULATIONS ON CURBING THE MENACE OF RAGGING IN HIGHER EDUCATION INSTITUTIONS, 2009

NO. F 1-16/2007 (CPP-II)

April, 2009

In exercise of the powers conferred by Clause (g) of Sub-Section (1) of Section 26 of the University Grants Commission Act, 1956, the University Grants Commission hereby makes the following Regulations, namely -

1. Title, commencement and applicability:-

- 1.1. These regulations shall be called the "UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009".
- 1.2. They shall come into force with immediate effect.
- 1.3. They shall apply to all the universities established or incorporated by or under a Central Act, a Provincial Act or a State Act, to all institutions deemed to be university under Section 3 of the UGC Act, 1956, to all other higher educational institutions, including the departments, constituent units and all the premises (academic, residential, sports, canteen, etc) of such universities, deemed universities and other higher educational institutions, whether located within the campus or outside, and to all means of transportation of students whether public or private.

2. Objective:-

To root out ragging in all its forms from universities, colleges and other educational institutions in the country by prohibiting it by law, preventing its occurrence by following the provisions of these Regulations and punishing those who indulge in ragging as provided for in these Regulations and the appropriate law in force.

3. Definitions: - For the purposes of these Regulations:-

- 3.1. "college" means any institution, whether known as such or by any other name, which provides for a programme of study beyond 12 years of schooling for obtaining qualification from a university and which, in accordance with the rules and regulations of such university, is recognized as competent to provide for such programme of study and present students undergoing such programme of study for the examination for the award of such qualification.
- 3.2. "Head of the institution" means the 'Vice-Chancellor' in case of a university/deemed to be university, 'Principal' in case of a college, 'Director' in case of an institute.
- 3.3. "institution" means a higher educational institution (HEI), like a university, a college, an institute, etc. imparting higher education beyond 12 years of schooling leading to a degree (graduate, postgraduate and/or higher level) and/or to a university diploma.
- 3.4. "Ragging" means the following: Any conduct whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or a junior student or asking the students to do any act or perform something which such student will not do in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student.

- 3.5. "Statutory/Regulatory body" means a body so constituted by a Central/ State Government legislation for setting and maintaining standards in the relevant areas of higher education, such as the AllIndia Council for Technical Education (AICTE), the Bar Council of India (BCI), the Dental Council of India (DCI), the Distance Education Council (DEC), the Indian Council of Agricultural Research (ICAR), the Indian Nursing Council (INC), the Medical Council of India (MCI), the National Council for Teacher Education (NCTE), the Pharmacy Council of India (PCI), etc. and the State Higher Education Councils.
- 3.6. "University" means a university established or incorporated by or under a Central Act, a Provincial Act or a State Act, an institution deemed to be university under Section 3 of the UGC Act, 1956, or an institution specially empowered by an Act of Parliament to confer or grant degrees.

4. Punishable ingredients of Ragging:-

- Abetment to ragging;
- Criminal conspiracy to rag;
- Unlawful assembly and rioting while ragging;
- Public nuisance created during ragging;
- Violation of decency and morals through ragging;
- Injury to body, causing hurt or grievous hurt;
- Wrongful restraint;
- Wrongful confinement;
- Use of criminal force;
- Assault as well as sexual offences or unnatural offences;
- Extortion;
- Criminal trespass;
- Offences against property;
- Criminal intimidation;
- Attempts to commit any or all of the above mentioned offences against the victim(s);
- Physical or psychological humiliation;
- All other offences following from the definition of "Ragging".

5. Measures for prohibition of ragging at the institution level:-

- 5.1 The institution shall strictly observe the provisions of the Act of the Central Government and the State Governments, if any, or if enacted, considering ragging as a cognizable offence under the law on a par with rape and other atrocities against women and ill-treatment of persons belonging to the SC/ST, and prohibiting ragging in all its forms in all institutions
- 5.2 Ragging in all its forms shall be totally banned in the entire institution, including its departments, constituent units, all its premises (academic, residential, sports, canteen, etc) whether located within the campus or outside and in all means of transportation of students whether public or private.
- 5.3 The institution shall take strict action against those found guilty of ragging and/or of abetting ragging.

6 Measures for prevention of ragging at the institution level: -

6.1 Before admissions:-

- 6.1.1 The advertisement for admissions shall clearly mention that ragging is totally banned in the institution, and anyone found guilty of ragging and/or abetting ragging is liable to be punished appropriately (for punishments, ref. section 8 below).

- 6.1.2 The brochure of admission/instruction booklet for candidates shall print in block letters these Regulations in full (including Annexures).
- 6.1.3 The 'Prospectus' and other admission related documents shall incorporate all directions of the Supreme Court and /or the Central or State Governments as applicable, so that the candidates and their parents/ guardians are sensitized in respect of the prohibition and consequences of ragging. If the institution is an affiliating university, it shall make it mandatory for the institutions under it to compulsorily incorporate such information in their 'Prospectus'.
- 6.1.4 The application form for admission/ enrolment shall have a printed undertaking, preferably both in English/Hindi and in one of the regional languages known to the institution and the applicant (English, Hindi and Marathi versions appended), to be filled up and signed by the candidate to the effect that he/she is aware of the law regarding prohibition of ragging as well as the punishments, and to the effect that he/she has not been expelled and/or debarred from admission by any institution and that he/she, if found guilty of the offence of ragging and/or abetting ragging, is liable to be punished appropriately.
- 6.1.5 The application form shall also contain a printed undertaking, preferably both in English/Hindi and in one of the regional languages known to the institution and the parent/ guardian (English Hindi and Marathi versions appended), to be signed by the parent/ guardian of the applicant to the effect that he/ she is also aware of the law in this regard and agrees to abide by the punishment meted out to his/ her ward in case the latter is found guilty of ragging and/or abetting ragging.
- 6.1.6 The application for admission shall be accompanied by a document in the form of the School Leaving Certificate/Transfer Certificate/ Migration Certificate/ Character Certificate which shall include a report on the behavioral pattern of the applicant, so that the institution can thereafter keep intense watch upon a student who has a negative entry in this regard.
- 6.1.7 A student seeking admission to the hostel shall have to submit additional undertaking in the form of 6.1.4 (both Parts) along with his/ her application for hostel accommodation.
- 6.1.8 At the commencement of the academic session the Head of the Institution shall convene and address a meeting of various functionaries/agencies, like Hostel Wardens, representatives of students, parents/ guardians, faculty, district administration including police, to discuss the measures to be taken to prevent ragging in the Institution and steps to be taken to identify the offenders and punish them suitably.
- 6.1.9 To make the community at large and the students in particular aware of the dehumanizing effect of ragging, and the approach of the institution towards those indulging in ragging, big posters (preferably multicolored with different colours for the provisions of law, punishments, etc.) shall be prominently displayed on all Notice Boards of all departments, hostels and other buildings as well as at vulnerable places. Some of such posters shall be of permanent nature in certain vulnerable places.
- 6.1.10 The institution shall request the media to give adequate publicity to the law prohibiting ragging and the negative aspects of ragging and the institution's resolve to ban ragging and punish those found guilty without fear or favour.
- 6.1.11 The institution shall identify, properly illuminate and man all vulnerable locations.
- 6.1.12 The institution shall tighten security in its premises, especially at the vulnerable places. If necessary, intense policing shall be resorted to at such points at odd hours during the early months of the academic session.
- 6.1.13 The institution shall utilize the vacation period before the start of the new academic year to launch wide publicity campaign against ragging through posters, leaflets, seminars, street plays, etc.
- 6.1.14 The faculties/ departments/ units of the institution shall have induction arrangements (including those which anticipate, identify and plan to meet any special needs of any specific section of students) in place well in advance of the beginning of the academic year with a clear sense of the main aims and objectives of the induction process.

6.2 On admission:-

- 6.2.1 Every fresh student admitted to the institution shall be given a printed leaflet detailing when and to whom he/she has to turn to for help and guidance for various purposes (including Wardens, Head of the institution, members of the anti-ragging committees, relevant district and police authorities), addresses and telephone numbers of such persons/authorities, etc., so that the fresher need not look up to the seniors for help in such matters and get indebted to them and start doing things, right or wrong, at their behest. Such a step will reduce the freshers' dependence on their seniors.
- 6.2.2 The institution through the leaflet mentioned above shall explain to the new entrants the arrangements for their induction and orientation which promote efficient and effective means of integrating them fully as students.
- 6.2.3 The leaflet mentioned above shall also inform the freshers about their rights as bona fide students of the institution and clearly instructing them that they should desist from doing anything against their will even if ordered by the seniors, and that they have nothing to fear as the institution cares for them and shall not tolerate any atrocities against them.
- 6.2.4 The leaflet mentioned above shall contain a calendar of events and activities laid down by the institution to facilitate and complement familiarization of freshers with the academic environment of the institution.
- 6.2.5 The institution shall also organize joint sensitization programmes of 'freshers' and seniors.
- 6.2.6 Freshers shall be encouraged to report incidents of ragging, either as victims, or even as witnesses.

6.3 At the end of the academic year:-

- 6.3.1 At the end of every academic year the Vice-Chancellor/ Dean of Students Welfare/ Director/ Principal shall send a letter to the parents/ guardians of the students who are completing the first year informing them about the law regarding ragging and the punishments, and appealing to them to impress upon their wards to desist from indulging in ragging when they come back at the beginning of the next academic session.
- 6.3.2 At the end of every academic year the institution shall form a 'Mentoring Cell' consisting of Mentors for the succeeding academic year. There shall be as many levels or tiers of Mentors as the number of batches in the institution, at the rate of 1 Mentor for 6 freshers and 1 Mentor of a higher level for 6 Mentors of the lower level.

6.4 Setting up of Committees and their functions:-

- 6.4.1 The Anti-Ragging Committee:- The Anti-Ragging Committee shall be headed by the Head of the institution and shall consist of representatives of faculty members, parents, students belonging to the freshers' category as well as seniors and non-teaching staff. It shall monitor the anti-ragging activities in the institution, consider the recommendations of the Anti Ragging Squad and take appropriate decisions, including spelling out suitable punishments to those found guilty.
- 6.4.2 The Anti-Ragging Squad:- The Anti-Ragging Squad shall be nominated by the Head of the institution with such representation as considered necessary and shall consist of members belonging to the various sections of the campus community. The Squad shall have vigil, oversight and patrolling functions. It shall be kept mobile, alert and active at all times and shall be empowered to inspect places of potential ragging and make surprise raids on hostels and other hot spots. The Squad shall investigate incidents of ragging and make recommendations to the Anti-Ragging Committee and shall work under the overall guidance of the said Committee.
- 6.4.3 Monitoring Cell on Ragging:- If the institution is an affiliating university, it shall have a Monitoring Cell on Ragging to coordinate with the institutions affiliated to it by calling for reports from the Heads of such institutions regarding the activities of the Anti-Ragging Committees, Squads, and Mentoring Cells, regarding compliance with the instructions on

conducting orientation programmes, counseling sessions, etc., and regarding the incidents of ragging, the problems faced by wardens and other officials, etc. This Cell shall also review the efforts made by such institutions to publicize anti-ragging measures, cross-verify the receipt of undertakings from candidates/students and their parents/guardians every year, and shall be the prime mover for initiating action by the university authorities to suitably amend the Statutes or Ordinances or Bye-laws to facilitate the implementation of anti ragging measures at the level of the institution.

6.5 Other measures:-

- 6.5.1 The Annexures mentioned in sub-clauses 6.1.4, 6.1.5 and 6.1.7 of these Regulations shall be furnished at the beginning of each academic year by every student, that is, by freshers as well as seniors.
- 6.5.2 The institution shall arrange for regular and periodic psychological counseling and orientation for students (for freshers separately, as well as jointly with seniors) by professional counselors during the first three months of the new academic year. This shall be done at the institution and department/ course levels. Parents and teachers shall also be involved in such sessions.
- 6.5.3 Apart from placing posters mentioned in sub-clause 6.1.9 above at strategic places, the institution shall undertake measures for extensive publicity against ragging by means of audio-visual aids, by holding counseling sessions, workshops, painting and design competitions among students and other methods as it deems fit.
- 6.5.4 If the institution has B.Ed, and other Teacher training programmes, these courses shall be mandated to provide for anti-ragging and the relevant human rights appreciation inputs, as well as topics on sensitization against corporal punishments and checking of bullying amongst students, so that every teacher is equipped to handle at least the rudiments of the counseling approach.
- 6.5.5 Wardens shall be appointed as per the eligibility criteria laid down for the post reflecting both the command and control aspects of maintaining discipline, as well as the softer skills of counseling and communicating with the youth outside the class-room situations. Wardens shall be accessible at all hours and shall be provided with mobile phones. The institution shall review and suitably enhance the powers and perquisites of Wardens and authorities involved in curbing the menace of ragging.
- 6.5.6 The security personnel posted in hostels shall be under the direct control of the Wardens and assessed by them.
- 6.5.7 Private commercially managed lodges and hostels shall be registered with the local police authorities, and this shall be done necessarily on the recommendation of the Head of the institution. Local police, local administration and the institutional authorities shall ensure vigil on incidents that may come within the definition of ragging and shall be responsible for action in the event of ragging in such premises, just as they would be for incidents within the campus. Managements of such private hostels shall be responsible for not reporting cases of ragging in their premises.
- 6.5.8 The Head of the institution shall take immediate action on receipt of the recommendations of the Anti-Ragging Squad. He/ She shall also take action suo motto if the circumstances so warrant.
- 6.5.9 Freshers who do not report the incidents of ragging either as victims or as witnesses shall also be punished suitably.
- 6.5.10 Anonymous random surveys shall be conducted across the 1st year batch of freshers every fortnight during the first three months of the academic year to verify and cross-check whether the campus is indeed free of ragging or not. The institution may design its own methodology of conducting such surveys.
- 6.5.11 The burden of proof shall lie on the perpetrator of ragging and not on the victim.
- 6.5.12 The institution shall file an FIR with the police / local authorities whenever a case of ragging is

reported, but continue with its own enquiry and other measures without waiting for action on the part of the police/ local authorities. Remedial action shall be initiated and completed within the one week of the incident itself.

- 6.5.13 The Migration / Transfer Certificate issued to the student by the institution shall have an entry, apart from those relating to general conduct and behaviour, whether the student has been punished for the offence of committing or abetting ragging, or not, as also whether the student has displayed persistent violent or aggressive behaviour or any inclination to harm others.
- 6.5.14 Preventing or acting against ragging shall be the collective responsibility of all levels and sections of authorities or functionaries in the institution, including faculty, and not merely that of the specific body/ committee constituted for prevention of ragging.
- 6.5.15 The Heads of institutions other than universities shall submit weekly reports to the Vice chancellor of the university the institution is affiliated to or recognized by, during the first three months of new academic year and thereafter each month on the status of compliance with anti-ragging measures. The Vice Chancellor of each university shall submit fortnightly reports of the university, including those of the Monitoring Cell on Ragging in case of an affiliating university, to the Chancellor.
- 6.5.16 Access to mobile phones and public phones shall be unrestricted in hostels and campuses, except in class-rooms, seminar halls, library etc. where jammers shall be installed to restrict the use of mobile phones.

6.6 Measures for encouraging healthy interaction between freshers and seniors:-

- 6.6.1 The institution shall set up appropriate committees including the course-in-charge, student advisor, Warden and some senior students to actively monitor, promote and regulate healthy interaction between the freshers and senior students.
- 6.6.2 Freshers' welcome parties shall be organized in each department by the senior students and the faculty together soon after admissions, preferably within the first two weeks of the beginning of the academic session, for proper introduction to one another and where the talents of the freshers are brought out properly in the presence of the faculty, thus helping them to shed their inferiority complex, if any, and remove their inhibitions.
- 6.6.3 The institution shall enhance the student-faculty interaction by involving the students in all matters of the institution, except those relating to the actual processes of evaluation and of faculty appointments, so that the students shall feel that they are responsible partners in managing the affairs of the institution and consequently the credit due to the institution for good work/ performance is due to them as well.

7. Measures at the UGC/ Statutory/ Regulatory body level:-

7.1 Regulatory measures:-

- 7.1.1 The UGC and other Statutory /Regulatory bodies shall make it mandatory for the institutions to compulsorily incorporate in their 'Prospectus' the directions of the Supreme Court and/or the Central or State Governments with regard to prohibition and consequences of ragging, and that non-compliance with the directives against ragging in any manner whatsoever shall be considered as lowering of academic standards by the erring institution making it liable for appropriate action.
- 7.1.2 The UGC (including NAAC and UGC Expert Committees visiting institutions for various purposes) and similar Committees of other Statutory/Regulatory bodies shall cross-verify that the institutions strictly comply with the requirement of getting the undertakings from the students and their parents/ guardians as envisaged under these Regulations.
- 7.1.3 The UGC and other funding bodies shall make it one of the conditions in the Utilization Certificate for sanctioning any financial assistance or aid to the institution under any of the general or special schemes that the institution has strictly complied with the anti-ragging measures and has a blemish-less record in terms of there being no incidents of ragging during the period pertaining to the Utilization Certificate.

- 7.1.4 The NAAC and other accrediting bodies shall factor in any incident of ragging in the institution while assessing the institution in different grades.

7.2 Incentives for curbing ragging:-

- 7.2.1 The UGC shall consider providing special/ additional annual financial grants-in-aid to those eligible institutions which report a blemish-less record in terms of there being no incidents of ragging.
- 7.2.2 The UGC shall also consider instituting another category of financial awards or incentives for those eligible institutions which take stringent action against those responsible for incidents of ragging.
- 7.2.3 The UGC shall lay down the necessary incentive for the post of Warden in order to attract the right type of eligible candidates, and motivate the incumbents.

7.3 Monitoring mechanism to ensure compliance:-

Apart from the monitoring mechanism built in under different sub-clauses of these Regulations, there shall also be the following monitoring mechanism:

- 7.3.1 The UGC shall constitute an Inter-Council Committee for prevention of

Ragging consisting of representatives of the AICTE, the IITs, the NITs, the IIMs, the MCI, the DCI, the NCI, the ICAR and such other bodies which have to deal with higher education to coordinate and monitor the anti-ragging movement across the country and to make certain policy decisions. The said Committee shall meet at least twice a year in the normal course.

- 7.3.2 The UGC shall also have an Anti-Ragging Cell within the Commission as an institutional mechanism to provide secretarial support for collection of information and monitoring, and to coordinate with the State level and university level Committees for effective implementation of anti-ragging measures.

8 Punishments:-

8.1 At the institution level:-

Depending upon the nature and gravity of the offence as established by the Anti-Ragging Committee of the institution, the possible punishments for those found guilty of ragging at the institution level shall be any one or any combination of the following:

- 1.1 Suspension from attending classes and academic privileges
- 1.2 Withholding/ withdrawing scholarship/ fellowship and other benefits.
- 1.3 Debarring from appearing in any test/ examination or other evaluation process.
- 1.4 Withholding results
- 1.5 Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc. .
- 1.6 Suspension/ expulsion from the hostel.
- 1.7 Cancellation of admission
- 1.8 Rustication from the institution for period ranging from 1 to 4 semesters
- 1.9 Expulsion from the institution and consequent debarring from admission to any other institution for a specified period ,
- 1.10 Fine ranging between Rupees 25,000/- and Rupees 1 lakh .
- 1.11 Collective punishment: When the persons committing or abetting the crime of ragging are not identified, the institution shall resort to collective punishment.

8.2 At the university level in respect of institutions under it:-

If an institution under a university (being constituent of, affiliated to or recognized by it) fails to comply with any of the provisions of these Regulations and fails to curb ragging effectively, the

university may impose any one or any combination of the following penalties on it:

- 8.2.1 Withdrawal of affiliation/ recognition or other privileges conferred on it
- 8.2.2 Prohibiting such institution from presenting any students then undergoing any programme of study therein for the award of any degree/diploma of the university
- 8.2.3 Withholding grants allocated to it by the university, if any
- 8.2.4 Withholding any grants chanelled through the university to the institution
- 8.2.5 Any other appropriate penalty within the powers of the university.

8.3 At the appointing authority level-

The authorities of the institution, particularly the Head of the institution, shall be responsible to ensure that no incident of ragging takes place in the institution. In case any incident of ragging takes place, the Head shall take prompt and appropriate action against the person(s) whose dereliction of duty lead to the incident. The authority designated to appoint the Head shall, in its turn, take prompt and appropriate action against the Head.

8.4 At the UGC/Statutory/Regulatory body level: -

If an institution fails to curb ragging, the UGC/Statutory/Regulatory body concerned may impose any one or any combination of the following penalties on it:

- 8.4.1 Delisting the institution from section 12B of the UGC Act or any similar provision in the Act of the Statutory/Regulatory body concerned
- 8.4.2 Withholding any grants allocated to it
- 8.4.3 Declaring the institution ineligible for consideration for any assistance under any of the general or special assistance programmes of the UGC/Statutory/Regulatory body concerned
- 8.4.4 Declaring that the institution does not have the minimum academic standards and warning the potential candidates for admission accordingly through public notice and posting on the UGC Website/ Website of the Statutory/Regulatory body concerned.
- 8.4.5 Taking such other action within its powers as it may deem fit and impose such other penalties as provided till such time as the institution achieves the objective of curbing ragging.
- 8.4.6 Collaborating with one another to work out other possible deterrents.



Proforma – A
(For Type – D Candidates)

(For Sons and Daughters of Maharashtra State Govt./ Maharashtra State Govt. Undertaking Employees)

CERTIFICATE

This is to certify that Shri/ Smt. _____
is an employee in the capacity of _____
in _____
Designation) (Name of the Organisation / Establishment/Department)

This Organisation/ Establishment / Department is under _____
(Department of Govt. of India / Govt. of India undertaking / Maharashtra State Govt. / Maharashtra State Govt. Undertaking)

Shri/ Smt. _____ is transferred to _____
in Maharashtra State vide transfer order No. _____ Dated _____
He/ She has joined duty in Maharashtra on _____ and is currently working on the
same post.

This certificate is issued for the purpose of his/ her son/ daughter _____ 's
admission to first year of four years degree course in Technical education for the academic year
2012-2013.

Date :

Seal of the Office

Name & Designation
of the Head of the office

(_____)

Note : This pro forma is to be accompanied by attested copy of :

- 1) Transfer order
- 2) Joining report



Proforma – A1
(For Type – D Candidates)

**(For Sons and Daughters of Maharashtra State Govt./ Maharashtra State Govt.
Undertaking Employees)**

CERTIFICATE

This is to certify that Shri/ Smt. _____

is an employee in the capacity of _____

in _____ since _____

Designation) (Name of the Organisation / Establishment/Department)

This Organisation/ Establishment/ Department is under Maharashtra State Govt. / Maharashtra State Govt. Undertaking.

This certificate is issued for the purpose of his/ her son/ daughter _____ 's admission to first year of four years degree course in Technical education for the academic year 2012-2013.

Date :

Name & Designation
of the Head of the office

Seal of the Office

(_____)



Proforma - B
(For Type - D Candidates)

(For P1/ P2/ P3 Candidates)
(For Physically Handicapped Candidates)

Photograph of the candidate **showing the Physical disability**

CERTIFICATE

This is to certify that I have examined Mr./Ms _____
_____ on date _____ . He/She has _____

(Name of the Physical Disability)

which comes under the sub category
Blindness (P1)/ Speech & Hearing impaired (P2)/ Orthopaedic disorder(P3)

1. The percentage of handicap is **not less than 40%** and is equal to %.
2. The disability is permanent in nature.
3. The candidate is capable of carrying out all activities related to theory and practical works as applicable to degree course in Engineering/ Technology without any special concessions and exemptions.
4. This certificate is issued as per the provisions given in the Person with Disability Act, 1995 and its amendments.

This certificate is issued for the purpose of his/ her admission to first year of four years degree course in Technical education for the academic year 2012-2013.

Outward No. and Date :

Place : _____)

(Name and Signature)

Director

All India Institute of

Physically Handicapped, Mumbai

(Or) Dean/ Civil Surgeon of Government Hospital

(Name of the issuing Authority)

.....
.....
.....

Seal of the Office



Proforma - B1

(To be issued on the printed letterhead of the concerned office)

(For Physically Handicapped Candidates)

P3 (Learning Disability) Candidates

LEARNING DISABILITY CLINIC

L.T.M.G, HOSPITAL, SION, MUMBAI 400 022

Photograph of the
candidate

CERTIFICATE

Name : _____ Date: _____

Age : _____

Date of Birth : _____

Date of Registration : _____ L.D. No. _____

Father's Name : _____

Std. : _____ School/ College Name: _____

Physical & Neurologic Assessment (Date) : _____

Psychological Assessment (Date) : _____

WISC (R) Verbal IQ : _____

Performance IQ : _____

Global IQ : _____

Interpretation : _____

Educational Assessment (Date) : _____ WRAT: R

S

A

Certified that :

1. The percentage of handicap is not less than 40% and is equal to %.
2. The disability is permanent in nature.
3. The candidate is capable of carrying out all activities related to theory and practical works as applicable to degree course in Engineering/ Technology without any special concessions and exemptions.
4. This certificate is issued as per the provisions given in the Person with Disability Act, 1995 and its amendments.

This certificate is issued for the purpose of his/ her admission to first year of four years degree course in Technical education for the academic year 2012-2013.

Recommendations

Outward No. and Date :

Place : (_____)

(Name and Signature of Issuing authority)



Proforma - C

(Authorization letter from candidate who fails to attend the First Year Undergraduate admission round at ICT in person due to valid unavoidable circumstances beyond control)

I _____ (Name of the candidate) having General ICT Merit No. _____ for F.Y.B.Chem.Engg./ F.Y.B.Tech./ F.Y.B.Pharm. degree admission, have my admission counselling on _____ (Date of counselling)
As I cannot attend the admission counselling personally, I am authorizing Mr./Mrs. _____
_____ (Name of the authorized person) who is my _____
_____ (Relation of the authorized person to the candidate) to attend the admission counselling on my behalf. He /She will produce all the original documents needed for the admission and pay the necessary fees on my behalf. The decision taken by Mr./ Mrs. _____
_____ (Name of the authorized person) during the admission counselling in respect of my admission is acceptable and binding on me.

(_____)

Date : _____

(Name &Signature of the Candidate)

Place : _____

General ICT Merit No. :

Attestation

The signature of _____ is as under.
(Name of the authorized person)

(Signature of the authorized person)

Attested by

(Signature of the Candidate)



Proforma - D

(Undertaking to be given by candidate who is unable to produce original certificates at the time of his / her admission round, as admission is already taken elsewhere)

UNDERTAKING

I _____ have secured admission to _____ Course at _____ the ICT for first year degree on date _____

And therefore, I have not produced the following original documents at ICT at the time of my admission as I have already secured admission for _____ Course at _____ College/Institute.

(Please put X against 'not submitted' document)

1. HSSC Mark sheet
2. Institute leaving Certificate after passing the qualifying examination
3. _____

I have produced the photocopies of the above documents, attested by the Head of the Institution (along with the certification) where my original documents are retained on account of my admission to that college/institute.

I hereby undertake to submit the original documents as mentioned above on or before (within 3 working days) _____ at ICT.

I am aware of the fact that failure on my part to submit the original documents in given time will result in cancellation of my admission without any refund of tuition fees as per the provisions of the admission rule.

Date : _____

Place : _____

(Name of candidate with signature)

ICT Merit No. _____



Proforma - E

(Specimen Application form for Cancellation of Admission)
(To be submitted in duplicate)

Date: _____

To
The Vice Chancellor,
ICT, Mumbai

Respected Sir,

Full name of candidate: _____

Course : _____ Branch: _____

Date of Admission _____ ICT Merit Number: _____

Amount of fees paid: Rs. _____

Fee Receipt Number and Date: _____ (Attach Photocopy)

I request you to kindly return my original documents and refund the fees paid as per the rules.

Signature of candidate

For Office use only:

Full address of the candidate : _____ _____ _____
Tel./Mobile No. : _____
E mail: _____

Amount Paid,	
Rs.Amount Deducted, Rs.	
Amount Refunded, Rs.	
Cheque No. & date	
Bank particulars	

Signature of Accounts Officer

Received the following original documents from the Admission Authority, along with the cheque towards refund of fees after deductions.

1. _____
2. _____
3. _____

Signature of the candidate



PERFORMA FOR DEFENCE

Pro forma – F 1

(To be issued on the Printed Letter Head of the concerned office)

(For Def-1, Def-2 and Def-3 Candidates)
(For Sons and Daughters of Defence Service Personnel)

CERTIFICATE

This is to certify that Shri. / Smt _____ ,
(Full Name of the Employee with Rank of the employee)

is / has been a member of Armed forces of India. He / She has put in _____
years of service in Indian Army / Indian Navy / Indian Air Force from _____ to
and is currently working / retired from services on _____ /
permanently disabled since _____ / killed in action on _____

This certificate is issued for the purpose of his/ her son/ daughter _____ 's
admission to First Year of B.Chem.Engg./ B.Tech./ B.Pharm. for the academic year 2012-13.

Outward No. & Date : _____

Place : _____

(Signature)

Name and designation
of the Authority not below the rank
of Commandant or equivalent /
District Sainik Welfare officer

Seal of the Office

Note:- This certificate is not to issued for the Civilian Staff working in the Indian Army/Navy/Airforce.



Proforma - F2

(To be issued on the Printed Letter Head of the concerned office)

(For Def-3 Candidates)

**(For Sons and Daughters of Active Defence Service Personnel
not Domiciled in Maharashtra State)**

CERTIFICATE

This is to certify that Shri / Smt. _____ is a member of
(Full Name of the Employee with Rank of the employee)

Armed forces of India, and is currently working in Indian Army / Indian Navy / Indian Air Force.

Shri / Smt. _____ is transferred to _____

(Place of posting) in Maharashtra State vide transfer order No. _____ Dated _____

He / She has joined duty in Maharashtra on _____ (Date of Joining) and
is currently working in the same post.

This certificate is issued for the purpose of his / her son / daughter _____ 's
admission to First Year of B.Chem.Engg. / B.Tech. / B.Pharm. for the academic year 2012-13.

Outward No. & Date: _____

(Signature)

Place: _____

Name & Designation
of the Head of the office

(Seal of the Office)

Note: This pro forma is to be accompanied by attested copy of

- 1) Transfer order
- 2) Joining report

Note: This certificate is not to be issued for Civilian Staff working in the Indian Army/Navy/Airforce.



Proforma - F3

(To be issued on the Printed Letter Head of the concerned office)

(For Def-3 Candidates)

(For sons and daughters of Active defence service personnel not domiciled in Maharashtra State but retrained their family accommodation)

CERTIFICATE

This is to certify that Shri / Smt. _____ is a member of
(Full Name of the Employee with Rank of the employee)

Armed forces of India, and is currently working in Indian Army / Indian Navy / Indian Air Force.

Shri / Smt. _____ is presently posted at _____ (Place of posting)

His / Her previous posting was at _____ in Maharashtra State.

He / She has retained family accommodation in _____ in Maharashtra State on account of posting in non family station / for education purpose of son / daughter.

This certificate is issued for the purpose of his / her son / daughter _____ 's admission to First Year of B.Chem.Engg./ B.Tech./ B.Pharm. for the academic year 2012-13.

Outward No. & Date: _____

(Signature)

Place: _____

Name & Designation
of the Head of the office

(Seal of the Office)

Note: This certificate is not to be issued for Civilian Staff working in the Indian Army / Navy / Air force.



प्रतिज्ञा

मी रसायन तंत्रज्ञान संस्थेचा पाईक आहे. तिच्या कर्तृत्वाचा आणि प्रतिष्ठेचा मला गर्व नसून यथार्थ अभिमान आहे. या संस्थेच्या दायित्वाचे ऋण फेडण्यास मी उत्सुक आहे. या ज्ञानपीठाच्या पायऱ्या चढताना मला जाणीव होते की अनेक थोर व्यक्तींच्या निःस्वार्थ सेवेतून निर्मिलेल्या परंपरेचा आणि अभिव्यक्तीचा मी एक अविभाज्य भाग आहे. इथे मी ज्ञानशोधक, ज्ञानदानी आणि ज्ञानसेवकांच्या सहवासात असेन. मी फक्त सत्य कार्यतच सहभागी राहीन आणि संस्थेची प्रतिष्ठा आणि वारसा जपण्यास सदैव जागरूक असेन. मी पूर्वग्रहदोषांचा त्याग करुन नैतिक, व्यावसायिक व कायदेशीररित्या योग्य असेच कार्य करेन. मी माझ्या सहकाऱ्यांना वचन देतो आणि त्यांच्याकडूनही प्रतिज्ञा घेतो की ते सर्वजण एकात्मता, सौजन्य, सहनशीलता, आदरभाव यांचे प्रतिक राहतील आणि आपल्या संस्थेच्या ख्याती आणि प्रतिष्ठेच्या पालनासाठी सुसज्ज राहतील. आम्ही वचनबद्ध आहोत की या संस्थेची, भारत देशाची आणि मानवतेची सेवा प्रामाणिकपणे करीत राहू.

PLEDGE

I AM AN ICTian. In this, my institute, I take deep pride, but without vainglory; to it I owe solemn obligations that I am eager to fulfill. I climb these steps into a grand shrine of knowledge and portal of excellence. I am privileged to be part of a great tradition, rich culture and ethos built by selfless services of great many individuals. I take great pride in its achievements and eminence. I will be in a company of knowledge seekers, givers and servers. It will be my endeavor to protect its reputation and legacy. I will participate in none but honest enterprise. I shall shun prejudice of all kinds and perform actions that are deemed righteous morally, ethically, professionally and legally. To my fellows I pledge, in the same full measure. I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the repute and the dignity of our institute; with the consciousness, always, that our special expertness carries with the obligation TO SERVE ICT, INDIA AND MANKIND WITH COMPLETE SINCERITY.





INSTITUTE OF CHEMICAL TECHNOLOGY

(University Under Section 3 of UGC Act 1956)

VISION

We shall perennially strive to be a vibrant institute with continuously evolving curricula to brighten the future of the chemical, biological, materials and energy industries of the nation, and rank amongst the very best in the world through active participation and scholarship of our faculty, students and alumni. We shall be creators of sprouting knowledge and design cutting-edge technologies that will have the greatest impact on society and benefit mankind at large.

MISSION

We shall generate and sustain an atmosphere conducive to germinating new knowledge at every available opportunity. The education we shall impart will enable our students to devise new solutions to meet the needs of all segments of society with regard to material and energy, while protecting the environment and conserving the natural resources. Our endeavours, while extending well beyond the confines of the classroom, will aim to enhance public welfare and our attempts to dissipate knowledge will spread to a greater multi- and cross-disciplinary platform to conduct research, discovery, technology development, service to industry and entrepreneurship, in consonance with India's aspirations to be a welfare state. We will team scientists and engineers with professionals in other disciplines to arrive at better solutions. We will provide all our students with a strong foundation to encourage them to be our ambassadors in the professional activities that they choose to undertake in service of society at national and international levels. Through our vision, we will serve the profession and society and strive to reach the summit as a team, and ultimately serve as role models to the younger generation.