



सह वीर्यं करवावहे

IETE NEWSLETTER

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November-December 1999

FROM PRESIDENT'S DESK

Year 1999 has been a year of great hope and challenges. While at national level New Telecom Policy, IT Policy, Cyber Laws and action on various fronts of Electronics, Telecom, Information Technology including computers has been the hall mark of achievements, at IETE we have deliberated on many IT related and academic and professional issues.



In academic area, in addition to Diploma and Degree level examinations in Electronics and Telecommunications and M Tech Level in computers, IETE proposes to commence examinations in IT for both Diploma and Degree level students from June 2000. IETE also intends to start refresher programme for teachers and many advance level programmes for members in coming months. IETE is planning to use Internet for distance education and take-up the case for Deemed University status.

In 1998-99, IETE Apex Forum has deliberated on Telecom, IT and Broadcasting Policies and will hold a Forum meeting on "Convergence" in the first quarter of Year 2000.

IETE bids farewell to the outgoing Millennium and welcomes the New Millennium, with a conviction to make our world a world of enlightened, conscientious and knowledgeable people in the coming century. We resolve to usher in the age of wisdom, peace and prosperity.

India is the land of *Rishis* and *Maharishis*, who gave knowledge and words of wisdom to all. I invite all IETEians and other professionals to make India World Leader in the new age of enlightenment.

Wishing all a Happy New Year and New Millenium.

Cdr (Dr) H S SHARMA, IN (Retd)

*Greetings and Best Wishes from
the Institution for a Happy
and Prosperous 2000*

NEWS FROM LOCAL CENTRES

BANGALORE

A series of technical lectures were conducted by the IETE, Bangalore Centre during the month of Oct-Nov 99. These are given below:

3/10/99

- Instruction set and programming of Microprocessor- Prof S Jagannathan, RVCE
- Data Communication- Shri Prakash, MSRIT
- Complex variable analysis as applied to Digital Signal Processing- Shri J Paramashivan, LRDE
- Evolution of VLSI Design- Shri John Philip, C-DoT
- Event Driven Programming in VC++- Shri Anand M, Siemens
- Windows 95- Shri W Basavaraj, KVD

9/10/99

- Windows-95 Practical - Shri W Basavaraj, KVD

10/10/99

- Design of the building blocks of VLSI DSP Processor- Shri D V Poornaiah, ITI
- Interfacing of 8085 Microprocessor with peripherals - Prof S Jagannathan, RVCE
- Routing Algorithm and Conjunction Problem- Shri Prakash, MSRIT
- Signal & Systems- Shri Narendra, MSRIT
- C++ Practicals- Shri Anand M, Siemens
- MS Word- Shri W Basavaraj, KVD

17/10/99

- MS Word Practicals- Shri W Basavaraj, KVD

24/10/99

- Signal & Systems- Shri Narendra, MSRIT
- Keyboard Display Controller 8279 & Microprocessor 8086 Architecture and Instruction Set- Prof S Jagannathan, RVCE
- Computer Network Architecture Protocols & Standards- Shri Prakash, MSRIT
- Introduction to CMOS Technology & Microelectronics- Shri D Rajagopal, LRDE & Shri Prabhakara, BEL
- Introduction to Visual C++ - Shri Anand M, Siemens
- MS Excel- Shri W Basavaraj, KVD

30/10/99

- MS Excel Practical- Shri W Basavaraj, KVD

31/10/99

- 8087 Numeric Processor & FDC Interface- Prof S Jagannathan, RVCE
- Design of DSP Filters- Dr VSV Mani, AL Electronics
- Introduction to ATM- Shri Yogesh, ISRO
- Evolution of Transistors & Microelectronics- Dr K S Gurumurthy, UVCE
- Visual C++- Shri Anand M, Siemens
- Power Point- Shri W Basavaraj, KVD

13/11/99

- Power Point- Shri W Basavaraj, KVD

14/11/99

- Practical Demonstration of DSP Trainer / start kit for TMS 320 C3X- Dr VSV Mani, AL Electronics
- Practical Lab with 8085 Microprocessor Kit- Prof S Jagannathan, RVCE
- ATM- Shri Yogesh, ISRO
- MS Access- Shri W Basavaraj, KVD
- Basics of MOS devices / Fabrication- Dr K S Gurumurthy, UVCE

19/11/99

- One day seminar on VLSI Design was inaugurated by Dr K Neelakantan, Director, Advanced Numerical Research and Analysis Group, DRDO and who also delivered the keynote address. Dr M G Chandrasekhar, Chairman IMAPS presided. Chairman, IETE Bangalore Centre welcomed the gathering., Convenor of the VLSI seminar, Dr Sathish Kulkarni, C-DoT spoke about the seminar. While vote of thanks was proposed by Prof C Murali, Vice-Chairman, Local Centre.

21/11/99

- MOS Circuits, Delay Calculations Layout of VLSI- Dr K S Gurumurthy, UVCE

- ATM- Shri Pattabhiraman, C-DoT
- Introduction to Micro Controller- Shri G R Joshi, ADA
- Application of DSP to Speech Analysis and Synthesis- Shri Kesheory, LRDE
- Getting Started in Visual C++ - Shri Raghunath, CQAL

28/11/99

- Introduction to Verilog- Shri Suresh Nayak, Digipro
- Microcontroller Architecture- Shri G R Joshi
- ISDN- Dr Rithuraj, LRDE
- Application of DSP- Dr VSV Mani, AL Electronics
- VC++ Menus, Tool Bars, Status bar prompts- Shri Raghunath, CQAL
- "International Radar Symposium India-99 (IRSI-99)" was conducted jointly by IETE, IEEE, SEE, BEL, DRDO, ISRO and HAL during 14th-17th Dec'99 at Bangalore. Delegations from Poland, Netherlands, France, UK, Japan and USA participated. Dr K Kasturirangan, Chairman, ISRO Inaugurated and delivered the Keynote address. Dr V K Koshy, Symposium Chairman delivered the Welcome address and read out the message from Dr APJ Abdul Kalam, PSA to Govt. of India. IETE-IRSI Awards were presented by Cdr (Dr) H S Sharma. Dr R P Shenoy released the IRSI-99 Souvenir. The tutorials on Active Aperture Arrays were by Dr R P Shenoy, Dr U K Revankar and Dr Christopher. 130 young scientists and Engineers spread all over the country and abroad benefited from the tutorials. The symposium technical sessions conducted from 15th- 17th Dec 1999 were attended by more than 300 delegates from India and abroad. The technical sessions were followed by a very interactive Panel Discussion. Vote of thanks was expressed by Dr M H Kori, Chairman, IETE, Bangalore Centre.



IRSI-99 Souvenir being released by Dr R P Shenoy

CALCUTTA

The 5th Sir J C Bose Memorial Lecture was held on 30 November 1999 at the University College of Science and Technology.

Calcutta University, under the auspices of IETE. The interesting and educative talk was delivered by Prof S N Ghosh, who spoke about Jagdish Chandra Bose and elaborated his work on 'Electromagnetic Theory'.

CHENNAI

Shri N Vittal, Cental Vigilance Commissioner delivered 7th IETE Solidaire Endowment Lecture on 16th Dec '99. He highlighted the different dimensions of "Talent Export and Technology Import- in Indian Scenario". He spelled out the reasons for talent export taking place in the country and suggested corrective measures to nourish Indian talent, develop/use indigenous technologies to the maximum extent. Some of the remedial measures suggested by Shri Vittal to minimise the talent export and technology import & reduce its effect are:

- (1) Our intellectual property regime has to be upgraded to such an extent that it is ensured that the economic value of talent is understood properly and subsequently rewarded; as in the case of developed countries.
- (2) The government, industry and academic institutions have to make combined efforts so that the research can be sponsored and partial funding taken up jointly by the Govt and the industry plus the solutions provided by the academic institutions on the lines being done in Israel.
- (3) There is a growing need to encourage our talented youth to take up a career in science by making it an attractive option. A National Science Foundation has to be set-up, so that talented people can be encouraged to pursue a career in science.
- (4) Academic research institutions in addition to the existing ones have to be set-up where merit is the only criteria and students are able to realize their full potential within the country instead of going abroad.
- (5) A policy of having an alliance of our institution with foreign

educational centres of excellence is a must, so that the best possible training is available to our students. Opportunities provided by long distance learning should be fully tapped.

- (6) Our Govt. should follow a conscious policy of encouraging Indian technology by reducing indigenous technology infanticide.
- (7) There is a great need for us to have an equilibrium between our talent export and technology import, in order to protect ourselves from a vicious circle where on one hand talent export means that our bright students go abroad and develop technologies for those countries and on the other hand, technology import is such a drain on our foreign exchange. We should help Indian talent link with companies abroad for developing technologies in India which can be marketed worldwide or utilize the Indian talent abroad to seed industries & research in India, then we would be able to convert vicious cycle into a virtuous cycle.

DEHRADUN

- A talk on 'Thermal Imaging- Past, Present and Future', by Dr R N Singh, eminent DRDO Scientist, was delivered on 8th June '99 at IETE Local Centre, Dehradun.
- A three day short term course on 'Applications of Image Enhancement Techniques- in Forensic Sciences' was arranged on 25th Oct '99. It covered topics relevant to the Forensic Sciences and detection of crime. Scientists and professionals from Bureau of Police Research & Development, New Delhi, Central Forensic Science Laboratory, Chandigarh and Office of the Govt Examiner of Questioned Documents, Hyderabad participated.

DELHI

The Delhi Centre remained very active during last two months with various activities. Briefly, activities of the centre are given below:

Students Affairs: During the last one year strength of the students for guidance classes has increased by 15-17% every semester. For Dec 99 semester the strength was as follows:

	No. of Students	No. of classes
AMIETE	397	769
DIPIETE	101	224

Library: Students library was shifted to IETE (DC) complex in Feb '99. On an average more than 125 students avail library facility everyday. The centre has added 250 books during the current year so far.

Electronic Lab: The centre established its own Electronic Lab. 29 students have been enrolled. REB Part-I for AMIETE and Diploma are being conducted locally.

Examinations: The December 1999 examinations were conducted at IETE (DC) complex.

Computer Courses: The Centre is running 'O' level DOEACC



President inaugurating the Solidaire Lecture. Seated from L to R are: Er L Thyagarajan, Er A N Srinivasa Rao, Shri N Vittal, Cdr (Dr) H S Sharma, Dr N M Parthasarathy, Er S A Soundara Rajan and Er. N S Ganesan

approved course and other short term courses. Currently 52 students are undergoing 'O' level course. The centre has applied for DOEACC 'A' level course. In the interim period PGDCA course is being launched in Jan 2000.

NORAD: 110 students successfully completed their course. The certificate award ceremony was held on 12 Dec '99. Dr H S Sharma, President IETE, presided over the function. Madam Sharma distributed the certificates. The function was preceded by a variety entertainment programme presented by the students. Delhi based Council Members and Executive Committee members were the invitees.

Infrastructure: The Centre has added 300 table and chair sets for classrooms. In addition, one 20 KVA DG set has been ordered and is likely to be functional by 31 Dec '99.

Placement: Shri Diwaker Shukla and Shri Manish Jain who recently passed their AMIETE and DIPIETE respectively have been appointed trainee engineers by HFCL, Satellite Communications Ltd in Nov '99.

HYDERABAD

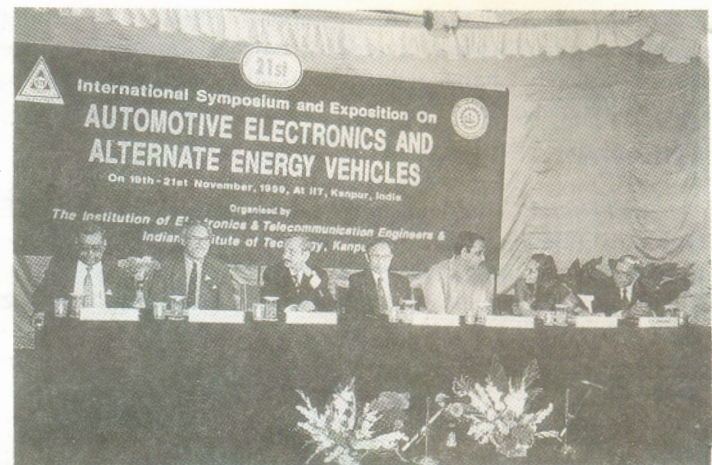
Following are the different activities organised by the Centre.

- **Short Term Course:** Valedictory function of a 8 week short-term course in UNIX, C, C++ of II batch for Corporate Members and student members & others was held on 10th Oct '99. The Chief Guest, Shri P Jagath Raj, ITS, General Manager (N), Hyderabad Telecom Dist distributed certificates to the participants. Shri K Laxminarayana, Chairman, IETE, Hyderabad presided over the programme.
- 2nd Prof K K Nair Endowment Lecture by Dr V K Aatre, Distinguished Scientist, DRDO, on "Smart Materials" was organised on 29th Oct '99.
- On 16th Nov '99 a lecture on "Industrial Application of Laser Instrumentation" by Dr S P Tiwari, Chairman Placement Advisory Committee, University of Hyderabad, was organised.
- 5th M Madan Mohan Endowment Lecture by Prof K K Aggarwal, Vice-Chancellor, Indraprastha University, on "Social fallouts of Information Technology", was organised on 28th Nov '99.

KANPUR

Institution of Electronics and Telecommunication Engineers and IIT, Kanpur jointly organised a three day International Symposium on "Automotive Electronics & Alternate Energy Vehicles" from 19th-21st Nov '99 at IIT Campus. Over 500 delegates from all over the world, including Germany, America, France, Hongkong, UK, Japan, Italy, Singapore, Korea and Austria attended.

Prof C C Chan, President of the World Electronic Vehicle Association and Head of the Department of Electrical and Electronics Engineering, University of Hongkong inaugurated the symposium. He said that 21st century will be the environmental century. One of the pressing needs of the time is an alternative clean, efficient, intelligent and environmentally friendly urban transport system. He said that the success of eco-friendly vehicles operation will



A view of the dias at the International Symposium and Exposition on Automotive Electronics and Alternate Energy Vehicles

require the policy support of the government in the respective countries.

Director IIT, Prof K A Padmanabhan welcomed the guests and delegates and emphasised on the relevance of the symposium in the context of growing needs in automobile sector and also the global concern on clean environment. President IETE, Cdr (Dr) H S Sharma also spoke on the occasion and congratulated the local centre for organising the symposium of great relevance.

Speaking on the occasion, Shri B K Karmakar said that it was a known fact that due to depleting fossil fuels globally, corporations, research organisations and government agencies are working on alternative fuel vehicles. It is likely that there would be only very few conventional vehicles running with petrol or diesel on Indian roads shortly. In their place, vehicles driven with battery, solar energy, hydrogen or LPG shall be seen plying on roads, putting an end to air and noise pollution. A battery powered van from BHEL, Bhopal, a 'hybrid car' from Fiat, Italy, an electric vehicle produced by Rewa, Bangalore, a Vikram EV battery operated three wheeler from M/s Mahindra & Mahindra, Mumbai, an electric scooter from Rourkela and a solar operated bicycle from VRCE, Nagpur were among the eleven prototypes of smokeless, oilfree vehicles on display at IIT, Kanpur.

Later addressing the seminar, Vice President and Director, Motorola Semi Conductor Product Sector, Austin, USA Mrs Padamshree Warrior laid emphasis on the impact of the automobile industry on the modern society and Motorola's commitment to the transportation industry.

Managing Director of LML Ltd, Shri D K Singhania highlighted the importance of the automobile industry and the key issues faced by them.

The seminar on its second day had technical presentation on major technical issues and challenges facing the automotive industry in the 21st century. The plenary session started with Prof P K Chatterjee of IIT, Kanpur on the Chair. The three-keynote addresses were as given below:

- "Convergence- A Guiding hand for Automotive Electronics" by Mr Jerome G Rivard, President of Global Technology and Business Development.
- "Advanced Automotive Technologies: Preparing for the 21st Century Automotive research & Development Collaborations in the United States" by Dr Pandit G Patil, United States Dept. of Energy, Washington, USA
- "At the turn of the Millennium : Automotive Electronics and Technologies" by Shri Sachal Gidwani, Director of Engineering, Delphi Automotive Systems, Tokyo, Japan.

After the plenary session, technical presentations were carried out in two parallel sessions. The theme for the first session was "Technology development, emission and environment". The keynote speaker was Shri P S Deodhar, President and CEO, Aplab Ltd., Mumbai. The other theme was "Challenges and Future of Automobile and Electronics and alternate energy vehicles", in which the keynote addresses were delivered by Dr James J Mackenzie of World Resources Institute, USA and Dr Lon E Bell, Chairman and CEO of Amerigon Inc., USA.

After lunch, the themes of the two parallel sessions were "Advances in information display and testing in automobiles" and "Emerging alternate energy vehicle technologies for Asian needs". The first key note speaker was Shri M N Savant, Senior General Manager, Philips India, Mumbai and the second keynote address was given by Prof (Dr) Soichi Ishihara of Meijo University, Nagoya, Japan.

After tea, other keynote speakers were Shri Salim Momim, Director, Motorola Semiconductor Product Sector, USA and Dr Samuel Schweitzer of Environment Centre, USAID, USA on the themes 'Developments in automobile electronics' and 'Technology status of electric and hybrid vehicle drive system' respectively. This was followed by a cultural programme.

On Nov 21, 1999, the technical presentations were again in two parallel sessions. Mr Gerome G Rivard, President Global Technology & Business Development, Harrison Township, USA spoke on the theme "Technology Advances in vehicle development sub-systems & Component" while Shri S K Dhar, Shri S Venkatesan, Shri Mike Fetcenko, Shri Dennis Corrigan and Shri S R Ovshinsky jointly presented the theme "Technology status of electric & hybrid vehicle battery & energy storage system".

During the 5th session, keynote addresses were given by Shri Shinji Shirasaki, Gen Manager Denso Corporation, Aichi-ken, Japan and Dr V N Walivadekar, Director Centre for Electronics Design and Technology of India, Aurangabad on the themes "Need for Newer approach in vehicular Electrical System & technology" and "Zero emission vehicle technology for 2/3 wheelers" respectively.

Shri Ravindra Gupta, Secretary, Department of Electronics, New Delhi, chaired the concluding plenary session.

MUMBAI

- Shri S K Saraswati DGM (Communication) Airport Authority of India, one of the Vice- Chairman has become new Chairman of IETE, Mumbai Centre, after the resignation of Shri P R K Rao, former Chairman IETE, Local Centre.

- Two Student Forums were inaugurated – one at Vivekananda Educational Society Institute of Technology (VESIT), Chembur by the former Chairman of the Local Centre on 8 Oct '99 and the second at Fr C Rodrigues Institute of Technology, Vashi by Father Orlando of Father Agnel Ashram on 16 Oct '99.
- A technical lecture "DTH (Direct to Home) – Scenario in India" by Shri Y Venkateshwarlu of Doordarshan was jointly arranged by IETE, Mumbai Centre and Broadcasting Engineering Society Mumbai Chapter on 22 Oct '99. This lecture had good attendance and was well appreciated.
- Placement: BROMCO Computers was considering IETE NORAD students for employment.

NAGPUR

IETE Nagpur Centre conducted a talk by Prof M U Deshpande, Principal, VRCE, Nagpur on "Self Instructional Material for Electronics and Computer" on 7th Dec '99 at Seminar Hall Physics Deptt, VRCE, Nagpur.

NASHIK

The Institution of Electronics and Telecommunication Engineers, Nashik Centre and the Institute of Engineers (I) Nashik Local Centre together organised a seminar on "MV Switchgear-Trends, Applications and Developments" at Hotel Emerald Park, Nashik. The seminar was spread over four technical sessions.

PUNE

IETE, Pune Centre's activity report is given briefly below:

- 21/8/99-A lecture on "Growth of Telecommunications in 21st Century" by Shri M G Kulkarni, Retired Member (Services, Telecom Commission).
- 5/9/99-Seminar on Industrial Controllers was jointly arranged by IETE and Technical Training Centre, Pune.
- 25/9/99-Prof Jalnekar Head of Deptt, Bharati Vidyapeeth delivered a lecture on 'PWM Techniques' in power supplies.
- New books /publications worth Rs 3,400 were added to the stock of library in addition to providing, reading room facility to student/members in the evening.

VIJAYAWADA

A National Level Student Paper Contest was organised on 31/10/99 at VR Siddhartha Engineering College Campus. Dr K Raja Rajeshwari, Head, ECE Department, AU College of Engineering, Visakhapatnam inaugurated the programme. Shri M Subba Rao, Secretary, Siddhartha Academy, Vijayawada was the Chief Guest. Dr P Venkata Narasaiah, Principal, V R Siddhartha Engineering College, Vijayawada, presided over the inaugural session. Welcome address was by the Chairman of the Local Centre, Dr MC Chandra Mouly.

The inaugural session was followed by two Paper Presentation sessions. In all, 31 papers were accepted for the presentation. Fourteen papers were presented in the morning session while fifteen papers in the afternoon session.

The three papers selected for awards were:

- 1st Prize: 'Design Methodologies and Error Propagation in VLSI Circuits' by Shri D Sriram, VRS Engineering College, Vijayawada
- 2nd Prize: 'Implementation of a DSP Controlled Photo Voltaic System with Peak Power Tracking' by Shri H Krishna Kumar, NBKRIST, Vidyanagar.
- 3rd Prize: 'Non Geo Systems for Personal Communications' by Shri V Chandra Sekhar, JNTU College of Engineering, Kakinada.

Prizes and certificates were given to the winners. The activity received wide appreciation and applause from the large gathering present.

IETE Student Forum (ISF) Sanjay Education Society's College of Engineering, Navalnagar, Dhule

The following activities were performed during during Aug to Oct 1999 by ISF, Dhule.

- 16-21 Aug '98-SES's College of Engg, Navalnagar observed this week as an educational week. Lectures on Career after Engineering and on Programming in 'C' were conducted. It followed with Inter College Debate, Quiz and prize distribution function.
- 12 Sept '98-A technical visit to Deptt of Telecommunication, Dhule was organised to enhance the knowledge of students and to give them insight into the reception and transmission of signals.
- A technical library was set-up comprising of technical magazines related to Electronics, Telecommunication, Computers & IT, Career Oriented books and regular journals.

From Secretary General's Desk

Dear Members,

It is to bring to your kind attention that the Council of the IETE has approved inclusion of Information Technology and allied qualifications for IETE Corporate Membership. The following qualifications, in addition to the existing ones, are now acceptable for enrolment as a Corporate Member:

For Associate Member

BE/BTech/BSc (Engg) in Electrical/Communication/Instrumentation/Information Technology/Computer Science/Bio-Electronics

For Member/ Fellow

The above mentioned and the following qualifications:

ME/MTech/ MS (Computer Science)/
MCA / MSc (Computer Science)/ALCCS/
DOEACC 'C' Level/DOEACC 'B' Level

- with required experience as laid down.

May I solicit your support in disseminating the above information to all concerned. Your co-operation will go a long way in expanding our membership base.

Wishing you all the best in the New Millennium.

Maj Gen K B Jhaldiyal, AVSM (Retd)



Dr K Raja Rajeshwari speaking at the Student Paper Contest. Seated from L to R are: Shri A Ravi Kumar, Dr M C Chandra Mouly, Dr P V Narasaiah, Shri M Subba Rao, and Dr P V Subbaiah.

EDITOR'S FORUM

The IETE wishes all the members of its family a very Happy New Year as well as a very Happy Millennium.

I would like to introduce Air Cmde (Retd) P D Badoni, VSM as our new Managing Editor. He brings with him considerable professional experience in the field of technical writing and publication besides the Service competency in telecommunications. With his taking over as the Managing Editor, we hope to bring out a new outlook in all our publications.

The image of an Institution is built around its publications. It is judged from the quality of its publication and the service that it renders to its members. Our publications must promote professional advancement of its members through appropriate information dissemination. We strive to reach a stage where each issue of our publications is eagerly awaited by our concerned readership. We need your guidance, suggestions and feedback to achieve this goal. Our Managing Editor will enthusiastically look forward to receive your views and comments on the subject. As more and more of you work on a terminal of one kind or the other, please add ietend@giasd101.vsnl.net.in (our e-mail address) in your address book so that you could instantly communicate wherever you get a worthwhile idea.

We live in an exciting world of electronics, Internet, communication, networking and devices (as a matter of fact plethora of such disciplines) which constitute the domain of the Institution. We are fortunate to belong to this profession. Let us share our vision, thoughts, ideas as well as issues that are of technical / professional nature with our members. I invite you to submit your writings for publication in our journals.

-Prof Vishwanath Sinha

IETE

INTRODUCES NEW STREAM FOR COMPUTER SCIENCE & ENGINEERING DEGREE/DIPLOMA LEVEL EXAMINATIONS

IETE is a National Apex professional body working for promotion of Information Technology, Electronics and Telecommunication Engineering. IETE provides opportunity for your career development. Government of India has recognised the IETE as Scientific and Industrial Research Organisation and Educational Institution of National Eminence. IETE already conducts graduate/diploma level examination in Electronics and Telecom. New stream is being introduced keeping in view the rapid advances in the field of Computers and IT.

IETE

- * Announces enrollment for Degree/Diploma Level Examinations in Computer Science & Engineering.
- * Examination in Jun & Dec every year. Last date of enrollment for Jun Exam is 15 Mar, 2000.
- * Exams at 30 centres all over India and abroad.
- * AMIETE & DIPIETE courses are recognised by Government of India & UPSC for Superior and Subordinate services respectively and higher education.

AMIETE Course in Computer Science & Engineering (Equivalent to BE/B Tech)

Eligibility

- (a) Not less than 16 years of age.
- (b) Passed 10+2 or equivalent with PCM or Diploma in Electronics/Telecommunication/Electrical/Computers or related field.
- (c) Working experience in relevant field,

OR

Studying for higher qualification with Physics/Electrical/Electronics/Computers

DIPIETE Course in Computer Science & Engineering (Equivalent to Three Year Diploma)

Eligibility

- (a) Not less than 14 years of age.
- (b) Passed Class X of a recognised Board of Education with General Science, or its equivalent.
- (c) Working Experience in relevant field

OR

Studying for higher qualification with Physics/Maths/Engineering.

How to Apply

- For Prospectus and Syllabi, remit Rs 225/- by Draft/PO in favour of 'Secretary General, IETE, New Delhi' or collect personally on payment of Rs 200/- from any of the centres.
- Apply for registration as Student Member on **Forms IETE 2** for AMIETE & **Form IETE 4** for DIPIETE (Forms are available with respective Prospectus) to Secretary General, IETE, 2 Institutional Area, Lodi Road, New Delhi 110003 by **15 Mar 2000**.
- Apply for Jun 2000 examination on *Examination Form* (available with Prospectus) by **30 Apr 2000**.

CALENDAR OF EVENTS

Subject	Date	Venue	Contact
• Zonal Seminar (IETE-ZS-2000)	Jan 21-22 2000	Nagpur,	The Hony Secretary, IETE, Nagpur Centre, 371, Rangole Sankul, Khare Town, Dharampeth, Nagpur- 440 010, Ph: 0712- 529066
• Componex/electronic India'2000	Jan 27-30, 2000	Bangalore	Mr Ananda Babu K V S, IRSI'99, Symposium Secretariat LDRE, C V Raman Nagar, Bangalore 560 093 AND Nikolaus Wollmann IMAG-Intl Exhibition & Fair Service Ltd., Member of Messe, Muenchen Intl, Am Messese 2, D-81829 Muenchen, Germany Ph: ++49-89-94922-119, Fax:++89-94922-350
• 6th National Conf on Communication	29-30 Jan 2000	New Delhi	Dr S D Joshi, Deptt. of EE, IIT, Delhi 110 016 e-mail: ncc2000@ee.iitd.ernet.in
• 6th Intl Conf & Exhibition on 'Terrestrial & Satellite Broadcasting'	2-4 Feb 2000	New Delhi	BES EXPO Coordination Office F-6, Madan Lal Block, Asian Games Village, New Delhi 110 049, Tel: +91 11 649 2624, 649 2008 Fax: +91 11 649 2888, 643 60003 Web: http://besindia.com
• 3rd Annual Billing & Customer Care India	16-17 Feb 2000	New Delhi	IBC Asia Limited, No.1, Grange Road, #08-02 Orchard Bldg, Singapore 239693
• EMV 2000 8th Intl Exhibition & Conf on Electromagnetic Compatibility (EMC)	22-24 Feb 2000	Messe Dusseldorf	MESAGO Messe & Kongress GmbH Rotebuehlstrasse 83-85 D-70178 Stuttgart, Germany
• The SEPG Conf in India 2000	25-26 Feb 2000	Bangalore	The Conference Manager, QAI (India) Ltd., 1013-14A, Ansal Towers, 38 Nehru Place, New Delhi 110 019 e-mail: customer_relations@qaiindia.com Fax: +91-11-6218974
• Communic Asia 2000 The 12th Asian Intl Communications & Info Tech Exhibition & Conf	6-9 June 2000	Singapore	47 Scotts Road, 11th Floor Goldbell Towers, Singapore 228233 Ph: (65) 738 6776 Fax: (65) 732 7667 e-mail: jc@sesmontnet.com
• ITU Telecom Asia 2000	4-9 Dec 2000	Hong Kong China	Mr Thomas Frankl, Head, Press & Public Relations for Telecom 99+, Interactive 99, ITU, Telecom CH-1211 Geneva 20-Switzerland Tel: 41227300331, e-mail: thomas.frankl@itu.int
• CeBIT 2000	24 Feb- 1 Mar, 2000	Hannover	Associated Forex Services Ltd., C-37, Mezzanine Floor, Atma Ram House, Connaught Place, New Delhi-110 001 Ph: 3319477/78/79, Fax: 3354596

Note: The Institution of Electronics and Telecommunication Engineers assumes no responsibility for the statements and opinion expressed by individual author and speakers.