

IIT BOMBAY IIT DELHI IIT GUWAHATI IIT KANPUR IIT KHARAGPUR IIT MADRAS IIT ROORKEE

# EKLAVYA Technology Channel

Dedicated to Technical Education

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An  
Indian Institutes of Technology  
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## **VISION**

*Sharing expertise with one and all  
to bring about a true socialism in  
engineering education in the  
country.*

## *A step forward...*

*I am sure some of you must have become regular visitors to the EKLAZYA Technology Channel! And why not? After all it's for you only. We have been getting constant inquiries from institutions as to how to receive the signal on their campuses. To help the cause we have included the technical details of the equipment needed in this issue. Also any company in your city dealing with Dish antenna will be able to install the same on your campus. Cable operator can also be a useful resource. So rope in your local cable operator to carry the channel. In that case, you can view the programmes in the cozy confines of your homes!*

*With this issue, we are adding some new features. One, we are including more details about the courses being beamed. Second, we are introducing a feature Emerging Trends which will highlight on cutting edge technologies and facilities available in the country . For example, in this issue we are carrying an article on **Bioinformatics**. Third, a new column, This may interest you...., will carry information on national / international conferences / seminars / workshops etc., which are in the offing We hope you will find these information useful. We will add more features later, based on the feed back.*

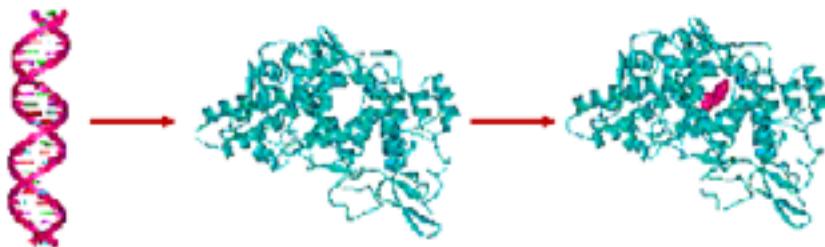
*Soon we shall also have a separate website of the EKLAZYA, through which you will be able to interact and if you subscribe ( which of course shall be free), you will be able to receive new and useful information automatically on your PC through email as and when it is updated. I am sure that will bring us closer.*

*Finally do give your feed back! That will help us to serve you better.*

*Signing off for now. Happy viewing!*

*Kushal Sen*

**SUPERCOMPUTING FACILITY FOR  
BIOINFORMATICS & COMPUTATIONAL BIOLOGY  
IIT DELHI**



**Gene → Drug *in silico***

Recent progresses in genome sequencing and computational biology on massively parallel computer architectures grant us the opportunity to dream that all proteins in a cell would be identified, their functions established, their structures determined, heralding automated *in silico* drug design for individualized medicine.

Pursuing this dream and to enhance / accelerate Indian contributions to drug discovery, a supercomputing facility for *in silico* research in genomics, proteomics and drug design was commissioned at IIT Delhi by the Hon'ble Minister for Science & Technology on 31<sup>st</sup> July 2002. The facility currently hosts an aggregate compute power of 150 GFlops and is one of the largest dedicated to biocomputing in the country.

The facility is also developing automated software for protein folding and active-site directed drug design and the alpha version of *Sanjeevani*, the IIT Delhi software for *de novo* drug design has already been released. This is the only indigenous software in an area dominated by million dollar packages from multinational companies. Work is in progress to provide students and scientists from all over the country access to the facility over the BIOGRID India project of the Department of Biotechnology. Efforts are on at the center to initiate students to bioinformatics and short term courses in bioinformatics are being launched soon.

*For further information you may contact:*

*Prof. B. Jayaram, Coordinator  
[bjayaram@chemistry.iitd.ac.in](mailto:bjayaram@chemistry.iitd.ac.in)*

## **ABOUT THE COURSES AND THE FACULTY**

### **IIT DELHI COURSES**

#### **CE – CONTROL ENGINEERING      40 Units**

**Prof. M. Gopal**

*Prof. Madan Gopal, Professor, Dept. of Electrical Engineering, specializes in the areas of Computer Controlled Systems, Robust Control, Intelligent Control and Robotics.*

This course is meant for 3rd Year students of B.Tech./B.E. Electrical Engineering, Electronics & Communication, Mechanical Engg., Chemical Engg., and Aerospace Engg. The contents covered are Dynamic Models & Responses; Basic Principles of Feedback Control & their performance; Concepts of Stability and Routh Stability Criterion; Compensator Design using Root Locus & Bode Plots.

#### **DC – DIGITAL COMMUNICATION      38 Units**

**Prof. Surendra Prasad**

*Prof. Surendra Prasad, Professor, Dept. of Electrical Engineering, specializes in the areas of Signal Processing, Communication, Radar, Sonar, Speech and Image Processing.*

This course is designed as a first course in Digital Communications. The contents are useful both for an undergraduate elective as well for an introductory course at the graduate level. The course is also suitable for professionals in Telecommunications industry and R&D organisations. The topics covered are Basic Principles of PCM; Baseband Coding; Pulse Shaping; Digital Modulations and Elements of Information and coding theory.

#### **AEC – ANALOG ELECTRONIC CIRCUITS      51 Units**

**Prof. S.C. Dutta Roy**

*Prof. S.C. Dutta Roy, Professor, Dept. of Electrical Engineering, specializes in the areas of Passive & Active Network Synthesis, Solid State Circuits, Distributed Networks, Digital Signal Processing and Neural Networks.*

Analysis and design of Transistor and Operational Amplifier Circuits such as amplifiers, oscillators and power supplies form the contents of this course. Biasing problems for integrated circuits are given special consideration and widebanding techniques are discussed in detail. Differential amplifier design is presented comprehensively and operational amplifier circuits for linear as well as nonlinear applications are discussed.

#### **PLS – PROGRAMMING LANGUAGES      40 Units**

**Dr. S. Arun Kumar**

*Dr. S. Arun Kumar, Associate Professor, Dept. of Computer Science & Engineering, specializes in the areas of Semantics*

*and Verification.*

This course is meant for students of 3rd/4th B.Tech./MCA programmes as well as the 'B' level of DOEACC. It covers the full range of issues in any standard first level course on the subject. All important concept in the theory of programming languages are illustrated with complete syntax, semantics and pragmatics of the constructs and their influences in other possible constructs in a language.

#### **CN – COMPUTER NETWORKS      39 Units**

**Prof. B.N. Jain**

*Prof. B.N. Jain, Professor, Dept. of Computer Science & Engineering, specializes in the areas of Computer Networks, Distributed Systems and Multimedia Communications.*

The Video Course is meant for advanced undergraduate and postgraduate students. The emphasis is on providing the fundamentals of networking and exposure to TCP/IP and OSI protocols. The course also discusses network architecture & applications as also protocols corresponding to the seven layers of OSI architecture.

#### **EP – ENVIRONMENTAL POLLUTION      26 Units**

**Dr. Mukesh Khare**

*Dr. Mukesh Khare, Associate Professor, Dept. of Civil Engineering, specializes in Air Pollution Dispersion Modelling, Indoor Air Quality.*

The Course is relevant for 3rd/4th Year students of almost all engineering/science disciplines and individual learners. The Course covers in detail air pollution; kinetics of pollution; noise pollution; measurement of noise pollution; water pollution and its control; solid waste management; chemical pollution and ecological imbalance.

#### **CAD – COMPUTER AIDED DESIGN      40 Units**

**Dr. Anoop Chawla**

*Dr. Anoop Chawla, Associate Professor, Dept. of Mechanical Engineering, specializes in the areas of CAD, AI & Expert Systems for Design and Manufacturing.*

This Course is meant for final year B.Tech. students of the Mechanical Engineering. The course includes a coverage on fundamentals of CAD, touching upon all aspects of CAD including geometric modeling, basics of graphics for use in computer aided design packages, surface and solid modeling. In addition, it also gives a brief overview of analysis using the Finite Element Technique. Fundamentals of FE analysis 1D,

2D and 3D elements are covered.

## **CA – COMPUTER ARCHITECTURE      38 Units**

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**Prof. Anshul Kumar**

*Prof. Anshul Kumar, Professor, Dept. of Computer Science & Engineering, specializes in the areas of Computer Architecture and CAD for VLSI.*

This course is meant for 2nd Year students of Computer Science and Engg. and Electrical Engg. as well as individual learners. The objective of this course is to introduce the basic principles of the modern digital computers, focussing on the interface between the hardware and the software. This interface is viewed from the software side in terms of the basic instructions and from the hardware side in terms of a network of components which interprets these instructions. Emphasis is put on understanding how the design of the instruction set and their interpretation mechanism influences the performance.

## **IIT KHARAGPUR COURSES**

### **IT – INTERNET TECHNOLOGIES      30 Units**

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**Prof. Indranil Sengupta**

Prerequisites: Knowledge in Computer Networking

*Prof. Indranil Sengupta, Associate Professor in the Department of Computer Science & Engineering. His research interests include computer networks, VLSI design, testing and fault diagnosis, and internet security.*

### **GEMA – GENERALIZED ELECTRICAL MACHINE ANALYSIS      48 Units**

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**Prof. K.V. Ratnam**

*Prof. K.V. Ratnam was a professor of the Electrical Engineering Department at the Indian Institute of Technology, Kharagpur for the last 38 years. His research and teaching areas include analysis and design of various electrical machines including special electrical machines, magnetic field problems, power electronics and drives and application of superconductivity in electrical engineering. He is presently the Principal Investigator of a DST project on UPS using superconducting magnetic energy storage and MAGLEV Project of BHEL. He has served as a Technical Member in various Project Evaluation committees of DST, TDB of Govt of India related to Electrical Machines.*

The concepts developed in this video course, form the basis for analysing the machine performance during sudden disturbances, faults and when driven by modern power electronic converters with fast switching devices. The course deals with the Generalised Analysis of Electrical machines which is useful

for the study of transients of d.c. synchronous and induction machines including single phase and two phase machines. The approach is based on Kron's primitive machine and the generalized machine equations. The various machines are treated using the connecting matrices, transformation matrices etc. Since the machine equations are generally nonlinear, small perturbation theory is used to study analytically the transients in such machines. Park's and Lewis transformations are introduced to convert the synchronous machine to primitive machine for study of symmetrical and asymmetrical short circuits and other transients in synchronous machines. Concept of motional impedance, synchronous and damping torques and hunting frequency calculations are included. Finally the induction machine is treated in depth in various reference frames, to study the starting transients, sudden short circuit and vector control. Symmetrical component theory is also developed in appropriate place to cover the unbalanced steady state operation of induction and synchronous machines. Problems such as open circuit on stator side, open circuit on rotor side and balancing of Arno converter are also treated in case of induction machines.

### **DVPC – DIGITAL VOICE AND PICTURE CODING      34 Units**

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**Prof. R.V. Raja Kumar**

*Prof. R.V. Raja Kumar is in the Dept of Electronics & Electrical Communication Engineering at the Indian Institute of Technology, Kharagpur. His research interests include Digital Signal Processing, Wireless Communication Systems, detection and estimation theory and computer networks.*

The course is aimed at providing the necessary background including coding fundamentals, techniques and their performance studies. The course starts with a description of the characteristics of speech and pictures and digitization of signals including the various quantization methods. Then, it covers the source coding techniques including PCM, LPC, DPCM, ADPCM, subband and transform coding methods, Abs coding and the hybrid coding methods. It also covers the RPE-LTP and CELP speech coding standards followed by the JPEG and H.261 picture coding standards.

### **MMS – MULTIMEDIA SYSTEMS      30 Units**

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**Prof. S. Sengupta**

*Prof. S. Sengupta is in the Dept of Electronics and Electrical Communication Engineering at the Indian Institute of Technology, Kharagpur. He has worked in the areas of Microprocessor based systems, Digital Signal Processing hardware and software and Digital Image Processing. His research interests are in the fields of Digital Image Processing, Multimedia Communication and Coding.*

The course deals with the basic problems of multimedia communication. It includes exhaustive coverage of lossless and lossy video coding techniques, starting from the DCT based approach to more advanced techniques like Wavelet and Model based coding. Thereafter, the Multimedia Standards for Binary images, Still Images, Moving Images and Video Conferencing applications have been addressed. Audio coding standards have been covered to a considerable depth and the crucial aspects of audio-video synchronization have been discussed. Some of the more advanced topics like content based image retrieval have also been discussed.

## **OMD – OPTOELECTRONIC MATERIALS & DEVICES**

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**42 Units**

**Prof. D.N. Bose**

*Prof. D.N. Bose is presently Scientific Adviser, Advanced Technology Center. He was formerly Professor, Materials Science Center, I.I.T Kharagpur from 1977 - 1985 and again in 1987 - 1997. He has also held teaching assignments at the E.C.E Dept., I.I.Sc Bangalore from (1970 - 1977); and at Virginia Tech U.S.A, (1985-86). He received his Ph.D. in Physics from University of Reading, U.K. in 1965. His Research Areas include: Bulk crystal growth, Epitaxy and PECVD; Surfaces & Interfaces; Solid state Ionics & Ferroelectrics; Optoelectronics, Lasers & Photodetectors.*

The course deals with the following topics: Optical properties of semiconductors, MOVPE & MBE, strained layers, critical thickness, band-structure, photoconductivity - gain & bandwidth of photodetectors, p-n junction & p-i-n photodiodes, APDs, resonant cavity & quantum well photodetectors. Luminescence - Configuration coordinate diagram, LEDs- quantum efficiency and frequency response; Spontaneous & stimulated Emission, principle of SC laser- threshold current density & confinement factor, p-n homo, SH & DHJ lasers; DFB & DBR lasers; low dimensional effects - Quantum well lasers - advantages & performance. F-K & Stark effects; optical modulators- electro-optic & SEED, OEICs. Applications in Fibre-Optics, Remote sensing, IR Detection and Imaging.

## **SEM – SPECIAL ELECTRICAL MOTORS**

**44 Units**

**Prof. K.V. Ratnam**

*Prof. K.V. Ratnam was a professor of the Electrical Engineering Department at the Indian Institute of Technology, Kharagpur for the last 38 years. His research and teaching areas include analysis and design of various electrical machines including special electrical machines, magnetic field problems, power electronics and drives and application of superconductivity in electrical engineering. He is presently the Principal Investigator of a DST project on UPS using superconducting magnetic energy storage and MAGLEV Project of BHEL. He has served as a Technical Member in various Project Evaluation commit-*

*tees of DST, TDB of Govt of India related to Electrical Machines.*

The course consists of 44 lectures, each of 45 mts. duration, covering topics such as Stepper Motors, Switched Reluctance Motors, Permanent Magnet motors, Brushless D.C. motors and Linear Induction motors. The construction, theory and control of these machines with adequate analysis are presented. The course is much more in-depth and covers a wider area than what undergraduate text books normally cover. It encompasses the basic principles and fundamental analyses spread over a large number of technical papers and specialized books/monographs, each covering one or two topics only. Thus the course of lectures will be quite useful either for an advanced undergraduate student/graduate student in machines, mechatronics, and drives course or a research student/engineer engaged in the design of such machines. It is most likely to benefit the young engineers of any R & D organisation of electrical and mechanical industries dealing with motion control.

## **OOSD – OBJECT ORIENTED SYSTEM DESIGN**

**38 Units**

**Prof. A.K. Majumdar &**

**Dr. Sudeshna Sarkar**

*Prof. A K Majumdar is a Professor in the Dept. of Computer Science & Engineering, Indian Institute of Technology, Kharagpur. His areas of research interests are Database and Knowledge based Systems, Multimedia Systems, Design Automation, Object Oriented Design and Analysis.*

*Dr Sudeshna Sarkar is an Assistant Professor in the Dept. of Computer Science & Engineering at Indian Institute of Technology, Kharagpur. Her areas of interest are Artificial intelligence, Machine learning and Text analysis.*

The course deals with the following topics :- Concepts of Object Oriented Programming: classes, objects, messages, encapsulation, inheritance, polymorphism, exception handling, object-oriented design using Java, Object Oriented analysis, modeling and design - OMT, UML. Use cases, use case driven analysis, structural modelling: classes, relationships, interfaces class diagrams and object diagrams in UML. Behavioural / Functional Modelling: use case diagrams, sequence diagrams inUML, Dynamic Modelling: statecharts, Architectural Modelling, Client Server Computing, Distributed Object Model : CORBA and COM / DCOM.

## **QM – QUANTUM MECHANICS**

**40 Units**

### **Dr. Somnath Bharadwaj**

*Dr. Somnath Bharadwaj is an Assistant Professor at the Department of Physics and Meteorology, Indian Institute of Technology, Kharagpur where he has been teaching a variety of courses since 1998. He is an active researcher in the area of theoretical astrophysics and has written several papers on the formation of large-scale structures in the universe.*

This is an introductory course in Quantum Mechanics. The course begins with a discussion of a few situations where classical mechanics fails and radical new postulates have to be introduced to provide an adequate explanation. We next see how these postulates give rise to the formalism of quantum mechanics. The formalism is developed and applied to a few simple systems like the Hydrogen atom, Simple Harmonic Oscillator, and tunnelling through a potential barrier.

## **VDM – VLSI DEVICES AND MODELS 56 Units**

### **Prof. S.K. Lahiri**

*Prof. S.K. Lahiri is a professor in the Department of E&ECE, Indian Institute of the Technology, Kharagpur. Currently, he is also holding the positions: Chairman, Advanced Technology Centre; and Chairman, Space Technology Cell. He was the Dean, Sponsored Research & Industrial Consultancy during 1997-2000. His areas of expertise include microelectronics: device, technology and design, MEMS sensors and integrated optics. He has been teaching semiconductor devices and models, VLSI technology and VLSI circuits and systems at undergraduate and postgraduate levels. He has authored more than 100 research papers.*

The present video course has been developed for both postgraduate and undergraduate students in electrical sciences/physics.

The Part - 1 of the course deals with device physics. It gives a brief overview of semiconductor physics, p-n junctions, metal semiconductor junctions and their applications to realize BJTs, MOSFETs, JFETs, MESFETs and other advanced devices like HBTs and MODFETs. Main emphasis has been given on MOSFETs and BJTs as building blocks of VLSI chips.

The Part – 2 presents the device models used for circuit simulation using SPICE, level – 1, 2 & 3 models of MOSFET have been covered in some detail. BSIM used for modelling sub-micron MOSFETs has also been introduced. For BJTs, Ebers-Moll and Gummel-Poon models have been covered. However, more emphasis has been given on the GP model which is more popular and powerful.

## **IIT MADRAS COURSES**

## **OC – OPTICAL COMMUNICATIONS 36 Units**

### **Prof. M. Mukunda Rao**

*Dr. M. Mukunda Rao obtained his M.Sc. and Ph.D. degrees from Andhra University, Walfair in 1961 and 1965 respectively. After a two years stay in USA as a Research Associate during 1965-'67 at the University of Illinois, Urbana, he joined the faculty of Electrical Engineering at IIT Madras in 1969. His research interests are in the areas of Aeronomy and Optical Communication and he has published more than 50 research papers in these areas in national and international journals. He has introduced the course on Optical Communication to the PG students of IIT Madras during the 1980's and he has been teaching this course till date. He is a fellow of the Institution of Electronics & Telecommunication Engineers (India). He is currently a Professor in the Electrical Engineering Department of IIT Madras.*

Optical Communication has emerged as the most important mode of Communication during the last decade. Its main attraction, besides other things, lies in the fact that it can provide virtually unlimited channel capacity. The course material is broadly divided into three groups: (i) Optical transmitters (ii) Transmission medium for electro-magnetic waves at Optical frequencies and (iii) Optical receivers. In the first group of lectures, the fundamentals of Lasers, which are the sources for Optical Communication are discussed with special emphasis on semiconductor laser diodes. In the second group of lectures, the difficulties of utilising the atmosphere as a transmission medium at Optical frequencies are dealt with. Then the basics of Optical waveguides are discussed and the theory of transmission through Optical fibres is developed. The fabrication technology and characterization of Optical fibers are described in detail. Finally, in the last group of lectures the fundamentals of photo-detection are discussed and the design & fabrication of Optical receivers is described. The modulation & demodulation techniques peculiar to Optical Communication are covered and the theory & design of Optical modulators is given. The overall Optical Communication system considerations have been dealt with and special applications of Optical Communications are discussed.

## **HT – HEAT TRANSFER**

**40 Units**

### **Prof. S.P. Venkateshan**

*Prof. S.P. Venkateshan obtained his Ph.D in the area of Radiative Heat Transfer from the Indian Institute of Science,*

Bangalore in 1977. After a four year Post - Doctoral work at Yale University, Connecticut, USA. He joined IIT Madras as an Assistant Professor and became a full Professor in 1990. He has taught courses on Heat Transfer and Power Plants both at IIT Madras as well as at Monash

University, Clayton, Australia. He has more than fifty published papers to his credit. He also has three patents in the area of Instrumentation. Areas of his current research interests are: Interaction of radiation with free convection, phase change heat transfer, instrumentation.

The series of lectures on "Heat Transfer" presented here assume no prior exposure to the field. However it presupposes a background in Thermodynamics and Mathematics (calculus, including differential equations). After introducing the various modes of heat transfer, citing examples from engineering applications, the lectures take up detailed exposition of conduction, radiation and convection heat transfer, in that order. Study of conduction heat transfer is approached by describing one dimensional steady systems, thereby introducing the methods which are followed in more complex multidimensional problems. Numerical methods are described for solving complex heat conduction problems. Radiation heat transfer deals with the fundamental radiation physics describing black body radiation characteristics. Surface radiation is treated first, in great detail. Surface properties relevant to the study of radiation heat transfer are introduced. Geometric concepts of shape factors are dealt with in great detail. Radiant interchange amongst gray, diffuse surfaces are treated by the radiosity irradiation formulation. Gas radiation is discussed in detail, introducing the equation of transfer and the concept of mean beam length. Hottel's charts for calculating gas emissivities are introduced. Radiation interchange in an enclosure containing an absorbing emitting gas is dealt with in detail. Dimensional analysis forms a prelude to the study of convection heat transfer. Internal flow and heat transfer is considered first. Concepts of fully developed flow and heat transfer are explained in detail. Correlations are given for both laminar as well as turbulent flows. External flows are considered by describing the boundary layer flow past a flat plate placed parallel to the free stream. This is followed by a description of external flows over a cylinder and then a bank of cylinders. Appropriate correlations are also presented. Analysis of various types of Heat Exchangers are dealt with in detail, introducing the concept of LMTD, effectiveness and NTU. An introduction to free convection is provided by treating free convection from an isothermal vertical surface by the integral approach. This is followed by a detailed description of free convection in geometries of importance in engineering like the horizontal cylinder a plane layer etc. Suitable correlations are presented, describing the physics as fully as possible. Throughout the course of lectures, worked examples are presented to make the concepts clear.

## MP – MICROPROCESSORS & APPLICATIONS

34 Units

### Prof. S. Srinivasan

Prof. S. Srinivasan obtained B.E. Degree from the University of Madras and M.Tech and Ph.D degrees from the Indian Institute of Technology, Madras. He has 28 years of experience in teaching, research, laboratory development and implementation of sponsored research projects. He was a researcher in Germany for one and half years and has taught in U.S. Universities for several years. His areas of interest are Digital systems, Computer Architecture, DSP Applications, VLSI Design and Multimedia. He has to his credit over 50 research publications. He was a member of a team which developed the material for a continuing education course for the Indira Gandhi National Open University. He has also authored a 28-part video course on principles and design of digital Systems a1 He is at present a professor in the Electrical Engineering Department at IIT, Madras.

This series on Microprocessors attempts an unified approach of introducing the Microprocessor as a universal digital design building block whose transfer function can be programmed for a wide variety of applications in the areas of control and computation. All aspects of Microprocessors including their architecture, instruction set, programming, inter-facing and applications are covered by taking two most widely used processors namely, INTEL 8085 and 8086 as examples. Under each topic, the concepts are first explained using the simple 8085 and are then extended to include the additional features of 8086. The series concludes with detailed description of two typical applications of the two processors.

## TRANSMISSION SCHEDULE (JULY TO SEPTEMBER -2003)

### Course Title and Code

IIT DELHI	-Control Engineering ( <b>CE</b> ) -Programming Languages ( <b>PLS</b> )	-Computer Networks ( <b>CN</b> ) -Computer Aided Design ( <b>CAD</b> ) -Digital Communication ( <b>DC</b> )	-Analog Electronic Circuits ( <b>AEC</b> ) -Environmental Pollution ( <b>EP</b> ) -Computer Architecture ( <b>CA</b> )	ALL SUNDAY'S TRANSMISSION
IIT KHARAGPUR	-Internet Technologies ( <b>IT</b> ) -Optoelectronic Materials & Devices ( <b>OMD</b> ) -Quantum Mechanics ( <b>QM</b> )	-Generalised Electrical Machine Analysis ( <b>GEMA</b> )  -Special Electrical Motors ( <b>SEM</b> )	-Digital Voice and Picture Coding ( <b>DVPC</b> ) -VLSI Devices & Models ( <b>VDM</b> )	-Object Oriented System Design ( <b>OOSD</b> ) -Multimedia Systems ( <b>MMS</b> )
IIT MADRAS	-Optical Communication ( <b>OC</b> ) -Microprocessors and Applications ( <b>MP</b> ) -Heat Transfer ( <b>HT</b> )			

The letters in parenthesis represent the code

JULY-2003

	<b>1000 Hrs</b>	<b>1100 Hrs</b>	<b>1200 Hrs</b>	<b>1300 Hrs</b>	<b>1400 Hrs</b>	<b>1500 Hrs</b>	<b>1600 Hrs</b>	<b>1700 Hrs</b>	<b>1800 Hrs</b>	<b>1900 Hrs</b>	<b>2000 Hrs</b>	<b>2100 Hrs</b>	<b>2200 Hrs</b>	<b>2300 Hrs</b>	<b>0000 Hrs</b>	<b>0100 Hrs</b>
JUL 1 (TUE) (Lec-1)	IT CE (Lec-1)	GEMA OC (Lec-1)	DVPC DC (Lec-1)	MMS AEC (Lec-1)	IT CE (Lec-1)	GEMA OC (Lec-1)	IT CE (Lec-1)	GEMA OC (Lec-1)	IT CE (Lec-1)	GEMA OC (Lec-1)	IT CE (Lec-1)	DVPC DC (Lec-1)	DVPC DC (Lec-1)	MMS DC (Lec-1)	AEC AEC (Lec-1)	
JUL 2 (WED) (Lec-2)	IT CE (Lec-2)	GEMA OC (Lec-2)	DVPC DC (Lec-2)	MMS AEC (Lec-2)	IT CE (Lec-2)	GEMA OC (Lec-2)	IT CE (Lec-2)	GEMA OC (Lec-2)	IT CE (Lec-2)	GEMA OC (Lec-2)	IT CE (Lec-2)	DVPC DC (Lec-2)	DVPC DC (Lec-2)	MMS DC (Lec-2)	AEC AEC (Lec-2)	
JUL 3 (THU) (Lec-3)	IT CE (Lec-3)	GEMA OC (Lec-3)	DVPC DC (Lec-3)	MMS AEC (Lec-3)	IT CE (Lec-3)	GEMA OC (Lec-3)	IT CE (Lec-3)	GEMA OC (Lec-3)	IT CE (Lec-3)	GEMA OC (Lec-3)	IT CE (Lec-3)	DVPC DC (Lec-3)	DVPC DC (Lec-3)	MMS DC (Lec-3)	AEC AEC (Lec-3)	
JUL 4 (FRI) (Lec-4)	IT CE (Lec-4)	GEMA OC (Lec-4)	DVPC DC (Lec-4)	MMS AEC (Lec-4)	IT CE (Lec-4)	GEMA OC (Lec-4)	IT CE (Lec-4)	GEMA OC (Lec-4)	IT CE (Lec-4)	GEMA OC (Lec-4)	IT CE (Lec-4)	DVPC DC (Lec-4)	DVPC DC (Lec-4)	MMS DC (Lec-4)	AEC AEC (Lec-4)	
JUL 5 (SAT) (Lec-5)	IT CE (Lec-5)	GEMA OC (Lec-5)	DVPC DC (Lec-5)	MMS AEC (Lec-5)	IT CE (Lec-5)	GEMA OC (Lec-5)	IT CE (Lec-5)	GEMA OC (Lec-5)	IT CE (Lec-5)	GEMA OC (Lec-5)	IT CE (Lec-5)	DVPC DC (Lec-5)	DVPC DC (Lec-5)	MMS DC (Lec-5)	AEC AEC (Lec-5)	
JUL 6 (SUN) Special Interest Program [SIP]	DC Machines [Lec - 1]	Image Processing [Lec - 1]	Understanding Building LANs [Lec - 1]	Financial Statements [Lec - 1]	Manufacturing Processes [Lec - 1]	Telematics [Lec - 1]	Special Interest Program [SIP]	DC Machines [Lec - 1]	Image Processing [Lec - 1]	Financial Statements [Lec - 1]	DC Machines [Lec - 1]	Image Processing [Lec - 1]	Financial Statements [Lec - 1]	Building LANs [Lec - 1]	Manufacturing Processes [Lec - 1]	Telematics [Lec - 1]
JUL 7 (MON) (Lec-6)	CE (Lec-6)	GEMA OC (Lec-6)	DVPC DC (Lec-6)	MMS AEC (Lec-6)	IT CE (Lec-6)	GEMA OC (Lec-6)	IT CE (Lec-6)	GEMA OC (Lec-6)	IT CE (Lec-6)	GEMA OC (Lec-6)	IT CE (Lec-6)	DVPC DC (Lec-6)	DVPC DC (Lec-6)	MMS DC (Lec-6)	AEC AEC (Lec-6)	
JUL 8 (TUE) (Lec-7)	IT CE (Lec-7)	GEMA OC (Lec-7)	DVPC DC (Lec-7)	MMS AEC (Lec-7)	IT CE (Lec-7)	GEMA OC (Lec-7)	IT CE (Lec-7)	GEMA OC (Lec-7)	IT CE (Lec-7)	GEMA OC (Lec-7)	IT CE (Lec-7)	DVPC DC (Lec-7)	DVPC DC (Lec-7)	MMS DC (Lec-7)	AEC AEC (Lec-7)	
JUL 9 (WED) (Lec-8)	IT CE (Lec-8)	GEMA OC (Lec-8)	DVPC DC (Lec-8)	MMS AEC (Lec-8)	IT CE (Lec-8)	GEMA OC (Lec-8)	IT CE (Lec-8)	GEMA OC (Lec-8)	IT CE (Lec-8)	GEMA OC (Lec-8)	IT CE (Lec-8)	DVPC DC (Lec-8)	DVPC DC (Lec-8)	MMS DC (Lec-8)	AEC AEC (Lec-8)	
JUL 10 (THU) (Lec-9)	IT CE (Lec-9)	GEMA OC (Lec-9)	DVPC DC (Lec-9)	MMS AEC (Lec-9)	IT CE (Lec-9)	GEMA OC (Lec-9)	IT CE (Lec-9)	GEMA OC (Lec-9)	IT CE (Lec-9)	GEMA OC (Lec-9)	IT CE (Lec-9)	DVPC DC (Lec-9)	DVPC DC (Lec-9)	MMS DC (Lec-9)	AEC AEC (Lec-9)	
JUL 11 (FRI) (Lec-10)	IT CE (Lec-10)	GEMA OC (Lec-10)	DVPC DC (Lec-10)	MMS AEC (Lec-10)	IT CE (Lec-10)	GEMA OC (Lec-10)	IT CE (Lec-10)	GEMA OC (Lec-10)	IT CE (Lec-10)	GEMA OC (Lec-10)	IT CE (Lec-10)	DVPC DC (Lec-10)	DVPC DC (Lec-10)	MMS DC (Lec-10)	AEC AEC (Lec-10)	
JUL 12 (SAT) (Lec-11)	IT CE (Lec-11)	GEMA OC (Lec-11)	DVPC DC (Lec-11)	MMS AEC (Lec-11)	IT CE (Lec-11)	GEMA OC (Lec-11)	IT CE (Lec-11)	GEMA OC (Lec-11)	IT CE (Lec-11)	GEMA OC (Lec-11)	IT CE (Lec-11)	DVPC DC (Lec-11)	DVPC DC (Lec-11)	MMS DC (Lec-11)	AEC AEC (Lec-11)	
JUL 13 (SUN) Special Interest Program [SIP]	DC Machines [Lec - 2]	Image Processing [Lec - 2]	Understanding Building LANs [Lec - 2]	Financial Statements [Lec - 2]	Manufacturing Processes [Lec - 2]	Telematics [Lec - 2]	Special Interest Program [SIP]	DC Machines [Lec - 2]	Image Processing [Lec - 2]	Financial Statements [Lec - 2]	DC Machines [Lec - 2]	Image Processing [Lec - 2]	Financial Statements [Lec - 2]	Building LANs [Lec - 2]	Manufacturing Processes [Lec - 2]	Telematics [Lec - 2]

AUGUST-2003											
JUL 14 (MON)	IT (Lec - 12)	CE (Lec - 12)	GEMA (Lec - 12)	OC (Lec - 12)	DVPC (Lec - 12)	MMS (Lec - 12)	AEC (Lec - 12)	IT (Lec - 12)	CE (Lec - 12)	GEMA (Lec - 12)	DC (Lec - 12)
JUL 15 (TUE)	IT (Lec - 13)	CE (Lec - 13)	GEMA (Lec - 13)	OC (Lec - 13)	DVPC (Lec - 13)	MMS (Lec - 13)	AEC (Lec - 13)	IT (Lec - 13)	CE (Lec - 13)	GEMA (Lec - 13)	DC (Lec - 13)
JUL 16 (WED)	IT (Lec - 14)	CE (Lec - 14)	GEMA (Lec - 14)	OC (Lec - 14)	DVPC (Lec - 14)	DC (Lec - 14)	MMS (Lec - 14)	AEC (Lec - 14)	IT (Lec - 14)	CE (Lec - 14)	DVPC (Lec - 14)
JUL 17 (THU)	IT (Lec - 15)	CE (Lec - 15)	GEMA (Lec - 15)	OC (Lec - 15)	DVPC (Lec - 15)	DC (Lec - 15)	MMS (Lec - 15)	AEC (Lec - 15)	IT (Lec - 15)	CE (Lec - 15)	GEMA (Lec - 15)
JUL 18 (FRI)	IT (Lec - 16)	CE (Lec - 16)	GEMA (Lec - 16)	OC (Lec - 16)	DVPC (Lec - 16)	DC (Lec - 16)	MMS (Lec - 16)	AEC (Lec - 16)	IT (Lec - 16)	CE (Lec - 16)	DVPC (Lec - 16)
JUL 19 (SAT)	IT (Lec - 17)	CE (Lec - 17)	GEMA (Lec - 17)	OC (Lec - 17)	DVPC (Lec - 17)	DC (Lec - 17)	MMS (Lec - 17)	AEC (Lec - 17)	IT (Lec - 17)	CE (Lec - 17)	GEMA (Lec - 17)
JUL 20 (SUN)	Special Interest Program[SIP]	DC Machines [Lec - 3]	Image Processing [Lec - 3]	Understanding Financial Statements [Lec - 3]	Building LANs [Lec - 3]	Manufacturing Processes [Lec - 3]	Telematics [Lec - 3]	Special Interest Program[SIP]	DC Machines [Lec - 3]	Image Processing [Lec - 3]	Manufacturing Processes [Lec - 3]
JUL 21 (MON)	IT (Lec - 18)	CE (Lec - 18)	GEMA (Lec - 18)	OC (Lec - 18)	DVPC (Lec - 18)	DC (Lec - 18)	MMS (Lec - 18)	AEC (Lec - 18)	IT (Lec - 18)	CE (Lec - 18)	GEMA (Lec - 18)
JUL 22 (TUE)	IT (Lec - 19)	CE (Lec - 19)	GEMA (Lec - 19)	OC (Lec - 19)	DVPC (Lec - 19)	DC (Lec - 19)	MMS (Lec - 19)	AEC (Lec - 19)	IT (Lec - 19)	CE (Lec - 19)	GEMA (Lec - 19)
JUL 23 (WED)	IT (Lec - 20)	CE (Lec - 20)	GEMA (Lec - 20)	OC (Lec - 20)	DVPC (Lec - 20)	DC (Lec - 20)	MMS (Lec - 20)	AEC (Lec - 20)	IT (Lec - 20)	CE (Lec - 20)	DVPC (Lec - 20)
JUL 24 (THU)	IT (Lec - 21)	CE (Lec - 21)	GEMA (Lec - 21)	OC (Lec - 21)	DVPC (Lec - 21)	DC (Lec - 21)	MMS (Lec - 21)	AEC (Lec - 21)	IT (Lec - 21)	CE (Lec - 21)	GEMA (Lec - 21)
JUL 25 (FRI)	IT (Lec - 22)	CE (Lec - 22)	GEMA (Lec - 22)	OC (Lec - 22)	DVPC (Lec - 22)	DC (Lec - 22)	MMS (Lec - 22)	AEC (Lec - 22)	IT (Lec - 22)	CE (Lec - 22)	GEMA (Lec - 22)
JUL 26 (SAT)	IT (Lec - 23)	CE (Lec - 23)	GEMA (Lec - 23)	OC (Lec - 23)	DVPC (Lec - 23)	DC (Lec - 23)	MMS (Lec - 23)	AEC (Lec - 23)	IT (Lec - 23)	CE (Lec - 23)	GEMA (Lec - 23)
JUL 27 (SUN)	Special Interest Program[SIP]	DC Machines [Lec - 4]	Image Processing [Lec - 4]	Understanding Financial Statements [Lec - 4]	Building LANs [Lec - 4]	Manufacturing Processes [Lec - 4]	Telematics [Lec - 4]	Special Interest Program[SIP]	DC Machines [Lec - 4]	Image Processing [Lec - 4]	Manufacturing Processes [Lec - 4]
JUL 28 (MON)	IT (Lec - 24)	CE (Lec - 24)	GEMA (Lec - 24)	OC (Lec - 24)	DVPC (Lec - 24)	DC (Lec - 24)	MMS (Lec - 24)	AEC (Lec - 24)	IT (Lec - 24)	CE (Lec - 24)	GEMA (Lec - 24)
JUL 29 (TUE)	IT (Lec - 25)	CE (Lec - 25)	GEMA (Lec - 25)	OC (Lec - 25)	DVPC (Lec - 25)	DC (Lec - 25)	MMS (Lec - 25)	AEC (Lec - 25)	IT (Lec - 25)	CE (Lec - 25)	GEMA (Lec - 25)
JUL 30 (WED)	IT (Lec - 26)	CE (Lec - 26)	GEMA (Lec - 26)	OC (Lec - 26)	DVPC (Lec - 26)	DC (Lec - 26)	MMS (Lec - 26)	AEC (Lec - 26)	IT (Lec - 26)	CE (Lec - 26)	GEMA (Lec - 26)
JUL 31 (THU)	IT (Lec - 27)	CE (Lec - 27)	GEMA (Lec - 27)	OC (Lec - 27)	DVPC (Lec - 27)	DC (Lec - 27)	MMS (Lec - 27)	AEC (Lec - 27)	IT (Lec - 27)	CE (Lec - 27)	GEMA (Lec - 27)
AUG 1 (FRI)	IT (Lec - 28)	CE (Lec - 28)	GEMA (Lec - 28)	OC (Lec - 28)	DVPC (Lec - 28)	DC (Lec - 28)	MMS (Lec - 28)	AEC (Lec - 28)	IT (Lec - 28)	CE (Lec - 28)	GEMA (Lec - 28)
AUG 2 (SAT)	IT (Lec - 29)	CE (Lec - 29)	GEMA (Lec - 29)	OC (Lec - 29)	DVPC (Lec - 29)	DC (Lec - 29)	MMS (Lec - 29)	AEC (Lec - 29)	IT (Lec - 29)	CE (Lec - 29)	GEMA (Lec - 29)
AUG 3 (SUN)	Special Interest Program[SIP]	DC Machines [Lec - 5]	Image Processing [Lec - 5]	Understanding Financial Statements [Lec - 5]	Building LANs [Lec - 5]	Manufacturing Processes [Lec - 5]	Telematics [Lec - 5]	Special Interest Program[SIP]	DC Machines [Lec - 5]	Image Processing [Lec - 5]	Manufacturing Processes [Lec - 5]
AUG 4 (MON)	IT (Lec - 30)	CE (Lec - 30)	GEMA (Lec - 30)	OC (Lec - 30)	DVPC (Lec - 30)	DC (Lec - 30)	MMS (Lec - 30)	AEC (Lec - 30)	IT (Lec - 30)	CE (Lec - 30)	GEMA (Lec - 30)

AUG 5 (TUE)	OMD (Lec-1)	CE (Lec-31)	GEMA (Lec-31)	OC (Lec-31)	DVPC (Lec-31)	DC (Lec-31)	MMS (Lec-31)	AEC (Lec-31)	OMD (Lec-1)	CE (Lec-31)	GEMA (Lec-31)	OC (Lec-31)	DVPC (Lec-31)	DC (Lec-31)	MMS (Lec-31)	AEC (Lec-31)
AUG 6 (WED)	OMD (Lec-2)	CE (Lec-32)	GEMA (Lec-32)	OC (Lec-32)	DVPC (Lec-32)	DC (Lec-32)	MMS (Lec-32)	AEC (Lec-32)	OMD (Lec-2)	CE (Lec-32)	GEMA (Lec-32)	OC (Lec-32)	DVPC (Lec-32)	DC (Lec-32)	MMS (Lec-32)	AEC (Lec-32)
AUG 7 (THU)	OMD (Lec-3)	CE (Lec-33)	GEMA (Lec-33)	OC (Lec-33)	DVPC (Lec-33)	DC (Lec-33)	MMS (Lec-33)	AEC (Lec-33)	OMD (Lec-3)	CE (Lec-33)	GEMA (Lec-33)	OC (Lec-33)	DVPC (Lec-33)	DC (Lec-33)	MMS (Lec-33)	AEC (Lec-33)
AUG 8 (FRI)	OMD (Lec-4)	CE (Lec-34)	GEMA (Lec-34)	OC (Lec-34)	DVPC (Lec-34)	DC (Lec-34)	MMS (Lec-34)	AEC (Lec-34)	OMD (Lec-4)	CE (Lec-34)	GEMA (Lec-34)	OC (Lec-34)	DVPC (Lec-34)	DC (Lec-34)	MMS (Lec-34)	AEC (Lec-34)
AUG 9 (SAT)	<b>CONVOCATION IIT DELHI -2003</b> <b>(9.00 am-1.00 pm)</b>			OC (Lec-1)	VDM (Lec-35)	DC (Lec-35)	MMS (Lec-35)	AEC (Lec-35)	OMD (Lec-5)	CE (Lec-35)	GEMA (Lec-35)	OC (Lec-35)	VDM (Lec-35)	DC (Lec-35)	MMS (Lec-35)	AEC (Lec-35)
AUG 10 (SUN)	Special Interest Program[SIP]			DC Machines [Lec -6]	Image Processing [Lec -6]	Understanding Financial Statements [Lec -6]	Memory Organisation [Lec -1]	Manufacturing Processes [Lec -6]	Telematics [Lec -6]	Special Interest Program[SIP]	Special Interest Program[SIP]	DC Machines [Lec -6]	Image Processing [Lec -6]	Manufacturing Processes [Lec -6]	Telematics [Lec -6]	Special Interest Program [SIP]
AUG 11 (MON)	OMD (Lec-6)	CE (Lec-36)	GEMA (Lec-36)	OC (Lec-36)	VDM (Lec-36)	DC (Lec-36)	MMS (Lec-36)	AEC (Lec-36)	OMD (Lec-6)	CE (Lec-36)	GEMA (Lec-36)	OC (Lec-36)	VDM (Lec-2)	DC (Lec-36)	MMS (Lec-36)	AEC (Lec-36)
AUG 12 (TUE)	OMD (Lec-7)	CE (Lec-37)	GEMA (Lec-37)	HT (Lec-1)	VDM (Lec-3)	DC (Lec-37)	MMS (Lec-37)	AEC (Lec-37)	OMD (Lec-7)	CE (Lec-37)	GEMA (Lec-37)	HT (Lec-1)	VDM (Lec-3)	DC (Lec-37)	MMS (Lec-37)	AEC (Lec-37)
AUG 13 (WED)	OMD (Lec-8)	CE (Lec-38)	GEMA (Lec-38)	HT (Lec-2)	VDM (Lec-4)	DC (Lec-38)	MMS (Lec-38)	AEC (Lec-38)	OMD (Lec-8)	CE (Lec-38)	GEMA (Lec-38)	HT (Lec-2)	VDM (Lec-4)	DC (Lec-38)	MMS (Lec-38)	AEC (Lec-38)
AUG 14 (THU)	OMD (Lec-9)	CE (Lec-39)	GEMA (Lec-39)	HT (Lec-3)	VDM (Lec-5)	CN (Lec-1)	MMS (Lec-39)	AEC (Lec-39)	OMD (Lec-9)	CE (Lec-39)	GEMA (Lec-39)	HT (Lec-3)	VDM (Lec-5)	CN (Lec-1)	MMS (Lec-39)	AEC (Lec-39)
AUG 15 (FRI)	OMD (Lec-10)	CE (Lec-40)	GEMA (Lec-40)	HT (Lec-4)	VDM (Lec-6)	CN (Lec-2)	MMS (Lec-40)	AEC (Lec-40)	OMD (Lec-10)	CE (Lec-40)	GEMA (Lec-40)	HT (Lec-4)	VDM (Lec-6)	CN (Lec-2)	MMS (Lec-40)	AEC (Lec-40)
AUG 16 (SAT)	OMD (Lec-11)	CE (Lec-41)	GEMA (Lec-41)	HT (Lec-5)	VDM (Lec-7)	CN (Lec-3)	MMS (Lec-41)	AEC (Lec-41)	OMD (Lec-11)	CE (Lec-41)	GEMA (Lec-41)	HT (Lec-5)	VDM (Lec-7)	CN (Lec-3)	MMS (Lec-41)	AEC (Lec-41)
AUG 17 (SUN)	Special Interest Program[SIP]			DC Machines [Lec -7]	Image Processing [Lec -7]	Understanding Financial Statements [Lec -7]	Memory Organisation [Lec -2]	Manufacturing Processes [Lec -7]	Telematics [Lec -7]	Special Interest Program[SIP]	Special Interest Program[SIP]	DC Machines [Lec -7]	Image Processing [Lec -7]	Manufacturing Processes [Lec -7]	Telematics [Lec -7]	Special Interest Program [SIP]
AUG 18 (MON)	OMD (Lec-12)	PLS (Lec-1)	GEMA (Lec-42)	HT (Lec-6)	VDM (Lec-8)	CN (Lec-4)	MMS (Lec-42)	AEC (Lec-42)	OMD (Lec-12)	PLS (Lec-1)	GEMA (Lec-42)	HT (Lec-6)	VDM (Lec-4)	CN (Lec-4)	MMS (Lec-42)	AEC (Lec-42)
AUG 19 (TUE)	OMD (Lec-13)	PLS (Lec-2)	GEMA (Lec-43)	HT (Lec-7)	VDM (Lec-9)	CN (Lec-5)	MMS (Lec-43)	AEC (Lec-43)	OMD (Lec-13)	PLS (Lec-2)	GEMA (Lec-43)	HT (Lec-7)	VDM (Lec-5)	CN (Lec-5)	MMS (Lec-43)	AEC (Lec-43)
AUG 20 (WED)	OMD (Lec-14)	PLS (Lec-3)	GEMA (Lec-44)	HT (Lec-8)	VDM (Lec-10)	CN (Lec-6)	OOSD (Lec-1)	AEC (Lec-44)	OMD (Lec-14)	PLS (Lec-3)	GEMA (Lec-44)	HT (Lec-8)	VDM (Lec-10)	CN (Lec-6)	OOSD (Lec-1)	AEC (Lec-44)
AUG 21 (THU)	OMD (Lec-15)	PLS (Lec-4)	GEMA (Lec-45)	HT (Lec-9)	VDM (Lec-11)	CN (Lec-7)	OOSD (Lec-2)	AEC (Lec-45)	OMD (Lec-15)	PLS (Lec-4)	GEMA (Lec-45)	HT (Lec-9)	VDM (Lec-11)	CN (Lec-7)	OOSD (Lec-2)	AEC (Lec-45)
AUG 22 (FRI)	OMD (Lec-16)	PLS (Lec-5)	GEMA (Lec-46)	HT (Lec-10)	VDM (Lec-12)	CN (Lec-8)	OOSD (Lec-3)	AEC (Lec-46)	OMD (Lec-16)	PLS (Lec-5)	GEMA (Lec-46)	HT (Lec-10)	VDM (Lec-12)	CN (Lec-8)	OOSD (Lec-3)	AEC (Lec-46)
AUG 23 (SAT)	OMD (Lec-17)	PLS (Lec-6)	GEMA (Lec-47)	HT (Lec-11)	VDM (Lec-13)	CN (Lec-9)	OOSD (Lec-4)	AEC (Lec-47)	OMD (Lec-17)	PLS (Lec-6)	GEMA (Lec-47)	HT (Lec-11)	VDM (Lec-13)	CN (Lec-9)	OOSD (Lec-4)	AEC (Lec-47)
AUG 24 (SUN)	Special Interest Program[SIP]			DC Machines [Lec -8]	Image Processing [Lec -8]	Understanding Financial Statements [Lec -8]	Memory Organisation [Lec -3]	Manufacturing Processes [Lec -8]	Telematics [Lec -8]	Special Interest Program[SIP]	Special Interest Program[SIP]	DC Machines [Lec -8]	Image Processing [Lec -8]	Manufacturing Processes [Lec -8]	Telematics [Lec -8]	Special Interest Program [SIP]
AUG 25 (MON)	OMD (Lec-18)	PLS (Lec-7)	GEMA (Lec-48)	HT (Lec-12)	VDM (Lec-14)	CN (Lec-10)	OOSD (Lec-5)	AEC (Lec-48)	OMD (Lec-18)	PLS (Lec-7)	GEMA (Lec-48)	HT (Lec-12)	VDM (Lec-14)	CN (Lec-10)	OOSD (Lec-5)	AEC (Lec-48)
AUG 26 (TUE)	OMD (Lec-19)	PLS (Lec-8)	SEM (Lec-1)	HT (Lec-13)	VDM (Lec-15)	CN (Lec-11)	OOSD (Lec-6)	AEC (Lec-49)	OMD (Lec-19)	PLS (Lec-8)	SEM (Lec-1)	HT (Lec-13)	VDM (Lec-15)	CN (Lec-11)	OOSD (Lec-6)	AEC (Lec-49)
AUG 27 (WED)	OMD (Lec-20)	PLS (Lec-9)	SEM (Lec-2)	HT (Lec-14)	VDM (Lec-16)	CN (Lec-12)	OOSD (Lec-7)	AEC (Lec-50)	OMD (Lec-20)	PLS (Lec-9)	SEM (Lec-2)	HT (Lec-14)	VDM (Lec-16)	CN (Lec-12)	OOSD (Lec-7)	AEC (Lec-50)
AUG 28 (THU)	OMD (Lec-21)	PLS (Lec-10)	SEM (Lec-3)	HT (Lec-15)	VDM (Lec-17)	CN (Lec-13)	OOSD (Lec-8)	AEC (Lec-51)	OMD (Lec-21)	PLS (Lec-3)	SEM (Lec-15)	HT (Lec-17)	VDM (Lec-13)	CN (Lec-13)	OOSD (Lec-8)	AEC (Lec-51)

AUG 29 (FRI)	OMD (Lec-22)	PLS Hrs	SEM (Lec-4)	HT (Lec-16)	VDM (Lec-18)	CN (Lec-14)	OOSD (Lec-9)	EP (Lec-1)	OMD (Lec-22)	PLS Hrs	SEM (Lec-4)	HT (Lec-16)	VDM (Lec-18)	CN (Lec-14)	OOSD (Lec-9)	EP (Lec-1)
AUG 30 (SAT)	OMD (Lec-23)	PLS Hrs	SEM (Lec-5)	HT (Lec-17)	VDM (Lec-19)	CN (Lec-15)	OOSD (Lec-10)	EP (Lec-2)	OMD (Lec-23)	PLS Hrs	SEM (Lec-5)	HT (Lec-17)	VDM (Lec-19)	CN (Lec-15)	OOSD (Lec-10)	EP (Lec-2)
AUG 31 (SUN)	Special Interest Program[SIP]	DC Machines [Lec-9]	Image Processing [Lec-9]	Understanding Financial Statements [Lec-9]	Manufacturing Processes [Lec-9]	Telematics [Lec - 9]	Special Interest Program[SIP]	Special Interest Program [SIP]	DC Machines [Lec - 9]	Image Processing [Lec - 9]	Understanding Financial Statements [Lec - 9]	Memory Organisation [Lec - 4]	Manufacturing Processes [Lec - 9]	Telematics [Lec - 9]	Special Interest Program [SIP]	Special Interest Program [SIP]
<b>SEPTEMBER-2003</b>																
1000 Hrs	1100 Hrs	1200 Hrs	1300 Hrs	1400 Hrs	1500 Hrs	1600 Hrs	1700 Hrs	1800 Hrs	1900 Hrs	2000 Hrs	2100 Hrs	2200 Hrs	2300 Hrs	0000 Hrs	0100 Hrs	
SEP 1 (MON)	OMD (Lec-24)	PLS Hrs	SEM (Lec-6)	HT (Lec-18)	VDM (Lec-20)	CN (Lec-16)	OOSD (Lec-11)	EP (Lec-3)	OMD (Lec-24)	PLS Hrs	SEM (Lec-13)	HT (Lec-18)	VDM (Lec-20)	CN (Lec-16)	OOSD (Lec-11)	EP (Lec-3)
SEP 2 (TUE)	OMD (Lec-25)	PLS Hrs	SEM (Lec-7)	HT (Lec-19)	VDM (Lec-21)	CN (Lec-17)	OOSD (Lec-12)	EP (Lec-4)	OMD (Lec-25)	PLS Hrs	SEM (Lec-14)	HT (Lec-19)	VDM (Lec-21)	CN (Lec-17)	OOSD (Lec-12)	EP (Lec-4)
SEP 3 (WED)	OMD (Lec-26)	PLS Hrs	SEM (Lec-8)	HT (Lec-20)	VDM (Lec-22)	CN (Lec-18)	OOSD (Lec-13)	EP (Lec-5)	OMD (Lec-26)	PLS Hrs	SEM (Lec-15)	HT (Lec-20)	VDM (Lec-22)	CN (Lec-18)	OOSD (Lec-13)	EP (Lec-5)
SEP 4 (THU)	OMD (Lec-27)	PLS Hrs	SEM (Lec-9)	HT (Lec-21)	VDM (Lec-23)	CN (Lec-19)	OOSD (Lec-14)	EP (Lec-6)	OMD (Lec-27)	PLS Hrs	SEM (Lec-16)	HT (Lec-21)	VDM (Lec-23)	CN (Lec-19)	OOSD (Lec-14)	EP (Lec-6)
SEP 5 (FRI)	OMD (Lec-28)	PLS Hrs	SEM (Lec-10)	HT (Lec-22)	VDM (Lec-24)	CN (Lec-20)	OOSD (Lec-15)	EP (Lec-7)	OMD (Lec-28)	PLS Hrs	SEM (Lec-17)	HT (Lec-10)	VDM (Lec-24)	CN (Lec-20)	OOSD (Lec-15)	EP (Lec-7)
SEP 6 (SAT)	OMD (Lec-29)	PLS Hrs	SEM (Lec-11)	HT (Lec-23)	VDM (Lec-25)	CN (Lec-21)	OOSD (Lec-16)	EP (Lec-8)	OMD (Lec-29)	PLS Hrs	SEM (Lec-18)	HT (Lec-11)	VDM (Lec-25)	CN (Lec-16)	OOSD (Lec-16)	EP (Lec-8)
SEP 7 (SUN)	Special Interest Program[SIP]	DC Machines [Lec-10]	Image Processing [Lec-10]	Understanding Financial Statements [Lec - 10]	Manufacturing Processes [Lec - 10]	Telematics [Lec - 10]	Special Interest Program[SIP]	Special Interest Program [SIP]	DC Machines [Lec - 10]	Image Processing [Lec - 10]	Understanding Financial Statements [Lec - 10]	Memory Organisation [Lec - 5]	Manufacturing Processes [Lec - 10]	Telematics [Lec - 10]	Special Interest Program [SIP]	Special Interest Program [SIP]
SEP 8 (MON)	OMD (Lec-30)	PLS Hrs	SEM (Lec-12)	HT (Lec-24)	VDM (Lec-26)	CN (Lec-22)	OOSD (Lec-17)	EP (Lec-9)	OMD (Lec-30)	PLS Hrs	SEM (Lec-19)	HT (Lec-12)	VDM (Lec-24)	CN (Lec-22)	OOSD (Lec-17)	EP (Lec-9)
SEP 9 (TUE)	OMD (Lec-31)	PLS Hrs	SEM (Lec-13)	HT (Lec-25)	VDM (Lec-27)	CN (Lec-23)	OOSD (Lec-18)	EP (Lec-10)	OMD (Lec-31)	PLS Hrs	SEM (Lec-20)	HT (Lec-13)	VDM (Lec-25)	CN (Lec-23)	OOSD (Lec-18)	EP (Lec-10)
SEP 10 (WED)	OMD (Lec-32)	PLS Hrs	SEM (Lec-14)	HT (Lec-26)	VDM (Lec-28)	CN (Lec-24)	OOSD (Lec-19)	EP (Lec-11)	OMD (Lec-32)	PLS Hrs	SEM (Lec-21)	HT (Lec-14)	VDM (Lec-28)	CN (Lec-24)	OOSD (Lec-19)	EP (Lec-11)
SEP 11 (THU)	OMD (Lec-33)	PLS Hrs	SEM (Lec-15)	HT (Lec-27)	VDM (Lec-29)	CN (Lec-25)	OOSD (Lec-20)	EP (Lec-12)	OMD (Lec-33)	PLS Hrs	SEM (Lec-22)	HT (Lec-15)	VDM (Lec-27)	CN (Lec-25)	OOSD (Lec-20)	EP (Lec-12)
SEP 12 (FRI)	OMD (Lec-34)	PLS Hrs	SEM (Lec-16)	HT (Lec-28)	VDM (Lec-30)	CN (Lec-26)	OOSD (Lec-21)	EP (Lec-13)	OMD (Lec-34)	PLS Hrs	SEM (Lec-23)	HT (Lec-16)	VDM (Lec-28)	CN (Lec-26)	OOSD (Lec-21)	EP (Lec-13)
SEP 13 (SAT)	OMD (Lec-35)	PLS Hrs	SEM (Lec-17)	HT (Lec-29)	VDM (Lec-31)	CN (Lec-27)	OOSD (Lec-22)	EP (Lec-14)	OMD (Lec-35)	PLS Hrs	SEM (Lec-24)	HT (Lec-17)	VDM (Lec-29)	CN (Lec-31)	OOSD (Lec-22)	EP (Lec-14)
SEP 14 (SUN)	Special Interest Program[SIP]	DC Machines [Lec-11]	Image Processing [Lec-11]	Understanding Financial Statements [Lec - 11]	Manufacturing Processes [Lec - 11]	Telematics [Lec - 11]	Special Interest Program[SIP]	Special Interest Program [SIP]	DC Machines [Lec - 11]	Image Processing [Lec - 11]	Understanding Financial Statements [Lec - 11]	Memory Organisation [Lec - 6]	Manufacturing Processes [Lec - 11]	Telematics [Lec - 11]	Special Interest Program [SIP]	Special Interest Program [SIP]
SEP 15 (MON)	OMD (Lec-36)	PLS Hrs	SEM (Lec-25)	HT (Lec-18)	VDM (Lec-30)	CN (Lec-28)	OOSD (Lec-23)	EP (Lec-15)	OMD (Lec-36)	PLS Hrs	SEM (Lec-25)	HT (Lec-18)	VDM (Lec-30)	CN (Lec-28)	OOSD (Lec-23)	EP (Lec-15)
SEP 16 (TUE)	OMD (Lec-37)	PLS Hrs	SEM (Lec-26)	HT (Lec-19)	VDM (Lec-31)	CN (Lec-29)	OOSD (Lec-24)	EP (Lec-16)	OMD (Lec-37)	PLS Hrs	SEM (Lec-26)	HT (Lec-19)	VDM (Lec-31)	CN (Lec-29)	OOSD (Lec-24)	EP (Lec-16)
SEP 17 (WED)	OMD (Lec-38)	PLS Hrs	SEM (Lec-27)	HT (Lec-20)	VDM (Lec-32)	CN (Lec-34)	OOSD (Lec-30)	EP (Lec-17)	OMD (Lec-38)	PLS Hrs	SEM (Lec-27)	HT (Lec-20)	VDM (Lec-32)	CN (Lec-34)	OOSD (Lec-30)	EP (Lec-17)
SEP 18 (THU)	OMD (Lec-39)	PLS Hrs	SEM (Lec-28)	HT (Lec-21)	VDM (Lec-33)	CN (Lec-35)	OOSD (Lec-31)	EP (Lec-18)	OMD (Lec-39)	PLS Hrs	SEM (Lec-28)	HT (Lec-21)	VDM (Lec-33)	CN (Lec-35)	OOSD (Lec-31)	EP (Lec-18)
SEP 19 (FRI)	OMD (Lec-40)	PLS Hrs	SEM (Lec-29)	HT (Lec-22)	VDM (Lec-34)	CN (Lec-36)	OOSD (Lec-32)	EP (Lec-19)	OMD (Lec-40)	PLS Hrs	SEM (Lec-29)	HT (Lec-34)	VDM (Lec-36)	CN (Lec-32)	OOSD (Lec-27)	EP (Lec-19)

## The Details for Downlink :

The EKLAGYA Technology Channel fingerprints every nook and corner of this vast country through INSAT 3C Satellite on C Band (74 degrees EAST), Downlink Frequency 4165 MHz., Symbol rate 26.000 SPS, FEC 1/2., Polarization HORIZONTAL.

## To Receive the Signal :

Ask your friendly Cable Operator to get you the EKLAVYA Technology Channel so that you could watch your favorite Course/Program in the cozy environs of your home.

OR

You or your educational institution can also get the Technology Channel directly with little investment on a small dish antenna and a decoder (IRD).

## **Equipment Required are :**

- 12 feet/8 feet diameter perforated dish antenna
  - C - Band LNBC
  - C - Band feed horn
  - Low-loss RF Cable Analog
  - Integrated Receiver Decoder (IRD) for digital reception
  - Television Set

## **Things interest you.....**

The following are some of the events you may be interested in:

- **WORKSHOP ON EMBEDDED SYSTEMS AND APPLICATIONS**  
JULY 3 – 5, 2003, Venue: IIT Delhi  
For more details <http://www.iitd.ac.in>
- **ANALYSIS AND DESIGN OF EARTHQUAKE RESISTANT REINFORCED CONCRETE BUILDINGS**  
July 7-13, 2003 (A SHORT TERM TRAINING PROGRAMME)  
Department of Civil Engineering, IIT Guwahati  
For more details <http://www.iitg.ernet.in>
- **INTERNATIONAL CONFERENCE ON CAD, CAM, ROBOTICS AND AUTONOMOUS FACTORIES**  
INDIAN INSTITUTE OF TECHNOLOGY, New Delhi (India)  
INCARF - 2003, Aug 11-13.  
For more details <http://www.iitd.ac.in>
- **CONFERENCE OF RESEARCH SCHOLARS ON MATERIALS SCIENCE AND ENGINEERING**  
IIT Kharagpur (August 30-31, 2003)  
For more details [www.iitkgp.ernet.in](http://www.iitkgp.ernet.in)
- **INTERNATIONAL CONFERENCE ON MODELING, SIMULATION, OPTIMIZATION FOR DESIGN OF MULTI-DISCIPLINARY ENGINEERING SYSTEMS (MSO-DMES)**  
Goa, India on September 24-26, 2003  
For more details [www.iitb.ernet.in](http://www.iitb.ernet.in)
- **NATIONAL SYMPOSIUM ON ROTOR DYNAMICS (NSRD-2003)**  
15-17 December 2003 *Organised by* Indian Institute of Technology Guwahati  
For more details <http://www.iitg.ernet.in>
- **FIRST NATIONAL CONFERENCE ON NONLINEAR SYSTEMS AND DYNAMICS (NCNSD - 2003)**  
IIT KHARAGPUR (December 28-30, 2003)  
For more details [www.iitkgp.ernet.in](http://www.iitkgp.ernet.in)
- **THE SEVENTEENTH INTERNATIONAL CONFERENCE ON VLSI DESIGN**  
Mumbai, India, January 5-9, 2004  
For more details <http://vlsi.nj.nec.com/~chak/vlsi2004/index.html>
- **SQUID AND HIGH MAGNETIC FIELD LABORATORY AT IIT KANPUR**  
For more details [www.iitk.ac.in](http://www.iitk.ac.in)
- **INAUGURATION OF E-CLASSROOM FOR DISTANCE EDUCATION AT IIT KANPUR**  
For more details [www.iitk.ac.in](http://www.iitk.ac.in)