



सह वीर्यं करवावहे

# IETE NEWSLETTER

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## FROM PRESIDENT'S DESK

The Bombay Centre surpassed our expectations in the conduct of the Annual Technical Convention, it was a well orchestrated and thoughtfully organised and co-ordinated programme that reinforces our confidence in the capabilities of our centre. I congratulate Shri T R Subrahmanyam, Shri K J Chacko and his able team for the excellent show.

We had another successful seminar, the third in the series, along with other industry associations in Delhi on 18th Oct. Focusing on "Electronics Component : Strategy for Growth", the seminar was organised in association with CETMA, ELCINA, MAIT and TEMA, co-sponsored by the DoE, DoT, DST & DRDO. The event was inaugurated by Shri A V Gokak, Secretary DoT and Chairman Telecom Commission. There were some excellent presentations from a distinguished panel of speakers from the Electronic Components Industry and the Government. The deliberations highlighted important issues that need to be addressed both from the policy and implementation/strategy aspects.

The IETE Apex forum met on two occasions to hold discussions on telecommunication tariff structures and the new broadcasting policy, on 27 Sept and 27 Oct respectively. The meeting addressed the complexities of the situation peculiar to the Indian scenario. Likewise, the contentious issues in the Broadcasting Bill 1997 were debated upon to analyse some of the divergent views on the subject. The outcome of these meetings would be channelled to the decision makers.

The Council has eight new members and I look forward to their active participation in the Institution's programmes in the coming year. The Hyderabad Centre would be hosting the next year's Annual Technical Convention, which would be the culmination of a year long Silver Jubilee celebrations by the centre. By bagging the "Best Centre Award" third time in a row, the centre has set a precedent tough to emulate. Coming in close second, the Bangalore Centre too has proven a point. My good wishes are with all our nodes, and I hope they continue to do us proud.

The 2nd international conference on multimedia (Multimedia '98) scheduled for 23rd-25th Jan 1998 is the next major event on our calendar. I extend my invitation to all members to participate.



Prof R K Arora

## NEWS FROM HEADQUARTERS

### REPORT ON 40TH ANNUAL TECHNICAL CONVENTION-ATC '97

The IETE Bombay centre hosted this year's annual technical convention on 30th Sept and 1st Oct. The weather was mellow, the audience receptive and the theme "Internet and the Road Ahead" timely, enjoying popular appeal. There were six technical sessions spread over the two days on

- Internet: Structure and conceptual framework, chaired by Shri B K Syngal, CMD VSNL.
- Internet client technologies, chaired by Shri B K Basak.
- Internet server technologies, chaired by V Babuji, Chief Executive, Telecom Business Group, IL & FS, Bombay.
- Intranet and related technologies, chaired by Dr S Ramani, Director NCST, Mumbai.
- Multimedia and applications, chaired by Shri A S Guin, Chief Engineer (R & D) AIR, New Delhi.
- Strategies and issues, chaired by Prof B S Sonde, Vice Chancellor, Goa University.

The presentations at the convention were excellent, the deliberation touching on issues like the inadequacy of the underlying communication infrastructure in India to support internet's projected growth, pricing and interconnection scenario when private ISPs enter the market, the significance of intranets and issues concerned with the



setting up of such corporate networks etc. The question of security on the net was dealt with quite extensively, and a realistic assessment of risks was attempted while bringing to focus the various firewall mechanisms and cryptographic schemes in use today. The scope, potential and future of electronic commerce, business via internet and the internet as a media for distance education were also discussed.

Looking at the road ahead, promising technologies such as intelligent software agents and push technologies that enable the user to access only the required information from the vast cornucopia of information that is available on the net, the integrated-browser front-end as the de-facto user-interface to the network and other applications etc were explored through various presentations. For addressing grey areas like the lack of address space, fixed IP header structure, security and accounting in the TCP/IP, the ongoing efforts on the proposed new internet protocol namely IPng also came up for discussion.

The convention was inaugurated by Prof Yash Pal, noted high-energy scientist & astrophysicist, and a pioneer in the field of science education and use of space technology for communication. In his thought provoking address, he enjoined the gathering to look at the potential of internet from the Indian perspective. Calling it a fantastic opportunity to project the knowledge generated in India, he called for indigenous efforts in local content creation and also for inclusion of the rural India while planning for an internet infrastructure, in a wholistic manner. Comparing the knowledge generated and available in the rural pockets of India to an info. bye-way, he invited attention to the charms of such "pagdandi's" as opposed to the traffic jam and pollution of the main info-highway.

The inaugural session also featured the 29th Bhabha Memorial Lecture by Dr Virendra Singh, Prof of Eminence, TIFR, Mumbai. His engrossing lecture brought to focus some of the futuristic technologies like quantum cryptography and quantum computation based on quantum mechanics, for enabling secure open transmission of information and information processing, respectively. The inaugural session also featured a welcome address by Shri T R Subrahmanyam, Chairman, Organising Committee, the Presidential address by Prof R K Arora, an overview of the programme by Maj Gen Yashwant Deva, AVSM (Retd) (Chairman Technical Programmes Committee) and a vote of thanks by Mr K J Chacko, Chairman, Mumbai Centre.

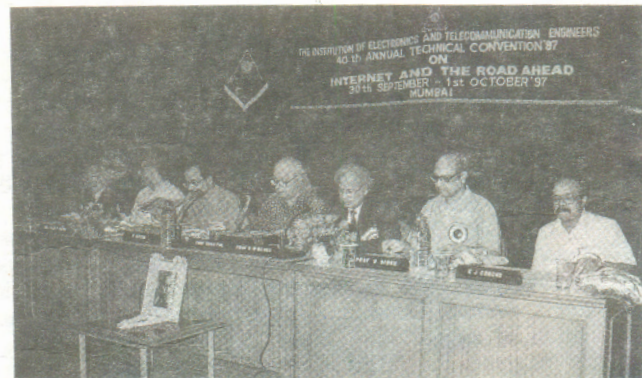
The Honorary Fellowship of the Institution was conferred on Shri N Vittal, Chairman PSEB and past Secy, DoE, for his notable contributions to the promotion of growth of Electronics and Telecommunications in the country. Prof Bharathi Bhat of the Centre for Applied Research in Electronics (CARE), IIT Delhi and Shri D K

Sangal, former Secretary and Director-General, Department of Telecommunications and Chairman Telecom Board, were conferred with the Distinguished Fellowship of the Institution. The Chief Guest also conferred the various annual awards of the Institution.

A souvenir was released on the occasion, along with the proceedings of the convention. On the 2nd day of the convention, Prof Sankar K Pal of ISI, Cuttack, delivered the Ram Lal Wadhwa Award lecture. Titled "Soft computing Tools and Classification Methodologies", Prof Pal's presentation dealt with concepts of fuzzy set theory, artificial neural networks, genetic algorithms and their relevance to pattern recognition and image processing, in a clear and lucid terminology. The convention was preceded by a one day tutorial "Java and Java Beans Programming" conducted by S Vijay Mukhi, a well known Java consultant and President, Mumbai Chapter of Internet Users Club of India. Nearly 150 delegates participated and the excellent conduct of the tutorial received keen appreciation. The commendable work done by the Bombay Centre and the able guidance of Shri T R Subrahmanyam and the Chairmanship of Shri K J Chacko was also appreciated by one and all.

Some of the recommendations/strategies for making the internet more pervasive and an effective mode for communicating information were:

- \* The need for a well performing, robust underlying telecommunication infrastructure (backbone carrier) on which internet piggybacks. Existing networks of other public agencies like the Railways, the Powergrid Corporation, Defence etc, to be actively integrated into the internet infrastructure fabric.



**ATC inaugural session in progress. Seen L → R are Shri T R Subrahmanyam, Maj Gen Yashwant Deva, AVSM (Retd), Shri N Vittal, Prof Yash Pal, Prof R K Arora, Prof Virendra Singh and Shri K J Chacko.**

- \* Realistic tariffs, comparable with international rates for private ISPs for enabling them to offer competitive services to the end user.



\* Clear, transparent guidelines on interconnection issues (i.e., ISPs to DoT networks, between wireless, wired networks, VSAT terminals ... etc).

\* Setting up of a society or monitoring group to measure the quality of internet communications (both hardware related and software related) consisting of typically the ISPs, user groups, professional bodies and telecommunication infrastructure providers. This forum would give timely inputs to policy makers on issues like standardisation, security, quality of service, IPR infringements and related arbitrations.

\* Security on the net is a serious concern requiring well thought out guidelines on encryption policies. We have to be alert to the possibilities of the information rich societies taking on monopolistic attitudes on aspects that could render us vulnerable in areas like e-commerce.

\* India has to realise the tremendous risks that internet poses to the security of our strategic and classified information, and there is a need for some surveillance by the Govt. on the outflow of such sensitive information.

#### **Council Office Bearers/Chairpersons of the Committees**

During the Council meeting which took place on the 29th Sept at Bombay, the Council bade farewell to Shri M C Agarwal, Lt Gen M K Ghosh, PVSM, AVSM (Retd), Dr C Rao Kasarabada, Prof A Kumar, Shri S C Tiwari, Maj Gen Prem Prakash (Retd), Dr S Pal, Shri P N Chopra, Shri M Madan Mohan, Prof S N Gupta, and Shri Arjun Malhotra who retired from the Council, having rendered distinguished services. The new members: Dr S S Agarwal, Prof K K Bhutani, Prof H M Gupta, Maj Gen Vinod Krishna AVSM (Retd), Dr V P Kulkarni, Wg Cdr C P K Menon VSM (Retd), Shri U V Warlu, and Shri P K Bhatnagar (SDM-Rep) were welcomed into the Council.

The Council elected the following office bearers for the year 1997-98, under the Presidentship of Prof R K Arora.

#### **Vice Presidents**

Shri P S Saran  
Brig K Balasubramaniam (Retd)  
Cdr (Dr) H S Sharma (Retd)

#### **Treasurer**

Dr S S Agarwal

#### **Chairman/Co-Chairman of various Committees**

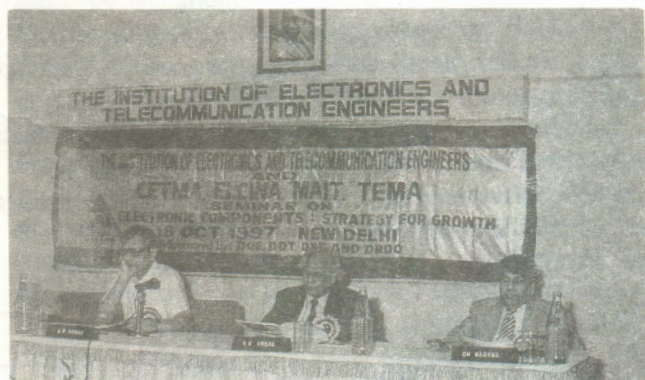
- Finance & Policy Planning  
Prof R K Arora/Brig S V S Chowdhry
- Academic & Distance Education  
Prof A K Ghatak/Prof K K Bhutani
- Technical Programmes  
Maj Gen Yashwant Deva AVSM, (Retd)/  
Wg Cdr C P K Menon, VSM (Retd)

- Membership & Local Centres  
Shri S Narayana/  
Maj Gen Vinod Krishna, AVSM, (Retd)
- Publications  
Shri Y P Singh/Dr V P Kulkarni
- National Policies Advisory  
Dr J H Agarwal
- Awards  
Prof S V Kharkar
- Information Technology & Computer Education  
Brig (Dr) G K Deb VSM / Prof H M Gupta
- Industrial Co-ordination  
Gp Capt H Kaushal/Prof (Mrs) S R Talele

#### **Electronic Components: Strategy for Growth**

IETE joined hands with CETMA, ELCINA, MAIT and TEMA to organise a seminar on Electronic Components, which aimed at looking at the Indian scenario in this key-sector and pin-pointing strategies to improve the health of the Components Industry so as to steer it to the level of global competitiveness. The event was sponsored by DoE, DoT, DST and DRDO.

This was the third seminar organised jointly by the same professional bodies. This seminar aimed to analyse and study what ails the components industry, when apparently all the elements favouring its growth are in place, particularly a liberalised economy and a delicensed raj. The earlier seminars had helped identify some of the major obstacles that these industries faced, and recommendations had been submitted to the Govt for consideration in its planning policies. During this seminar too, desirable revisions in import tariff structures were emphasised, particularly to moderate the import tariffs for CKD items which continues to be priced only marginally lower than fully assembled products. However, the flavour was more on strategies required to surge ahead.



**A view of the dias at the seminar of Electronic Components: Strategy for Growth Seated L → R Shri A V Gokak, Prof R K Arora, Shri Om Wadhwa.**



It was largely agreed upon that the Indian strength in component industries lies in the passive components sector. To attain the competitive advantage, there is a need to look at global markets and requirements, set higher standards for quality and at the same time ensure cost optimisation. Active components, micro-electronics, VLSI etc required capital intensive fabrication setups, investments to this tune are not easily realisable. It was also opined that since the world is inevitably converging to a global village, and as per the ITA we are moving towards zero duties on IT products, the necessity to go in for micro-electronics production capability is not very obvious.

On the other hand, it was also emphasised that the future of components industry lies in active components and if India is serious about developing its components sector, there is a need to focus on our manufacturing capabilities in this sector. Success of component industry depends critically on high volumes leading to low costs, so there is a need to cluster the scattered units all over the country and consolidate resources for meeting the heavy investment required for setting up state-of-the-art manufacturing facilities. Some of the suggestions that emerged were:

- Concentrate on ASICs and embedded software where India has the advantage.
- Invest in basic research.
- Promote aggressive marketing, invest in customer care and evolve synergy by networking for sharing profits.
- To revive indigenous manufacturing, particularly in telecom,
  - Attract foreign investment by offering outstanding incentives.
  - Employ industry clustering concept.
  - Evolve a task force to look into the above requirements which would consist typically of representatives from industry (local & multinational) and financial institutions.
- Shift to contract manufacturing to offset the smaller units leading to low volume, high cost syndrome.
- Develop design capabilities to drive manufacturing capabilities.
- For defence electronics, the user perspectives are slightly different. Recommendations are:
  - Encourage patenting technologies
  - Underwrite risks in R & D
  - Focus on frontier technologies
  - Evolve synergy among defence, academics and government perspectives.

The seminar attracted a galaxy of renowned speakers. It was inaugurated by Shri A V Gokak, Secretary

DoT and Chairman Telecom Commission. Prof R K Arora, Shri Om Wadhwa, CMD, J V Electronics Ltd and Maj Gen Yashwant Deva AVSM (Retd), Chairman Organising Committee spoke during the inaugural session.

There were three technical sessions, the first on components industry scenario, the second on perspectives and the third on strategies, chaired by Shri Gautam Soni, Sr Advisor, DoE, Delhi, Shri P S Saran, Member (Services), Telecom Commission, New Delhi and Shri V P Sandlas, CC, R&D(s), New Delhi respectively. The speakers in the seminar included: Shri K S Ramani, MD, Sunderson Elect Pvt Ltd, Mumbai, Shri Pradeep Gupta, MD, Cyber Media (I) Ltd, New Delhi, Maj Gen Devender Kumar, VSM, Addl DG, Telecommunication, Sena Bhawan New Delhi, Shri Gautam Soni, DoE, Shri D K Ghosh Director, Siemens PCN Ltd, Gurgaon, Mr Charles L Wingate, Chief Executive, AMP India Pvt Ltd, Bangalore, Shri Amitav Malik, Director, Defence Science Centre Delhi, Shri B B Bhatia, Director, Motorola and Vice President TEMA, Shri A Bali, Manager, Marketing, Philips Components, Pune, Shri Sanjiv Narayan, MD, SGS Teknics Pvt Ltd, New Delhi, Shri Y P Singh, Vice President, Siemens PCN Ltd, Gurgaon and Gp Capt H Kaushal VSM (Retd), IET Council member from Pune.

The discussions concluded with an open session chaired by Shri Om Wadhwa, Chairman, Core Group (Seminar) which threw open the forum for participants to voice their opinion. Prof R K Arora expressed the need for electronic industries to come together on a common platform and collectively formulate action plans and strategies, so that in unison their requirements and aspirations would receive greater attention than efforts made by individual sectors. Shri Om Wadhwa did a commendable job in summing up the proceedings and presented a clear perspective from a myriad of divergent opinions expressed during the day.

Speaking on the role of global enterprises in development of component industry in India, Shri Y P Singh, Vice President Siemens PCN Ltd, Gurgaon, added colour to the session by inviting the participants to name three reasons why the MNCs should invest in India. Shri N K Sehgal, Sr Manager, ITPO came up with the following, which was widely appreciated.

- availability of well qualified techno-managerial manpower at competitive salaries.
- advantage of India vis-a-vis its ideal geographical location to cater to markets in SAARC, middle East and Africa.
- readiness of Indian companies to adapt to changes dictated by the prevailing market and technological options.



### Workshop on "Tariff Structure in Changing Times"

The Telecom Regulatory Authority of India has been set up to regulate the telecom services, and for matters connected therewith or incidental thereto. The multidimensional functions of this Authority, inter alia, include the determination of tariff at which the telecom services should be provided to the consumers.

TRAI is engaged in an exercise to find solution to tariff structure in India. To engage ourselves in this national effort, IETE organised an interactive workshop on "Tariff Structure in Changing Times" on Saturday September 27, 1997 under the aegis of the Apex Forum. Twenty experts including a member and member secretary of TRAI participated in the deliberations.

Tariff issues assume great importance in an environment where there are multiple basic and value added service providers. Artificial tariff structures coming historically under monopoly regime need rebalancing.

Historically, telecommunications has been considered a natural monopoly. There was large sunk and upfront investment required and almost all governments adopted universal service as their goal. Heavy cross subsidisation from long distance services was required in order to build the access network. Such cross subsidisation could efficiently take place only under a telecom administration that operated as a natural monopoly.

Tariff rebalancing seems to be the most prominent feature of recent tariff policy trends. Long distance charges of both domestic and international calls are being progressively and substantially reduced. This has been made possible by new transmission technologies and the increasing competition introduced in long distance services.

The above rebalancing has also resulted in the price for network access and local charges going up as most operators are attempting to make up for the loss in the long distance revenue through a hike in rental and local calling charges. The operators are trying to achieve rebalancing in phased manner and have typically taken years or more to achieve this.

One of the most revolutionary concepts introduced in recent tariff policies is a price cap. Previously all operators were required to send their tariffs in accordance with the rate of return regulation. The system had an in-built inefficiency as the operators were not motivated enough to reduce their cost. The imposition of price caps forced operators to try to cut costs.

The nature of telecommunications business is such that there is zero marginal cost for incremental increase in traffic on the network up to the capacity of the network. Taking advantage of this, all operators have introduced non-linear discriminatory pricing policies to

augment the traffic and also to benefit the high volume user. Increasing discounts are provided for high volume users of the network. In India situation is just the opposite.

Just as non-linear discriminatory pricing was done to favour high volume business users, peak load pricing was adopted to help marginal and residential customers. However the use of multiple-6-7 time slabs in pricing schemes has resulted in considerable confusion among the customers. At the time of making their calls, many customers are not able to recollect the applicable call rates. Many operators have therefore, attempted to simplify the tariff schedule.

The regulatory authority could take the following steps to resolve these tariff issues:

- Treat universal service costs and access deficit as a package. The two are related and it is important to avoid double counting.
- Have an independent estimate made of the access deficit and not rely on the incumbent who may tend to overestimate the deficit.
- Allow the incumbent to rebalance access price so as to reduce the deficit.
- Define precisely the scope of the access deficit to which new entrants are asked to contribute.
- Decide on the appropriate mechanism for funding the access deficit contribution. One method could be to levy a uniform charge per minute for collecting the delivering calls.

The workshop discussed above issue and recommendation shall be made to the TRAI.

### Round Table Conference on Broadcasting Policy Issues

A round table conference on broadcasting policy issues was convened by the Apex Forum of IETE in association with Broadcast Engineering Society (BES), at New Delhi on 27th Oct'97. Thirty two media experts, media educators, scientists, engineers, representatives of satellite television channels, and members of Council of IETE and the BES participated in this event. Mr Justice P B Sawant, Chairman, Press Council of India delivered the key note address to the participants.

It was generally agreed that the Govt's Broadcasting Policy on the anvil should facilitate rather than hinder the growth of this powerful instrument of social change, as well as provide a level playing field to the broadcasters. The rationale of creating the proposed Broadcasting Authority of India (BAI), some of the functions of which are likely to overlap those of TRAI, was debated, upon.

Prof R K Arora welcomed the keynote speaker and the participants. He spoke on the objectives of the Apex Forum of the Institution. Mr Harshvardhan, chairman, Delhi Centre and the convenor of the conference proposed the vote of thanks.



## IETE AWARDS

### 9th Hari Ramji Toshniwal Award

**Prof Sneh Anand** of the Centre for Biomedical Engineering, IIT-Delhi has been selected for the 9th Hari Ramji Toshniwal Award for outstanding innovation for application to industry, leading the development and production of electronic instrument and related system in the field of biomedicine. Volumetric independent reflectance hemoglobinometry, non-invasive fontanelle tension monitoring unit, pioneering contributions to rehabilitation (blind) engineering etc are some of her outstanding achievements that the IETE recognises. This award will be presented to her during the 29th Mid-Term Symposium to be held in the month of April 1998.

## 5th-IETE National Technical Paper Contest

The oral presentations of the shortlisted papers for this contest took place on 29th Sept'97 at Bombay. The following are the winners:

I Prize: **Bhabani Sankar Padhi** of REC Rourkela for his paper titled "Use of adaptive radial basis function network for nonlinear series prediction".

II Prize: **T Rajesh** and **G Rajesh** of Trichy Engineering College for their paper titled "Automated conversion of engineering drawings to CAD form".

III Prize: **Hemant V Bedekar** of Sanjay Education Society's Engineering College, Navalnagar, Dhule, for his paper titled "Fuzzy logic based advanced system for short term load forecasting".

## NEWS FROM LOCAL CENTRES

### Bangalore

The following technical activities were reported from IETE, Bangalore centre.

◆ On the golden jubilee independence day, the Chairman Shri P Kailasnath hoisted the national flag, a ceremony attended by the executive members, members, students and the centre staff. An electronic talents exhibition cum contest (ETE-97) was organised in which students from Kendriya Vidyalaya Air Force School, Christ College and S J Polytechnic participated.



**Dr KN Shankara inaugurating the Popular Electronics Lecture Series at IETE Bangalore Centre on 27.9.1997**

◆ The valedictory function of IETE Entry Level Programmers Course (NORAD 96-97) was held on 24th Aug'97. Shri C S Rajagopal, DGM Karnataka State Financial Corporation was the chief guest. Air Vice

Marshal A S Murthy (Retd), Chairman NORAD Committee spoke on this occasion and Brig Balasubramaniam (Retd), Council Member IETE, presided. Shri Giridhar R Joshi proposed the vote thanks. On 30th Aug'97, Brig K Balasubramaniam inaugurated the IETE Entry Level Programmers Course (Norad 97-98).

◆ On 27th Aug '97, the Engineers Day Lecture "Payload Technology for Insat-2 Satellites" was delivered by Dr K N Shankara, Dy Dir ISAC, Bangalore. The lecture focussed on the contribution made by the ISRO. He also formally inaugurated the "Popular Electronics Lecture Series" planned by the centre for the benefit of the student community and professionals. Wg C Nagaraja Rao, Vice Chairman presided over the function while Shri P Kailasnath welcomed the gathering. A vote of thanks was proposed by Shri G R Joshi, Hon Secy of the centre.

### Delhi

◆ About ninety women have completed the one-year NORAD training programme (1996-97) and are now ready for employment as entry level programmers. Some of the lecture programmes conducted recently by the centre are:

◆ Communications in the Army: A Perspective by Maj Gen D Kumar, VSM Addl Dir Gen (Telecom), Army Hqs on 17th Sept, 97

◆ Advances in Railway Signalling Telecommunication by V P Chandan, Addl Member (Telecom), Railway Board & Hon Secy, IEE, Delhi centre on 22 Oct' 97.



## Hyderabad

The Hyderabad Centre reports the following activities:

◆ A lecture by Prof H N Mahabala, Advisor, Infosys & former Prof & Head, Computer Sciences, IIT Madras on "Emerging Trends in Internet" was jointly organised by IETE Hyderabad Centre, IEEE, Hyderabad, Section, India Council and CSI, Hyderabad Chapter, on 4th July'97. Shri K Babu Rao, Chairman, IETE Hyderabad Centre presided.

◆ The Centre and the Electronics Industries Association of AP jointly arranged a participative meeting on "Awareness and Relevance of ISO 9001 to Electronics Industry" on 18th July'97. Shri G Ramaiah from M/s G R associates and Shri K Srihari from M/s AOA spoke on the above subject. The meeting was chaired by Shri K Vijay Kumar Gupta, President, ELIAP.



**Launching of Silver Jubilee celebration of IETE Hyderabad Centre by Shri T H Chowdary Past President IETE on 11-9-1997**

◆ Members of the South Asian Association for Regional Co-operation (SAARC) visited the centre on 2nd Aug'97 to familiarise themselves with the DOEACC courses being offered by this centre. The 4th batch of 120 trainees for the Entry Level Programmer course under 'NORAD' scheme also commenced on the same day.

◆ On 7th Aug'97 a lecture by Shri A P Chaudhuri, Director Monitoring Organisation, Ministry of Communications, DoT, New Delhi on "Spectrum Management and Monitoring" was organised. Several dignitaries, academics and industries participated in the programme.

Valedictory function for the 3rd batch of NORAD trainees was held on 24th Aug'97. The Chief Guest Hon'ble Shri T Devender Goud, Min. for Revenue, Govt. of A P distributed the certificates to the successful candidates.

◆ A talk on "Liberalisation—Its Impact on SSI Units" was jointly organised by the IETE Hyderabad Centre and Electronic Industries Association of AP on 26th Aug'97. Dr Abid Hussain, Chairman, Committee on Reforms in Small Scale Industries, and Vice-Chairman,

Rajiv Gandhi Foundation delivered the lecture. Participation from the industry was quite strong.

◆ The IETE, Hyderabad centre arranged a lecture programme on 11th Sept,97 in connection with the launching of Silver Jubilee Celebrations of the Centre by Shri T Hanuman Chowdary, Advisor, Information Technology, Govt. of AP, former President, IETE and former MD, VSNL. His talk was titled "Information Technology-Vision 2020". Shri K Babu Rao, Chairman, IETE, Hyderabad Centre presided over the function.

## Kanpur

◆ The IETE, Kanpur Centre in association with Kanpur Telecom District (DoT) organised a lecture and demonstration programme on "ISDN- Multimedia Services" on 31st Aug'97 at Hotel Landmark, Kanpur. Mrs Sandhya V Sule from IIT Kanpur delivered a lecture on ISDN, giving an overview of the subject. Mr Surendra Gakkhar, DGM, VSNL, New Delhi talked on ISDN services. Shri B K Karmakar, Chairman of IETE Kanpur Local Centre, delivered the welcome address.

## A Report on the National Symposium on Automotive Electronics

Experts from six leading nations of the world, USA, Italy, Germany, Japan, UK and Singapore in the automotive sector discussed various aspects of automotive electronics in the two day symposium organised jointly by the IETE Kanpur Local Centre and IIT Kanpur on October 25-26, 1997. The event attracted more than 250 delegates from various parts of the country, from the industries, component manufacturers, R&D laboratories, academia and service sectors.

In his opening remarks, Prof. V. Sinha, Chairman of the symposium, said that by the year 2005, the electronic content in a car will be approximately 20% of the vehicle value. Electronics is needed not only for improving fuel efficiency but also for pollution control, safety and comfort.

Prof. K.A. Padmanabhan, Director IIT, Kanpur and Prof. R.K. Arora, President IETE, extended warm welcome to the delegates. The symposium was inaugurated by Air Marshal S.S. Gupta, Air Officer Commanding-in-Chief, HQ Maintenance Command. With his vast experience in aviation engineering, which heavily depends on electronics, he drew correlation between application of electronics in aircrafts and in ground vehicles and remarked that well known technologies like radar, wireless communication, radio navigation and microprocessors first used in the field of avionics, were now being progressively used in the automotive sector. As more and more electronic modules are fitted in the cars, the problem of fault diagnosis and repair would require more and more specialists for test and quality assurance. This calls for development of adequate manpower in the country in this sector.





**Inaugural session of the symposium on Automotive electronics.**  
Seated L → R: Prof P K Chatterjee, Prof V Sinha, Prof K A Padmanabhan, Air Marshal S S Gupta, Prof R K Arora and Mr C D Tam

While delivering the key-note address at the inaugural session, Mr. C.D. Tam, the Senior Vice President and General Manager, Motorola Inc., USA said that with a projected 25% annual growth in the automotive market, every major manufacture in the field has established operations in India. Those who have not, are planning to enter the market. Mr Tam provided a global overview of the automotive market and the role auto-industries have in the development of infrastructure.

The two day symposium saw 35 presentations, 15 from within the country, 10 from USA, 3 each from Italy and Germany, 2 from Japan and 1 each from UK and Singapore. The technical sessions on (i) global perspective and Indian scenario; (ii) focus on application areas; (iii) systems and supports; (iv) technology status of electronic components, devices and subsystems; (v) role of electronics in safety, pollution and regulation; and (vi) electric vehicles-a global requirement, each had a key note speaker.

An exposition on auto electronic/electrical products components, devices and related systems and products, consisting of 37 different stalls, was inaugurated a day earlier by the Director, IIT Kanpur.

The symposium ended with a lively panel discussion in which policy makers, academicians, industrialists and development experts participated. Prof. Arora moderated the panel discussions.

### **Nagpur**

A one-day seminar on "Electronics and Communication for the Development of Melghat Region" was organised on 05 Oct 1997, at Amravati under the joint auspices of the Govt College of Engineering, Amravati and IETE Nagpur Centre. Hon'ble Shri Jagdishbhai Gupta, Revenue Minister for State, Maharashtra Govt, inaugurated the seminar. Dr Shrikant Jichkar, Member of Parliament

(Rajya Sabha) presided over the function.

The Chief Guest Hon'ble Shri Jagdishbhai Gupta, his inaugural address, and Dr Shrikant Jichkar in his presidential address lauded the efforts of IETE Nagpur Centre in taking the initiative of using electronics as telecommunication for addressing the problems of the Melghat tribal area. The inaugural session was followed by the technical sessions and a panel discussion. An overview of the problems faced by the Melghat region was presented by the Collector & District Magistrate Mr Shyam Lal Goel, while Prof P K Rangole, Honorary Secretary, IETE Nagpur Centre presented the background note.



**Memento on behalf of IETE President being presented by Dr J H Agarwal to the Chief Guest Hon'ble Shri Jagdishbhai Gupta.**  
Looking are Dr Shrikant Jichkar, MP Jajya Sabha and Shri Shyam Lal Goel, Collector & Dist. Magistrate

The keynote address titled "Regenerative Rural Development: Some Suggestions and Role of Electronics with Reference to Melghat Region of Maharashtra State" was delivered by Dr J H Agarwal, Council Member & Chairman National Policies Advisory Committee of the Council of IETE. Other speakers included - Shri Gopal Thosar, Shri Kishore Rithe, Dr D A Deshpande, Prof P S Revankar, Prof N W Kale, Dr A A Ghatol, Dr K R Bagree, Dr C S Adgaonkar, Shri Ranjit Sawant, Shri A G Joshi, Air Vice Marshal U A Deshpande (Retd), Dr Kothe, Dr D P Kothari, Dr W S Khokle, Shri Kochi, Shri Banerjee, Prof V T Ingole, etc.

A students' competition on theme "Role Of Engineers in Development of Melghat Region" was also organised. 13 papers authored/co-authored by 39 students were presented in the contest held on 27 Sept '97 and evaluated by a three member committee. The authors of three best papers were awarded prizes.

Govt College of Engineering, Amravati, College of Engineering, Badnera, Vidarbha Maha Vidyalaya, Amravati and their staff members and students, NGOs and district administration extended their full co-operation in organising the seminar.



## Pune

A national seminar on "Electronics in Automobiles" was organised by the centre on 7th June'97 at Firodia Hall, Pune. Shri Arun Firodia, Chairman and MD, Kinetic Engineering Ltd was the Chief Guest and Prof R K Arora, President IETE presided over the function. This was organised in conjunction with the silver jubilee celebrations of the Pune Centre on 6th June'97.



Lighting the ceremonial lamp by the Chief Guest Shri G V Desai, at the IETE Pune Centre Silver Jubilee Celebrations on 6 June 1997. Prof R K Arora, President IETE to his immediate right

Shri G V Desai, Chairman, Global Telecom Services Ltd., the Chief Guest inaugurated the "Global Hall" of IETE centre, Shri A D Jog Director, Police Wireless, gave a brief background on how the hall came into existence. Prof C P Joshi the Chairman of the Centre delivered the welcome address, Prof S V Kharkar, Council Member of IETE, gave a review of the centre's performance over the past 25 years. Prof R K Arora, President IETE presided over the function. A vote of thanks was proposed by Dr K R Phadke, Hony Secy, IETE, Pune Centre.

## News from IETE Students Forum

A three days programme on personality development was organised by the Forum at J N N College of Engineering, Shimoga for the benefit of final year students in June 1997.

During July-Aug'97 following activities were held

- A series of technical talks by the students were organised.

A technical written quiz competition was held for IV, VI, & VIII semester students. An interclass oral quiz competition was also held. On behalf of the forum, the final year E & C students had organised sports and cultural competitions for the students and the staff. A model exhibition/competition was organised to exhibit the electronic gadgets prepared by them. Shri Rajiv

Mallick & Shri Sharat of IV Sem E & C got the appreciation awards.

This year's concluding function was held on 23-08-97. In view of the nation's 50th year of independence, appropriate dignitaries were invited as the guests for the function. Shri D S Dinakar, Treasurer, National Education Society, Shimoga, presided over the function and Shri S V Thimmaiah, joint Secretary, National Education Society, Shimoga was the Chief Guest. Both the guests being freedom fighters, relived their memories of freedom movement dwelling on the values of such movements. The speeches were very educative and thought provoking. R Srinivasa Rao Kunte, Prof. and Head of E & C Dept addressed the students on the occasion.



A view of the dias at the annual function of IETE Students Forum at JNN College of Engg, Shimoga. L → R: Ms Deepa T Shetty, Mr S V Thimmaiah, Mr D S Dinkar, Prof R Srinivasa Rao Kunte and Mr Somshekar N.

## Election

Newly elected office bearers for some of the local centres are given below.

### Imphal

Shri M Rachendra Singh :Chairman  
Shri N Basanta Singh :Hony Secretary  
Shri R K Sanajaoba Singh :Hony Treasurer.

### Vadodra

Col P K Baksi :Chairman  
Shri J H Mehta :Hony Secy & Hony Treasurer

### Vishakhapatnam

Rear Admiral S Mohapatra : Chairman  
Shri P Nagaraj & } : Vice Chairmen  
Dr S R Gollapudi }  
Shri V V Ramana : Hony Secy  
Shri K S N Murthy : Hony Treasurer



**Bharat Ratna conferred on Shri Abdul Kalam**

**Avil Pakir Jalaluddin Abdul Kalam**, pioneer of the Indian, missile programme, has been awarded the country's highest civilian award - **Bharat Ratna**, for his invaluable contributions towards scientific research and modernisation of defence technology. Shri Kalam, presently a scientific advisor to the defence minister,

is an Honorary Fellow of IETE.

Born on 15 October, 1931, Dr Kalam specialised in Aero Engineering from Madras Institute of Technology. He initially worked in Defence Research and Development Organisation from 1958 and then joined Indian Space Research Organisation in 1963. As Project Director, SLV-III he contributed for the design, development and management of India's first indigenous Satellite Launch Vehicle (SLV-III) to inject Rohini satellite in the near earth orbit. He was Director, Aerospace Dynamic and Design Group at VSSC and Director ISRO Launch Vehicles/Systems at ISRO Hqrs., Bangalore from 1980. He was responsible for the evolution of ISRO's launch vehicles programme and configurations. He also seeded the composite product technology at VSSC and established a production centre for reinforced plastics.

Dr Kalam joined DRDO as Director, Defence Research and Development Laboratory (DRDL) in 1982. He conceived the Integrated Guided Missile Development Programme (IGMDP) and became its Chief Executive. The flight tests of Prithvi, Trishul, Akash, Nag and Agni established indigenous capability towards self-reliance in defence preparedness. The successful launching of these missiles is a unique achievement which made India a member of an exclusive club of few countries who possessed advanced technology and weapon systems. Through SLV-III and Guided Missile Programme a solid foundation has been created in the indigenous design and development of high technology aerospace projects.

An advanced research technology centre called "Research Centre Imarat" (RCI) has been established by Dr Kalam as an extension to DRDL to undertake development in futuristic missile technology areas. The management system conceived by him for the Integrated Guided Missile Development Programme resulted in high degree of commitment from technologists, academic institutions, industries and users and harnessed the best of National talents towards key result areas and critical technology development.

Dr Kalam is the recipient of several awards which include National Design Award of the Institution of Engineers (India) (1980); Dr Biren Roy Space Award of

the Aeronautical Society of India (1986); Om Prakash Bhasin Award for Science & Technology (1986); National Nehru Award in the field of Engineering and Technology for the year 1990 by Government of Madhya Pradesh; Distinguished Professor of Engineering, Staff College of India. Dr Kalam was awarded Padma Bhushan in 1987 and Padma Vibhushan in 1990.

**IETE Honorary Fellow (1997)**

**Shri N Vittal** is an Honours Graduate in Chemistry from Loyola College, Chennai. He joined Indian Administrative Service, Gujarat Cadre in 1960. In a career spanning more than three and a half decades, he has held varied appointments in administration field stretching from civil supplies to atomic energy; his forte being disciplines of

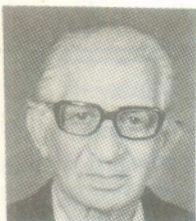
telecommunication, electronics and information technology. In every appointment he established himself as an organiser extra-ordinaire, and in every assignment as an entrepreneur supreme.

He took over as Secretary, Department of Electronics in 1990. He pioneered new schemes and programmes to spread a wide canvas in application of electronics. With his active involvement the Centre for Materials in Electronics Technology and extensive network of Software Technology Parks in various parts of the country became a reality. He was instrumental in enlarging user base of ERNET with a view to speeding up computer communication among the R & D organizations. He took keen interest in building C-DAC. It was his entrepreneurship which lent business like orientation to C-DAC. His vision and dynamic leadership led to the unprecedented growth of the software export and information technology industry in India. He was Chairman of Steering Committee of DoE on feasibility study for Multimedia Information Highway. His most distinguished contribution has been in the field of Telecommunications. Not only Shri Vittal is the prime architect of the new Telecom Policy, but is also well known as a crusader with an extraordinary courage of conviction.

In addition to his appointment as Chairman, PESB he is shouldering additional responsibility of chairing the Core Group on Applications of IT in the Government.

A management stalwart, he is known for his scintillating dynamism, imparting a sense of direction and dimension of social relevance to whatever task he puts his hands to. A voracious reader and a prolific writer, Shri Vittal is a member of a large number of social and cultural associations, and has been honoured by a number of apex professional bodies like the Computer Society of India and Asia Electronics Union.





**Shri M Madan Mohan**, a Distinguished Fellow of IETE has been conferred the distinction of "Man of the Year 1997" by the American Biographical Institute, Inc, USA. Shri Madan Mohan is the founder President of the Electronics Industries Association of Andhra Pradesh and has encouraged the establishment of more than 200 industries in the

state. He has been associated with several committees at the state and national level and has also been recognised with following distinctions.

National Unity Award '91 - All India National Unity Conference, (1991); Bharat Udyog Award, (1992); Vijay Rattan Award - International Friendship Society of India, (1992); Shiromani Award - 1991 (Symbol of Human Excellence), (1992); National Unity Award for Excellence - All India National Unity Conference, (1995); Udyog Pragati Award - Global Economic Council, (1995). His name also features

in Reference Asia Who's Who of Men and Women of Achievement, (1989); Biography International, (1990 & 93); Indo European Who's Who, (1994); Proctor of DOEACC, (1994); Prominent Personalities of India, Shaw Publication, (1995); Indo-Arab-Who's Who, (1996); ABI-Research Board of Advisors, (1996).

### Obituary

The Council of the Institution of Electronics and Telecommunication Engineers is with profound grief and shock to know that **Shri V Rajagopal** Fellow of IETE and the former Chief General Manager of UP Telecom and recently, Advisor to the DoT, was murdered at his residence in NOIDA on 07 Nov 97. Shri V Rajagopal had been very active member of IETE and has been the Chairman of our Lucknow Centre during 1985-86 and member of the Council/Committees.

### CALL FOR PAPERS

## 29th Mid-Term Symposium of the IETE WIDEBAND WIRELESS SERVICES

3-5 April, 1998  
Nainital

Developments over the last decade has opened up a plethora of wideband wireless services to the public. The response of the public and private enterprises to these developments is encouraging. Adoption of these technologies would, however, call for major restructuring of communications infrastructure. In order to generate the necessary impetus, there is a need to lay the right emphasis on infrastructural investment and customer-tailored products and services. These would in turn help in planning the use of public and private resources optimally.

Papers falling in the following broad areas are invited for presentation:

- Wideband wireless technology including coding and transmission.
- Spectrum usage and end links.
- Secure and reliable techniques.
- Satellite based wideband services.
- Applications, plans, policies and financial considerations.

The length of the paper including figures and tables should not exceed 10 A4 size pages and should be accompanied with a 300 words abstract. Two hard copies to be submitted along with electronic copy in well packaged 3.5" floppies, prepared using standard word processor. It should reach the undersigned latest by **27 Jan'98**.

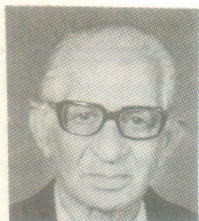
**Maj Gen BK Kataria, VSM**  
**Chairperson**  
**IETE Lucknow Centre.**  
**C/o UP Electronics Corp Ltd. (UPTRON)**  
**10 Ashok Marg,**  
**LUCKNOW 226001**

### Registration Fees

IETE Corporate Members	- Rs 300/-
Student Members	- Rs 150/-
Nominees of Sustaining	
Donour members	- Rs 500/-
Others	- 1500/-

Interested participants may contact our agent for accommodations: Manu Maharani Hotel, Grassmere Estate, Nainital - 263001 (UP); Tel: 35530/36242/37341-48; Fax 35531/37350 for making advance booking. Accommodations in Nainital are available in the range of Rs 500/- Rs 3000/- per day depending on quality of accommodation.





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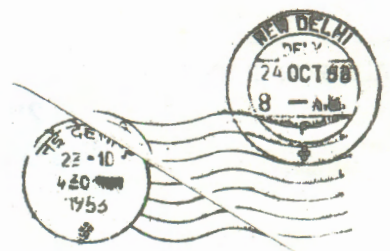


The Institution of Electronics and Telecommunication Engineers was founded on 2nd Nov 1953, under the name "Institution of Telecommunication Engineers". Later, in 1973, the existing name was adopted to reflect the

increasing scope of the institution's activities. We present to you a copy of the invitation card addressed to Shri V S Goswami (IETE Member-M026360L) on the occasion juxtaposed with the envelope containing the card. (Kind courtesy Shri V S Goswami).

**Indian Posts and Telegraphs Department.**

Shri V.S. Goswami,  
Assistant Engineer,  
All India Radio,  
New Delhi



From:-  
Director-General,  
Posts & Telegraphs,  
New Delhi.

*The President, Institution of Telecommunication Engineers,  
requests the pleasure of the company of*

*Shri V.S. Goswami*

*at the Inauguration of the Institution  
by*

*Dr. L. Radhakrishnan  
Vice President of India*

*at 9.30 a.m., on Monday, the 2nd November, 1953*

*in the Open Air Theatre, Telegraph Centenary Exhibition Grounds,  
Eastern Court, Queensway, New Delhi.*

R. S. V. P.  
N. MAHALINGAM  
P & T Directorate  
New Delhi  
(Phone No. 45252)



IETE promenades yet another glorious and eventful year with successful culmination of ATC-40. This is an occasion to induct new blood in the Council and pep up the grizzled. It is also an occasion to take stock of our achievements and failures, and to tally pluses and minuses. It is in this introspective vein that this piece is written.

During the year under review, we opened new centres, gave a face-lift to our publications and conducted seminars and symposia with much elan and professionalism. There was a spurt of activity all around, some of the centres taking a perspicuous lead, others adopting a quieter demeanor and yet making wholesome contributions to the Institution's cause. There were failures too. Amongst these, absence of unity in our endeavours is plaintively brazen. In a democratic society, differences in opinion are desirable, but surely these must not lead to acrimony. Debate we must, but certainly not on matters which are trivial and lend little expediency to the growth of the Institution and furtherance of the professional interests of the engineering community at large.

Information decisions are not open to the engineering community. These are essentially social, economic, and political. Therefore, leadership is sought from professions other than science and engineering. It is a bane of this country that a politician, who holds the reins, is more cognizant of his constituency and influence, than committed to social change. Lately, no leader of stature and vision has made it his business to under-

stand, let alone show obligation to techno-social engineering, busy as he is with petty feuding and his own political survival. On the other hand, the engineering community stands totally marginalized, even though it is universally acknowledged that technology is a catalyst of social change and decisions in matters social, economic and strategic have increasingly become technical. Isn't it ironical that it was Clinton who reminded us that India's strength lies in technology with the pertinent observation that "you guys own half of Silicon Valley?"

Our strength lies in being an NGO. Elsewhere, NGOs have made a palpable impact in opinion making, so also, in decision making. We have met with a measure of success in respect of the former, but woefully, we do not figure in the decision loop. It is this shortcoming that needs to be remedied. Increased visibility and mature counseling are the obvious concerns and it is time we addressed them more seriously. That nobody listens to us is an oft-repeated excuse which cuts no ice. Let us imbibe the lesson from the famous Urdu couplet of Iqbal,

*Khudi ko kar buland itna ke har taqdeer se pehle,  
Khuda bande se khud poochhe bata teri raza kya hai.*

Is it too much to expect that we raise our stature to the level that the Government, and other professional bodies, both, within and outside the country, take notice of us and seek our advice of their own volition? I muse.

### SYMPOSIUM ON '100 YEARS OF CRT'

31 Jan – 1 Feb 1998, IIT Kanpur

The year 1997 marks the Centenary of the birth of Cathode Ray tube which brought in a revolution in the information display. It has grown from strength to strength in these hundred years and remained the undisputed leader in display systems. Defence systems, instrumentation, communication, information systems, TV and other entertainment systems would not have reached the present stage of development without this display device.

A symposium "100 Year's of CRT" is being organised to pay homage to CRT and its popular avatar, the Picture tube.

SAMTEL Group, the pioneer in the picture tube industry in private sector in the country and being

the largest integrated picture tube manufacturer today in the country, has joined hands with IIT Kanpur to organise the Symposium during 31st January 1998-1st February 1998 at IIT Kanpur.

A series of invited talks by experts covering various aspects of colour picture tube have been scheduled as part of the symposium. A special session has been arranged for the future technologies in display systems namely Flat Panel Displays..

An Open Session is specially planned for participation of the picture tube industry in the country.

For details please contact: Prof Joseph John, Dept. of Elec. Engg, IIT Kanpur 208016 Tel 0512-597088 Fax: 0512-590260 email: john@iitk.ernet.in



## NOTICE

Members are kindly requested to renew their membership for the year 1997-98 by remitting their subscriptions. The dues against different categories are:

Fellows:	Rs. 200/-	Associate Members/Associates	Rs. 150/-
Members:	Rs. 175/-	Sustaining Donor Members	Rs. 5000/- (Industry) Rs. 3000/- (Government)

Members may like to pay their dues towards life membership and avail the ensuing discounts while doing away with the necessity of making yearly remittances. The chart given below indicates the dues towards life membership corresponding with age of the members. We are also publishing Directory of Corporate members in January 1998 listing the names, qualifications, status and their latest addresses. In case, if there is any change in these, please write to us immediately quoting your membership number.

### LIFE COMPOUNDING FEE

Members in India					Members Permanently Residing Abroad: US\$				
Age	DF	Fellow	Member	AM/A	DF	Fellow	Member	AM/A	
20				1500					357
21				1495					356
22				1492					355
23				1487					354
24			1884	1482			410		353
25			1866	1476			409		352
26			1854	1470			408		351
27			1842	1464			407		350
28			1830	1458			406		349
29			1818	1452			405		348
30	2892	2170	1807	1446	520	463	404		347
31	2880	2160	1800	1440	518	461	403		345
32	2868	2152	1793	1434	516	459	402		344
33	2856	2142	1786	1428	514	458	400		343
34	2844	2134	1777	1422	512	456	399		341
35	2830	2123	1769	1415	510	454	397		340
36	2812	2110	1758	1405	508	452	395		338
37	2794	2095	1746	1397	503	450	393		336
38	2772	2080	1733	1386	500	447	390		334
39	2748	2062	1717	1374	496	443	388		332
40	2724	2044	1702	1362	493	440	385		329
41	2698	2023	1686	1349	489	437	382		327
42	2664	1998	1666	1332	484	432	378		323
43	2632	1974	1644	1315	479	428	374		320
44	2596	1948	1621	1297	474	423	370		317
45	2554	1915	1596	1277	467	418	365		312
46	2512	1884	1570	1255	461	412	360		308
47	2460	1845	1537	1230	453	405	354		303
48	2406	1805	1505	1202	445	398	348		298
49	2346	1759	1468	1174	436	390	341		292
50	2284	1714	1427	1141	427	382	333		285
51	2212	1660	1381	1105	416	372	325		278
52	2130	1597	1332	1065	404	361	316		270
53	2044	1534	1277	1021	391	350	305		261
54	1950	1463	1219	974	377	337	295		252
55	1842	1381	1152	921	360	323	282		241
56	1728	1296	1080	864	343	307	268		230
57	1602	1201	1002	802	324	291	254		217
58	1462	1097	913	731	303	272	238		203
59	1308	982	817	654	280	251	220		188
60	1200	900	750	600	260	230	200		180

Life Compounded Fee is payable either in full in single instalment or in not more than three instalments. The first instalment shall be sixty per cent of the amount payable rounded off to the nearest hundred and the balance amount shall be paid in two equal instalments. The second instalment shall be paid within one year and the third instalment within second year of enrolment. The membership certificate will be issued on receipt of full amount of the life compounding fee.



# Multimedia'98: Shaping the Future

23 -25 January 1998

The IETE announces the largest Multimedia event on the Indian subcontinent- **Multimedia '98 : Shaping the Future**. The show is designed to provide a platform for discussions on the frontier technologies and display of products of Multimedia. The market for Multimedia has been growing at a fast pace, with its applications spanning diverse fields e.g. manufacturing, entertainment, education, health & medicine, art & culture, fashion technology, defence etc. Multimedia'98 will lend focus to a wide spectrum of technologies, both current and on the anvil.

Multimedia'98 is a three day international conference and exhibition based event. The event will have a day of intensive tutorials and two days of conference which will address technology, applications and market related issues.

## Subjects under discussion

- Multimedia Technologies
- Multimedia Databases
- Multimedia Services
  - Communication    ▪ Video Conferencing
  - Broadcasting    ▪ Networking
- Multimedia on the Internet
- Algorithms & Operating Systems
- Virtual Environment & Simulation
- Issues
  - Regulation, Public Policy & Law, Standards, Bandwidth
- Future Trends
- Multimedia Applications
  - Hypertainment, Health & Medicine, Fashion, Education learning & Training, Collaborative Research, Industry and Commerce, Cultural Renaissance

## Registration Tariffs

	<u>Regular</u>	<u>For IETE Members</u>
Tutorials (1st day)	Rs. 3,000	Rs.2,700
Conference (2nd & 3rd day)	Rs. 6,000	Rs. 5,400
All 3 days	Rs 7,000	Rs. 6,300

## Registration Form

Name : \_\_\_\_\_  
Designation/ Organisation: \_\_\_\_\_  
Address \_\_\_\_\_  
Tel: \_\_\_\_\_ Fax: \_\_\_\_\_ e-mail \_\_\_\_\_  
Cheque/Draft No. \_\_\_\_\_ payable to Cybermedia India Ltd.

Fax /Mail to CyberExpo, a division of Cyber Media (India)Ltd. <http://www.cxindia.com>  
504, Saraswati House, 27 Nehru Place, New Delhi-110019. Tel: 6453593/4/7, 641754, 6462994.  
Fax: 6469018. E-mail: [bureau@viasol01.vsnl.net.in](mailto:bureau@viasol01.vsnl.net.in)



# CALENDAR OF EVENTS

Subjects	Date	Venue	Contact
• National Symp on Ocean Electronics (SYMPOL-97)	16-17 Dec 1997	Cochin	P R S Pillai, Co-ordinator, SYMPOL-97, Deptt of Electronics, Cochin University of Sc & Tech, Cochin 682 022.
• 9th Intl Workshop on Physics of Semiconductor Devices	16-20 Dec 1997	Delhi	Dr S K Agarwal, Secretary, IWPSD-97, Solidstate Physics Laboratory, Lucknow Road, Delhi 110 054.
• Workshop on Managing by Project	18-20 Dec 1997	New Delhi	Adesh Jain, Director Incharge, Centre for Excellence in Project Management, A-48, Sector-V, Noida 201 301.
• National Symposium on Advances in Industrial Instrumentation & Measurement Engg. (AIIME 2000)	28-30 Dec 1997	Chennai	P Sudhakara Rao, Chairman, Organising Committee, CEERI Madras Centre, CSIR Campus, Taramani, Chennai, 600 133.
• National Seminar on Security and Encryption Aspects on Internet/Intranet with Focus on Applications for Industries	7-8 January 1998	Bangalore	S K Manocha, Co-ordinator, Gen. Mgr (Switching R&D), ITI Ltd, Doorvani Nagar, Bangalore 560 016
• 20th Annual Conf-PTC '98 on Coping with Convergence: The Future is Now	11-14 Jan 1998	Honolulu, USA	Pacific Telecommunications Council, 2454 South Beretania Street, Suite 302, Honolulu, Hawaii 96826-1596, USA.
• Intl Workshop on Soft-computing and Intelligent Systems	12-13 Jan 1998	Calcutta	Dr A Ghosh/Dr S Mitra, Machine Intelligence Unit, Indian Statistical Institute, 203 BT Road, Calcutta 700 035
• Intl Conf on Computers & Devices for Communication (CODEC)	14-17 Jan 1998	Calcutta	PK Basu, Convenor CODEC, Institute of Radio Physics and Electronics, 92 APC Road, Calcutta 700 009.
• 20th Annual Mid-year Seminar-PTC 1998	16-18 Jan 1998	Alaska	Sharon Nakama, Conference & Seminars Manager, PTC, 2454 S. Beretania Street, Suite 302, Honolulu, HI 96826, USA
• Symposium on Trends in Electronics, Computer and Communication Technology beyond 2000	17-18 Jan, 1998	Calcutta	Convenor, IETE Calcutta Centre, A3 & A4, Nilanchal Apartment, 1 Canal st, Calcutta 700 048
• National Conf on Industrial Engg towards 21st century	31 Jan-2 Feb 1998	Tirupati	Orgn. Committee IESILVER, Mechanical Engg, SVU College of Engg, Tirupati 517 502
• 6th Intl Exhibition and Conf on Electromagnetic Compatibility (EMC) EMB '98	10-12 Feb 1998	Düsseldorf Germany	MESAGO, Messe & Kongress. Gmbh, Rotebuchstrasse 83-85 D-70178 Stuttgart, Germany
• Technology Management in health care delivery system	11-13 Feb 1998	Bangalore	Prof. TG Krishnamurty, Chief Co-ordinator of Seminar, C/o AICTE-CEP, UVCE Campus, KR Circle, Bangalore 560 001
• Intl Conf on Computational Linguistics, Speech and Document Processing	18-20 Feb 1998	Calcutta	Prof B B Chaudhuri, CVPR Unit, Indian Statistical Institute, 203 BT Road, Calcutta 700 035
• Caliber '98, 5th National Convention on Information Management in Academic & Research Libraries	20-21 Feb 1998	Bhubaneswar	Shri S M Salgar, Convenor Caliber-98, INFLIBNET, PB. No. 4116 (opp. University guest house, Navrangpura) Ahmedabad (Gujrat)
• National Conference on Advances in Broadband Communication	26-27 Feb 1998	Sangli	Prof (Smt) R S Patil, Coordinator, NCABC-98 Head of Electronics Engg Dept, Walchand College of Engg., Vishrambag, Sangli 416 415 (MS)
• CeBIT 98- Office Information Telecommunications	19-25 Mar 1998	Hannover	Deutsche Messe AG, Messagelände. D-30521, Hannover.
• KES '98, 2nd Intl. Conf. on Knowledge based Intelligent Electronics System	21-23 April 1998	Adelaide, Australia	Arthur Fillippidis, DSTO, Land Operations Div, PO Box 1500, Salisbury SA 5108, Australia
• CeBIT Home Electronics	26-30 Aug 1998	Hannover	Deutsche Messe AG, Messagelände. D-30521, Hannover.

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