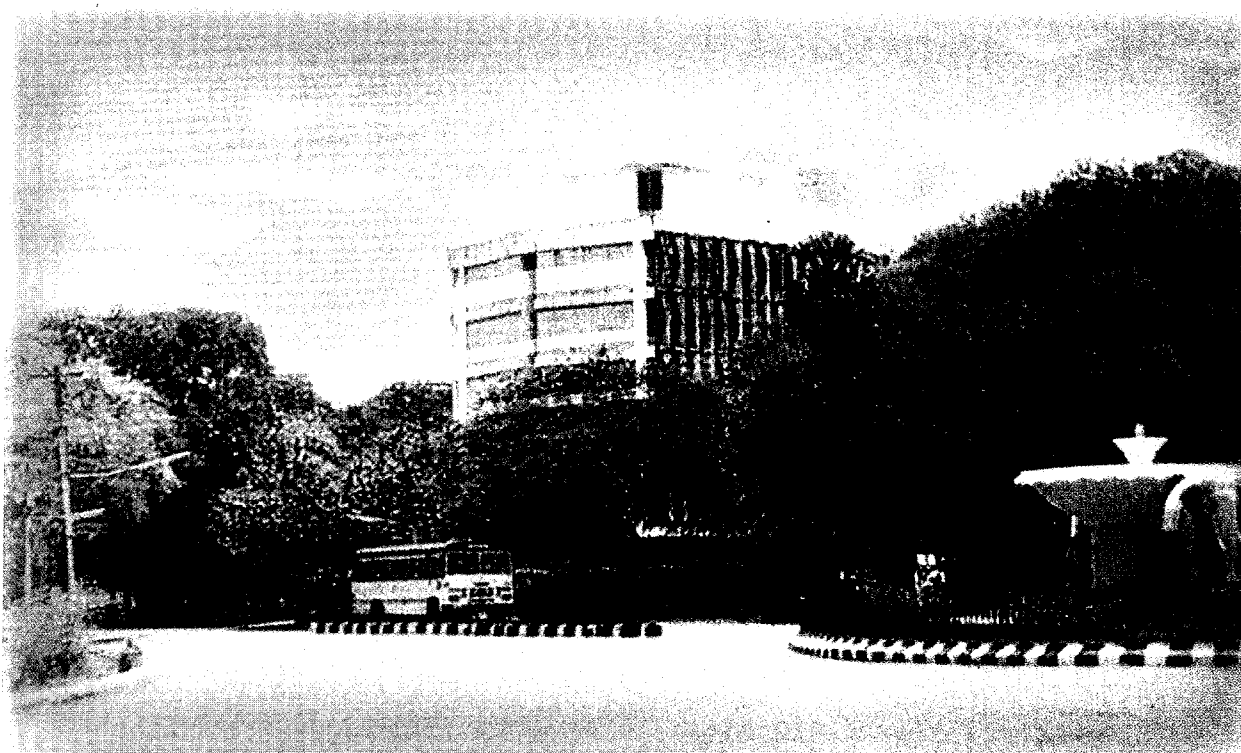




ANNUAL REPORT 2000-2001



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI-600 036

**FORTY SECOND
ANNUAL REPORT
2000 – 2001**



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI – 600 036**

THE VISITOR

Shri K R Narayanan

President of India

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Director of the Institute

Prof R Natarajan

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Nominees of State Governments

Mr Rajiv Sharma, IAS
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Department of Technial Education
Government of Andhra Pradesh
Hyderabad 500 063

Smt Felicita Bernadet Moraes
Chief Engineer
DRIQ Board
Public Works Department
Thiruvananthapuram 695 033 upto 7.11.2000

Dr K Balaveera Reddy
Director of Technical Education
Government of Karnataka
Bangalore 560 001

Sri R Murukesan
Chief Engineer PWD
Roads & Bridges and Admin.
Public Works Department
Thiruvananthapuram 695 033 from
28.11.2000

Prof N A Gnanam
Director of Technical Education
Government of Tamil Nadu
Madras 600 025

Nominees of the IIT Council

Dr A P J Abdul Kalam
Principal Scientific Adviser
Govt of India
New Delhi.

Mr Mahendra Nahata
Group Chairman
M/s Himachal Futuristic Communication Ltd.
New Delhi 110 048

Dr V Maitreyan
T-36/A, 1st Avenue
Besant Nagar, Madras 600 090.

Dr Jagadish Shettigar
Economist
11 Ashok Road
New Delhi 110 001

Nominees of the Senate

Prof V Radhakrishnan
Dept of Mechanical Engineering

Prof C S Krishnamoorthy
Dept of Civil Engineering upto 10.12.2000

Prof N P Kurian
Dept of Civil Engineering upto 31.12.2001

Secretary

Prof R C Janakarajan , Registrar upto 31.7.2000
Prof M R Pranesh, from 1.8.2000 to 15.12.2000
Prof A Swamidurai from 15.12.2000

CONTENTS

	Page No.
1. Report of the Director	1
2. Administration	17
3. Academic Programmes and Award of Degrees	31
4. Departments :	
4.1. Aerospace Engineering	40
4.2. Applied Mechanics	49
4.3. Chemical Engineering	64
4.4. Chemistry	74
4.5. Civil Engineering	94
4.6. Computer Science & Engineering	125
4.7. Electrical Engineering	137
4.8. Humanities & Social Sciences	152
4.9. Mathematics	162
4.10. Mechanical Engineering	185
4.11. Metallurgical Engineering	208
4.12. Ocean Engineering	221
4.13. Physics	235
5. Centres :	
5.1. Composite Technology Centre	252
5.2. Materials Science Research Centre	257
5.3. Regional Sophisticated Instrumentation Centre	261
5.4. Centre for Systems and Devices	266
6. Centres of Special Facilities :	
6.1. Centre for Continuing Education	267
6.2. Industrial Consultancy and Sponsored Research	269
6.3. Central Electronics Centre	273
6.4. Computer Centre	276
7. Central Facilities :	
7.1. Central Workshop	280
7.2. Central Photographic Section	281
7.3. Air-Conditioning Unit	281
7.4. Central Gas Supplies Unit	282
7.5. Central Glass Blowing Section	282
7.6. Education Technology Cell	282
8. Central Library	285

9.	Student Amenities and Activities :	
	9.1. Hostels	293
	9.2. Central Supplies Unit	294
	9.3. Medical facilities	294
	9.4. NCC	294
	9.5. Gymkhana	295
	9.6. Placement of students	298
10.	Financial Assistance to Students :	
	10.1 B.Tech.	300
	10.2 M.Tech.	301
	10.3 M.Sc.	301
	10.4 M.S.	302
	10.5 Ph.D.	302
11.	Weaker Section and Foreign Students :	
	11.1 B.Tech	304
	11.2 Preparatory Course for B.Tech.	304
	11.3 M.Tech	305
	11.4 M.Sc	305
	11.5 Foreign Students	305
12.	Campus Amenities :	
	12.1 Major Works	307
	12.2 Housing Facilities	307
	12.3 Horticulture	308
	12.4 Telephone Facilities	308
	12.5 Guest House	308
	12.6 Hospital	308
	12.7 Banks	310
	12.8 Post Office	310
	12.9 Schools	310
	12.10 Open Air Theatre	310
	12.11 Student Activities Centre	310
	12.12 Cafeteria	310
	12.13 Creeche	310
	12.14 Transport Services	310
	12.15 Campus News	310
13.	Finance and Accounts :	311
	Appendixes :	
	The Senate	314
	Board of Academic Course	316
	Board of Academic Research	317
	Board of Students	318
	Board of Industrial Consultancy & Sponsored Research	319
	Library Advisory Committee	320
	The Finance Committee	321
	Buildings and Works Committee	322

1. DIRECTOR'S REPORT

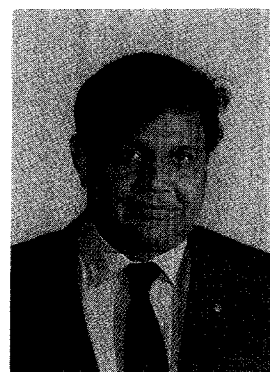
INTRODUCTION

The Indian Institute of Technology-Madras, (IIT-M), at Chennai was set up as an Institute of National Importance by the Government of India in 1959. It received financial and technical assistance from the Federal Republic of Germany, with matching support from the Government of India. IIT-M has established for itself a reputation, prestige and image as an institution *par excellence*, both nationally and internationally.

In the early years, IIT-M achieved excellence in undergraduate engineering education, and quickly enlarged its activities to include postgraduate programmes and research in Engineering, Science, Management and Humanities. Its strengths include highly motivated and talented students, well-qualified faculty, good experimental and computing facilities, and well-trained technical and administrative supporting staff.

The Institute campus is located in an extensive wooded land of great scenic beauty and is spread over an area of 253 hectares donated by the Government of Tamil Nadu.

The Institute offers several course-based undergraduate (UG) and postgraduate (PG) programmes as well as research-based postgraduate and doctoral programmes. There are over 90 well-equipped laboratories attached to the different Departments and Centers. Over the years, the Institute has responded to environmental changes and user-needs, by redesigning curricula, offering new UG and PG programmes and through Continuing Education.



Industrial Consultancy and Sponsored Research are important activities in the Institute. A large number of Research, Development and Consultancy projects, sponsored by a wide spectrum of funding agencies, are undertaken by the faculty. The Institute has active linkages with leading academic and research organizations in several countries worldwide. Several opportunities have recently been created for student exchange between IIT-M and other institutions throughout the world.

This brief Report provides a summary of our activities, achievements and accomplishments during the year 2000-2001.

ACADEMIC DISTINCTIONS SECURED BY OUR FACULTY MEMBERS AND STUDENTS

In recognition and acknowledgment of the Excellence and Expertise of our Faculty Members and Students, several Academic Distinctions have been bestowed on them during the current year. These include the following (names listed alphabetically) :

AWARDS

- Mr. V. Balamurugan, External Research Scholar, Applied Mechanics Department. : *DRDO Young Scientist Award 1999.*
- Prof. T. S. Chandra, Chemistry Department. : *Arivial Mamani Award for the year 2001, Uratha Sindhanai Society.*
- Dr. P. Chandramouli, Applied Mechanics Department : *INAE Young Engineer Award 2000.*
- Dr. R. Gnanamoorthy, Mechanical Engineering Department. : *AICTE Career Award for Young Teachers 2001.*
- Prof. Ashok Jhunjhunwala, Electrical Engineering Department : *Dr. P. Sheel Memorial Lecture Award 2001, Rajasthani Shree Award 2001.*
- Dr. A. Kannan, Chemical Engineering Department. : *AICTE Career Award for Young Teachers 2001.*
- (Late) Prof. C. S. Krishnamoorthy, Civil Engineering Department. : *Award for Outstanding Research Work in Engineering and Technology 1999, ISTE.*
- Mr. G. T. Manohar, Electrical Engineering Department : *Prof. Sreenivasan Memorial Award, IETE.*
- Prof. Megha Singh, Applied Mechanics Department : *Homi Bhabha Award for Applied Sciences, UGC.*
- Dr. A. K. Mishra, Chemistry Department. : *CSIR Bronze Medal, Chemical Research Society of India.*
- Dr. M. Thenmozhi, Humanities & Social Sciences Department. : *Best Innovation in Teaching Award, Association of Indian Management Schools.*

FELLOWSHIPS

- Prof. S. V. Raghavan, Computer Science and Engineering Department. : *Fellow of the Computer Society of India.*
- Prof. B. H. L. Gowda, Applied Mechanics Department. : *Fellow of the Indian National Academy of Engineering.*
- Prof. R. Natarajan, Mechanical Engineering Department. : *Fellow of the Indian Society for Technical Education.*

MEMBERSHIP OF EDITORIAL BOARDS

- Prof. Krishnan Balasubramaniam, Mechanical Engineering Department. : *Journal of Non-Destructive Evaluation.*
- Prof. M. Govardhan, Mechanical Engineering Department. : *International Journal of Thermal Sciences.*
- Prof. V. Kalyanaraman, Civil Engineering Department. : *Journal of Constructional Steel Research.*

- Dr. B. S. Murthy,
Civil Engineering Department. : ISH Journal of Hydraulic Engineering.
- Prof. B. S. Thandaveswara,
Civil Engineering Department. : ISH Journal of Hydraulic Engineering.

BEST PAPER / THESIS AWARDS

- Mr. M. Aravind, B.Tech. and
Dr. T. S. Sampath Kumar,
Metallurgical Engineering Department. : *Innovation Potential Project Award 2000*,
INAE.
- Mr. V. Balamurugan,
External Research Scholar, and
Prof. S. Narayanan,
Applied Mechanics Department : *Innovation Potential Project Award 2000*,
INAE.
- Prof. K. N. Bhat,
Electrical Engineering Department. : *M. N. Saha Memorial Award*, IETE.
- Mr. Alok D. Bokare and
Dr. Archita Patnaik,
Chemistry Department : *Best Paper Award*,
Nuclear and Radiochemistry Symposium,
2001.
- Dr. P. Chandramouli,
Applied Mechanics Department, and
Mr. M. N. Srinivas, IV B.Tech.,
Chemical Engineering Department. : *Best Paper Award* at the VI Meeting of
MIRC-ASC, 2000.
- Mr. Ashim K. Dey, Mr. Sunil Sharma,
Mr. S. Selvam and Prof. S. R. Gandhi,
Civil Engineering Department. : *Best Paper Award*, Indian Geotechnical
Conference 1998.
- Prof. S. R. Gandhi,
Civil Engineering Department. : *Best Paper Award*, Indian Geotechnical
Conference, 2000.
- Mr. M. Gopal,
Mr. K. Pakshirajan, and
Prof. T. Swaminathan,
Chemical Engineering Department. : *Best Paper Award*, 41st Annual Conference of
Association of Microbiologists of India, 2000.
- Prof. K. Gopinath,
Mechanical Engineering Department. : *M. N. Saha Memorial Award* for the Best
Application-oriented Paper, IETE.
- Dr. Harish Chandra, Librarian. : *III Prize* for his paper and presentation, III
Annual National Convention on Business
Librarianship & Information Service from
Independence to Interdependence, 2001.
- Ms. S. N. Jyothi, QIP Research Scholar,
Mr. S. Pramod and
Prof. M. Chidambaram,
Chemical Engineering Department. : *Best Paper Presentation Award*,
24th National Systems Conference, 2000.

Prof. V. Kalyanaraman, Dr. K. Ramamurthy, and Dr. K. N. Satyanarayana, Civil Engineering Department.	:	<i>Best Conference Paper of the year 2000,</i> Builders' Association of India.
Mr. S. R. Kannan, Research Scholar, Mathematics Department, Prof. N. R. Neelakantan, Chemical Engineering Department and Dr. W. B. Vasantha, Mathematics Department.	:	<i>Best Poster Presentation Award,</i> 88 th Indian National Science Congress, 2001.
Dr. N. Krishna Mohan, Physics Department.	:	<i>Best Poster Award,</i> SPIE International Conference on Optical Science and Technology, USA, 2000.
Prof. Nainan P. Kurian, Civil Engineering Department.	:	<i>Association of Consulting Civil Engineers (India) Nagadi Award – 2000,</i> for the Best Publication in Civil Engineering, for his Book : <i>Design of Foundation Systems : Principles and Practices.</i>
Mr. K. Pakshirajan, Ph.D. Research Scholar and Prof. T. Swaminathan, Chemical Engineering Department.	:	<i>Best Poster Award, 41st Annual Conference of Association of Microbiologists of India, 2000.</i>
Mr. S. M. Raffi, Ph.D. Research Scholar and Prof. T. K. Ramanujam, Chemical Engineering Department.	:	<i>Best Poster Award, National Seminar on Environmental Awareness, Education and Management for Sustainable Rural Development, 2000.</i>
Ms. Rashmi Ranjan Sahoo, Mr. Alok D. Bokare and Dr. Archita Patnaik, Chemistry Department	:	<i>Best Paper Award,</i> Nuclear and Radiochemistry Symposium, 2001.
Mr. M. N. Srinivas, IV B. Tech., Chemical Engineering Department.	:	<i>Best Student Paper Award, Madras-India Regional Chapter of Acoustical Society of America, 2000.</i>
Mr. R. Sudarshan, B.Tech. (1996)	:	<i>I Prize for Best B.Tech. Project, ISTE.</i>
Prof. B. S. Thandaveswara, Civil Engineering Department.	:	<i>Best Paper Award, Indian Water Works Association, 2001.</i>
Mr. A. Thiyagarajan, M.Tech. (1999), Civil Engineering Department.	:	<i>II Prize for Best M. Tech. Thesis, ISTE.</i>
Mr. A. S. Varadarajan, Ph.D. Research Scholar, Prof. P.K. Philip and Prof. T. Sundararajan, Mechanical Engineering Department.	:	<i>Best Paper Award, 19th All India Manufacturing Technology, Design and Research Conference, 2000.</i>

Ms. V. Vidyalakshmi and
Dr. M. S. Subramanian,
Chemistry Department.

: *Best Paper Award*,
Nuclear and Radiochemistry Symposium,
2001.

BOOKS

Prof. S. Narayanan,
Applied Mechanics Department
Prof. R. N. Iyengar,
Civil Engineering Department,
Indian Institute of Science, Bangalore

: IUTAM Symposium on Nonlinearity and
Stochastic Structural Dynamics, (Eds.),
Kluwer Academic Publishers, Netherlands.

Prof. J. Raamachandran,
Applied Mechanics Department

: Multimedia Digital Book on "Theory of
Plasticity"

Prof. J. Raamachandran,
Applied Mechanics Department

: "Boundary and Finite Elements (Theory and
Problems)", simultaneously published by
Narosa (India), CRC Press (USA) and Alpha
Science (Europe).

Prof. V. Ramjee,
Applied Mechanics Department

: "Fluid Mechanics and its Applications",
SCITECH Publications (India).

Prof. C. Siva Ram Murthy, Computer
Science and Engineering Department and
Prof. V. Rajaraman, Indian Institute of
Science, Bangalore.

: "Parallel Computers : Architecture and
Programming", Prentice Hall of India.

Prof. C. Siva Ram Murthy, Computer
Science and Engineering Department,
Dr. K. N. Balasubramanya Murthy, Malnad
College of Engineering, and
Dr. A. Srinivas, Iowa State University,
USA.

: "New Parallel Algorithms for Direct Solution
of Linear Equations",
John Wiley & Sons Inc., USA.

Prof. C. Siva Ram Murthy, Computer
Science and Engineering Department, and
Dr. G. Manimaran, Iowa State University,
USA.

: "Resource Management in Real-Time
Systems and Networks",
The MIT Press, USA.

PATENTS

Prof. K. Prasada Rao,
Metallurgical Engineering Department.

: US Patent for "Stabilized Two Phase Glass
Diffusion Barrier", June 2000.

OTHER DISTINCTIONS

Prof. C. R. Muthukrishnan,
Computer Science and Engineering
Department.

: President of the Computer Society of India.

Prof. S. Narayanan,
Applied Mechanics Department

: President, Acoustical Society of India.

Prof. R. Natarajan,
Mechanical Engineering Department.

Prof. K. A Padmanabhan,
Metallurgical Engineering Department,
on foreign service to IIT-Kanpur as
Director.

Mr. R. Ramesh, M.Tech. (1998),
Aerospace Engineering Department.

: Doctor of Science (*Honoris Causa*),
Nagarjuna University.

: *Guest Scientist Programme for Outstanding /
Excellent Scientists from Abroad Award*,
Research Centre for Technology and
Environment, Karlsruhe, Germany.

: Vishist Seva Medal (VSM) Republic Day
Award 2001, for services rendered in Sierra
Leone.

OUR CONTRIBUTION TO MANPOWER DEVELOPMENT

In July 2000 Convocation, a total of 950 degrees were awarded: 82 Ph.D., 98 M.S., 320 M.Tech., 94 M.Sc. and 356 B.Tech. These degrees cover a wide range of disciplines and specializations offered by the nine Engineering Departments, three Science Departments, and the Department of Humanities and Social Sciences. Among the Graduands are : 19 QIP candidates (teachers from other colleges), and 95 sponsored candidates (sponsored by Industry and Government Agencies). The graduands include : 108 ladies, comprising 19 Ph.D., 8 M.S., 17 M.Tech., 46 M.Sc., and 18 B.Tech. degrees.

During the period under this report an User Oriented M.Tech programme in Computational Engineering was started.

Our Preparatory Course Programme for Weaker Section Students offers intensive coaching to eligible candidates to prepare them for entry into the IIT on successful completion of this one-year Programme.

The programme of Industrial Lectures, as a one-credit course for creating an awareness among our students about Indian Industry and career opportunities, is now in its ninth year of implementation.

Efforts are under way to promote technological innovation by deliberately nurturing it through curriculum, research projects, technology incubation centres and entrepreneurship development programmes.

OUR CONTRIBUTIONS IN ACADEMIC RESEARCH

During the year under review, apart from the Ph.D. and M. S. theses, our faculty and research scholars have published 402 research papers in refereed international and national journals, and have presented 406 research papers at international and national conferences. Many of our research papers have secured high citation rating, and our faculty and research scholars have been the recipients of several Best Paper Awards. Many of our faculty members are Editors / Members of Editorial Boards of several prestigious international and national journals. Many of them have also served as Reviewers of papers for publication in journals and presentation in Conferences.

SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY

Our faculty members consider sponsored research and industrial consultancy to be highly worthwhile activities, which not only provide technological solutions towards industrial development and national prosperity, but also bring relevance and realism to the teaching-learning processes.

IIT-Madras was one of the first higher technological institutions to recognize the importance of Industry-Institute Interaction. Since 1973, we have maintained a steady and sustained growth in our interaction with Industry and other agencies, both in terms of the number and value of sponsored research and consultancy projects.

The number of active sponsored projects during the year is 253 ; the number of faculty members involved in these projects as Principal Investigators and Co-principal Investigators is 161 ; the value of the sponsored projects sanctioned during the year is Rs.87.40 million.

The number of active consultancy projects during the year is 866, for a total value of Rs.74.30 million. The number of faculty members involved in these consultancy projects is 137.

The ISRO-IIT Madras Cell and the IGCAR-IIT Madras Cell have been functioning effectively through periodic monitoring and review. In addition to projects for Industry, National Agencies and Central Government Departments, several assignments have been undertaken for the Tamil Nadu Government over the years.

IIT-Madras is the Lead Institute for the Technology Development Mission (TDM) Project on "Energy, Resources Management and Environment Technologies", which has been approved by the Planning Commission in the second phase. These TDMs are national projects, identified by the Planning Commission for implementation by the 5 IITs and the IISc, through the MHRD. Each TDM requires active participation by Industry.

The Industrial Associateship Scheme has now more than 230 members, and enables formal arrangements for interaction with industry.

The Centre for IC & SR organized 6 Technology Appreciation Programmes for the benefit of these Industrial Associates during the current year.

Awareness and appreciation of IPR issues are increasing among our Faculty and Research Scholars ; this year, we have filed 9 patent applications, of which 1 has been registered. To date, IIT-Madras has filed 156 patent applications, out of which 85 have been registered.

We have signed 20 Memoranda of Understanding with the following Industries :

- * Bhabha Atomic Research Centre, Trombay, Mumbai.
- * CVRDE, Avadi (2 MoUs)
- * Defence Research Development Laboratory, Hyderabad (2 MoUs).
- * Electronics Corporation of India Limited.
- * GE India Technology Centre (P) Limited, Bangalore
- * Hari Shankar Singhania Elastomer & Tyre Research Institute, Rajsamand, Rajasthan.
- * ICWAI (Renewed).
- * ISRO Inertial Systems Unit, Vattiyookavu, Thiruvananthapuram.
- * ISRO, Shar Centre, Sriharikota.
- * LPSC, Valiamala, Thiruvananthapuram.
- * Midas Communication Technologies Private Limited and Himachal Futuristic Communications Limited.
- * Midas Communication Technologies Private Limited and Shyam Telecom Limited.
- * Midas Communication Technologies Private Limited, Analog Devices Inc., and Crompton Greaves Limited.
- * Neyveli Lignite Corporation Limited, Neyveli.

- * Polaris Software Lab Limited and Nilgiri Networks Limited.
- * Proof and Experimental Establishment, Chandipur, Orissa.
- * RCI, Hyderabad (2 MoUs).
- * Southern Railway, Park Town, Chennai.

An MoU with TIBCO for setting up an Advanced Laboratory on Distributed Computing in the Computer Science and Engineering Department is on the anvil.

The Centre for IC & SR publishes Quarterly Reports of the activities of the Institute in a new attractive format under the banner of *IIT-Madras News*, in addition to the release of regular Newsletters. A CD has been prepared highlighting the several facilities and activities of the Institute. Touch-screen kiosks are being installed at strategic locations to enable visitors, and faculty, staff and students, to access information directly.

When the country faced a major earthquake calamity in Gujarat this year, the faculty members of Civil Engineering Department and Ocean Engineering Department travelled to Gujarat to assess the damage and recommended suitable remedial measures. The services were provided to Kandla Port, Indian Oil Corporation and various other agencies.

CONTINUING EDUCATION AND EDUCATIONAL TECHNOLOGY ACTIVITIES

The Centre for Continuing Education (CCE) has been very active in promoting professional development activities for the benefit of working professionals in industries and faculty members of other technical institutions. During the year, our faculty members organized 6 Short-Term Courses under QIP, and 38 Short-Term Courses under CEP. The Educational Technology Cell has

produced a number of video films, which include modules for 5 semester courses and 1 short course. The Centre for Continuing Education has generated continuing education activities during the year to the tune of Rs.4.3 million.

Our Institute has assisted the Academy of Maritime Education and Training (AMET) in conducting the third 12-week programme for the benefit of Marine Radio Officers of the Merchant Navy. The Central Electronics Centre has conducted three programmes for the benefit of 107 candidates in Renewable Energy Technologies under a project sponsored by IREDA.

The Virtual Centre for Technology Enhanced Learning (VCTEL) project, in which the IITs and the IIMs have come together as a Consortium, and also including the Carnegie-Mellon University, USA as one of the partners, will soon commence its activities under a grant from the Ministry of Human Resource Development.

Faculty members of the Electrical Engineering, and Computer Science and Engineering Departments, are actively involved in the design and delivery of modular courses, offered by the Usha Martin Academy of Communications Technology, situated on the Campus. These serve to bridge the gap between the requirements of the profession and the preparation in the degree programme. This finishing school concept is found to be an effective strategy for catering to the requirements of industry.

OUR CONTRIBUTION TO THE NATIONAL S & T EDUCATION SYSTEM

Over the years, the IITs, in general, and IIT-Madras in particular, have been playing a lead role in providing guidance and assistance to

the other Engineering Institutions in the country. In this context, we have been implementing the Quality Improvement Programme (QIP), which provides opportunities for teachers of Engineering Colleges to upgrade their qualifications towards Ph.D. and M.Tech. Currently we have 60 QIP Scholars in the Institute. Our faculty members have conducted 6 Short-Term Courses under the QIP during the current year for the benefit of Engineering College Teachers.

The All India Council for Technical Education, including the National Board of Accreditation, has been utilizing the expertise of our faculty members in several of their Committees and activities. Many of our faculty members are also on the Governing Councils of several S & T institutions in the country.

IIT-Madras has been playing a lead role in the design of activities towards IIT-REC Networking. The activities proposed include joint projects, faculty and student exchange, and joint activities such as workshops, seminars, etc.

For the fourth year in succession, our Institute has coordinated the Programme for Gifted Youth, in which faculty of our Institute, along with faculty of Anna University, Central Leather Research Institute, Indira Gandhi Centre for Atomic Research, Institute of Mathematical Sciences and M.S.Swaminathan Research Foundation, interact with a selected group of gifted children from schools across the country, for about three weeks.

The Summer Assistantship Scheme, which was initiated a few years ago, provides opportunities for summer training to top-ranking third year B.E. students of other Engineering Colleges all over the country ;

23 students participated in the programme this year.

The Regional Sophisticated Instrumentation Centre (RSIC) has been conducting Open House for the benefit of college and school students over the years ; one such open house was conducted this year also.

NEW PROGRAMMES

During the IX Plan, the Institute has introduced new PG Programmes in Construction Technology Management, Automotive Engine Technology, Software Engineering, Information Technology, Digital Signal Processing, Industrial Mathematics & Scientific Computing, and Integrated Ph.D. Programme in Chemistry.

The Institute also plans to initiate new programmes in the areas of New Materials, Non-Destructive Evaluation, Energy and Environment, High-Speed Networking, Wireless Technology, Sustainable Development, Micro-Electro Mechanical Systems, Smart Materials, Biotechnology, and Integrated Ph.D. Programmes in Sciences and Engineering Sciences, and Double-Degree Programmes (Engineering and Management).

NEW CENTRES AND FACILITIES

The following new Centres have been established during the year, for promoting R & D, Consultancy and Continuing Education activities :

- * Centre for Non-destructive Evaluation.
- * DSP Training Centre in the Electrical Engineering Department, sponsored by Analog Devices, USA.
- * Centre for Intelligent Optical Networking in the Electrical Engineering Department, sponsored by Dr. Gururaj Deshpande, our Distinguished Alumnus.

A Computer-aided Engineering Laboratory has been set up in the Mechanical Engineering Department to provide instruction in Engineering Graphics as well as to undertake industrial consultancy.

The Ministry of Science and Technology, under the FIST programme (Funds for Improvement of Science & Technology Infrastructure in Universities and Higher Educational Institutions) has sanctioned the following projects in the Institute :

- * Flow Visualization Laboratory, Chemical Engineering Department.
- * Improvement of S & T Infrastructure, Chemistry Department
- * Creating / Providing Networking and Computational Facilities including Internet Facility, Physics Department.

From the project funded by DST-TIFAC, Thermal Analysis Facilities (DSC, TGA and DMA), costing about Rs.50 lakhs, have been installed in the Composites Technology Centre. These facilities are available for use by research scholars of the Institute and other institutions, as well as industries.

CHAIRS INSTITUTED

Dr. Tom Alexander, an Alumnus, has instituted a Chair in the area of Telecom and Computer Networking in the Electrical Engineering Department.

Analog Devices, USA has offered to set up a Chair in the area of Telecommunications and VLSI Design in the Electrical Engineering Department.

Infosys has set up a Chair-Professorship in the Computer Science and Engineering Department.

Mr. T. T. Jagannathan, an Alumnus, has instituted the T. T. K. Chair for Marketing Management.

INTERNATIONAL COLLABORATION

In the emerging scenario of internationalization and globalisation of higher and professional education, we have been interacting with several International Organizations for collaborative research, exchange of faculty and students, etc. During the year, we have signed MoUs with the following four international universities :

- * Graduate School of Engineering and School of Engineering, Nagoya University, Japan.
- * Australian Technology Network consisting of the following five universities :
 - Royal Melbourne Institute of Technology
 - Queensland University of Technology
 - The University of Technology, Sydney
 - Curtin University, and
 - The University of South Australia.
- * Toulouse University Network, France (consisting of 12 Higher Educational Member Institutions).
- * Johannes Kepler University, Linz, Austria.

With these, the total number of MoUs signed by IIT-Madras with international universities amounts to 40.

In addition, MoUs with the following Institutions are being processed:

- * Mauritius Research Council
- * Technion Israel Institute of Technology, Israel
- * Texas A & M University at Austin, Texas.

We have also signed MoUs with International Companies and Research Laboratories for collaborative R & D ; to-date, a total of 14 such MoUs has been signed.

A Joint Project entitled "Sustainable Access in Rural India (SARI) is being undertaken jointly by MIT Media Lab., USA, TeNet Group, IIT-Madras, Centre for International Development, Harvard University, and I-Gyan Foundation. It aims to provide connectivity in the villages.

Following the successful completion of 19 projects during the earlier two phases through the IITM-BMBF collaboration, 12 projects have been approved to be taken up during the third phase.

Two Indo-German Projects – one with the Technical University, Darmstadt and the other with the Institute for Machine Tools and Factory Management, Technical University, Berlin – have been approved, with participation by faculty members of the Metallurgical Engineering Department.

An Indo-US Project with the Naval Research Laboratory, USA, and the Metallurgical Engineering Department as partners is in the pipeline.

EPFL, Lausanne, Switzerland and IIT-Madras will be jointly organizing, this year, an International Course on "Technology and Sustainable Development : Innovative and Integrated Approaches in Emerging Countries". The participants will be drawn from Switzerland, rest of Europe, India and other developing countries.

During the summer, a number of faculty members from the Institute visited universities and research laboratories abroad for collaborative research, participation in conferences, visiting assignment, lectures, consultancy, etc.

ORGANIZATION OF INTERNATIONAL AND NATIONAL CONFERENCES

Our Institute possesses an excellent Conference Complex comprising Auditoria, Conference Rooms, Exhibition Hall and Dining Hall. This Complex has been the venue for seven national conferences and four international conferences during the year, in addition to numerous Workshops, Professional Society Meetings, Technical Seminars and Training Programmes.

INTERNATIONAL STUDENT EXCHANGE PROGRAMMES

Over the past few years, the Institute has created several opportunities for International Student Exchange. One of the major initiatives in this regard is the Indo-German Agreement between the five IITs and six Technical Universities in Germany. Under this Programme, we have deputed 16 M. Tech. students and 2 M. S. scholars to undertake their project / thesis work in these German Universities last year. We have also received a few Ph.D. and Dipl.-Ing. scholars from Germany to undertake their projects in our research laboratories.

Two students of Journalism and one student of Industrial Engineering from the Hochschule Bremen carried out their course work in the Humanities and Social Sciences Department. Under the MoU with EPFL, one student from the Rural Engineering Department of EPFL will be studying in IIT-Madras for one semester, beginning July 2000. Two of our M.Tech. students in Industrial Mathematics were deputed to the University of Kaiserslautern for training.

CAREER DEVELOPMENT AND WELFARE SCHEMES FOR THE EMPLOYEES

A Professor-in-charge for HRD was nominated a few years ago, in order to plan and implement programmes for providing opportunities to our technical and administrative staff to update and upgrade their knowledge and skills, in order to enable them to perform their work more effectively. Under this scheme, 24 training programmes (79 programme-days) were conducted during the year. In order to create a conducive work ambience and to promote inter-personal relations, a number of Stress Management Programmes were organized during the year, in which 576 persons participated.

Special Programmes for the children of faculty and staff members in three age groups of 10-13 to 17-18 were conducted on Communication Skills, Memory Skills, Speed-Reading, Teamwork and Career Guidance.

We have received excellent feedback from the participants in these different programmes. The staff members have now come forward to identify their HRD needs, and are making specific requests for more programmes in identified areas.

An AutoCAD Training Programme for Institute Draughtsmen was conducted by the Mechanical Engineering Department.

OUR QUALITY INITIATIVES

We are setting up Visiting Committees for the various Departments of our Institute, on the lines of the Best Practices obtaining at leading institutions world-wide. The Visiting Committees for Computer Science and Engineering and Electrical Engineering Departments have completed the visits and

have provided us with their reports, which are being studied by the Departments.

IIT-Madras is the first Higher Technological Institution to have secured ISO-9001 Certification (for six units). Six more units are preparing themselves for Certification. The Central Electronics Centre is gearing itself up for NABL Certification.

Continuous improvement being the hallmark of a learning organization, several 5-S Programmes have been conducted. We have also initiated Programmes on Quality Circles in five of our Administrative Units; gradually, they will cover the entire Institute.

INFRASTRUCTURE DEVELOPMENT

An ATM-based high-speed campus-wide network has been operational for the past two years. The network provides connectivity between the various departments, hostels and the faculty residences. The topology for the backbone has been designed taking into consideration aspects such as reliability, scalability and cost-effectiveness. The network provides over 300 ports at the 100 Mbps (lab/server) level and about 2,500 ports at the 10 Mbps (desktop) level. External connectivity and internet access is currently provided by a 64 kbps VSNL link, 2 Mbps line through DOT/VSNL and the ernet link operating at 2 Mbps.

High-performance, computing and graphic servers are provided at the Computer Centre, having state-of-the-art hardware and software. Fibre cable is used to connect buildings and enhanced UTP cable is employed for general networking within each building. The backbone has a capacity of 622 Mbps, and each building is connected to the backbone by 155 Mbps ATM uplink.

Access to special computational facilities are available in several departments. These

include : Computational Fluid Dynamics Centre, Computer-Aided Engineering Facility, Centre for Excellence in Computational Engineering and Centre for Finite Element Analysis and Design.

Integration of Computational Facilities for Scientific Research (ICOSER) : Towards an endeavour for improving the environment for scientific computing in the country, Technology Information, Forecasting and Assessment Council (TIFAC) has established a comprehensive programme under the name ICOSER. A Level III ICOSER Centre has been established at IIT-Madras and is housed at the Computer Centre. This facility includes several high-end computer servers and graphic servers with peripheral devices. The ICOSER server and access stations are networked together and also integrated into the IIT-Madras Campus Network.

PARAM 1000 : Centre for Development of Advanced Computing (C-DAC), Pune, has successfully developed high-end parallel processing machines for the scientific community, and has chosen a few premier institutes in the country for the development of software and use of these machines for scientific and research purposes. IIT-Madras is one among these institutes and has an 8-processor machine, along with parallel processing tools and application software. Ten research projects in various disciplines are being carried out with these machines.

Several Electronic Class Rooms are being established in each department, not only for class room instruction, but also for seminar presentations workshops, etc.

The Cell for Distance Education has undertaken the preparation of course materials to be made available on the web. A course deployment platform, called WebCT, is being used for course design and management. It is intended to provide Distance Education

programmes, leading to the award of a Diploma or a Certificate.

A new Ladies' Hostel, named "Sharavati", was inaugurated by Ms. Jaishree Deshpande, who, along with her husband Dr. Gururaj Deshpande, both alumni of this Institute, has fully funded this project. It has a capacity of 373 rooms and will cater to the needs of the Institute over the foreseeable future. A Large Dining Facility is under construction to cater to 450 students at a time, very close to the two Ladies' Hostels.

Considerable progress has been made in realizing the goal of building an International Guest House for visiting professors and scholars. The German Academic Exchange Service (DAAD) has, in principle, agreed to share the funding for this Guest House, for which the name "Bose-Einstein Guest House" has been suggested.

A Multimedia Language Laboratory, a gift from the DAAD, is operational since April 2001 in the Humanities and Social Sciences Department. German language learning software is intended to encourage self-study, particularly by students leaving for Germany under the DAAD Sandwich Programme.

A new Seminar Hall has been inaugurated in the Chemistry Department.

The Institute bestows considerable attention on environmental protection and conservation. A large number of trees are planted each year to add to the greenery on Campus. Several solid waste management initiatives have been undertaken, including the evacuation of accumulated solid waste to a dumping place outside the Campus, through the agency of Chennai Environmental Services Onyx Private Limited. The campsites are being exhorted to say "No" to plastics.

Several initiatives have been undertaken towards water harvesting, storage and water conservation. A detailed topographic survey is being undertaken in order to help in designing rain water harvesting / ground water recharging strategies. Systematic Vertical Electrical Soundings (VES) will be conducted throughout the campus in order to deduce the nature of the subsurface. Auger holes will be drilled at specific locations in order to corroborate the results of resistivity studies. Water samples from all the working bore wells and the open wells will be collected and analyzed for determining the quality of the ground water – both chemical and biological. Along with the above, detailed hydro-geological assessment of the campus will be carried out through well inventory, in order to understand the groundwater occurrence and movement in the area. An assessment will be made of the potential run-off due to rain fall in the campus towards recharging ground water and rain water harvesting. Based on the above and other ancillary information, an integrated water resource development and management plan for the IIT-Madras campus is being developed.

The Safety, Energy and Environment Committee advises on matters relating to these three important areas, and also oversees energy, environment and safety audits.

STUDENT CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

As part of the Cultural activities, the Institute Gymkhana organised *Bharath Utsav* in the third week of September 2000 and *Saarang* in the third week of January 2001. Our Institute participated in the Inter-IIT Sports Meet held at Kanpur during December 2000. The annual Student Technical Festival, *Shaastra*, was held during February 21-25, 2001. The programmes included Design Contests, Paper Presentation Contests, Entrepreneurship

Contests, Video Conferences and Lectures by eminent personalities.

A Cell for Professional Ethics and Human Values has been set up in order to promote these characteristics in our students.

We have set up a Cyber Café with 25 networked PCs, in the Student Facilities Centre in the hostel sector, to provide easy network access to our students in the hostel sector.

ALUMNI MATTERS

During the 42 years of its existence, our Institute has so far awarded 23,024 degrees, ranging from Ph.D. to B.Tech. The education and training our alumni have received at the Institute have enabled them to launch themselves into professionally satisfying and successful careers. Our alumni have distinguished themselves professionally, and many of them occupy top positions in several spheres of Engineering, Technology, Industry, Management and the Academe, thus fully justifying the establishment of the IITs for providing Technology Leadership, and valuable inputs to Technology Innovation and National Development.

In addition to the parent Alumni Association on Campus, we have several Chapters within the country and abroad. The 1976 batch is celebrating its Silver Reunion this year. Over the past five years, we are honouring our alumni for their accomplishments through the Distinguished Alumnus Awards. I am happy to announce that this year we have selected five Alumni for this honour :

- * Mr. B. Suresh Kamath,
Chairman & Managing Director,
Laser Soft Infosystems Ltd., Chennai.
- * Mr. Pradeep Mallick,
Managing Director,
Wartsila India Limited, Mumbai.

- * Dr. V. Srinivasan,
Ernest C. Arbuckle Professor of
Marketing and Management Science,
Stanford University, USA.
- * Mr. S. Srinivasan,
Chairman & Managing Director,
SRA Systems Limited, Chennai.
- * Mr. Prakash Damodaran, I.A.S.,
Secretary to Government of Tamil Nadu,
Information Technology Department,
Chennai.

It has been recognized world-wide that the alumni represent one of the important stakeholders for the Institute and a potential source of resource inputs. We have identified a group of influential alumni to help us to mobilize resources for Institute activities. We have also established an Office of Alumni Affairs to coordinate the interaction between the Institute and the Alumni.

Generous donations have been received from the alumni of IIT-Madras in Seattle, USA, and from the alumni batches of 1974, 1975 and 1987.

FUTURE TRENDS AND CHALLENGES

Internationalization : Internationalization of higher education has been occupying the attention of national governments, international agencies and institutions of higher education during the past two decades, particularly since the general acceptance of globalization worldwide. Internationality has come to mean the capability of equipping graduates with competencies applicable in a world where national borders no longer hinder the global flow of technologies and products. It is the ability of academic institutes to attract and integrate intelligence of any nationality seamlessly. In the future, the quality and acceptability of higher education programmes will be measured

according to the international dimension they have, and international competence they are able to provide to their students.

Innovation Management : Innovation is increasingly being recognized as the key to competitiveness. Innovation stands for new products, new information, new knowledge and new services. There is a clear need for knowledge to undertake and promote innovation in technology development in the current and emerging scenario of technology denial regimes, WTO imperatives, etc. Promoting and managing innovation are extremely important for a technology institute like ours. This must be accomplished not only through courses, but also through laboratory programmes, projects and co-curricular activities. Our Institute has taken a lead in all these directions.

Knowledge Management : In this era of knowledge society, institutions of higher learning, such as ours, have an important role to play – in knowledge creation, dissemination and diffusion. Apart from the traditional physical and financial capital, our core competence is in terms of intellectual capital. Knowledge is much more than information, data bases, documents, reports. There are several important players and enablers in knowledge management ; individuals, teams, interaction, conversation, analysis and synthesis. It is in the nature of a culture which requires careful nurturing. There are many initiatives in the Institute towards continuous learning and improvement, characteristic of a learning organization.

IPR : IPR issues have to be addressed squarely in the light of emerging developments globally. Both formal and informal measures are being undertaken to address this need.

XXI Century Learners and Teachers :

There has been a sea change in the characteristics of XXI Century Learners and Teachers. The former are growing up with technology and are experiencing a technologically-saturated childhood. The latter have a distinctly new role to play – not as disseminators of knowledge, but as facilitators who guide the students towards the acquisition of competencies and skills. The Institute is creating conditions to enable a good match between the needs of the learners and the offerings of the teachers. While there are some who fear that new technology might replace teachers, it is safe to presume that there are several distinctive functions for which the teachers are irreplaceable.

E-learning : E-learning is now evolving into an internet-centric system that is restricted not by content boundaries, but only by bandwidth. It is fast becoming the killer app of the internet, and requires several major paradigm shifts. The Institute is preparing itself to exploit the strengths of e-learning, not only for students on campus, but also for continuing education.

Corporate Universities : The emergence of corporate universities is posing fundamental challenges to the traditional university system. Corporate universities began as a reaction to the inertia and inapplicability of higher education for on-the-job performance. In recent times, however, the lines between the corporate universities and traditional universities are blurring : increasingly, universities are customising their curricula to meet industry and business needs. This has served to bring conceptual knowledge and application closer together.

Strategic Partnerships : For many important reasons, institutions of higher learning need to forge alliances with a wide spectrum of strategic partners. This includes industry, business, government, R & D organizations,

alumni, schools, etc. The success of the partnership depends upon several factors, such as, communication, champions, commitment, collaboration, credibility, etc. Our Institute has put in place several mechanisms for exploiting the full potential of these partnerships.

Professional Ethics and Human Values :

Many engineering educators and professionals are realizing that, just as students require technological knowledge and skills before going out into the world of work, they also need instruction in professional ethics and human values. Engineering has a significant interface with, and impact on, Society, and engineers have ethical obligations to the public at large as well as to their employers, clients and the profession. The Institute has set up a Cell for Professional Ethics and Human Values to design and implement activities in these two areas.

ACKNOWLEDGMENT

For all the achievements and accomplishments enumerated in this Report, several people and agencies are responsible -- our Faculty, Students and Staff; Agencies and Industries sponsoring R&D and consultancy projects; Faculty and Professionals from other organizations who have assisted our Institute in several of our Committees and endeavours; and our Alumni. The Institute is very grateful to the Ministry of Human Resource Development, Government of India, for its continued and sustained support. We are also grateful to the Members of our Board of Governors headed by Dr. K. Kasturirangan, for providing invaluable guidance and wise counsel.



2. ADMINISTRATION

2.1 General

Indian Institute of Technology, Madras is an autonomous statutory organisation functioning within the "Institutes of Technology Act, 1961," as amended by "The Institute of Technology (Amendment Act, 1963)". The six Institutes of Technology (others being at Mumbai, Kanpur, Kharagpur, Delhi and Guwahati) are administered centrally by the Council of IITs, an apex body established by the Govt. of India to co-ordinate the activities of these Institutes. The Minister for Human Resource Development of the Govt. of India is the Chairperson of the Council. Each Institute of Technology has a Board of Governors responsible for its overall administration and control.

The Senate decides the academic policies of the Institute. It approves and controls curricula, courses, examinations and declaration of results. It appoints committees to look into specific academic matters arising from time to time. The teaching, training and research activities of various departments at the Institute are constantly under review to improve both facilities and standards. The Director of the Institute is the Chairman of the Senate. Members of the Senate are listed in Appendix. Financial advice to the Institute is given by the Finance Committee. The Buildings and Works Committee advises the Institute on matters relating to buildings and works activities.

In addition, the Board of Academic Research, Board of Academic Courses, Board of Students and Board of Industrial Consultancy and Sponsored Research are constituted by the Senate to help in the efficient administration of academic and research activities of the Institute.

The composition of the above Committees and Boards together with a list of other officers is also given in Appendix.

2.2 IITM rank among Technical and Engineering Institutions:

The latest Survey of Universities and Technical Institutions in the Asia-Pacific Region by the Asiaweek magazine continues to rank this Institute at position no. V above many institutions in Japan, Australia and other countries in the region. The parameters considered for this assessment were: Academic Reputation, Student Selectivity, Faculty Resources, Research, Financial Resources, Students per Academic Staff, Graduate Students as percentage of total students, Citations in International Journals per Teacher/Researcher and Internet Bandwidth per Student.

The latest India Today survey has ranked IIT Madras at No II among the various Engineering Institutions in the country. This is an improvement over its past position at IV in the last surveys. The Academic input, Curriculum, Infrastructure, Student Care, Admission Procedure and Job Placements were taken as the parameters for this assessment. The Survey shows further that IITM gets the top billing with regard to Academic input and reputation.

2.3 ISO 9000 Certification:

RWTUV, Germany conferred the ISO-9001 Certification to this Institute valid until March 2002 for it has an established Quality System being followed , for

Design of academic and User-Oriented Programmes
Support Services, Library, Computer Centre, Workshop and
Industrial Consultancy and Sponsored Research

This is the first Higher Educational Institution to receive this Certificate. Two Surveillance Audits have so far been conducted by the TUV India Pvt Ltd. They are fully satisfied with the compliance requirements regarding ISO 9001 certification.

2.4 Staff Position:

As on 31.03.2001, 337 Faculty, 17 Scientific Staff, 5 Design Staff, 446 Technical Staff and 788 Administrative staff were in position. During the period under report 46 Professors, 53 Assoc. Professor, 13 Asst. Professor and 18 other staff were appointed and all of them joined. 86 Faculty, Officers and Staff retired from their positions, 9 Staff members took voluntary retirement, 5 resigned, 2 Staff members dismissed and 5 expired.

2.4.1 Faculty / Officers/ Staff who were on long leave:

Sl. No.	Name & Department	Duration	Nature of Leave
1.	Dr.K.Ramar, Professor, Elec. Engg.	03.08.98 to 02.08.2000	EOL
2.	Sri A.Marimuthu, Driver, T.Cell	02.10.2000 to till date	EOL
3.	Dr.V.S.Raju, Professor, Ocean Engg.	09.01.95 to 03.07.2000	EOL
4.	Sri K.K.Muthuswamy, Technial Asst., C.E.C	21.8.2000 to 3.12.2000	EOL
5.	Dr.M.Ravindran, Professor, Ocean Engg.	09.11.93 to 04.05.2000	EOL
6.	Dr.J.Ravi Prakash, Asst. Professor, Chem. Engg.	15.05.99 to 14.05.2000	EOL
7.	Dr.M.V.C.Rao, Professor, Electrical Engg.	01.06.98 to 31.05.2000	EOL
8.	Dr.S.Krishnan, Professor, Aerospace Engg.	01.11.99 to 30.06.2000	EOL
9.	Dr.M.S.Moni, Sci. Off. Gr.I. RSIC	15.03.99 to 14.07.2000	EOL
10.	Sri P.Nagarajan, Helper Gr.I	From 18.07.2000	Unauthorised absence
11.	Sri G. Palaniswamy, Sci. Off.Gr.I, R.S.I.C.	19.07.99 to 18.07.2000	EOL
12.	Smt. Zahida Basha, Sr. Prof. Asst., Central Library	29.9.98 to 18.7.2000	EOL
13.	Dr.S.S.Bhattacharya, Asst. Professor, Metl. Engg.	03.08.98 to 31.07.2000	EL/HPL/EOL
14.	Dr.K.M.M.Prabhu, Professor, Elec. Engg.	17.08.99 to 30.08.2000	Sab. Leave + EL
15.	Sri V.S.Subramanian, Technical Officer (SG), MSRC	16.09.98 to 15.09.2000	EOL
16.	Dr.T.Panda, Professor, Chem. Engg.	21.09.99 to 20.09.2000	EOL
17.	Dr. (Ms). Enakshi Bhattacharyya, Asst. Professor, Elec. Engg.	07.10.99 to 13.10.2000	Sab. Leave / EL
18.	Sri M. Imagaran, Assistant	01.03.2000 to 11.12.2000	EOL
19.	Dr.K.A.Bhaskaran, Professor, Mech. Engg.	01.06.2000 to 22.12.2000	S.L + HPL
20.	Dr.P.C.Deshmukh, Professor, Physics	01.01.2000 to 31.12.2000	Sab. Leave
21.	Dr.K.Lalitha, Professor, Chemistry	02.08.99 to 01.08.2001	Sab. Leave + EL
22.	Dr.T.A.Gonsalves, Professor, Computer Science & Engg.	02.08.99 to 01.08.2001	EOL
23.	Dr.S.Karmalkar, Asst. Professor, Elec. Engg.	03.01.2000 to 02.05.2001	Sab. Leave / EL
24.	Dr.R.I.Sujith, Asst. Professor, Aerospace Engg.	03.10.2000 to 02.12.2001	EOL

Sl. No.	Name & Department	Duration	Nature of Leave
25.	Dr.R.Sundar, Asst. Professor, CSE	01.03.99 to 28.02.2001	EOL
26.	Dr.P.Sambandam, Asst.Prof., Ocean Engg.	25.03.96 to 24.03.2001	EOL
27.	Dr.A.Ramesh, Asst. Professor, Mech. Engg.	27.05.2000 to 04.05.2001	EL / HPL / EOL
28.	Dr.G.Venkatarathnam, Assoc. Professor, Mech. Engg.	03.10.2000 to 05.09.2001	EL / HPL / EOL
29.	Sri Prabhakar Rao, Technical Officer, Elec. Engg.	6.9.1999 to 5.9.2001	EOL
30.	Dr.V.Ramjee, Professor, App. Mech.	02.06.2000 to 31.05.2001	Sab. Leave
31.	Dr.G.Rangarajan, Professor, Physics	17.07.2000 to 16.07.2001	Sab. Leave
32.	Dr.V.S.Ramachandra Rao, Professor, Chem. Engg.	01.08.2000 to 31.07.2001	EOL
33.	Dr.V.Balakrishnan, Professor, Physics	11.10.2000 to 31.07.2001	Sab. Leave
34.	Dr.P.Sankaran, Professor, Elec. Engg.	01.12.2000 to 14.09.2001	EOL
35.	Dr.P.R.Vaya, Chief Sci. Off., Elec. Engg.	20.09.2000 to 12.04.2001	EOL
36.	Dr.K.K.Balasubramanian, Professor, Chemistry	02.01.2001 to 20.09.2001	EOL
37.	Dr.S.Sundaresan, Professor, Metl. Engg.	05.03.2001 to 23.09.2001	EOL
38.	Dr.Sarit Kumar Das, Asst. Professor, Mech. Engg.	25.10.2000 to 24.10.2001	EOL
39.	Dr.K.V.S.Rama Rao, Professor, Physics	04.09.2000 to 31.10.2001	EL + EOL
40.	Dr.L.V.L.N.Sarma, Professor, Hum. & Soc. Sci.	23.11.2000 to 22.11.2001	EOL
41.	Dr.M.Ramakrishna, Assoc. Professor, Aerospace Engg.	29.11.2000 to 28.11.2001	Sab. Leave
42.	Dr.Sachin Patwardhan, Assoc. Professor, Chem. Engg.	04.12.2000 to 30.11.2001	EOL
43.	Dr.C.Chandrasekhar, Lecturer, CSE	29.05.2000 to 28.05.2002	EOL
44.	Sri P.V.Manivannan, Sr. Tech. Asst., Mech. Engg.	24.8.2000 to 23.8.2002	EOL
45.	Dr.K.A.Padmanabhan, Metl.Engg.	29.09.97 to 28.09.2002	EOL
46.	Dr.M.M.Mayuram, Asst. Professor, Mech. Engg.	11.10.2000 to 10.10.2002	EOL
47.	Dr.P.Bhattacharyya, Professor, Maths	14.06.99 to 30.04.2003	EOL
48.	Dr.R.S.Sirohi, Professor, Physics	13.12.2000 to 30.04.2005	EOL

2.4.2 Faculty / Staff appointed during the period 01.04.2000 to 31.03.2001:

Sl. No.	Name	Designation	Department	Date
1.	M. Ramachandran	A.E.E. (Civil)	Engg. Unit	01.11.2000
2.	Dr. M. Balasubramanian	Asst. Prof.	Metallurgy	02.11.2000
3.	Prof. P.T. Manoharan	Professor Emeritus	RSIC	03.07.2000
4.	K.Balasubramanian	Mechanic	C.W.S.	04.10.2000
5.	B. Jagadesswaran (SC)	Driver Gr.II (Tractor)	T.Cell	18.04.2000
6.	D. Murugan (SC)	Helper Gr.II	Admn.	05.05.2000
7.	G. Venkatesan (SC)	Helper Gr.II	Admn.	05.05.2000
8.	S. Shanthi	Sweeper	Engg. Unit	05.05.2000
9.	V. Veerasamy (SC)	Public Health Officer	Engg. Unit	19.05.2000
10.	K. Viswanath (SC)	AEE (Electrical)	Engg. Unit	19.05.2000

Sl. No.	Name	Designation	Department	Date
11.	M. Kuppan (SC)	Assistant Registrar	Audit	19.05.2000
12.	Dr. S.B. Gopalakrishnan	Consultant (Psychiatry) (PT)	Institute Hospital	28.05.2000
13.	Dr. S. Ganesh Sundara Raman	Asst. Prof.	Metallurgy	06.10.2000
14.	Dr. P. Alagusundaramoorthy	Asst. Prof.	Civil	07.12.2000
15.	Dr. Prema Rajagopalan	Asst. Prof.	Humanities	09.10.2000
16.	Dr. A.N. Rajagopalan	Asst. Prof. (On Cont.)	Electrical	09.10.2000
17.	P. Senthil Kumar (OBC)	Mechanic	CWS	13.09.2000
18.	Dr. Job Kurian	Professor	Aerospace	26.09.2000
19.	Dr. S. Pushpavanam	Professor	Chemical	26.09.2000
20.	Dr. Shankar Narasimhan	Professor	Chemical	26.09.2000
21.	Dr. T. Swaminathan	Professor	Chemical	26.09.2000
22.	Dr. S. Sankararaman	Professor	Chemistry	26.09.2000
23.	Dr. M.N. Sudheendra Rao	Professor	Chemistry	26.09.2000
24.	Dr. U.V. Varadaraju	Professor	Chemistry	26.09.2000
25.	Dr. G. Sundararajan	Professor	Chemistry	26.09.2000
26.	Dr. S.R. Gandhi	Professor	Civil Engg.	26.09.2000
27.	Dr. S. Mohan	Professor	Civil Engg.	26.09.2000
28.	Dr. K. Rajagopal	Professor	Civil Engg.	26.09.2000
29.	Dr. V. Tamizh Arasan	Professor	Civil Engg.	26.09.2000
30.	Dr. S.B. Pattnaik	Professor	Civil Engg.	26.09.2000
31.	Dr. K. Srinivasan	Professor	Civil Engg.	26.09.2000
32.	Dr. R. Ambalavanan	Professor	Civil Engg.	26.09.2000
33.	Dr. S. Raman	Professor	Comp. Sci.	26.09.2000
34.	Dr. C. Siva Ram Murthy	Professor	Comp. Sci.	26.09.2000
35.	Dr. Bhaskar Ramamurthy	Professor	Electrical	26.09.2000
36.	Dr. V. Jagadeesh Kumar	Professor	Electrical	26.09.2000
37.	Dr. Balasundaram Subramanian	Professor	Humanities	26.09.2000
38.	Dr. (Mrs.) Malathy Duraisamy	Professor	Humanities	26.09.2000
39.	Dr. (Mrs.) Evangeline Manickam	Professor	Humanities	26.09.2000
40.	Dr. V.R. Muraleedharan	Professor	Humanities	26.09.2000
41.	Dr. (Mrs.) R. Usha	Professor	Mathematics	26.09.2000
42.	Dr. S.A. Choudum	Professor	Mathematics	26.09.2000
43.	Dr. A. Rangan	Professor	Mathematics	26.09.2000
44.	Dr. B.V.S.S.S. Prasad	Professor	Mechanical	26.09.2000
45.	Dr. B. Ramamoorthy	Professor	Mechanical	26.09.2000
46.	Dr. K. Narayanasamy	Professor	Mechanical	26.09.2000
47.	Dr. M. Govardhan	Professor	Mechanical	26.09.2000
48.	Dr. N. Ramesh Babu	Professor	Mechanical	26.09.2000
49.	Dr. R. Krishnakumar	Professor	Mechanical	26.09.2000
50.	Dr. Krishnan Balasubramaniam	Professor	Mechanical	26.09.2000
51.	Dr. T.S. Prasanna Kumar	Professor	Metallurgical	26.09.2000
52.	Dr. Paramanand Singh	Professor	Metallurgical	26.09.2000
53.	Dr. P. Kesavan Nair	Professor	Metallurgical	26.09.2000
54.	Dr. R. Sundaravadivelu	Professor	Ocean Engg.	26.09.2000
55.	Dr. S.K. Bhattacharyya	Professor	Ocean Engg.	26.09.2000
56.	Dr. K. Rajagopal	Professor	Ocean Engg.	26.09.2000
57.	Dr. J.S. Mani	Professor	Ocean Engg.	26.09.2000

Sl. No.	Name	Designation	Department	Date
58.	Dr. A. Subrahmanyam	Professor	Physics	26.09.2000
59.	Dr. K. Hariharan	Professor	Physics	26.09.2000
60.	Dr. T.S. Natarajan	Professor	Physics	26.09.2000
61.	Dr. M. Ramasubba Reddy	Assoc. Prof.	Applied	26.09.2000
62.	Dr. (Mrs.) C. Sujatha	Assoc. Prof.	Applied	26.09.2000
63.	Dr. S. Swarnamani	Assoc. Prof.	Applied	26.09.2000
64.	Dr. J. Lakshminarasimhan	Assoc. Prof.	Applied	26.09.2000
65.	Dr. J. Ravi Prakash	Assoc. Prof.	Chemical	26.09.2000
66.	Dr. Sachin C. Patwardhan	Assoc. Prof.	Chemical	26.09.2000
67.	Dr. M.S. Subramanian	Assoc. Prof.	Chemistry	26.09.2000
68.	Dr. M.V. Sangaranarayanan	Assoc. Prof.	Chemistry	26.09.2000
69.	Dr. T. Pradeep	Assoc. Prof.	Chemistry	26.09.2000
70.	Dr. D. Loganathan	Assoc. Prof.	Chemistry	26.09.2000
71.	Dr. K. Vidyasagar	Assoc. Prof.	Chemistry	26.09.2000
72.	Dr. R. Damodharan	Assoc. Prof.	Chemistry	26.09.2000
73.	Dr. B.S. Murty	Assoc. Prof.	Civil Engg.	26.09.2000
74.	Dr. Devdas Menon	Assoc. Prof.	Civil Engg.	26.09.2000
75.	Dr. A. Meher Prasad	Assoc. Prof.	Civil Engg.	26.09.2000
76.	Dr. K.N. Satyanarayana	Assoc. Prof.	Civil Engg.	26.09.2000
77.	Dr. Koshy Varghese	Assoc. Prof.	Civil Engg.	26.09.2000
78.	Dr. K. Ramamurthy	Assoc. Prof.	Civil Engg.	26.09.2000
79.	Dr. (Ms.) Hema A. Murthy	Assoc. Prof.	Comp. Sci.	26.09.2000
80.	Dr. D. Janaki Ram	Assoc. Prof.	Comp. Sci.	26.09.2000
81.	Dr. P. Sreenivasa Kumar	Assoc. Prof.	Comp. Sci.	26.09.2000
82.	Dr. Amitava Das Gupta	Assoc. Prof.	Electrical	26.09.2000
83.	Dr. (Ms.) Nandita Das Gupta	Assoc. Prof.	Electrical	26.09.2000
84.	Dr. Devendra Jalihal	Assoc. Prof.	Electrical	26.09.2000
85.	Dr. K. Giridhar	Assoc. Prof.	Electrical	26.09.2000
86.	Dr. R. Aravind	Assoc. Prof.	Electrical	26.09.2000
87.	Dr. G. Srinivasan	Assoc. Prof.	Humanities	26.09.2000
88.	Dr. T.J. Kamalanabhan	Assoc. Prof.	Humanities	26.09.2000
89.	Dr. M. Thenmozhi	Assoc. Prof.	Humanities	26.09.2000
90.	Dr. S. Ponnusamy	Assoc. Prof.	Mathematics	26.09.2000
91.	Dr. V. Vetrivel	Assoc. Prof.	Mathematics	26.09.2000
92.	Dr. M.M. Mayuram	Assoc. Prof.	Mechanical	26.09.2000
93.	Dr. V. Babu	Assoc. Prof.	Mechanical	26.09.2000
94.	Dr. N. Sitaram	Assoc. Prof.	Mechanical	26.09.2000
95.	Dr. G. Venkatarathnam	Assoc. Prof.	Mechanical	26.09.2000
96.	Dr. M. Prakash Maiya	Assoc. Prof.	Mechanical	26.09.2000
97.	Dr. Sarit Kumar Das	Assoc. Prof.	Mechanical	26.09.2000
98.	Dr. Bimalendu Guha	Assoc. Prof.	Metallurgy	26.09.2000
99.	Dr. V. Anantha Subramanian	Assoc. Prof.	Ocean Engg.	26.09.2000
100.	Dr. S. Neelamani	Assoc. Prof.	Ocean Engg.	26.09.2000
101.	Dr. G. Markandeyulu	Assoc. Prof.	Physics	26.09.2000
102.	Dr. V. Venkateswara Rao	Assoc. Prof.	Physics	26.09.2000
103.	Dr. (Ms.) Neelima M. Gupte	Assoc. Prof.	Physics	26.09.2000
104.	Dr. S. Rama Prabhu	Assoc. Prof.	Physics	26.09.2000
105.	Dr. (Ms.) S. Lakshmi Bala	Assoc. Prof.	Physics	26.09.2000
106.	Dr. V. Sankaranarayanan	Assoc. Prof.	Physics	26.09.2000
107.	Dr. C. Vijayan	Assoc. Prof.	Physics	26.09.2000
108.	Dr. Abhijit P. Deshpande	Asst. Prof.	Chemical	26.09.2000
109.	Dr. K. Ananthanarayanan	Asst. Prof.	Civil Engg.	26.09.2000

Sl. No.	Name	Designation	Department	Date
110.	Dr. Srinivas V. Chakravarthy	Asst. Prof.	Electrical	26.09.2000
111.	Sri A.R.Parthasarathy	Mechanic	C.W.S.	27.09.2000
112.	Dr. C. Rajendran	Professor	Humanities	27.09.2000
113.	Dr. K. Bhaskar	Assoc. Prof.	Aerospace	27.09.2000
114.	Dr. Enakshi Bhattacharya	Assoc. Prof.	Electrical	16.10.2000
115.	M. Devaraj (OBC)	Helper Gr.II	Admn.	11.05.2000
116.	Dr. K. Ramesh	Professor	Applied	11.12.2000
117.	Dr. A. Rajaraman	Vis. Faculty	Civil	29.11.2000
118.	Dr. S. Devaki Reddy	Asst. Prof.	Humanities	12.10.2000
119.	Dr. M. Kamaraj	Asst. Prof.	Metallurgy	12.10.2000
120.	Dr. K. Shanti Swarup	Asst. Prof.	Electrical	12.10.2000
121.	Prof. A. Swamidurai (SC)	Registrar		15.12.2000
122.	J. Ram Mohan	D.R. (F & A)	Accounts	18.12.2000
123.	Dr. R. Ravi	Assoc. Prof.	Chemical	18.12.2000
124.	Dr. Archita Patnaik	Assoc. Prof.	Chemistry	19.12.2000
125.	Dr. Subbiah Sundar	Assoc. Prof.	Maths	27.12.2000
126.	Dr. Guhan Jayaraman	Assoc. Prof.	Chemical	24.01.2001
127.	Dr. R. Velmurugan	Asst. Prof.	Aerospace	29.01.2001
128.	Dr. Ligy Philip	Asst. Prof.	Civil	02.01.2001
129.	Dr. N. Chandrakumar	Professor	Chemistry	26.02.2001
130.	Dr. K.V. Nagarajan	Vis. Faculty	Metallurgy	10.01.2001

2.4.3 Faculty / Staff who have retired during the period 01.04.99 to 31.03.2000:

Super Annuation:

Sl. No.	Name	Designation	Department	Date
1.	Sri M. Raji	S.G. Gr.I (SG)	Security Section	30.06.2000
2.	Sri A.Srinivasan	S.G. Gr.I (SG)	Security Section	31.07.2000
3.	Sri G.Vedachalam	Sr. Lab. Asst.	Civil Engg.	30.06.2000
4.	Sri V.S.Rangarajan	Sr. Lab. Asst.	Hum. & Soc. Sci.	30.09.2000
5.	Sri M.Anthony	Lib. Attdt. Gr.I (SG)	Central Library	30.09.2000
6.	Sri M.Subburaj	Attdt. Gr.I (SG)	Central Stores	30.11.2000
7.	Sri N.Kunhappa	Driver Gr.I	T.Cell	31.01.2001
8.	Sri S.Panchanathan	S.L.A.	Chem. Engg.	28.02.2001
9.	Sri U.K.Parasuraman	Sr. Lab. Asst.	Physics	31.03.2001
10.	Sri G.Narayanan	Sr. Helper	Chemistry	31.12.2000
11.	Sri S.Chandramouli	Secretary	Dean (Admn.)	30.04.2000
12.	Sri P.Narayanan	Sr. Steno (SG)	Audit	30.04.2000
13.	Sri O.A.Venkatesan	C.S.K (SG)	Physics	30.04.2000
14.	Sri R.Parthasarathy	Supdt.	Stores	31.05.2000
15.	Sri V.Balasubramanian	Asst (SG)	Academic	30.06.2000
16.	Sri S.Venkatesan	Sr. Steno (SG)	O/o.Dean (AC)	30.06.2000
17.	Sri T K Ramanarayanan	Acct. (SG)	Engg. Unit	31.07.2000
18.	Sri G.Ramanujam	Asst. (SG)	Audit	31.07.2000
19.	Sri A.Surendra Singh	C.S.K. (SG)	Mech. Engg.	31.08.2000
20.	Sri T.K.Subramaniam	Supdt.	Admn.I	31.10.2000
21.	Sri T.Narayanan	Supdt.	C.C.W.	30.11.2000
22.	Sri N.Srinivasan	Secretary	Physics	31.01.2001

Sl. No.	Name	Designation	Department	Date
23.	Sri P.M.Krishnamurthy	Secretary	Civil Engg.	28.02.2001
24.	Sri S.S.Sukumaran	Asst. (SG)	T.Cell	31.03.2001
25.	Sri G.Nadarajan	Sr.Sec. Insp.	Security Section	30.04.2000
26.	Sri A.K.Badrinarayanan	Sr. Ges. Ope.	Academic	31.08.2000
27.	Venkataraingiah, U.D.	Technical Officer(SG)	Physics	30.04.2000
28.	Vijayaraghavan, V.K.	Sr. Tech. Asst.(SG)	Physics	31.05.2000
29.	Jinadoss, J.C.	Asst. Engineer	Engg. Unit	30.06.2000
30.	Venugopalachari, P.	Chief Draughtsman	Engg. Unit	30.06.2000
31.	Annamalai, P.M.	Sr. Helper	Engg. Unit	30.06.2000
32.	Munuswamy, R.	Sr. Mali (SG)	Engg. Unit	30.06.2000
33.	Sankaran, R.K.	Sr. Prof. Asst.(SG)	Central Library	30.06.2000
34.	Stainlas, T.	Supervisor	C.W.S.	30.06.2000
35.	Rangaswamy, S.	Supervisor	Met. Engg.	30.06.2000
36.	Balakrishnan, R.	Supervisor	C.W.S.	30.06.2000
37.	Ramalingam, N.	Supervisor (SG)	Appl. Mechs.	30.06.2000
38.	Francis Xavier, B.	Supervisor(SG)	C.W.S.	30.06.2000
39.	Sambandan, K.	Supervisor (SG)	C.W.S.	30.06.2000
40.	Sundaram, A.V.	Technical Officer(SG)	C.W.S.	30.06.2000
41.	Jayaraman, V.	Chief Draughtsman	Elec. Engg.	31.07.2000
42.	Muthuswamy, M.	Jr. Mechanic	Elec. Engg.	31.07.2000
43.	Adikesavalu, G.L.	Supervisor	Elec. Engg.	31.07.2000
44.	Natarajan, E.	Supervisor (SG)	Chemical Engg.	31.07.2000
45.	Ellappan, K.	Supervisor (SG)	Mech. Engg.	31.07.2000
46.	Rajendran, M.	Supervisor (SG)	Mech. Engg.	31.07.2000
47.	Seshadri, S.	Draughtsman Gr.I (SG)	Chemistry	31.08.2000
48.	Thirumalaiah, K.	Head Sweeper (SG)	Engg. Unit	31.08.2000
49.	Thambusamy, M.	Sr. Helper	Engg. Unit	31.08.2000
50.	Natarajan, K.	Sr. Sweeper	Engg. Unit	31.08.2000
51.	Venkatasubbiah, V.	Sr. Sweeper	Engg. Unit	31.08.2000
52.	Kubendran, R.	Sr. Tech. Asst.(SG)	C.P.S.	31.08.2000
53.	Kothandan, K.	Supervisor (SG)	C.W.S.	31.08.2000
54.	Janakiraman, C.M.	Electrician (SG)	Engg. Unit	30.09.2000
55.	Venkataiah, P.	Head Sweeper (SG)	Engg. Unit	30.09.2000
56.	Krishnaswamy, T.	Sr. Prof. Asst.(SG)	Central Library	30.09.2000
57.	Srinivasan, J.	Technical Officer	Elec. Engg.	30.09.2000
58.	Deenadayalan, A.M.	Draughtsman Gr.I (SG)	Mech. Engg.	31.10.2000
59.	Ganesan, S.	Jr. Engineer Gr.I (SG)	Engg. Unit	31.10.2000
60.	Murugesan, K.	Sr. Helper	Engg. Unit	31.10.2000
61.	Jayaseelan, D.	Technical Officer	C.W.S.	31.10.2000
62.	Venkataiah, K.	Sr. Sweeper	Engg. Unit	30.11.2000
63.	Velayudhan, G.	Sr. Mechanic (SG)	C.W.S.	31.12.2000
64.	Chester, N.	Supervisor (SG)	C.E.C.	31.12.2000
65.	Perumal, C.	Sr. Sweeper	Engg. Unit	31.01.2001
66.	Vijayanathan, S.	Supervisor (SG)	Mech. Engg.	31.01.2001
67.	Viswan, K.	Supervisor (SG)	Mech. Engg.	28.02.2001
68.	Periasamy, A.	Wireman Gr.I (SG)	Engg. Unit	28.02.2001
69.	Jothi Padmanabhan	Lib. Asst. (SG)	Central Library	31.03.2001

Sl. No.	Name	Designation	Department	Date
70.	Anjalai, A.	Sweeper Gr.I (SG)	Engg. Unit	31.03.2001
71.	Dr.S.Subba Rao	Professor	Chem. Engg.	31.07.2000
72.	Dr.P.Srinivasa Rao	Professor	Mech. Engg.	31.07.2000
73.	Sri V.Ganesan	Asst. Registrar	Hostels	31.08.2000
74.	Dr.V.Ramamurti	Professor	Appl. Mech.	30.09.2000
75.	Dr.T.K.Varadhan	Professor	Aerospace Engg.	30.09.2000
76.	Dr.R.M.S.Gowda	Assoc. Professor	Aerospace Engg.	30.09.2000
77.	Dr.V.Sriramulu	Professor	Mech. Engg.	31.10.2000
78.	Dr.S.Krishnamurthy	Assoc. Professor	Mech. Engg.	30.11.2000
79.	Dr.B.Subramaniam	Assoc. Professor	Physics	31.01.2001
80.	Sri S.Kumaran	Sci. Off. Gr.I	Metl. Engg.	28.02.2001
81.	Dr.T.K.Ramanujam	Professor	Chem. Engg.	31.03.2001
82.	Sri S.K. Pati	Asst. Exe. Engr.	Engg. Unit	31.03.2001
83.	Sri K.Chidambaram	Asst. Registrar (F&A)	Engg. Unit	30.09.2000
84.	Sri P.Bharathamani	Asst. Registrar	Academic	31.10.2000
85.	Sri K Sekhar	Asst. Registrar	IC & SR	31.08.2000

2.4.4 Voluntary Retirement:

1.	Sri G.Dhanapathy	H.S.G.(SG)	Security Section	01.01.2001
2.	Sri A.S.Natarajan	H.S.G. (SG)	Security Section	01.01.2001
3.	Sri M.Periaswamy	Helper Gr.I (SG)	Weaker Section	31.12.2000
4.	SriS.Ranganathan	Draughtsman Gr.I(SG)	Engg. Unit	31.05.2000
5.	Sri A.Venkataiah	Sr. Sweeper	Engg. Unit	01.06.2000
6.	Sri K.Charles	Jr. Engineer Gr.I	Engg. Unit	07.06.2000
7.	Sri K Elumalai	Sr. Helper	Engg. Unit	04.10.2000
8.	Shri V.S.Subramanian	Technical Officer(SG)	M.S.R.C.	12.02.2001
9.	Sri K.V.Venkateswaran	Sr.Steno	Mathematics	01.06.2000

2.4.5 Resignation :

1.	Sri S.Rajasekaran	Lab. Attdt.	Civil Engg.	21.11.2000
2.	Ms.V.Chitra	L.D.C.	Mech. Engg.	03.01.2001
3.	Sri S Ramalingam	Jr. Systems Officer	Computer Centre	09.06.2000
4.	Dr.(Ms.) Sohini PalDey	Asst. Professor	Metl. Engg.	26.06.2000
5.	Dr.J.Ravi Prakash	Assoc. Professor	Chem. Engg.	11.12.2000

2.4.6 Expired :

1.	Dr. T.Manisekaran	Sr. Tech. Asst.(SG)	R.S.I.C.	01.04.2000
2.	Sri S.Vadivelu	Sr. Sweeper	Engg. Unit	19.07.2000
3.	Sri K.P.Yohannan	Supervisor(SG)	Mech. Engg.	16.10.2000
4.	Dr.B.V.N.Rao	Dy. Registrar	Finance & Accounts	20.06.2000
5.	Dr.C.S.Krishnamoorthy	Professor	Civil Engg.	10.12.2000

2.4.7 Dismissal :

1.	Sri M.Rajesekaran, Asst. Registrar, Admn.			19.02.2001
2.	Sri K. Gajendran, D'Man GrI (SG), Appl. Mech.			07.03.2001

2.4.8 Completion of Tenure:

1.	Prof.R.C.Janakarajan, Registrar	31.07.2000
2.	Dr.Krishnan Balasubramanian, Visiting Faculty, Mech. Engg.	26.09.2000
3.	Dr.K.Shanti Swarup, Visiting Faculty, Elec. Engg.	25.09.2000
4.	Prof.S.C.Misra, Visiting Professor, Ocean Engg.	30.06.2000
5.	Dr.K.Anantanarayanan, Lecturer, Civil Engg.	27.09.2000
6.	Dr. Abhijit P. Deshpande, Asst. Professor, Chem. Engg.	25.09.2000
7.	Dr.V. Babu, Asst. Professor, Mech. Engg.	25.09.2000
8.	Prof.V.M.K.Sastri, Professor Emeritus, Mech. Engg.	17.05.2000

2.5 Staff Welfare:

2.5.1 Human Resource Development :

As part of human resource development activities, the Institute plans and implements programmes for providing opportunities to technical and administrative staff to update and upgrade their knowledge and skills in order that they may perform their duties effectively. In addition, the programmes aim to enhance the pride and satisfaction they feel in their work. The overall feeling of happiness created by these programmes also overflow into their home lives and contribute a sense of well-being for the entire families.

While the major thrust of the HRD activities at the Institute aims at 'Skill Enhancement' of the B, C, and D groups of employees, considerable importance is given also to 'Attitudinal Management' of the employees so as to heighten their spirit and work ethics. As part of the same effort, the Institute addresses the special needs of working women of the Institute, housewives and children of employees. The caring attitude of the Institute, not merely towards the employees, but also towards their families, has been well-established by these programmes. The ready and enthusiastic participation by the employees in these programmes is an indication of the great degree of goodwill that exists on campus.

The HRD activities were initiated at the Institute in 1997 under the charge of a professor. 21 programmes were conducted over a period of 36 days during the period under report. The total number of participants was 540. Taking all the programmes conducted so far from its inception, a total of 64 programmes have been held, involving participation by 1803 persons totally.

The details of the HRD programmes conducted between April 2000 and March 2001 are listed below:

TRAINING PROGRAMMES CONDUCTED

Date/ Duration	Programme Objective	Delivery Mode	Resource Persons	Number of participants
01.04.2000	Transactional Analysis	Lectures, Games, Excercises	Transcnette Consultants	24 Staff of Central Administration
28.04.2000 29.04.2000	Human Resource Management	Talk, Games, Interaction	M.O.P. Vaishnava College	24 B and C Group Employees
Various Dates	Advanced Technical Training	Lecture, Demonstration	A.T.I., Guindy	Central Workshop Staff
01.05.2000	Attitude Management (T)	Lectures, Games	Mr. M.S. Shivakumar	25 Security Staff

Date/ Duration	Programme Objective	Delivery Mode	Resource Persons	Number of participants
02.05.2000	Attitude Management (T)	Lectures, Games	Mr. M.S. Shivakumar	31 Security Staff
08.05.2000	Attitude Management (T)	Lectures, Games	Mr. M.S. Shivakumar	20 Security Staff
09.05.2000	Attitude Management (T)	Lectures, Games	Mr. M.S. Shivakumar	20 Security Staff
09.05.2000 10.05.2000 11.05.2000	Organize Yourself	Lectures, Games, Participation	Alphabetics Inc.	37 Children of Employees 12 to 14 years
31.05.2000 To 03.06.2000	Peep into the future	Lectures, Games, Participation	Alphabetics Inc.	32 Children of Employees 14 to 17 years.
09.06.2000 10.06.2000	Attitude Management (E)	Talk, Games, Interaction	Dr. Rajani Sriraman	28 B and C Group Employees
22.06.2000 23.06.2000	Attitude Management (E)	Talk, Games, Interaction	Dr. Rajani Sriraman	26 B and C Group Employees
17.07.2000	Attitude Management (T)	Lectures, Games	M/s. Siksha	36 B and C Group Employees
25.07.2000	Attitude Management (T)	Lectures, Games	M/s. Siksha	29 B and C Group Employees
26.07.2000	Attitude Management (T)	Lectures, Games	M/s. Siksha	34 B and Group Employees
11.11.2000 12.11.2000	Home Makers (for Housewives)	Talk, Games Interaction	M/s. Bodhi	21 Wives of Employees
18.11.2000	Office Efficiency	Lecture	Mr. Raghu Chander	15 DRs and ARs
23.11.2000 24.11.2000	Home Management (for Women Employees)	Talk, Games Interaction	M/s. Mantra	B and C Group Employees
03.01.2001 04.01.2001	Home Management	Talk, Games Interaction	M/s. Mantra	27 B and C Group Women Employees
03.01.2001	Security	Interaction	CSO / SO	20 Security Staff
19.03.2001 20.03.2001	First Aid	Talk, Demonstration	St.John's Ambulance Society	25 Security Staff

2.5.2 Computer Allowance:

To encourage the use of modern computing facilities, IIT employees are granted Special Allowance of Rs.40/ p.m. for using Personal Computers.

2.5.3 Hindi Coaching:

In accordance with the directions of the Govt. of India, Hindi classes are conducted regularly to both technical and administrative staff members to improve their knowledge

in Hindi. As on 31.03.2001, 854 staff members were offered this course. In 2000-2001, 27 staff members were offered this course.

2.5.4 School Fee Concession:

Institute reimbursed the fees paid by staff members for their children's education as per Govt. of India norms. During the period under report 40 staff members benefitted.

2.5.5 Transport Facilities to Children of the Staff:

Institute provides concessional fare to the children of the staff members to attend schools on the Campus. In the year 2000-2001, 36 Children benefitted.

2.5.6 Advances:

During the period of report a sum of Rs.85,95,996/. was sanctioned as House Building Advance and an amount of Rs.31,12,756/. was sanctioned as Conveyance Advance for a number of employees. The break-up is given below:

S.No.	Advance	No. of Employees
1.	House Building Advance	21
2.	Car Advance	05
3.	Two Wheeler Advance	89
4.	Personal Computer Advance	08
5.	Cycle Advance	16

2.5.7 Employees Welfare Scheme:

Employee's Welfare Scheme is implemented in this Institute from 1976. It helps the employees family in the event of untimely demise. In the year 01.04.2000 to 31.03.2001, 3 families could benefit from this scheme.

2.5.8. Meetings of the Authorities:

Board of Governors	:	5 meetings were held on 19.05.2000, 26.07.2000, 25.09.2000, 15.11.2000 and 18.02.2001.
Senate	:	4 meetings were held on 02.06.2000, 24.07.2000, 15.09.2000 & 06.02.2001
Finance Committee	:	2 meetings were held on 19.05.2000 and 11.11.2000
Buildings & Works Committee	:	2 meetings were held on 24.04.2000 and 06.02.2001

The names of the faculty members and officers in the academic and general administration are as follows:

(i) **Academic Administration**
Director
R.Natarajan

Deputy Director
C.R.Muthukrishnan

Deans

Academic Courses	M.S.Ananth	
Academic Research	V.Ganesan	(upto 04.10.2000)
	M.S.Ananth	(05.10.2000 to 29.10.2000)
	S.Narayanan	(from 30.10.2000)
Administration	G.Subramanian	
Industrial Consultancy & Sponsored Research	S.Srinivasa Murthy	
Students	B.Viswanathan	(upto 01.03.2001)
	S.S.Gokhale	(from 02.03.2001)

Heads of Departments

Aerospace Engineering	S.S.Gokhale	(upto 25.02.2001)
	S.Santha Kumar	(from 26.02.2001)
Applied Mechanics	Megha Singh	(upto 10.10.2000)
	B.H.L.Gowda	(11.10.2000 to 28.03.2001)
	J.Raamachandran	(from 29.03.2001)
Chemical Engineering	K.Krishnaiah	(upto 10.10.2000)
	M.Chidambaram	(from 11.10.2000)
Chemistry	M.S.Gopinatan	(upto 27.03.2001)
	B.Viswanathan	(from 28.03.2001)
Civil Engineering	V.Kalyanaraman	
Computer Science & Engg.	C.Pandu Rangan	
Electrical Engineering	A.Jhunjunwala	
Humanities & Social Sciences	T.T. Narendran	
Mathematics	A.Avudainayagam	
Mechanical Engineering	V.Sriramulu	(upto 03.10.2000)
	V.Ganesan	(from 04.10.2000)
Metallurgical Engineering	S.K.Seshadri	
Ocean Engineering	C.P.Vendhan	(upto 05.10.2000)
	K. Muthukrishnaiah	(from 06.10.2000)
Physics	V.Ramakrishna Murthy	

Heads of Research Centres

Composites Technology Centre	N.G.Nair
Materials Sciences Research Centre	K.Gopinath
Regional Sophisticated Research Centre	S.P.Venkateshan

Head of Special Facilities for Interaction with Other Institutions

Centre for Industrial Consultancy & Sponsored Research	S. Srinivasa Murthy
Centre for Continuing Education	P.A. Aswathanarayana (upto 21.2.2000) V.G. Idichandy (from 21.2.2000)
Central Electronics Centre	M Kumaravel
Computer Centre	P.Sriram (upto 13.02.2001) R.Krishna Kumar (from 14.02.2001)

(ii) Central Administration

Director	R.Natarajan
Deputy Director	C.R.Muthukrishnan
Registrar	R.C.Janakarajan (upto 31.07.2000) M.R.Pranesh (01.08.2000 to 14.12.2000) A. Swamidurai (from 15.12.2000)

Deputy Registrars

Academic	K.Panchalan
Administration	T.Suryakumar
Finance & Accounts	B.V.N.Rao (deceased on 20.06.2000) J.Rammhoan (from 15.12.2000)
Stores & Purchase	A.Thirunavukkarasu
Training & Placement	A.K.Pattabiraman

Internal Audit Officer

I.A.O.	R.Esakkimuthu
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Assistant Registrars

P.Bharathamani (upto 31.10.2000)
K.Chidambaram (upto 30.09.2000)
V.Ganesan (upto 31.08.2000)
M.Manickam
S.Mahalingam
P.Paramanandam
M.Rajasekaran (upto 18.02.2001)
P.Ramachandran

	B.Ramasamy	
	K.Sekar	(upto 31.08.2000)
	U.J.Suresh	
	M.Kuppan	(from 19.05.2000)
Chief Security Officer	K.Rajendran	
Security Officer (SG)	G.Selvamani	
Secretary (SG) to Director	G.Natarajan	

Head of Central Services, Facilities and Section

Central Library	Harish Chandra	
Chairman, Council of Wardens	S Kumaraswamy	
Chief Medical Officer (Incharge)	N A Jayavelan	
Air-Conditioning Unit	R Raman	
Central Gas Supplies Unit	N Balasubramanian	
Central Glass Blowing Section	S Sankararaman	
Central Photographic Section	D K Sharma	
Central Workshop	NLNN Kumar	
National Service Scheme	T T Narendran	(upto 29.8.2000)
	Susy Varughese	(from 30.8.2000)
Adviser, Sports	B Ramamoorthy	
Advisor, Cultural	M N Sudheendra Rao	
Foreign & Weaker Section Students	M M Mayuram	(upto 20.8.2000)
	T J Kamalanabhan	(from 21.8.2000)
Vigilance	V G Idichandy	
Placement & Training	A R Balakrishnan	
Guidance & Counselling Unit	M Govardhan	

Engineering Unit

Chairman, Estate & Works Committee	V.R.Rengaraju	(from 12.04.99)
Co-Chairman, Estate & Works Committee	C.Venkataseshaiah	(from 03.11.2000)
Executive Engineer	C.Ganesan	
Asst.Executive Engineers	S.K.Pati	(upto 31.03.2001)
	S.Swaminathan	
	F.John De Britto	
	V.Seenivasan	
	K.Dharmaraj	
	M.Ramachandran	(from 01.11.2000)
	K.Viswanath	(from 19.05.2000)
Public Health Officer	V.Veerasingam	(from 19.05.2000)

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offered Ph.D. programme in 13 departments including one Integrated Ph.D. programme in Chemistry department, M.S. programme in 10 departments, M.Tech programme in 26 streams/ specialisations, M.Sc. programme in 3 disciplines, B.Tech programme in 8 disciplines and M.Tech dual degree programme in 11 disciplines besides a preparatory course for SC/ST students during the year under report.

3.1 Admissions 2000-2001

Candidates for admission to B.Tech. and M.Tech. programmes were selected through JEE and GATE respectively. Quite a few candidates were also selected for M.Tech. programme under sponsored, QIP and User Oriented programme schemes through interview and/or written test. Selection for Ph.D. and M.S. programmes was done through interview/test. For M.Sc. programme selection was made through a written test.

The number of students and scholars admitted to various programmes in July 2000 and in Jan 2001 are given below:

Sl. No.	Department	B.Tech.	M.Tech. Dual Degree	M.Tech	M.Sc	M.S.	Ph.D	Total
1.	Aerospace Engg.	23	5	12		7	1	48
2.	Applied Mechanics	-	-	20		13	7	40
3.	Chemical Engineering	41	10	30		6	2	89
4.	Chemistry	-	-	-	29*	-	13	42
5.	Civil Engineering	45	9	80		8	10	152
6.	Computer Science & Engg.	27	6	39		25	7	104
7.	Electrical Engineering	83	18	58		18	3	180
8.	Humanities & Social Sci.	-	-	20		6	3	29
9.	Mathematics	-	-	9	29	-	5	43
10.	Mechanical Engg.	77	17	96		13	13	216
11.	Metallurgical Engg.	26	6	16		6	2	56
12.	Ocean Engineering	19	5	13		10	8	55
13.	Physics	-	-	6	35	-	9	50
	Total	341	76	399	93	112	83	1104

- includes three students joined integrated Ph.D. programme

Total no. of students (1104) admitted during the year includes the following :

Foreign Nationals	19	QIP Scholars	Ph.D.	13	24
			M.Tech	11	
DASA (Indian Origin)	16	Sponsored:	M.Tech	27	29
			MS	2	
Scheduled Castes	80	Project Staff	MS	26	38
			Ph.D.	12	
Scheduled Tribes	34	External Registration			9
Women Students	121	User-oriented Programme (M.Tech)			36
Defence Officers	24	Physically Handicapped			1

In addition to the above, 37 SC and 5 ST students joined Preparatory Course.

3.2 Students/Scholars Enrolment

The total number of students on roll in various programmes of the Institute in the academic year 2000-2001 are given in Table-2.

TABLE – 2

Sl. No.	Department	B.Tech.	M.Tech. Dual Degree	M.Tech	M.Sc	M.S.	Ph.D.	Total
1.	Aerospace Engg.	102	15	23		25	7	172
2.	Applied Mechanics	-	-	40		39	29	108
3.	Chemical Engineering	190	32	69		22	30	343
4.	Chemistry	-	-	-	54	-	93	147
5.	Civil Engineering	177	28	165		36	35	441
6.	Computer Science & Engineering	122	22	77		68	19	308
7.	Electrical Engineering	348	55	109		61	14	587
8.	Humanities & Social Sci.	-	-	45		16	16	77
9.	Mathematics	-	-	17	63	-	28	108
10.	Mechanical Engg.	366	51	194		57	73	741
11.	Metallurgical Engg	107	15	31		12	22	187
12.	Ocean Engineering	72	14	19		34	20	159
13.	Physics	-	-	13	69	-	30	112
Total		1484	232	802	186	370	416	3490

The branch/ discipline-wise and year-wise details of students enrolled in B.Tech, M.Tech dual degree and M.Tech programmes are given below:

B.Tech

Sl. No.	Branch \ Batch	2000	1999	1998	1997	Total
1.	Aerospace Engineering	23	27	26	26	102
2.	Chemical Engineering	41	51	46	52	190
3.	Civil Engineering	45	42	46	44	177
4.	Computer Science & Engineering	27	30	33	32	122
5.	Electrical Engineering	83	86	82	97	348
6.	Mechanical Engineering	77	95	90	104	366
7.	Metallurgical Engineering	26	27	25	29	107
8.	Ocean Engineering	19	19	15	19	72
Total		341	376	364	403	1484

M.Tech Dual Degree

Sl. No.	Branch \ Batch	1998	1999	2000	Total
1.	Aerospace Engineering	4	6	5	15
2.	Chemical Engineering	10	12	10	32
3.	Infrastructure Civil Engineering	10	9	9	28
4.	Computer Science	7	9	6	22
5.	Micro Electronics & VLSI Design	9	10	9	28
6.	Communication Systems	8	10	9	27
7.	Energy Technology	4	7	5	16
8.	Intelligent Manufacturing	4	6	6	16
9.	Product Design	6	7	6	19
10.	Metallurgy & Materials Engineering	4	5	6	15
11.	Ocean Engineering & Naval Architecture	4	5	5	14
Total		70	86	76	232

M.Sc

Sl. No.	Discipline \ Batch	1999	2000	Total
1.	Chemistry	25	29	54
2.	Mathematics	34	29	63
3.	Physics	34	35	69
Total		93	93	186

M.Tech

Sl. No.	Department \ Discipline \ Batch	1999	2000	Total
1.	Aerospace Engineering	11	12	23

Sl. No.	Department \ Discipline \ Batch	1999	2000	Total
2.	Applied Mechanics:			
	AM 1 - Engg. Mechanics	6	5	11
	AM 2 - Industrial Tribology	7	4	11
	AM 3 - Maintenance Engg. & Management	2	5	7
	AM 4 - Bio-medical Engg.	5	6	11
3.	Chemical Engineering	39	30	69
4.	Civil Engineering:			
	- Building Technology	12	16	28
	- Geotechnical Engg.	12	8	20
	- Hydraulic & Water Resource Engg.	5	6	11
	- Structural Engg.	18	25	43
	- Transportation Engg.	9	8	17
	- Environmental Engg.	9	7	16
	- Computational Engg.		10	10
	- Construction Technology & Management	20	-	20
5.	Computer Science & Engineering	38	39	77
6.	Electrical Engineering:			
	EE 1 - Communication Systems	11	18	29
	EE 2 - Energy Systems Engg.	12	12	24
	EE 3 - Micro Electronics	17	14	31
	EE 4 - Control Guidance & Instrumentation Systems	11	14	25
7.	Humanities & Social Sciences Engg.:			
	Industrial Management	25	20	45
8.	Mathematics:			
	Industrial Mathematics & Scientific Computing	8	9	17
9.	Mechanical Engineering:			
	ME 1 - Thermal Engg	33	31	64
	ME 2 - Design	27	31	58
	ME 3 - Manufacturing Engg.	27	23	50
	ME 4 - Automotive Engine Technology (UoP)	11	11	22
10.	Metallurgical Engineering.:	15	16	31
11.	Ocean Engineering	6	13	19
12.	Physics:	7	6	13
	PH-I Solid State Technology			
	Total	403	399	802

The above total of 3490 includes the following:

Foreign Nationals	101	QIP Scholars	Ph.D. 61 M.Tech. 23	84
DASA (Indian origin)	106	Sponsored:	M.Tech. 40 M.S. 41	81
Scheduled Castes	270	Project Staff	M.S. 71 Ph.D. 48	119
Scheduled Tribes	83	External Registration	M.S. 10 Ph.D. 36	46
Women students	327	User-oriented Programme (M.Tech.)		36
Defence Officers	58	Physically Handicapped		1

In addition to 3490 students / scholars, 7 CSIR Research Associates and 42 Preparatory Course students were on the roll.

3.3 New discipline/ stream introduced:

A new M.Tech discipline in Computational Engineering with financial assistance from the Tata Consultancy Services, Madras, was introduced from July 2000 with an intake of 10.

3.4 Courses Offered:

In the academic year 2000-2001, 1164 courses were offered of which 518 courses in July – Nov 2000 and 646 courses in Jan – May 2001. The Department-wise details of the courses offered are given in Table 3.

TABLE 3

Sl. No.	Department	No. of courses offered in July – Nov 2000				No. of courses offered in Jan – May 2001			
		Core	Elect.	Lab.	Total	Core	Elect	Lab	Total
1	Aerospace	21	9	3	33	16	14	3	33
2	Applied Mechanics	23	8	5	36	17	17	5	39
3	Chemical Engineering	25	10	1	36	21	18	5	44
4	Chemistry	23	1	2	26	18	13	4	35
5	Civil Engineering	50	21	3	74	49	31	8	88
6	Computer Science	21	8	3	32	17	17	4	38
7	Electrical Engineering	38	18	2	58	19	36	7	62
8	Humanities	8	21	-	29	9	40	-	49
9	Mathematics	14	23	-	37	14	32	1	47
10	Mechanical Engineering	41	7	8	56	71	20	8	99
11	Metallurgy	12	20	7	39	19	15	6	40
12	Ocean Engineering	24	4	2	30	19	15	6	40
13	Physics	21	6	1	28	12	15	4	31
14	Comptech	-	4	-	4	2	2	1	5
	Total	321	160	37	518	302	287	57	646

3.5 Convocation

The 37th Convocation was held on 28.7.2000. Dr Gururaj Deshpande, Chairman, Sycamore Networks Limited, U.S.A. delivered the Convocation address. 950 candidates were awarded various degrees. 720 candidates received degrees in person. The department-wise details of degree awarded are given in Table 4.

TABLE – 4

Sl. No.	Department	B.Tech.	M.Tech.	M.Sc.	M.S.	Ph.D.	Total
1.	Aerospace Engineering	23	4	--	4	2	33
2.	Applied Mechanics	-	14	--	9	5	28
3.	Chemical Engineering	49	25	--	5	11	90
4.	Chemistry	-	-	25	-	13	38
5.	Civil Engineering	43	64	--	10	9	126
6.	Computer Science Engineering	33	32	--	8	4	77
7.	Electrical Engineering	81	39	--	26	4	150
8.	Humanities & Social Sciences	-	24	--	4	6	34
9.	Mathematics	-	-	29	-	5	34
10.	Mechanical Engineering	81	87	--	25	15	208
11.	Metallurgical Engineering	27	13	--	1	5	46
12.	Ocean Engineering Centre	19	13	--	6	1	39
13.	Physics	-	5	40	-	2	47
	Total	356	320	94	98	82	950

Special Convocation:

A special convocation was held on 29th March 2001. Dr Gururaj Deshpande, Chairman, Sycamore Networks Ltd., U.S.A. was conferred the degree of Doctor of Honoris Causa. With this, so far 14 dignatories were conferred the degree of Honoris Causa.

With this Convocation the number of degrees awarded so far by the Institute is 23,024, the details of which are as follows:

Ph.D.	2251	M.Tech	7576	B.Tech	9808
M.S.	1423	M.Sc	1701	DIIT	245
B.Sc(Tech)	20				

3.6 Award of Prizes to the students:

3.6.1 Convocation Prizes:

The following are the details of Prizes awarded to the students at the 37th Convocation for their best academic records:

President of India Prize	..	Prasanna G	B.Tech. Comp. Science & Engg.
Governor's Prize	..	Karthik Shankar	B.Tech. Metallurgical Engg.

Sl.No.	Donor	Department	Name of student
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Other Prizes

Doctor of Philosophy – Ph.D.

1.	Sudharshan Bhat Memorial Prize	Metallurgical Engg.	J N Balaraju
2.	Prof Langmuir Prize	Chemistry	Rohit Kumar Rana
3.	Prof. C N Pillai Prize	Chemistry	K Priya
4.	Prof Werner Prize	Chemistry	R Nandini Devi

Master of Technology – M.Tech.

1.	Air India Prize	Aerospace Engg	Bahadure Praful Vinayak
2.	Indira Sivasailam Merit Prize	Applied Mechanics	Sudhindra S
3.	Institute Merit Prize	Maint Engg Mgmt	Sudhindra S
4.	Institute Merit Prize	Biomedical Engg.	Benny Cherian
5.	Prof BVA Rao Endowment Prize	Mech Engg	Raghavendra Rao Bollapalli
6.	Dr.K.Subba Raju Memorial Prize	Chemical Engg	CH Rajitha
7.	Micro-Bosch Prize	Mech Engineering	Alok Agarwal
8.	Valli Anantharamakrishnan Merit Prize	Civil Engg.	Bivalkar Sujeet Shriram
9.	K Devarajan Memorial Prize	Civil Engg.	G Sundari
10.	CMC Prize	Computer Science & Engg.	P Manjula Devi
11.	Prof.H.N.Mahabala Endowment Prize	Computer Science & Engg.	Sandeep Wadhwa
12.	Siemens Prize	Electrical Engg.	Lakshmi Kantha Reddy P.
13.	Dr.-Ing. Dieter Kind Prize	Elec Engg	C R Jeevandoss
14.	Coka Parthasarathy Prize	Industrial Management	Vimleshkumar Sunderlal Modi
15.	K.V.Arunkumar Memorial Prize	Industrial Management	Vimleshkumar Sunderlal Modi
16.	Prof.B.Sengupto Prize	Mechanical Engg.	Raghavendra Rao Bollapalli
17.	Dr S Vaidyanathan Memorial Prize	Mechanical Engg.	Ramkumar J
18.	Prof Ramamohana Rao Memorial Prize	Mechanical Engg.	Surendran C S
19.	S. Anantharamakrishnan Merit Prize	Mechanical Engg.	Patdiwala Umang Jayeshbhai Nagananda J (Joint winners)
20.	S. Anantharamakrishnan Memorial Prize	Met. Engg.	Harshe Rahul Ramesh
21.	Sudarshan Bhat Memorial Prize	Metallurgical Engg.	Harshe Rahul Ramesh
22.	American Bureau of Shipping Prize	Ocean Engg.	Peri Kameswara Rao
23.	Institute Merit Prize	Solid State Technology	Sudheer P V

Master of Science – M.Sc.

1.	Dr S R Ramadas 60th Birthday Commemoration Award	Chemistry	B R Madhavan
2.	Ratna Rao Memorial Prize	Chemistry	B R Madhavan
3.	Mira Paul Memorial Prize	Mathematics	S Nagendra
4.	Prof.Chilukury Ramasastry Memorial Prize	Physics	R Sridevi

Bachelor of Technology - B.Tech.

1.	President of India Prize	Computer Sci & Engg.	Prasanna G
2.	Governor's Prize	Metallurgical Engg.	Karthik Shankar

Sl.No.	Donor	Department	Name of student
3.	Dr.Shanker Dayal Sharma Former President of India Prize	Comp Sci. & Engg.	Prasanna G
4.	Bharat Ratna M.Visveswaraya Memorial Prize	Computer Sci. & Engg.	Prasanna G
5.	HAL Prize	Aerospace Engg.	Hamsa Balakrishnan
6.	B Ravichandran Memorial Prize	Chemical Engg.	R Chandrashekar
7.	Reliance Heat Transfer (P) Ltd. Prize	Chemical Engg.	R Chandrasekar
8.	Prof C A Sastry Endowment Prize	Chemical Engg.	R Karthik
9.	Larsen & Toubro ECC Endowment Medal	Civil Engg	Sumit Mathew Kunnumkal
10.	Alumni Association Prize	Computer Sci & Engg.	Prasanna G
11.	B Ravichandran Memorial Prize	Computer Sci & Engg	Prasanna G
12.	Motorola Prize	Electrical Engg,	A Hari Prasad
13.	Philips (India) Prize	Electrical Engg.	Amal Ekbal
14.	Siemen's Prize	Electrical Engg.	Amal Ekbal
15.	Prof.Achim Bopp Endowment Prize	Electrical Engg.	Praveen Rajan Singh
16.	Banco Foundation Prize	Mechanical Engg.	Castelino Kenneth Gerard
17.	G.V.N.Rayudu Memorial Prize	Mechanical Engg.	Castelino Kenneth Gerard
18.	Sivasailam Merit Prize	Mechanical Engg.	R Gnyaneshwar
19.	Vaidy Krishnan Memorial Prize	Mechanical Engg.	Mohan Ram Akella
20.	Dr.Dhandapani Prize	Metallurgical Engg.	Rajappa T
21.	American Bureau of Shipping Prize	Naval Architecture	Jayanth Krishnan

6.2 Institute Day Prizes:

On the basis of performance during the academic year 1999-2000, the following students were awarded Merit Prizes on the Institute day held on 10.4.2001:

I. Institute Merit Prizes:

B.Tech. (1st and 2nd Semesters)

1.	First Prize (Book value of Rs.1,500/-)	CS 99210	Vyas Sekar
2.	Second Prize (Book value of Rs.1,000/-)	CS 99305	V Vidhyashankar

B.Tech (3rd and 4th Semesters) (Book value of Rs.1000/- for each Branch)

3.	Aerospace Engineering	AE 98015	Kusumanchi S V Kamaraju
4.	Chemical Engineering	CH 98084	Lakshman Pernenkil
5.	Civil Engineering	CE 98150	Siddharth Savadatti
6.	Electrical Engineering	EE 98271	Siddharth Ray
7.	Mechanical Engineering	ME 98375	Sandipan Mishra
8.	Metallurgical Engineering	MT 98442	Vignesh Gowrishankar
9.	Naval Architecture	NA 98473	Sabyasachi Mohanty

Sl.No.	Donor	Department	Name of student
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B.Tech (5th and 6th Semesters)
(Book value of Rs.1,000/- for each Branch)

10.	Aerospace Engineering	AE 97028 tie AE 97008	Viswamurthy S R Karthik Palaniappan
11.	Chemical Engineering	CH 97143	Shivakumar
12.	Civil Engineering	CE 97054	Jayram R
13.	Comp. Science & Engg.	CS 97179	Karthik K L
14.	Mechanical Engineering	ME 97329	Dhanushkodi Durai M
15.	Metallurgical Engineering	MT 97453	Uttam S
16.	Naval Architecture	NA 97477	Harini G

II. Donors Prize:

B.Tech (3rd & 4th Semesters)

17.	Biswajit Sain Endowment Prize(Medal of 2" dia and book value of Rs 2000/-)	CS 98158	M V N Ashwin Kumar
18.	Raghavendra Memorial Prize (Book value of Rs.1,000/-)	ME98375	Sandipan Mishra
19.	Rajalakshmi Krishnamurthy English Prize (Book value of Rs.1,000/-)	CH 98070	Shairali Shiva Rao

B.Tech (5th & 6th Semesters)

20.	Dr. S. Chandrasekharan Memorial Prize (Cash prize of Rs.1000/- with a silver medal)	ME97367	Ramnath B
21.	Ramasarma V Kolluri Memorial Prize (Silver Medal)	EE97353	Murtaza Abbasali Zafer

M.Sc (1st & 2nd Semesters)

22.	Chilikuri Ramasastry Memorial Prize (Cash Prize of Rs.1,500/-)	PH99675	Sripad R
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M.Tech (1st & 2nd Semesters)

23.	Prof. N Venkatarayulu Memorial Prize (Cash prize of Rs.1000/-)	ME99853	Achuth M
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4.1 DEPARTMENT OF AEROSPACE ENGINEERING

1. Introduction

The Department of Aerospace Engineering was established in 1969 and it offers Ph.D. M.S., M.Tech. and B.Tech. programmes. The areas of teaching and research of the Department are Aerodynamics, Propulsion and Structure.

2. Academic Programmes

2.1 New Courses Introduced:

The following courses were introduced during the year under report.

Sl. No.	Course No.	Title
1.	AE 711	Acoustics for Aerospace Propulsion
2.	AE 623	Grid Generation

2.2 Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech.	23	27	26	26	--	--	102
M.Tech. (Dual Degree)	5	6	4	--	--	--	15
M.Tech.	12	11	--	--	--	--	23
M.S.	7	10	3	4	--	--	24
Ph.D.	1	3	2	--	1	--	7
Total	48	57	35	30	1	--	171

2.3 Number of Scholarship / Fellowship holders:

Programme	Institute Scholarship	Others	Total
B.Tech.	10	-	10
M.Tech.	15	-	15
M.S.	16	-	16
Ph.D.	2	-	2
Total	43	-	43

2.4 Names of student / scholar attended Conference / Seminar and Symposia abroad/ India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/ Symposia	Date & Venue
1.	Allu Satyanarayana	Ph.D.	International Symposium on Recent Advances in Experimental Fluid Mechanics	18-20, December 2000 I.I.T., Kanpur
2.	M. Arun	M.S.	FLUENT/GAMBIT Training in Fluent India, Pvt.	5-8, March 2000
3.	K. Senthil Kumar	M.S.	FLUENT/GAMBIT Training in Fluent India, Pvt.	5-8, March 2000
4.	N. Subramanian	M.S.	FLUENT/GAMBIT Training in Fluent India, Pvt.	5-8, March 2000

2.5. Number of Degrees Awarded in the last convocation:

Programme	Total
B.Tech.	23
M.Tech.	4
M.S.	4
Ph.D.	2
Total	33

3. Faculty and their Development:

3.1 Faculty

Sl. No.	Name and Qualification	Major Area of Specialization
1.	Gokhale S. S., Ph.D.	Aircraft and missile propulsion, computational methods, simulation and optimization, computer aided instructions
2.	Job Kurian, Ph.D.	Aero/Gas Dynamics, Shock tube flows and measurements
3.	Krishnan S., Ph.D.	Aerospace propulsion
4.	Santhakumar S., Ph.D.	Aerodynamics, flight mechanics, instrumentation
5.	Subramanian G., Ph.D.	Structural analysis, finite element and finite difference techniques, experimental moire interferometry
6.	Tulapurkara E.G., Ph.D.	Aerodynamics, Fluid mechanics, turbulent flows
7.	Varadan T.K., Ph.D.	Structural mechanics, composite
8.	Bhaskar K., Ph.D.	Structural mechanics, composite structures, elasticity
9.	Gowda R.M.S., Ph.D.	Thermal stress analysis, structural mechanics
10.	Ramakrishna M., Ph.D.	Aerodynamics, numerical methods of computer solutions
11.	Sriram P., Ph.D.	Structural mechanics, composites, fatigue & fracture, vibrations
12.	Rajan S.C., M.Tech.	Aerodynamics, Theory and Computation of Vortex Dominated Flows
13.	Sujith R.I., Ph.D.	Gasdynamics, optical flow diagnostics, acoustics
14.	Chakravarthy., S.R. Ph.D.	Combustion, Rocket Propulsion, Fluid Mechanics
15.	R. Velmurugan., Ph.D.	Composite Structures, Finite Element Analysis

3.2 Short-term Courses/Workshops/Seminar/Symposia/Conferences organised

S. No.	Co-ordinators	Title	Period
1.	Prof. S. S. Gokhale jointly by Dr. K. Ramamurthy of LPSC.	Current Status in the area of Explosions and Detonations in the Country	Half a day on 4 th December 2000

3.3. Short-Term Courses /Workshops /Seminars /Symposia /Conferences/ Training attended by the Faculty in recognised Academic Institutions and Public Sector Units :

Name of Faculty	Title	Institution	Period/Duration
S. Krishnan	5 th International Symposium on Special Topics in Chemical Propulsion: Combustion of Energetic Materials	Stresa, Italy	19-22 June 2000
	3 rd International High Energy Materials Conference & Exhibit	VSSC, Trivandrum	6-8 December 2000
	5 th National Conference on Air-breathing Engines & Aerospace Propulsion	DRDL, Hyderabad	21-23 December 2000
E. G. Tulapurkara	FLUIDS 2000	AIAA at Denver, USA	19-22, June 2000
	Global Conference on flow metering and control	FCRI, Palghat	20-22, September 2000
	National Conference on Fluid Mechanics & Fluid Power	FCRI, Palghat	11-13, December 2000
S.S. Gokhale	Education in Kerala	Trivandrum	8 th & 9 th December 2000
S. R. Chakravarthy	5 th National Conference on Air-breathing Engines & Aerospace	DRDL, Hyderabad	20 th 24 th December 2000

3.4. Special Lectures Delivered by the faculty in other Institutions :

Name of Faculty	Topic of Lecture	Venue & Date
S. Krishnan	Recent Development in Hybrid Rocket Propulsion at the Symposium on Space Launch Systems (Invited Talk)	Korea Advanced Institute of Science & Technology, Taejon, Korea, 7 th April 2000
	Hybrid Rocket Technology: An Overview at the 3 rd High Energy Materials Conference and Exhibit (Plenary Lecture)	VSSC, Trivandrum 6-8 December 2000
	Solid Fuel Ramjet Assisted Gun launched Projectiles: An Overview at the 5 th National Conference on Air-breathing Engines & Aerospace Propulsion (Plenary Lecture)	DRDL, Hyderabad 21-23 December 2000
E. G Tulapurkara	Model of turbulence for computation of flow past airplane	University of South Alabama, USA June 23, 2000
	Reverse flow as a flow control device	University of Nevada at Las Vegas, USA, July 6, 2000

3.5 Visits Abroad by Faculty :

Name of Faculty	Country Visited	Date	Purpose of visit
S. Krishnan	Israel	Nov.1999 to June 2000	Visiting Professor at the Israel Institute of Technology, Haifa
	Korea	4-14 April 2000	Invited Lecture at the Korean Advanced Institute of Science and Technology, Taejon
	Italy	17-24, June 2000	5 th International Symposium on Special Topics in Chemical Propulsion; Combustion of Energetic Materials
E. G. Tulapurkara	USA	May 18 to July 7, 2000	Collaborative research on Benchmark data for internal flows
R.I. Sujith	U.S.A.	15-07-2000 to 24-07-2000	To attend the AIAA/ASME/SAE/ASEE Joint Propulsion Conference held in Huntsville, Alabama and visit the Georgia Institute of Technology
	Germany	03-10-2000 to 02-12-2001	AVH Research Fellowship at DLR Gottingen
M. Ramakrishna	Praghe, Czech Republic	31-07-2000 to 17-08-2000	To attend and present paper at the Numerical Modelling Continuum Mechanics, Prague, Czech Republic
	Germany	12 th and 20 th August 2000	To give few lectures at University of Dortmund, Germany
	Praghe, Czech Republic	29-11-2000 to 07-12-2000	Visiting Faculty
	Texas, USA	08-12-2000 to 28-11-2001	Visiting Faculty

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Dr. R. I. Sujith	Alexander Von Humboldt Fellowship	Alexander Von Humboldt Foundation	Excellence in Research	July 2000

4. Research and Consultancy :

4.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-codinators
1.	Augmentation of Rerefied Gas Dynamics Facility	1998-2000	ARDB	9.8	R.I.Sujith Job Kurian
2.	Studies on Supersonic mixing and Combustion	1999-2000	ARDB	7.5	Job Kurian S.R.Chakravarthy

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-codinators
3	Establishment of Centre for Computational Fluid Dynamics	Sep.98 to Oct. 2001	DST	373.0	E.G. Tulapurkara M.Ramakrishna P.A.Aswatha-Nanrayana T.Sundararajan Srinivas Jayanthi
4.	Incineration of Solid Waste in an Acoustically Excited Dump Combustor	1998-2000	MHRD	10.00	S.R. Chakravarthy R.I.Sujith
5	Development of Evaluation of Solid Propellant Rocket Motor	1999-2000	ISRO	6.14	S.R. Chakravarthy S. Krishnan
6.	Vortex Simulation	1999-2000	ISRO	6.35	S.R. Chakravarthy R.I. Sujith
7.	Gun Internal Ballistics of SFR.J	1999-2001	ARMREB	5.17	S.S. Gokhale
8	Analysis of Distributed Computing Flow over and air-breathing Vehicle	1996-1999	ISRO	10.65	M.Ramakrishna Janaki Ram (CSE)
9	Refurbishing of Oscillatory Flow Rig	1998-2000	NIOT	5.20	S. Santhakumar
10.	Development of Planar Laser Induced Fluorescence to Study the Flow in Supersonic Chemical Oxygen Iodine Lasers	1997-2000	DAE	14.73	R.I. Sujith B.M. Sivaram
11	Theoretical and Experimental investigation for the Determination of Gc for Composites	1997-2000	ISRO	7.00	P.Sriram
12.	Development of Gelled Propellant Rocket Motor		ISRO	6.14	S.Krishnan S.R. Chakravarthy
13.	Numerical study of particulate suspension flow through wavy walled channel	2000-2003	CSIR	9.5	E. G. Tulapurkara R. Usha (Maths)
14	Development of a low cost Planar Image Velocimetry (PIV) system	2000-2003	MHRD	19.62	R.I.Sujith SR.Chakravarthy
15.	Cavity Induced Acoustic Oscillations and their Effect on Mixing in Supersonic Flows	2000-2002	ARDB	9.9935	R.I.Sujith SR.Chakravarthy

4.2 DEPARTMENT OF APPLIED MECHANICS

1. Introduction:

The Department of Applied Mechanics was established in 1959, and it offers Ph.D., M.S. and M.Tech programmes. The major areas of teaching and research of the Department are the following :

The research in the **Biomedical Engineering Division** concentrated in Bioinstrumentation, Biomechanics and Biomedical Image and Signal Processing. The faculty of this division carrying out research in collaboration with hospitals and medical research institutes in the areas of Biomechanics of Leprotic hand and foot, Rehabilitation aids, finite element method, Image and Signal processing applications etc. Recent emphasis of the division is to develop medical diagnosis modalities in the areas of Macro-Micro-Hemodynamics, Laser and Artificial Neural Networks based instrumentation.

The faculty in the **Solid Mechanics Division** doing research in Stress analysis of plates and shells by finite element and boundary element techniques, Elasto-plastic analysis, Fracture mechanics, Fatigue, Reliability, Metal matrix composites, High temperature design and application of Image processing techniques.

The **Fluid Mechanics Division** doing research in Industrial Aerodynamics, Automobile Aerodynamics, Helicopter Aerodynamics, Aerodynamics of Wind turbines, and Wind energy problems. Wind effects on buildings structures, and bridges; flow induced vibration, computational Fluid Dynamics, and Atmospheric boundary layers, Internal flow problems and Flow through conical and curved diffusers, turbulent shear flows, wall jets, turbulence modeling.

The **Machine Dynamics Division** engaged in research in the area of Structural dynamics, Vibration and stress analysis using FEM Techniques, Acoustics and noise control, Tribology and Maintenance engineering and Chaotic/non-linear vibrations.

2. Academic Programmes:

2.1. New Courses Introduced:

The following courses were introduced during the year under report.

Sl.No.	Course No.	Title
1.	AM 301	Introduction to Biomechanics
2.	AM 302	Fundamentals of Medical Instrumentation
3.	AM 303	Introduction to Solid Mechanics
4.	AM 310	Vibration Concepts & application
5.	AM 401	Biomedical Signal Processing
6.	AM 402	Sports Biomechanics

Minor stream in 'Computational Solid Mechanics' and 'Biomedical Engineering' for UG program were introduced

2.2. Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
M.Tech.	20	20	--	--	--	--	40
M.S.	14	10	11	4	--	--	39
Ph.D.	8	6	5	4	2	4	29
Total	42	36	16	8	2	4	108

2.3. Number of Scholarship/Fellowship holders:

Programme	Institute Scholarship	Others	Total
M.Tech.			
Engineering Mech.	6	-	6
Indl. Tribology	8	-	8
Maintenance Engg and Management	6	-	6
M.S.	22	-	22
Ph.D.	7	-	7
Total	49	-	49

2.4. Names of student/scholar attended Conference/Seminar and Symposia abroad/India:

S.No	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/Symposia	Date and Venue
1.	K.V.Gangadharan Ph.D.Scholar Crescent Engg. College Vandalur, 2001	Ph.D	12 th ISME Conference	Crescent Engg. College, Vandalur, Jan 10-12, 2001
2.	N. Karuppaiah	Ph.D	First International Conference on Vibration Engineering and Technology of Machinery (VETOMAC I)	I.I.Sc. Bangalore Octo 25-27, 2000
3.	N. Karuppaiah	Ph.D.	Symposium on International Automotive Technology (SIAT'01)	ARAI, Pune Jan 10-13, 2001
4.	M Sanjeev Saikumar	M.S.	19 th All India Manufacturing Technology, Design and Research (ALMTDR) Conference	Dec. 14-16, 2000, IIT Madras 36
5.	S.H.Mallikarjun	Ph.D.	National Conference on Biomedical Engineering	21-22.4.2000 Univ. of Roorkee
6.	S.H.Mallikarjun	Ph.D.	National Conference on Biomedical Engineering 2001	24-26.1.2001 Anna Univ. Chennai
7.	S H Mallikarjun	Ph.D.	Woundcon 2001	3-4 March 2001 IIT Madras
8.	V.P.S.Naidu	Ph.D.	Workshop on Technology today	Anna University, March 26-27 2000
9.	D.Kumar	Ph.D.	Intl. Conf. On Biomedical Engineering	Dec. 2000 Singapore
10.	M.Manjunatha	Ph.D.	Intl. Conf. On Bio- Technology	2000, Sofia, Bulgaria
11.	V.P.S. Naidu	Ph.D.	Intl. Conf. on Biomedical Engineering	24-26.1.2001 Anna University

2.5. Number of Degrees Awarded in the last convocation:

Programme	Total
M.Tech.	14
M.S.	9
Ph.D.	5
Total	28

3. Faculty and their Development:

3.1. Faculty

S.No.	Name and Qualifications	Major Area of Specialization
1.	Dr.V.Ramamurti, Ph.D.	Vibration, Finite Elements, Stress analysis, Rotor Dynamics.
2.	Dr.B.S.Prabhu, Ph.D.	Tribology, Rotor Dynamics and maintenance Engineering.
3.	Dr.N.Ganesan, Ph.D.	Vibration, Acoustics, Finite Elements, Stress Analysis.
4.	Dr.S.Narayanan, Ph.D.	Mechanical vibration, Nonlinear and Random Vibration, chaos, Acoustics- Vibration and Noise Control, Active and Passive structural Dynamics.
5.	Dr.S.Swarnamani, Ph.D.	Experimental Techniques, Vibration/ Acoustics/Diagnosis. Diagnostics, Active Control.
6.	Dr.C.Sujatha, Ph.D.	Machine Dynamics, Condition Monitoring, Vehicle Dynamics, Instrumentation and Signal Processing, Acoustics.
7.	Dr.G.Santhanakrishnan, Ph.D	Tribology, Composite Materials and Composites Technology.
8.	Dr.P.Chandramouli, Ph.D.	Vibration, Chaos, Acoustics & Noise Control; Nonlinear Dynamics.
9.	Dr.V.Ramjee, Ph.D.	Fluid Mechanics
10.	Dr.B.H.L.Gowda, Ph.D.	Fluid Mechanics
11.	Dr.P.A.Aswwatha Narayana, Ph.D.	Fluid Mechanics
12.	Dr.J.L.Narasimhan, Ph.D.	Fluid Mechanics/Internal Flows
13.	Dr.S. Radhakrishnan, Ph.D.	Biomechanics/Rehabilitation Engg.
14.	Dr.K.M.Patil, Ph.D.	Biomechanics/Rehabilitation Engg.
15.	Dr Megha Singh, Ph.D.	Laser & Ultrasound applications in medicine
16.	Dr.M.Ramasubba Reddy, Ph.D.	Biomedical Instrumentation and Bio-signal processing
17.	Dr.R.Palaninathan, Ph.D.	Solid Mechanics, Composite Structures, Plates and Shells
18.	Dr.J.Raamachandran, Ph.D.	Solid Mechanics, Boundary Element Method, Plates and Shells, FEM
19.	Dr.C.Lakshmana Rao, D.Sc.	Solid Mechanics, Fracture, Bio-materials
20.	Dr.M.S.Sivakumar, Ph.D.	Solid Mechanics, Plasticity, Smart Materials & Computations
21.	Sri.G.Thomas, M.Sc.	Experimental Stress Analysis
22.	Sri.V.Ganesh, M.S.	Stress Analysis

3.2. Short-term Courses/Workshops/Seminars/Symposia/Conferences organized:

S. No.	Co-ordinators	Title	Period
1.	Dr M.S.Sivakumar	Fatigue and Fracture related life prediction techniques	Nov.27 – Dec.1, 2000

3.3. Short-term courses/Workshops/Seminars/Symposia/Conferences/Training attended by the Faculty in Academic Institutions and Public Sector Units:

S. No.	Name of Faculty	Title	Institution	Period/ Duration
1.	Dr.S.Narayanan Dr.S.Swarnamani Dr.C.Sujatha and Dr.P.Chandramouli	VETOMAC-I	IISc., Bangalore	3 Days; October 21-23, 2000.
2.	Dr.P.Chandramouli	IUTAM Symposium	IISc., Bangalore	4 Days; December 9-12, 2000.
3.	Dr C.Sujatha	VETOMAC-I	IISc., Bangalore	23 rd Oct., 2000
4.	Dr.S.Narayanan	Second European Conference on Structural Control	Champs-sur-Marne, Paris	July 3-6, 2000
5.	Dr.S.Narayanan	Structural Control	Champs-sur-Marne, Paris	July 6-8, 2000
6.	Dr.S.Narayanan	VETOMAC-I	IISc, Bangalore	October 25-27, 2000
7.	Dr.S.Narayanan	NSA 2000	Tiruchirappalli	Nov.22-23, 2000
8.	Dr.S.Narayanan	MOVIC-2000	Sydney	Dec 4-8, 2000
9.	Dr.S.Narayanan	ASD 2000	Hong-kong	Dec 13-15, 2000
10.	Dr.S.Narayanan	Problems in Elastic Vibrations and Smart Structures	Roorkee	Jan 2-4, 2001
11.	Dr.S.Narayanan	ASDD	Chennai	Jan 9 – 11, 2001
12.	Dr.R.Palaninathan	ISTAM	MEPCO Engg. College, Sivakasi	Dec. 26-29, 2000

3.4. Special Lectures Delivered by the faculty in other Institutions:

S. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr.S.Swarnamani	Vibration Instrumentation	AU-FRG Center, Anna University, October 2000.
2.	Dr.P.Chandramouli	Noise Control of Pumps/Compressors	Anna University (2 days) November 23-24, 2000.
3.	Dr.S.Narayanan	Numeric Analytic Methods in Nonlinear Dynamics	National University of Singapore, 10 th Dec. 2000

S. No.	Name of Faculty	Topic of Lecture	Venue and Date
4.	Dr.J.Raamachandran	BEM	Vellore Engg. College, Nov.17, 2000
5.	Dr.M.S.Sivakumar	A review of plasticity models	IGCAR, Kalpakkam
6.	Dr.Megha Singh	Medical Optics	Anna University, Jan.26, 2001.
7.	Dr.K.M.Patil	"New method for early detection of diabetic neuropathy for plantar ulcers by signal processing of pedobarrogrative images"	S.J.College of Engineering, 27.9.2000.
8.	Dr.S.Radhakrishnan	"Osteoporosis Assessment of Scoliosis"	Short term prog. On Advances in BME, SJCE, Mysore. 18-30.9.2000.
9.	Dr.S.Radhakrishnan	Biomaterials for dental, cardiac & Orthopaedic applications.	Interdisciplinary Workshop on "Materials & Material Sciences", Vellore Engg. College Dec.22, 2000.

3.5. Visits Abroad by Faculty:

S. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr.B.S.Prabhu	USA	July 15-21, 2000	CNDE Meeting & Conference
2.	Dr.B.S.Prabhu	USA	September 11-13, 2000	ASME Conference
3.	Dr.P.Chandramouli	USA	September 4-21, 2000	Project meeting at Boeing
4.	Dr.C.Lakshmana Rao	USA	June 12-18, 2000	Invited Lecture on Granular Flowinsilos at Texas, A & M.
5.	Dr.M.S.Sivakumar	USA	May 5 – July 10, 2000	Collaborative research.
6.	K.M.Patil	Berlin, Munich, Bonn, Frankfurt, Brussels.	5 – 15.6.2000.	Winning the European Union Quiz.
7.	K.M.Patil	Singapore.	6-9.12.2000	10 th Intl. Conf. On Biomed.Engg.
8.	Dr.Megha Singh	Germany	6.11 – 26.12.2000	Research
9.	Dr.S.Narayanan	France	July 6-8, 2000	IASC Conference
10.	Dr.S.Narayanan	Australia	Dec.4-8, 2000	MOVIC 2000 Conference
11.	Dr.S.Narayanan	Singapore	Dec.10, 2000	Lecture at NSU
12.	Dr.S.Narayanan	Hong Kong	Dec.12-14, 2000	ASD 2000 Conference

3.6. Honours and Awards obtained:

S. No.	Name of Faculty	Name of Awarded	Awarded by	Awarded for	Date
1.	Dr.P.Chandramouli	Young Engineer Award 2000	INAE	Outstanding Research for Past 5 years	December, 2000
2.	Dr.Megha Singh	Homi Bhabha Award	UGC, New Delhi	Applied Sciences	14.2.2001

3.7. Books/Monographs authored or co-authored:

S. No.	Name(s) of Author(s)	Title of Text Book/ Monograph	Publisher
1.	Dr.V.Ramamurti	Mechanical Vibration Practice with Basic Theory	Narosa India, CRC Press-USA, Alpha International, UK.
2.	Dr.S Narayanan and Dr.R.N.Iyengar	Nonlinearity and Stochastic Structural Dynamics	Kluwer Academic Publishers, Dordrecht, 2001.
3.	Dr.J.Raamachanran	Boundary and Finite Elements	Narosa, India, CRC Press, USA Alpha Science International, UK.

3.8. Fellowships of Academies and Professional Societies (Humboldt/INAE/INSA/ Hon. FRA, etc.):

Name of Faculty	Name of the Academy/ Professional Society	Level	Year of Admission
Dr.S.Swarnamani	Acoustical Society of India	Fellow	2000
Dr.B.H.L.Gowda	INAE	Fellow	2001

4. Design and Development Activities

4.1 Brief and specific details of Process/Instruments/Equipment/Software designed and developed:

1. Testing for Electro Rheological Fluid in Bearings – Dr.S.Swarnamani/Dr.P.Chandramouli
2. Development of selectively reinforced squeeze cast pistons

(Interdisciplinary project involving departments of Applied Mechanics, Mechanical Engineering and Metallurgical Engineering and in association with M/s Indian Pistons Ltd., Chennai under Technology Development Mission Project)

The squeeze casting process involves the following steps: placing of preheated fibre preform into the die cavity: pouring of metered quantity of liquid metal: applying squeeze pressure: maintaining the pressure till the solidification is complete. A squeeze casting machine was designed and developed. This is a "op pouring-side pressurization" system. The movements of the three hydraulic actuators (horizontal die locking cylinder, vertical die closing cylinder and pressurizing cylinder) are programmable. An auto-ladle

to pour metered quantity of liquid metal has been integrated with the machine. At present most of the operations are automatic, except preform placing, produce removal and die cleaning. A selectively reinforced piston was developed using this facility. The material system consists of aluminium silicon alloy and alumina silicate fibre perform. The piston has been reinforced selectively, in the ring groove area only. The pressure of ceramic insert in the ring region results in reduced thermal expansion and improved wear resistance. The squeeze cast piston as such, has several other advantages over the conventional gravity cast pistons.

3. Software for nozzle booster, structural analysis (RBIC Project from DRDL, Hyderabad)

The nozzle booster is composed of solid propellant, rubber lining, composite insulation and metallic casing. The first two are viscoelastic and nearly incompressible materials while the latter two are viscoelastic materials. The deformations and stresses in the propellant are functions of time. As the propellant is burning, the inner boundary is receding and hence it is treated as a moving boundary problem. Mixed finite element method has been employed in the solution with linear time stepping. Hellinger-Reissner functional with displacements and dilatational stress as primary unknowns has been used in the formulation of governing equations. This helps to overcome the problem of singularity which arises due to the nearly-incompressible of the two materials. The software 4-noded axisymmetric solid element and was coded in Fortran.

4.2 New facilities added or major equipment procured through project funds:

Active Vibration Control Setup – Dr.S.Narayanan/Dr.S.Swarnamani

DST sponsored – Development of laser tomographic system for early detection of breast cancer.

5 Research and Consultancy:

5.1 Sponsored Research Projects:

S. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Advanced Vibration Control	1997-2001	ARDB	8.61	Dr.S.Narayanan Dr.S.Swarnamani
2.	Scattering Radiation	1999-2002	NRB	20.0	Dr.S.Narayanan Dr.P.Chandramouli Dr.C.Sujatha Dr.S.Swarnamani
3.	Studies on jet Mixing under confinement as applicable to rocket-ramjet combustors.	3 years 1998-2001	DST	6.7	Dr.B.H.L.Gowda & Dr.R.Natarajan
4.	Numerical and experimental investigations on local blockages in LMFBR fuel sub-assemblies.	3 years 1999-2002	BRNS	24.7	Dr.BVSSS Prasad & Dr.B.H.L.Gowda
5.	Coastal Atmospheric Desperation Studies: Evolution of Methods for Realistic Source Term Estimation and Development of Hybrid Models	1999- 2002	AERB	25.0	Dr.P.A.Aswatha Narayana & Dr J.L.Narasimhan

5.2. Industrial Consultancy:

S. No.	Name of Faculty	Title	Industry	Amount (in Lakhs)
1.	Dr.V.Ramamurti Dr.C.Sujatha	Vibration problems and analysis.	Schenck Avery Ltd., Noida-201 305	0.10
2.	Dr.S.Swarnamani Dr.N.Ganesan Dr.P.Chandramouli	Seismic test on 420 kV Current Transformer (CT)	B.H.E.L., Bhopal-462 022	0.30
3.	Dr.S.Swarnamani Dr.V.Ramamurti Dr.N.Ganesan	Seismic test on Surge Arrester on 216 kV and 120 kV 10 KA LAS	Oblum Electrical Industries P.Ltd., Hyderabad-500 037	0.60
4.	Dr.C.Sujatha Dr.V.Ramamurti	Testing of Avm pads for evaluation	Tractors and Farm Equipment Ltd., Chennai-600 034	0.05
5.	Dr.S.Swarnamani Dr.P.Chandramouli Dr.V.Ramamurti	Seismic test on 420 kV RC Single Pole Disconnecter	S&S Power Switchgear Ltd., Chennai-600 116	0.40
6.	Dr.V.Ramamurti Dr.S.Swarnamani	Natural frequencies test on Impellers	Industrial Systems and Equipments Ltd., Chennai-28	0.15
7.	Dr.C.Sujatha Dr.N.Ganesan Dr.V.Ramamurti	Seismic testing of 420 kV SF6 Gas Circuit Breaker	B.H.E.L., Ramachandrapuram Hyderabad-500 032	0.35
8.	Dr.C.Sujatha	Testing of light weight vibration damping material	Anabond Ltd., Chennai-96	0.075
9.	Dr.V.Ramamurti	Development work of travelling gate	FCB-KCP Ltd., Chennai-8	0.20
10.	Dr.C.Sujatha Dr.S.Narayanan Dr.G.Santhana- krishnan	Seismic test on 400 kV SF6 GCB	Crompton Greaves Ltd., Nashik-422 010	0.35
11.	Dr.C.Sujatha Dr.S.Narayanan Dr.B.S.Prabhu	Seismic test on the 36 kV outdoor circuit breaker	Siemens Ltd., Chennai-24	0.35
12.	Dr.S.Swarnamani	Vibration testing	Autolec Industries Ltd., Chennai-58	0.025
13.	Dr.S.Swarnamani Dr.N.Ganesan Dr.P.Chandramouli	Seismic test on 420 kV CVT	W.S.Industries (India) Ltd., Bangalore-562 157	0.35
14.	Dr.C.Sujatha Dr.B.S.Prabhu Dr.S.Narayanan	Seismic test on the outdoor vacuum circuit breaker	Alstom Ltd., Naini Works P.O., Allahabad-211 008	0.35
15.	Dr.C.Sujatha Dr.V.Ramamurti	Testing of anti vibration mounting pads	TAFE, Madras-34	0.05

S. No.	Name of Faculty	Title	Industry	Amount (in Lakhs)
16.	Dr.P.Chandramouli Dr.S.Swarnamani Dr.S.Narayanan	Noise reduction of three wheelers	Greaves Ltd., Chennai-600 096	0.50
17.	Dr.B.S.Prabhu	Critical speed analysis	Jyoti Ltd., Vadodara-390 003	0.12
18.	Dr.C.Sujatha	Vibration measurements on Buses	CVRDE, Avadi, Chennai-600 054	0.80
19.	Dr.S.Swarnamani Dr.N.Ganesan Dr.P.Chandramouli	Vibration test for 5 kVA inverter	Power Aids, Chennai-41	0.30
20.	Dr.C.Sujatha Dr.B.S.Prabhu Dr.G.Santhana-Krishnan	Seismic test on 66 kV CT	W.S.Industries (India) Ltd., Bangalore-562 157	0.35
21.	Dr.V.Ramamurti Mr.G.Thomas	Design adequacy of belt	FAL Industries Ltd., Chennai-96	0.025
22.	Dr.V.Ramamurti Dr.C.Sujatha	Vibration test on brake disc	Brakes India Ltd., Chennai-50	0.05
23.	Dr.C.Sujatha Dr.B.S.Prabhu Dr.G.Santhana-Krishnan	Seismic test on 132 kV CVT & 132 kV CT	Alstom Instrument Transformers P.Ltd., Bangalore-562 157	0.70
24.	Dr.V.Ramamurti	High vibration of PM-4 Head Box	Aswartha Condition Monitoring Engineers, Hyderabad-500 072	0.10
26.	Dr.C.Sujatha Dr.S.Narayanan Dr.N.Ganesan	Seismic test on 400.kV Centre break isolators	GR Power Switchgear Ltd., Hyderabad-500 055	0.9
27.	Dr.S.Swarnamani Dr.B.S.Prabhu Dr.G.Santhana-Krishnan	Seismic test on 400 kV single pole grounding switch	ELPRO International Ltd., Hyderabad-500 037	0.45
28.	Dr.S.Swarnamani Dr.N.Ganesan Dr.G.Santhana-Krishnan	Vibration test of Fans	NADI Airtechnics Pvt. Ltd., Chennai-600 118	0.40
29.	Dr.S.Swarnamani Dr.P.Chandramouli Dr.B.S.Prabhu	Vibration shock test on transformers and inductor choke	Autometers Alliance Ltd., Noida-201 307	0.40
30.	Dr.S.Swarnamani Dr.N.Ganesan Dr.P.Chandramouli	Vibration test for Fans	NADI Airtechnics Pvt. Ltd., Chennai-600 118	0.40
31.	Dr.C.Sujatha Dr.N.Ganesan Dr.P.Chandramouli Dr.S.Narayanan Dr.G.Santhana-Krishnan	Seismic test on 420 kV/345 kV current transformer and 245 kV/145 kV capacitor voltage	Crompton Greaves Ltd., Nasik-422 010	1.75

S. No.	Name of Faculty	Title	Industry	Amount (in Lakhs)
32.	Dr.S.Swarnamani Dr.N.Ganesan Dr.S.Narayanan	Seismic test on 288 kV lightning arrester	Crompton Greaves Ltd., Nasik-422 010	0.35
33.	Dr.J.L.Narasimhan	Calibration of Vane Type Anemometer	M/s Hindustan Motors Ltd, Tiruvallur	0.10
34.	Dr.J.L.Narasimhan	Calibration of two Vane Type Anemometers	M/s Bluestar Ltd., Chennai	0.20
35.	Dr.J.L.Narasimhan	Calibration of Vane Type Anemometer	M/s Almonard Ltd., Chennai	0.06
36.	Mr.G.Thomas	Testing of Torsional springs	M/s Sundaram Clayton Ltd.,	0.12
37.	Mr.G.Thomas	Measurement of load coming on screw rod in the Postcure press	M/s M.R.F. Ltd.	0.15
38.	Mr.G.Thomas	Compressibility tests on Disc pad	M/s Rane Brake Linings Ltd.	0.15
39.	Mr.G.Thomas	Determination of Poisson's ratio and Young's Modulus for the Kogline Materials	M/s T.I. Cycles of India	0.09
40.	Mr.G.Thomas	Experimental stress Analysis of 42" and 104" presses	M/s L.T.M. Limited	0.67
41.	Mr.G.Thomas	Design of 250T Loadcell	M/s Rane Brake Linings Ltd.	0.10
42.	Mr.G.Thomas	Testing of Disc Pad samples for compressibility	M/s Rane Brake Linings Ltd.	0.21
43.	Mr.G.Thomas	Experimental stress Analysis of Tyre curing press and OTR post curing press	M/s L.T.M. Lts.	0.65
44.	Mr.G.Thomas	Strain Measurement on pressure vessel using electrical resistance strain gages.	M/s Metallic Bellows Ltd.	0.30
45.	Mr.G.Thomas	Dynamic Experimental stress analysis of Core support structure	M/s I.G.C.A.R., Kalpakkam	32.0

5.3. RBIC:

S. No.	Name of Faculty	Title	Industry	Amount (Lakhs)
1.	Dr.S.Narayanan & Dr.P.Chandramouli	Propeller Noise	NSTL	5.7
2.	Dr.P.Chandramouli	Nonlinear Solutions	Boeing, USA	6.7

2.4 Names of student /scholar attended Conference/Seminar and Symposia abroad/India:

Sl. No.	Name of the Student/ scholar	Programme	Name of the Conf/ Seminar/ Symposia	Date and Venue
1.	Shaik Mahammad Raffi	Ph.D. (R)	ENVIROVISION 2000	4-5 th May 2000
2.	Sri. R. Saravanane	PhD (QIP)	3 rd Annual Conference of ENVIROVISION 2000	Mumbai 6-7 th May 2000
3.	B. Karthik	M.Tech.	CHEMCON 2000	Calcutta 18-21 st Dec. 2000
4.	Kaustubh S. Mujumdar	M.Tech.	CHEMCON 2000	Calcutta 18-21 st Dec. 2000
6.	P. Balasubramanian	Ph.D.(Proj)	Indian Chemical Engineering Congress 2000	Calcutta 18-21 st Dec. 2000
7.	K. Pakshi Rajan	Ph.D. (R)	International Conf. On New Horigons in Biotechnology	Trivandrum 18-21 st April, 2001

2.5 Number of Degrees Awarded in the last convocation:

Programme	Total
B.Tech.	49
M.Tech.	25
M.S.	5
Ph.D.	11
Total	90

3. Faculty and their Development

3.1 Faculty

Sl. No.	Name and Qualifications	Major Area of Specialization
	Professors	
1	M.S. Ananth, Ph.D. (Florida)	Thermodynamics, Mathematical Modeling
2	A.R. Balakrishnan, Ph.D. (Waterloo)	Heat Transfer, Computer Aided Design
3	M. Chidambaram, Ph.D. (IISc) (Head)	Non-linear Control, Periodic Operation of reactors
4	K. Krishnaiah, Ph.D. (IIT Madras)	Chemical Reactor Analysis and Design, Fluidization
5	D.V.S. Murthy, Ph.D. (IIT Madras)	Particle Technology, Environmental Engineering
6	N.R. Neelakantan, Ph.D. (Swansea)	Polymer Processing, Rheology
7	V.S. Ramachandra Rao, Ph.D. (IIT Madras)	Internal Model Control, Adaptive Control

Sl. No.	Name and Qualifications	Major Area of Specialization
8	T.K. Ramanujam, Ph.D. (IIT Madras)	Environmental Engineering, Particle Technology
9	S. Subba Rao, Ph.D. (Connecticut)	Mass Transfer, Computer Aided Design
10	T. Panda, Ph.D. (IIT Delhi)	Biochemical Engineering and Bio Technology, Protoplast Fusion Technology.
11	S.Pushpavanam, Ph.D. (Florida)	Modeling and Simulation, Non-linear Dynamics
12	Shankar Narasimhan, Ph.D. (North Western)	Computer Aided Design
13	T. Swaminathan, Ph.D. (IIT Kanpur)	Environmental Management, Biotechnology Membrane Technology
Associate Professors		
14.	S.Sankaranarayanan, Ph.D (Queens land)	Optimum Control of Grinding Circuits and other Mineral Beneficiation Processes
15.	P. Sessa Talpa Sai, Ph.D. (IITMadras)	Chemical Reactor Analysis and Design, Rotary Kilns
16.	Sachin C. Patwardhan, Ph.D. (IIT Bombay)	Process Control
17.	R. Ravi, Ph.D. (Purdue)	Applied Statistical Mechanics, Foundations of Thermodynamics and Mechanics, Process Control
18.	Guhan Jayaraman, Ph.D. (RPI)	Down stream processing, Recombinant protein production Metabolic Engineering
Assistant Professors		
19.	Abhijit P.Deshpande, Ph.D. (Washington)	Polymers and Polymeric Materials
20.	Kannan, A. Ph.D. (Mc Master Univ., Canada)	Separation Processes, Computer Aided Design
21.	Sreenivas Jayanti, Ph.D. (Imperial College), London	Computational Fluid Dynamics
22.	Susy Varughese, Ph.D. (IIT Kharagpur)	Polymers and Elastomeric Materials

3.2 Short-term Courses /Workshops/Seminars/Symposia/Conferences / Training attended by the Faculty in Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
1.	Prof.M.Chidambaram	Set point weighting	IISc., Bangalore	29 th Dec.2000
2.	Prof.T.Swaminathan	Current status of Environmental Biotechnology in India	Thailand, Bangkok	21-24 th Nov. 2000
3.	Prof.DVS Murthy	CHEMCON 2000	Calcutta	18-21 st Dec. 2000

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
4.	Dr.Abhijit P. Deshpande	CHEMCON 2000	Calcutta	18-21 st Dec. 2000

3.3 Special Lectures Delivered by the faculty in others Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Prof. Shankar Narasimhan	Modeling, Parameter Estimation and leak detection in gas pipelines	CAD Centre, IIT Bombay 27-6-2000 to 1-7-2000
2.	Prof.M.Chidambaram	Fuzzy Logic & Fuzzy Control	Md. Sathak Engg. College, Kilakarai on 17 th Feb. 2001
3.	Prof.M.Chidambaram	Fuzzy Logic Control	Annamalai Univ. on 3 rd Dec. 2000
4.	Prof.M.Chidambaram	Fuzzy Logic & Fuzzy Control	REC., Trichy on 8 th Dec., 2000

3.4 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country visited	Date	Purpose of Visit
1.	Prof.S.Pushpavanam	Max-Plank Institute, Germany	16-5-2000 to 12-7-2000	Research
2.	Prof. VS Ramachandra Rao	Ruhr-Univ. of Bochum, Germany	1-6-2000 to 12-7-2000	Professional Visit
3.	Prof. VS Ramachandra Rao	Ngee Ann Polytech. Singapore	2 years since 1-8-2000	Visiting Faculty
4.	Prof.Shankar Narasimhan	Los Agles, CA, USA	12-11-2000 to 17-11-2000	AIChE Annual Conference
5.	Prof. T.Swaminathan	SIDA, Bangkok	21-24 th Nov. 2000	Paper Presentation
6.	Dr.Sachin C Patwardhan	Alberta, Canada	4-12-2000 to 30-11-2001	Visiting Faculty
7.	Prof. AR Balakrishnan	Palm Cove, Queensland	20-5-2001 to 25-5-2001	Paper Presentation
8.	Prof.AR Balakrishnan	Pittsburg, Pennsylvania, USA, Oregon & Texas Uni.	20-8-2000 to 22-8-2000	Paper presentation
9.	Prof.DVS Murthy	AIT., Bangkok	26 th – 27 th Feb. 2001	Workshop program

4. Research and Consultancy

4.1 Sponsored Research Projects :

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Influence of Sea Waves Induced Oscillations on the Forced Convective Heat Transfer in a Barge Mounted Heat Exchanger	1997 – 2001	Dept. of Atomic Energy, Govt. of India	14.20	Prof.A.R.Balakrishnan Dr.Sreenivas Jayanti
2.	Bioling and Two Phase Flow Studies of Cryogenic Fluids	1999 – 2002	ISRO, Govt. of India	22.82	Prof.A.R.Balakrishnan Dr.Sreenivas Jayanti
3.	UASB	1997-2000	MHRD	6.00	Prof.DVS Murthy & Prof.TK Ramanujam
4.	Online Monitoring of anaerobic fluidized bed	1999-2001	MHRD	6.00	Prof. DVS Murthy & Prof. K Krishnaiah
5.	Setting up A flow Visualization Center	2000 – 2001	DST under FIST	98.00	Prof.S.Pushpavanam
6.	Advanced Control & Intelligent Monitoring using a Control Network	2000-2003	DST	15.97	Dr.Sachin C. Patwardhan & Prof.Shankar Narasimhan
7.	Heterogeneous Photo Catalytic Degradation of Hazardous Organic Contaminants	2000- 2001	MHRD Under R & D	10.0	Prof.T.Swaminathan & Dr. A. Kannan
8.	Flow Mapping of Turbulent Bed Contactor for Enhanced Range of Operation	2000-2001	MHRD Under R & D	5.0	Prof.K.Krishnaiah & Dr.PST Sai
9.	Medium Optimisation for esterase production	1997 – 31-5-2001	KRIBB, Korea	US\$ 44150	Prof.T.Panda
10.	Heterogeneous Photocatalytic degradation hazardous organic contaminants	May 2000 - 2003	MHRD	10.00	Prof.T.Swaminathan Dr. A. Kannan
11.	Flooding	1996 - 99	DST	12	Dr.A.R.Balakrishnan
12.	Multiphase Flow	1998 - 2000	AICTE	6	--
13.	Boiling	2000	ISRO	15	Dr.A.R.Balakrishnan (PI)
14.	Flow Oscillation	1999	BRNS	15	-DO-

2.3. Names of student / scholar attended Conference/Seminar and Symposia abroad / India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf/Seminar/Symposia	Date & Venue
1.	R. Manivannan	Ph.D	Macro 2000	Dec.1-2, 2000 DMSRDE Kanpur
2.	N. Prabhakaran	Ph.D	Macro 2000	-do-
3.	D. Jesudurai	Ph.D	National Symposium in Chemistry (NSC 3)	Feb 2-4, 2001 Punjab Univ.
4.	B. Rajesh	Ph.D	Indo Pacific Catalysis Symposium – 2	Jan 23-25, 2001 NCL Pune
5.	V. Raghuvver	Ph.D	-do-	-do-
6.	R. Ganesan	Ph.D	-do-	-do-
7.	Alok D Bokare	Ph.D	DAE Solid State Physics Symposium	Dec.27-31, 2000 Bilaspur
8.	Rashmi R.Sahoo	Ph.D	DAE Symposium on Nuclear and Radiochemistry	Feb 7-10, 2001 Univ. of Pune
9.	J.M. Nasurallah	Ph.D	Petrotech 2001	Jan 12-14, 2001 New Delhi
			Recent Advances in Polymers and Composites	Dec. 2000 DMSRDC, Kanpur
10.	A.Ramakrishnan	Ph.D	-do-	-do-
11.	S. Raja	Ph.D	-do-	-do-
12.	D. Patra	Ph.D	8 th National Seminar on Physics and Technology of sensors	Feb.27-1 st March 2001, IGCAR Kalpakkam
13.	D.Patra (Tincy Thomas) Lis	Ph.D	Symposium on recent trends in Photochemical Sciences	Jan.8 – 10, 2001 RRL, Trivandrum
14.	V.Vidyalakshmi	Ph.D	BRNS-DAE National Symposium on Nuclear and Radiochemistry(NUCAR 2001)	Feb.7-10, 2001, IGCAR Kalpakkam
15.	Ch.Subramaniam	Ph.D	XV Indian National Sym.on catalysis and 2 nd Conference of the Indo-Pacific catalysis Assoc.	Jan 23-25, 2001 NCL Pune
	S.Shanmugam	-do-	-do-	-do-
16.	M.Suseela Devi	Ph.D	Inorganic Materials for the new Millenium	Jan 18, 2001 IIT M
17.	M.P.Minimol	Ph.D	-do-	-do-

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf/Seminar/Symposia	Date & Venue
18.	P.C. Urmila	Ph.D	International Symposium on advances in bioinorganic chemistry	Nov.20-24, 2000 TIFR, Bombay
19.	S. Gnanasutha	Ph.D	Symposium on spatially resolved magnetic resonance	Jan.7-10, 2001 IIT M
20.	S. Gnanasutha	Ph.D	International Symposium on advances in bioinorganic chemistry	Nov.20-24, 2000 TIFR, Bombay
21	H.Rajan Sahu	Ph.D	IPCAT-2 & Cat Symposium-15	Jan 23-25, 2001 NCL, Pune
	-do-	"	Conference on Inorganic materials for New Millenium	Jan.18-19, 2001 IIT M
	-do-	"	National Conference on Materials for the New Millenium.	March 1-3, 2001 Cochin Univ. Kochi
22	Braja Gopal Mishra	Ph.D	National Conference on Materials for the New Millenium	March 1-3, 2001 Cochin Univ.Kochi

2.5 Number of Degrees Awarded in the last convocation:

Sl.No.	Programme	Total
1.	M.Sc	25
2.	Ph.D.	13
Total		38

3 Faculty and their Development:

3.1 Faculty

S. No. Name and Qualifications Major Area of Specialization

PROFESSORS

- | | | |
|----|-------------------------------------|--|
| 1. | K.K. Balasubramanian, Ph.D (Madras) | Synthetic & Mechanistic Organic chemistry |
| 2. | N. Balasubramanian, Ph.D (IITM) | Analytical & Environmental Chemistry |
| 3. | T.S. Chandra, Ph.D (IISc, B'lore) | Biochemistry & Biotechnology |
| 4. | N. ChandraKumar | Physical Chemistry/Magnetic Resonance Spectroscopy |

- | | | |
|-----|---|---|
| 5. | M.S. Gopinathan, Ph.D (IITK) | Quantum & Theoretical Chemistry,
Molecular Spectroscopy, Nonlinear
Dynamics & Chaos |
| 6. | K.Lalitha, Ph.D (Mysore) | Biochemistry & Biotechnology |
| 7. | S.Sankararaman, Ph.D (Victoria, Canada) | Synthetic & mechanistic Org. Chemistry |
| 8. | M.N.Sudheendra Rao, Ph.D (IISc, B'lore) | Inorganic Chemistry |
| 9. | G. Sundrarajan, Ph.D (Rutgers, USA) | Organic Chemistry |
| 10. | S.Vancheesan, Ph.D (IITM) | Organometallics & Homogeneous Catalysis |
| 11. | U.V.Varadaraju, Ph.D (IISc, B'lore) | Solid state chemistry, Materials Joint with
MSRC Science |
| 12. | C.S. Venkatachalam, Ph.D (IITM) | Electrochemistry |
| 13. | B. Viswanathan, Ph.D (IITM) (Head) | Surface Science, Materials Science,
Catalysis, Physical chemistry |

ASSOCIATE PROFESSORS

- | | | |
|-----|--|---|
| 14. | Archita Patnaik, Ph.D (BHU, Varanasi) | Nuclear Science: Application of
Nuclear methods to materials science |
| 15. | R. Dhamodharan, Ph.D (Mass, USA) | Macromolecular Chemistry |
| 16. | D. Loganathan, Ph.D (IITB) | Carbohydrate Chemistry, Synthetic
and Bio-Organic Chemistry |
| 17. | A.K. Mishra, Ph.D (IITK) | Physical photochemistry
Fluorescence Spectroscopy |
| 18. | T. Pradeep, Ph.D (IISc, B'lore) | Spectroscopy, Clusters, Monolayers
Joint with RSIC |
| 19. | M.V. Sangaranarayanan, Ph.D (IISc, B'lore) | Electrochemistry |
| 20. | M.S.Subramanian, Ph.D (IITM) | Analytical Chemistry |
| 21. | T.K.Varadarajan, Ph.D (IITM) | Physical Chemistry
(Catalysis, Chemical Kinetics) |
| 22. | K. Vidyasagar, Ph.D (IISc, B'lore) | Solid State Chemistry |
| 23. | R.P. Viswanath, Ph.D (IITM) | Heterogeneous Catalysis |

ASSISTANT PROFESSORS

- | | | |
|-----|----------------------------------|---|
| 24. | Anju Chadha, Ph.D (IISc, B'lore) | Bioorganic Chemistry; Enzymes in
Org. Synthesis & their mechanisms |
| 25. | P. Bhyrappa, Ph.D (IISc, B'lore) | Bioinorganic Chemistry |

26. S. Baskaran, Ph.D (IIT, Kanpur) Development of New Synthetic Methodology and their application to the synthesis of biologically active molecules
27. Indrapal Singh Aidhen, Ph.D (Pune) Synthetic Organic Chemistry
28. K. Mangala Sunder, Ph.D (McGill,) Theoretical Chemistry, Spectroscopy
Chemical Reaction Dynamics
29. N. Narasimha Murthy, Ph.D (IISc, B'lore) Bioinorganic Chemistry (development of bioinspired metal -dioxygen centers for oxidation catalysis, and for hydrolytic cleavage of amide and phosphates; magnetic resonance spectroscopy of paramagnetic metal systems by NMR and EPR)
30. G. Ranga Rao, Ph.D (IISc, B'lore) Catalysis & Surface Processes
31. Sanjay Kumar, Ph.D (IIT Kanpur) Theoretical and Computational Chemistry, Quantum Chemistry, Molecular Reaction Dynamics

Emeritus Scientist

32. R. Ramaswamy (AICTE) Physical Chemistry

Emeritus Professor

33. P.T. Manoharan Bioinorganic Chemistry

3.2 Short Term Courses/Workshops/Seminars/Symposia/Conferences organised:

Sl. No.	Co-ordinators	Title	Period
1.	Dr. T. S. Chandra	Indo-Swiss Workshop on Molecular Probes and Microbial Ecology IC & SR TAP Program on Evaluation of Biotechnological approaches to Solid Waste Management	Mar.3,2000 Oct.2000
2.	N. Chandrakumar	Symposium on Spatially Resolved Magnetic Resonance & 7 th NMRs Symposium	Feb.7-10, 2001
2.	Dr. B. Viswanathan	Surface Science and catalysis (DST)	May , 2000
3.	Dr. T. Pradeep	Training programme on advanced physical chemistry	June 26 – July25, 2000
4.	Dr. Sanjay Kumar & Dr. K. Mangala Sunder	Concepts in Chemical Dynamics Sponsored by DST, New Delhi	March 5-24, 2001

3.3 Short-term Courses/Workshops/Seminars/Symposia/Conferences/Training attended by the Faculty in Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/Duration
1.	G. Sundararajan	National Organic symposium Trust	Jaipur	April 2-4, 2001
	-do-	Annual Conference of the Indian Council of Chemists	Kuvempu Univ, Shimoga. Karnataka	Nov.20-23,2000
	-do-	Winter School on Organometallic Chemistry	IIT Kharagpur	Jan 10-14, 2001
2.	Archita Patnaik	Ist Intl. Symp. on Nanoscale Spectroscopy	Synchrotron Trieste and International Centre for Theoretical Physics, Italy	Dec.11-15, 2000
		a) Materials Science with Accelerators	DST sponsored school on Advances in Physical chemistry IIT Madras	June , 2000
		b) Positron Lifetime Spectroscopy, a chemical probe Mossbauer & Positron Lifetime Spectroscopy	UNESCO workshop on Spectroscopy	Jan, 2000
3.	D.Loganathan	Prof. G.K. Trivedi's 60 th Felicitation Symposium	IIT Mumbai	April 22, 2000
		Workshop on Catalysis	Dept. of Chy IIT M	May 29, 2000
		UNESCO Regional Training Program in Spectroscopy	Dept. of Chy IIT M	Jan 4, 2001
4.	K. Vidyasagar	Inorganic Materials for New Millineium	IITM	Jan 18-20, 2001
5.	A.K.Mishra	XVIII IUPAC Symp. on Photochemistry	Dresden, Germany	July 22-27, 2000
		Symposium on recent trends in photochemical sciences	RRL, Trivandrum	Jan 8-10, 2001
		III National Symposium in Chemistry	Punjab University, Chandigarh	Feb. 2-4, 2001

Sl. No.	Name of Faculty	Title	Institution	Period/Duration
6.	Anju Chadha	Technology Appreciation program –Applications of Biocatalysis	IC&SR, IITM	Aug. 10, 2000
		'Nobel Prizes of 2000' Nobel Prize in Medicine	CLT, IITM	Nov. 7, 2000
		'Biocatalysis' at the workshop on catalysis	Dept. of Chemistry, IITM	Jan. 3, 2000
7.	Indrapal Singh Aiden	Spectroscopic identification of organic compounds: IR	UNESCO Program Dept. of Chy, IITM	Jan 3, 2001
8.	N.N. Murthy	International Symposium on Advances in Bioinorganic Chemistry		Nov. 20-24, 2000
		Spectroscopic identification of inorganic compounds		Jan. 12, 2001
9.	Sanjay Kumar	TC2K: Discussion meeting on Theoretical Chemistry	IIT Kanpur	December 22-24, 2000

3.4 Special Lectures Delivered by the faculty in others Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	T.S.Chandra	Protoplast Fasion	Univ. of Madras, April 2000 MGR Janaki College, Chennai QIP Program, IITM
		Industrial applications of Fungi	
		Basics of Environment Biochemistry	
2.	M.S. Gopinathan	Non-linear Dynamics in Chemistry & Biology	IIT Bombay, Nov. 2000
		Perspectives in non-linear dynamics in Chemistry	Science Congress, New Delhi, January 2001
3.	M.N.Sudheendra Rao	Multiple bonds of Non metals	UGC refresher course at Mangalore Univ. June 2, 2000
		Bond extravaganza	HBCSE, Mumbai 13.6.2000
		Rings of Non-metals	Anna Adarsh College 23.8.2000
		Photon power as probe for molecular structure	HORIZON 2000, REC Trichy 30.9.2000

		Experimental IR Spectroscopy	UNESCO Workshop IITM 12.1.2001
4.	G. Sundararajan -do-	Soluble and Tunable Metal complexes for Metathesis polymerization Chiral Lewis acids for Asymmetric Induction in Organic Reactions	GE-ITC Bangalore April 10, 2000 Indian Association for Cultivation of Science, Calcutta Jan 16, 2000
5.	B. Viwanathan	Catalysis Adsorption catalysis theory V Baliah endowment lecturership	IOC Refinery processes Orientation programme in catalysis at IIT Mumbai Annamalai Univ. Oct 16 & 17, 2000
6.	S. Vancheesan	Organometallic chemistry	Bharathiyar Govt. Womens College Jan 10, 2001
7.	T.K. Varadarajan	Catalysis by Solid Acids	DST Winter School on catalysis for Research scholars, IIT Madras Dec.12'99 to Jan.4, 2000
8.	Archita Patnaik	Electron transport in Organic semiconductors: a beam induced effect Positron Lifetime Spectroscopy in struture-property correlations in polymer composites Spectral signs of molecules	Synchrotron Elettra Trieste, Italy November 15, 2000 Max Planck Institute for Polymer Research, Mainz, Germany Queen Mary's College, Chennai Feb 28, 2000
9.	R. Dhamodharan	Mercury Photosensitized surface modification of polyolefins	Instt. For Mikrosystem and Technology, Univ. of Freiburg, Germany December 9, 2000
10	D. Loganathan	Environment Friendly Methodologies in Organic Synthesis Diamond Jubilee Lecture	Dept. of Chemistry Loyola College March 20, 2000
11	A.K.Mishra	Symposium on recent trends in photochemical sciences III National Symposium in Chemistry	RRL Trivandrum Jan 8-10, 2001 Punjab University, Chandigarh, Feb.2-4, 2001
12	G. Ranga Rao	The role of ceria in the reduction and oxidation of small molecules. Ordered on overlayers and their reactivity with CO on Ru (001). Preparation and oxidation properties of Surface rare-earth alloy films studied by XPs. International Conference on advances in Surface Science & Engg	National Institute of Materials and Chemical Research, Sep.26, 2000 Instt. Of Molecular Science. Okazaki Chennai Feb. 22, 2001

13	Sanjay Kumar	Time dependent Quantum mechanical study for $H^+ + H_2 \rightarrow H_2 + H^+$ reaction	Rheinische Friedrich-Wilhelms-Universität, Bonn June 2000
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3.5 Visits Abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of Visit
1.	S. Sankararaman	Germany	May-July 2000	Professional visit for research Collaboration
	-do-	-do-	December 2000	-do-
2	M.N.Sudheendra Rao	Denmark	July 1-11, 2000	Indian Delegation Leader for 32 nd Chemistry Olympiad at Copenhagen
		Germany	Nov.5-Dec.31, 2000	AvH Fellow (2 nd reinvitation)
3.	G. Sundararajan	USA	May 30-July 5, 2000	Gordon Research Conference + Visits to Laboratories
	-do-	Poland	July 7-14, 2000	Macro 2000
4.	S. Vancheesan	Hawaii, USA	Dec.14-20, 2000	ACS Conference
5.	Archita Patnaik	Italy	Sept.18- Dec.18, 2000	Visiting Scientist at the Synchrotron Centre, Elettra
		Germany	Nov.21 - 24, 2000	Scientific Collaboration and Discussion
6.	R. Dhamodharan	Germany	December 1-14, 2000	Research Related Seminar
7.	A.K. Mishra	Germany	July 22-27, 2000	XVIII IUPAC Symposium
8.	M.V.Sangaranarayanan	Germany	May 19 to July 15,2000	Alexander von Humboldt Fellowship
9.	N.N. Murthy	USA	May 18 to July 14, 2000	Professional visit on collaborative research
10.	Ranga Rao	Japan	Sep-Oct, 2000	Research Invitation
11.	Sanjay Kumar	Germany	June 3 to July 3, 2000	Professional Visit for Scientific collaboration

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1.	T.S. Chandra	Arivial Mamani Award	Scientific work with applications		Mar.24 2001
2.	A. K. Mishra	CRSI Bronze Medal	Chemical Research Society of India	Contribution to Chemistry	Feb.2, 2001

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
3.	M.N.Sudheendra Rao	Chemistry Olympiad	Chosen to lead India's delegation to 32 nd International Chemistry Olympiad	Copenhagen Denmark	July 1-11, 2000
		Chief Guest for Inaguration	HORIZON 2000 REC, Trichy		Sept.3 2000
		Chairman, International Conference	Prof. KKB's 60 th Birthday- Conf.		Sept. 1-2, 2000
		Member	National Scientific Committee for 33rd International Chemistry Olympiad, Mumbai		July 6-15, 2001
4.	G. Ranga Rao	JITA Fellowship	Japan Industrial Technology Association	Conducting research in atomically ordered surfaces	Aug.4, 2000

3.7 Books / Monographs authored or co-authored:

Sl. No.	Name(s)of Author(s)	Title of Text Book/Monograph	Publisher
1.	B. Viswanathan A.V. Ramaswamy S. Sivasankar	Catalysis principles and application	Narosa Publishing House (in print)
2.	T.K. Varadarajan	Technology Appreciation Programme on "Catalysis in Chemical Industries"	I C & S R, IIT Madras

3.8 Fellowships of Academies and Professional Societies (Humboldt/INAE/INSA/Hon,FRA,etc)

Name of Faculty	Name of the Academy/ Professional Society	Level	Year of Admission
M.S. Gopinathan	Indian National Science Academy	Fellow	1992
	Indian Academy of Sciences	Fellow	1988
	Alexabder von Humboldt Fellowship	Fellow	1981
M.N. Sudheendra Rao	AvH Foundation	Fellow	2000
P. Bhyrappa	AvH Foundation	Research Fellow	1999
S. Bhaskaran	AvH Foundation	Research Fellow	1991

Anju Chadha	AvH Foundation	Research Fellow	1991
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4 Design and Development Activities

4.1 Brief and specific details of Process/Instruments/Equipment /Software Designed and developed:

- a) Development of anode materials for Fuel Cells (patent to be applied) catalyst for hydroxylation (patent applied)
- b) A double zone furnace was designed and fabricated with a high-pressure / high temperature vessel for synthesis of fullerene derivatives in powder and in single crystal form

4.2 New facilities added or major equipment procured through project funds:

Dr. T.S. Chandra : Fluorescent Microscope under MNES Project
 Dr. B. Viswanathan : Sorpometer, electrochemical system
 Dr. M.N. Sudheendra Rao : Cryochambor (DST)

4.3 Patents awarded:

Patents filed :

Dr. T.S. Chandra : Patent pending on Reboflavin Fermentation
 Dr. S. Baskaran : Process for the preparation of novel heterocyclic compounds having antibacterial activity

5 Research and Consultancy:

5.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount Inlakhs	Co-ordinators
1.	Low Temperature	31.3.2001	MNES	16.5	Dr. T.S.Chandra
2.	Dynamic analysis of chaos and its possible control in experimental time series	1997-2000	DST	10.00	Dr.M.S. Gopinathan
3.	Cyclophanes with novel molecular Architectures Investigation of Host-guest chemistry and Photochromism	2001-2004	CSIR	10.63	Dr.S. Sankararaman
4.	Novel Cyclophanes with Structure and Reactivity Studies	1999-2002	Volkswagen Foundation Germany	DM 92,500	Dr. S.Sankararaman IITM and Prof. Dr. H.Hopf, Univ. of Braunschweig, Germany
5.	Novel Polymers by Single-Site catalysts	2000-2003	DST	38.0	Dr.G. Sundararajan

Sl. No.	Name of the visitor and Designation	Date of Visit	Purpose of Visit
10.	Prof. Krish Rengan Professor, Eastern Michigan Univ.	Feb.26, 2000	Discussion
11.	Mr. Adam Halstead	Feb.16 – Mar.5,2000	Educational CD Rom development
12.	Prof. Tom Halstead	March27 & 28, 2000	Scientific visit
13	Prof. M.P. Schneider Organiche Chemie Uni. Wuppertal, Germany	Feb.10-12, 2000	Lecture

7.1 Other Activities:

- Dr. T.S. Chandra Involved in research on solid waste treatment
Through
- Dr. M.N.Sudheendra Rao Cultural Advisor, IITM
Head Examiner, GATE 2000
Head Examiner, GATE 2001
CSIR paper Setting work, CLRI, Chennai
JIPMER Extrace Test paper setter
Coordinator, I NCHO 2000
Ph.D thesis examiner & Viva Voce Examiner,
Kuvempu Univ.
Coordinator, DST PAC meeting, Sept.1, 2000
- Dr. R. Dhamodharan : Coordinator, Civil construction work of the New Seminar
Hall, Coordinator, Disposal of waste, Design and
Maintenance of the new garden in Chemistry
- Dr. M.S. Subramanian: One student got the best paper presentation award with
a cash prize of Rs.400/- for her presentation of the paper
- Dr. Sanjay Kumar Incharge New Seminar Hall, Chemistry Dept

4.5 DEPARTMENT OF CIVIL ENGINEERING

1. Introduction

The Department of Civil Engineering has been in existence since the inception of IIT, Madras, in 1959 and has grown into a full-fledged department with specialisation in all the major branches of Civil Engineering. The departmental activities embrace Planning, Design, Construction and Management. The academic programmes of the Department in B.Tech., M.Tech., M.S. and Ph.D. are some of the best in the country, and perhaps, in the world. The faculty members have received advanced degrees and/or training from reputed Institutions in India, Germany, U.K., U.S.A., Canada, Netherlands, the former USSR., etc.

The activities of the Department are carried out under different disciplines administratively organized into five Divisions. There are fourteen well-equipped laboratories attached to different specializations. Environmental and Water Resources Engineering and Structural Engineering Laboratories have received substantial initial funding from the Federal Republic of Germany.

2. Academic Programmes

The Department provides training to students in both theoretical and practical aspects of Civil Engineering. The students are trained in current state-of-the-art technologies to enable them to adapt themselves to fast changing technological developments in the world.

2.1 New Courses Introduced:

The following new courses were introduced during the year under report.

Sl. No.	Course No.	Title
1.	CE676	Computational Structural Dynamics
2.	CE677	Finite Element Analysis Software Lab
3.	CE678	Advanced Mechanics of Structures (Elective)
4.	CE679	Engineering Design Optimization and Reliability Analysis (Elective)

2.2 New disciplines Introduced:

User Oriented M.Tech. Programme in Computational Engineering was started in collaboration with M/s. Tata Consultancy Services, Madras. This company pays the scholarship to the selected students in addition to the payment of fees to the Institute.

2.3 Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech	45	42	46	44	--	--	177
M.Tech. (Dual degree)	9	9	10	--	--	--	28
M.Tech.	80	85	--	--	--	--	165
M.S.	10	7	12	6	1	--	36
Ph.D.	11	9	2	3	1	1	27
Total	155	152	70	53	2	1	433

2.4 Number of Scholarship/ Fellowship holders:

Programme	Institute Scholarship	Others	Total
B.Tech	12	--	12
M.Tech.	74	--	74
M.S.	12	--	12
Ph.D.	12	--	12
Total	110	--	110

2.5 Endowment prizes Instituted:

Sl. No.	Name of student	Name of Award	Awarded by	Awarded for	Date
1.	Shri G.M.Vamsi II Yr B.Tech student	Oratorical Competition	Builders day at SRM Engg. College	III Prize for Emerging India through Infrastructural Development	Sept. 23, 2000
2.	Shri.A.Thiyagarajan, M.Tech. (1999 batch)	Best Thesis award	ISTE	II Prize for best M.Tech. thesis	Dec. 2000
3.	Shri.R.Sudarshan (B.Tech 1996 batch)	Best Thesis award	ISTE	I Prize for best B.Tech project	Dec. 2000

2.6 Names of student / scholar attended Conference / Seminar and Symposium abroad or India:

Sl. No.	Name of the student/scholar	Programme	Name of the Conf./ Seminar/ Symposium	Date and Venue
1.	Shri. Sujit Kumar Dash	Paper Presentation	45 th Congress of the Indian Society of Theoretical and Applied Mechanics	Dec. 26-29, 2000 International Meet, Mepco Schlenk Engineering College, Sivakasi
2.	Shri.Jayakrishna Devaki	Training programme	NASA software	Oct. 2000
3.	Shri.A.V.Thomas	Research Data Collection from experts working in the area	Southern Infrastructure Summit and Road Meet	Nov. 10-11, 2000, Hyderabad
4.	Shri.T.H.Sadashiva Murthy	Paper presentation	National Seminar on High Performance Concrete Composites	Dec.28-29, 2000, Chennai
5.	Shri.P.V.Sreedhar	Paper Presentation	Advances in Structural Dynamics & Design (ASDD)	SERC, Chennai

Sl. No.	Name of the student/scholar	Programme	Name of the Conf./ Seminar/ Symposium	Date and Venue
6.	Shri. Madhav Narayan Shrestha	Paper presentation	Lake-2000 Symposium on Restoration of Lakes and Wetlands	Nov. 27-29, 2000, IISc., Bangalore
7.	Shri. Shivakumar	Paper presentation	19 th All India Manufacturing Technology and Design Research Conference	Dec. 2000, Chennai
8.	Shri. S. Kandaswamy	Paper presentation	6 th Technical Session of Madras India Regional Chapter of Acoustical Society of America	Oct. 16-17, 2000 Guru Jambheshwar University, Hisar, Haryana
9.	Ms. Satya Pancharatnam	Paper presentation	6 th Technical Session of Madras India Regional Chapter of Acoustical Society of America,	Oct. 16-17, 2000 Guru Jambheshwar University, Hisar, Haryana

2.7. Number of Degrees Awarded in the last Convocation:

Programme	Total
B.Tech	43
M.Tech	64
M.S	10
Ph.D.	9
Total	126

3. Faculty and their Development

3.1 Faculty

Sl. No.	Name and Qualifications	Major Area of Specialization
Professors		
1.	Dr.H.Achyutha, Ph.D. (IITM)	<u>Structural Engineering</u> – Civil Engineering Materials, Experimental Studies, Mix Design, Nuclear Structures, Brick-infilled Frames, Safety of Structures subject to Impact and Blast Loading.
2.	Dr.R.Ambalavanan, Ph.D. (IITM)	<u>Building Technology</u> - Structural Masonry, Industrial Waste Utilization, Corrosion Damage and Repair of Structures.
3.	Dr.P.K.Aravindan, Ph.D. (IITM)	<u>Structural Engineering</u> - Reinforced and Prestressed Concrete, Shells, Folded Plates, Soil-Structure Interaction, Tall Towers, Impact Loading on Concrete Structures.

Sl. No.	Name and Qualifications	Major Area of Specialization
4.	Dr. K. Elango, Ph.D. (IITM)	<u>Hydraulic Engineering</u> - Hydrologic Analysis and Design of Surface and Ground Water Systems, Water Quality Modelling, Pipelines, Sewerage Design.
5.	Dr.S.R.Gandhi, Ph.D. (IITM)	<u>Geotechnical Engineering</u> - Pile Foundations, Ground Improvement, Field Monitoring, Industrial Solid Waste Management.
6.	Dr.V.Kalyanaraman, Ph.D. (Cornell)	<u>Structural Engineering</u> - Steel Structures, Buckling of Steel and Advanced Composite Members, Optimization and Computer Aided Design, Smart Control of Structural Instability.
7.	Dr.N.R.Krishnaswamy, Ph.D. (IIT Kanpur)	<u>Geotechnical Engineering</u> - Soil Dynamics, Analysis and Design of Foundations and Earth Structures subjected to Vibrations, Foundations for Industrial Machinery and Turbo-generators, Reinforced Soil Structures, Geosynthetics and Natural Reinforcing Materials, Ground Improvement and Modern Techniques in Geotechnical Engineering.
8.	Dr.M.S.Mathews, Ph.D. (IITM)	<u>Building Technology</u> - Construction Materials, Maintenance and Repair of Buildings, Restoration of Historic Buildings.
9.	Dr.S.Mohan, Ph.D. (IISc. Bangalore)	<u>Hydraulic Engineering</u> - Water Resources System Analysis, Irrigation Water Management, Stochastic Hydrological Modelling, Drought and Flood Management, Water Quality and Environmental System Analysis.
10.	Dr.Nainan P Kurian, Ph.D. (IITM)	<u>Geotechnical Engineering</u> - Foundation Engineering, Soil Investigation and Recommendation of Appropriate Foundations and their Design, Shallow Foundations, Shell Foundations and other Special Foundations, Precast Foundations, Modern Techniques in Foundation Engineering, Soil Retention Systems, Ground Improvement Methods, Geosynthetics and their Applications.
11.	Dr.S.B.Pattnaik, Ph.D. (IIT Kanpur)	<u>Transportation Engineering</u> - Transportation System Analysis and Modelling, Traffic Engineering Management and Safety Studies, Expert Systems, Fuzzy Logic and Optimization Applications.
12.	Dr.N.Rajagopalan, Dr-Ing. (Stuttgart)	<u>Structural Engineering</u> - Tension Structures, Damage Detection and Rehabilitation, Concrete Technology, Infuse Hypertension, Prestressed Concrete Bridges, Tall Structures, Water Towers, Large Span Roofs.
13.	Dr.K.Rajagopal, Ph.D. (Florida)	<u>Geotechnical Engineering</u> - Geosynthetics, Reinforced Soil Structures, Finite Element Techniques, Constitutive Modelling of Soils, Software for Interactive Design of Soil Structures, Ground Improvement Techniques.
14.	Dr.V.R.Rengaraju, Ph.D. (IISc. Bangalore)	<u>Transportation Engineering</u> - Pavement Materials, Design and Evaluation of Highway and Airfield Pavements, Traffic and Transportation Planning.

Sl. No.	Name and Qualifications	Major Area of Specialization
15.	Dr.K.Srinivasan, Ph.D. (IITM)	<u>Hydraulic Engineering</u> - Water Resources Planning and Management, Flood Management, Stochastic Modelling of Stream flow, Regionalization of Hydrologic Information, Frequency Analysis of Floods and Droughts.
16.	Dr.V.Thamizh Arasan Ph.D. (IITM)	<u>Transportation Engineering</u> - Transportation System Planning, Evaluation and Design, Travel Demand Modelling, Highway and Traffic Engineering.
17.	Dr.B.S.Thandaveswara, Ph.D. (IISc Bangalore)	<u>Hydraulic Engineering</u> - Numerical Modelling for Hydraulic and Water Resources Engineering Problems, Unsteady Flow Analysis including Flood Flows, Flow Measurements, Hydraulic Modelling, Computer Aided Design, Environmental Hydraulics.
Associate Professors		
18.	Dr.A.Boominathan, Ph.D. (Moscow)	<u>Geotechnical Engineering</u> - Soil Dynamics and Liquefaction Analysis, Machine Foundations, Ground Improvement, Field Dynamic Testing, Seismic Design of Foundations and Earth Structures.
19.	Dr.Devdas Menon, Ph.D. (IITM)	<u>Structural Engineering</u> - Reinforced and Prestressed Concrete Structures – Chimneys, Towers and Bridges, Structural Reliability, Structural Dynamics, Wind Engineering, Biomechanics, Structural Materials and Systems.
20.	Dr.Koshy Varghese, Ph.D. (Texas, Austin)	<u>Building Technology</u> - Computer Integrated Construction, Geographic Information Systems.
21.	Dr.A.Meher Prasad, Ph.D. (RICE)	<u>Structural Engineering</u> - Deterministic and Probabilistic Structural Dynamics, Earthquake Engineering, Soil Dynamics, Machine Foundations, Offshore Structures, Computer Aided Design, Structural Reliability.
22.	Dr.B.S.Murthy, Ph.D. (Washington St)	<u>Hydraulic Engineering</u> - Numerical Modelling of Surface and Subsurface Flows, Unsteady Flow in Conduit , Avalanche Dynamics, Contaminant Transport
23.	Dr.A.Ramachandraiah, Ph.D. (IITM)	<u>Building Technology</u> - Acoustics, Noise Control, Functional Efficiency of Buildings (Lighting, Thermal Comfort and Ventilation).
24.	Dr.K.Ramamurthy, Ph.D. (IITM)	<u>Building Technology</u> - Constructional Materials, Structural Masonry, Building Services, Energy Management in Buildings.
25.	Dr.K.N.Satyanarayana, Ph.D. (Cornell)	<u>Building Technology</u> – Construction Project Management, Construction Contracts, Quality Management, Construction Equipment, Computer Applications in Construction.
26.	Dr.R.Sivanandan, Ph.D. (Virginia Tech.)	<u>Transportation Engineering</u> - Intelligent Transportation Systems (ITS), Transportation Planning, Traffic Engineering and Operations, Computer Applications in Transportation Engineering.

Sl. No.	Name and Qualifications	Major Area of Specialization
Assistant Professors		
27.	Dr. Alagusundaramoorthy Ph.D. (IITM)	<u>Structural Engineering</u> - Composite Structures, Stability of Structures and Fracture
28.	Dr. K. Ananthanarayanan, Ph.D. (IITM)	<u>Building Technology</u> - Scheduling Construction Projects, Resource Management, Surveying.
29.	Shri. K. Gopalakrishna, M.Tech. (IIT Kanpur)	<u>Environmental Engineering</u> - Water Supply and Waster Water System Management
30.	Dr. Ligy Philip (Ms.) Ph.D. (IIT Kanpur)	<u>Environmental Engineering</u>
31.	Dr. S.R. Satish Kumar, D.Engg. (Nagoya Univ.)	<u>Structural Engineering</u> - Damage Assessment, Thin walled Steel Structures, Concrete-filled Tubes, Structural Dynamics, Nonlinear Seismic Analysis and Aseismic Design, Testing of Structural Members under Cyclic Loading.
Scientific Officer Gr.I		
32.	Shri. M. Subbi Reddy, M.S. (IITM)	<u>Transportation Engineering</u>

3.2 Short-term Courses/Workshops/Seminars/Symposia /Conferences organized:

Sl. No.	Co-ordinators	Title	Period
1.	Dr. A. Meher Prasad	CEP on Bridge Analysis and Design	May 2000
2.	Dr. P. K. Aravindan Dr. Devdas Menon	Training Programme for Kerala PWD Engineers	May 23 - June 2, 2000
3.	Dr. K. N. Satyanarayana Dr. K. Ramamurthy	Induction Training Program for Construction Engineers IIT Madras	July 3 - 8 2000
4.	Dr. K. N. Satyanarayana	Workshop on Power Tools for Construction, IIT Madras	September 8, 2000
5.	Dr. A. Meher Prasad	Multi-body Dynamics	October 2000
6.	Dr. V. Kalyanaramann Dr. S. R. Satish Kumar Dr. R. Narayanan	National Workshop on Structural Steel Design for University Faculty	November 13 - 18 2000
7.	Dr. M. S. Mathews Dr. K. Ramamurthy	Advances in Concrete Technology & Practice	December 18 - 23, 2000
8.	Dr. C. Rajendran Dr. K. Elango	Simulation Model in Engineering and Technology	March 12 - 23, 2001
9.	Dr. V. Kalyanaraman Dr. K. Ramamurthy Dr. K. N. Satyanarayana Dr. K. Srinivasan Dr. Nainan P Kurian Dr. Devdas Menon Dr. R. Sivanandan Dr. V. Thamizh Arasan	Workshop on Frontier Technologies in Civil Engineering for C.E.Os.	July 27, 2000

Sl. No.	Co-ordinators	Title	Period
10.	Dr.K.Elango Dr.S.Mohan	Feedback Workshop on Methodology for Irrigation System Maintenance Planning, at Tirunelveli (Euro Commi. Supported)	Oct. 10, 2000
11.	Dr.S.Mohan Dr.K.Gopalakrishna	Environmental Management Systems	Dec. 18-22, 2000
12.	Dr.V.Thamizh Arasan	Sustainable Urban Transportation Planning"	Dec. 18-22, 2000
13.	Dr.S.R.Gandhi	Ground Improvement and Deep Foundations	Dec.25-29, 2000
14.	Dr.P.Alagusundaramoorthy	Design and Manufacturing of FRP Chemical Plant Structures	Feb.26 - March 3, 2001

3.3 Short-term course/Workshops/Seminars/Symposia/Conferences/Training attended by the Faculty in Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
1.	Dr.S.R.Satish Kumar	Advanced in Structural Dynamics & Design	SERC Madras	January 11, 2001
2.	Dr.V.Thamizh Arasan	International Conference on "Urban Regeneration and Sustainability"	Univercidade, Rio de Janeiro & Wessex Institute of Technology, UK at Rio de Janeiro, Brazil	April 25 – 27, 2000
3.	Dr.A.Boominathan	Bored cast-in-situ pile experiences in Design and Construction	Anna University	April 21, 2000
4.	Dr.V.Thamizh Arasan	Sustainable City 2000	Rio De Janerio, Brazil	April 4, 2000 to May 5 2000
5.	Dr.B.S.Thandaveswara	Rain Harvesting in Residential Buildings and Apartments	Anna University	Sept. 15-16, 2000
6.	Dr.M.S.Mathews	International Seminar on Cement and Building Materials	National Council for Cement & Building Materials, New Delhi	Nov. 21-24, 2000
7.	Shri.K.Gopalakrishna	International Conference ICIWRM - 2000	National Institute of Hydrology	Dec. 2000

3.4 Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr.V.ThamizhArasan	Modelling Mode choice of Urban Travellers in India	University of Massachusetts at Amherst, Amherst, USA; May 1, 2000
2.	Dr.S.R.Gandhi	Foundation of Marine Structures	PWD Office, Chennai, August 21, 2000
3.	Dr.S.R.Satish Kumar	Earthquake Resistant Structural Design	HUDCO, Chennai, Nov-Dec.2000
4.	Dr.S.R.Gandhi	Ground Improvement Techniques by Blasting – its functions and limitations	Anna Univ., Chennai, December 22, 2000
5.	Dr.A.Boominathan	Ground Improvement using Randomly Distributed Fibres	Anna University December 22, 2000
6.	Dr.S.Mohan	Evolutionary Computing	Osmania University Hyderabad, January 6, 2001
7.		Technical Writing	Training Programme for Young Engg. Fac., Dec. 20, 2000 – Jan. 13, 2001
8.	Dr.Ligy Philip	Waste Minimisation and cleaner technologies	TTTI Taramani, Chennai, February 15, 2001
9.		Life Cycle Assessment	TTTI Taramani, Chennai, February 23, 2001
10.	Dr.V.Kalyanaraman	Composite Trusses	University of Bangalore, February 28, 2001
11.	Dr.S.R.Satish Kumar	Gujarath Earthquake	Salem Civil Engineering Association, March 4, 2001
12.	Dr.K.Rajagopal	Recent Trends in Geotechnical Engineering	Dept. of Civil Engineering, MEPCO Schlenk Engg. College, March 9, 2001
13.		Design of Reinforced Soil Walls and Bridge Abutments	Workshop on Soil Reinforcement and Geosynthetics, IISC, Bangalore, March 20, 2001
14.		Design of Reinforced Soil Embankments	- do -
15.	Dr.K.N.Satyanarayana	1.Quality Control and Management 2. Construction Project Management	Hudco South Zone, July 11-21, 2000
16.	Dr.B.S.Murthy	Application of ODES and PDES in Civil Engineering	Short Term Course on Computing Applications in Civil Engineering for Teachers under AICTE/ ISTE on Nov.17, 2000

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
17.	Dr.Devdas Menon	Perspectives in Engineering Education	AICTE Course on Induction Training Programme for Engineering Teachers at REC Calicut on Feb. 26-27, 2001
18.	Dr.V.Kalyanaraman	Advances in Structural Steel Concrete Composite Construction	Workshop on Feb.26-28, 2001, Bangalore
19.	Dr.A.Meher Prasad	Earthquake Resistant Design of Structures - Issues and Solutions	National Seminar on "Earthquake Resistant Design" conducted by KSHB, on 5-3-2001, at Trivandrum
20.	Dr.B.S.Thandaveswara	Sub-surface Flows in Coastal Zone - Remediation"	Seminar organised by OEC, NIOT and IOI during Nov.20-22, 2000

3.5 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr.V.Thamizh Arasan	Brazil	April 24 -29, 2000	To present paper in an International Conference
2.		USA	April 30 – May 6, 2000	To visit universities for discussion on academic matters of mutual interest
3.	Dr.K.Elango	Italy	July 21 – 31, 2000	Under Sponsored Project, Review Meeting Hydro Control Sardinia
4.		U.K.	Feb. 18 – 28, 2001	Report Finalisation at SBW London
5.	Dr.Koshy Varghese	Texas	May 26, 2000 to July 12, 2000	Short Tern Visiting Scholar
6.		Taiwan	Sept. 18 - 20, 2000	To present a paper

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1.	Dr.S.R.Gandhi	Best Paper Award	Indian Geotechnical Conference	Innovations in Field Exploration	December 13, 2000
2.	Dr.C.S.Krishnamoorthy (late)	Maharashtra State National Award	ISTE	Outstanding Research Work in Engineering and Technology in 1999	January 2001

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
3.	Dr.B.S.Thandaveswara	Best Paper Award	Indian Water Works Association	Best paper published in Oct.-Dec., 2000 Issue	January 2001

3.7 Books / Monographs authored or co-authored:

Sl. No.	Name(s) of Author(s)	Title of Text Book/ Monograph	Publisher
1.	Dr.V.Kalyanaraman Dr.S.R.Satish Kumar Dr.R.Narayanan	Structural Steel Design - Teaching Resource	INDSAG, Calcutta
2.	Dr.M.S.Mathews Dr.S.Narayanan	Cyclonic Wind Loads on Industrial Sheds (Project Completion Report)	Dept. of Civil Engineering, I.I.T., Madras
3.	Dr.V.Kalyanaraman Mr.Sachin Paranjpe	IS:800 Background Report - Tension Members	
4.	Dr.V.Kalyanaraman Ms.Usha	IS:800 Background Report - Limit State Method	
5.	Dr.N.Rajagopalan	Grade Separators for Roads and Railways	HBE, Tamil Nadu Centre
6.	Dr.N.Rajagopalan Krishankanth S.Srinivasan SC Gupta A.K.Hari P.Sriram	Durability of Concrete Structures in Indian Railways	Indian Railways, Railway Board, New Delhi
7.	Dr.K.Elango Dr.S.Mohan Dr.K.N.Satyanarayana Dr.H.Suresh Rao Dr.B.S.Thandaveswara	Irrigation Engineering (Course Material)	IGNOU, New Delhi

3.8 Fellowships of Academies and Professional Societies (Humboldt /INAE/ INSA / Hon.FRA. etc.)

Sl. No.	Name of Faculty	Name of the Academy/ Professional Society	Level	Year of Admission
1.	Dr.B.S.Thandaveswara	Institution of Engineers, Calcutta	F/102972/6/110/CE	1994
2.		The Indian Association for Hydrologists, Roorkee	FM 119/1994	1994
3.	Dr.S.R.Gandhi	Indian Geotechnical Society (New Delhi)	Life Fellow	1997
4.	Dr.A.Ramachandraiah	Acoustical Society of India	Fellow	

Sl. No.	Name of Faculty	Name of the Academy/ Professional Society	Level	Year of Admission
5.	Shri.K.Gopalakrishna	Institution of Environmental Engineers New Delhi	Fellow	1998
6.	Dr.A.Ramachandraiah	Acoustical Society of America	Associate Member	

4. Design and Development Activities

4.1 Brief and specific details of Process/Instruments/Equipments/Software Designed and Developed:

An in-situ testing device for testing the bed characteristics for support of temporary bridges, was developed by Dr.S.R.Gandhi

A pullout test arrangement with facility for automatic recording of load slip curves was developed by Dr.P.K.Aravindan.

A software for design of RC columns subject to biaxial eccentricity was developed by Dr. Devdas Menon.

A Computer Aided Instructional Module for Hydrology is being developed by Dr.K.Srinivasan

4.2 New facilities added or major equipment procured through project funds:

1.5 KVA Stabiliser

HP KAYAK Computer system 1 set

IBM PC Intel P 400 4 sets

IBM PC Intel P 400 2 sets

Digital Camera

Rebur Locator Profometer and Resistivity Meter

Concrete Test Hammer

Intel Pentium 1 set

HP Vectra PIII Computer 1 set

5. Research and Consultancy:

5.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Fly ash densification	1997-00	DST, Mettur	12.00	Dr. S.R. Gandhi
2.	Fly ash densification	1997-01	DST, Kothagudem	10.00	Dr. S.R. Gandhi

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
3.	Production of a courseware on CD on the Geotechnical aspects of design of shallow foundations	1999 - 2000	Curriculum Development Cell, Centre for Continuing Education, IIT Madras	0.30	Dr.Nainan P Kurian
4.	Effects of various types and amounts of fly ash and durability and performance of concrete in hydraulic structures	1996-2000	INCCMS	18.41	Dr.M.S.Mathews Dr.B.Viswanathan
5.	Modernisation of Construction Materials and Systems Laboratory	1999-2000	MHRD	10.0	Dr.R.Ambalavanan Dr.M.S.Mathews Dr.K.Ramamurthy
6.	Off-line planning and simulation of Multiple Mobile Crane Lifts	1999-2001	DST	11	Dr.K.N.Satyanarayana Dr.Koshy Varghese Dr.N.Ramesh Babu
7.	Development of techniques for classification of urban features from remote sensed data for use in GIS applications	1997-2000	ISRO	7.5	Dr.Koshy Varghese Dr.B.Yegnanarayana Dr.Sukendu Das
8.	Infrastructure for Decision Support Systems for cyclone disaster mitigation	1999-2001	MHRD	12	Dr.K.N.Satyanarayana Dr.A.Meher Prasad Dr.L.S.Ganesh Dr.C.Rajendran Dr.Koshy Varghese
9.	Investigation of Genetic Algorithm based off-line path-planning for Cooperative Cranes in a construction work-cell environment	2000-2003	DST	12	Dr.Koshy Varghese Dr.Ramesh Babu
10.	Standardization of damage – frequency relationship for flood damage assessment	Ongoing	DST	5.04	Dr.B.S.Thandaveswara Dr.K.Srinivasan
11.	Reservoir performance analysis	1997-2000	INCOH, Ministry of Water Resources	6.3	Dr.B.S.Thandaveswara Dr.K.Srinivasan
12.	Free Surface Flows	On going	CCE IIT	1.6	Dr.B.S.Thandaveswara

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
13.	Development of an interactive Software for watershed analysis and management	1997-2000	DST	3.96	Dr.S.Mohan
14.	Modernisation of Public Health Laboratory	1998-2000	MHRD	13.00	Dr.S.Mohan Sri.K.Gopalakrishna Dr.K.D.Chandrasekaran
15.	Fuzzy Logic procedure for maintenance of irrigation and drainage	1998-2000	European Commission	71	Dr.K.Elango Dr.S.Mohan
16.	Computer aided Instructional Module for Hydrology	1999-2000	CD Cell, IIT Madras	1.10	Dr.K.Srinivasan
17.	Studies on anchored retaining walls for highway and railway applications	1999-2000	MHRD	6.0	Dr.R.Sivanandan Dr.K.Rajagopal
18.	Modernisation of Traffic Engineering Laboratory	1999-2000	MHRD (MODROBS Scheme)	5.0	Dr.R.Sivanandan
19.	Interlocking block masonry	1998-2000	BMTPC	7.5	Dr.R.Ambalavanan Dr.K.Ramamurthy
20.	A Knowledge based computing system for integrated engineering of steel railway bridges	1998-2000	DST	18.43	Dr.V.Kalyanaraman
21.	Smart control of instability	1998-2000	ISRO	9.33	Dr.V.Kalyanaraman
22.	Preparation of teaching resource material on Design of Steel Structures	1999-2000	INSDAG	33.56	Dr.V.Kalyanaraman Dr.S.R.Satish Kumar
23.	Structural Engineering Laboratory classes on Multi-Media	1999-2000	CDC	1.21	Dr.V.Kalyanaraman Dr.A.Meher Prasad
24.	Techniques to improve cyclone resistant characteristics of roofing of industrial sheds	1997-2000	AICTE	7.00	Dr.M.S.Mathews

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
25.	Development of appropriate system planning technique for industrial conditions	1994-2000	Volkswagen Foundation, Germany	20	Dr.V.ThamizhArasan
26.	Interactive Water Supply System: Design and Control	1997-2000	Department for International Development, South Bank, UK,	33	Dr.K.Elango

5.2 Industrial Consultancy:

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
1.	Dr.A.Boominathan Dr.S.R.Gandhi Dr.N.R.Krishnaswamy	Dynamc lateral load test on piles at IOCL, Guwahati Refinary, Assam	M/s. Kaverner Cementation India Ltd, Calcutta	2.00
2.	Dr.K.Rajagopal Dr.N.R.Krishnaswamy	Testing the Suitability of Geotextiles for use of Simhadri Power Plant	M/s. Bharat Heavy Electricals Limited, Chennai	0.95
3.	Dr.A.Boominathan Dr.S.R.Gandhi	Evaluation of Dynamic Pile Parameters for IOCL – Barauni	M/s. Samsung Engg. Co. Ltd., IOCL, Barauni, Bihar	5.50
4.	Dr.N.R.Krishnaswamy	Dynamic Pile Load Test at IOCL – Digboi	M/s. Larsen & Toubro Limited, Baroda	5.30
5.	Dr.K.Rajagopal Dr.N.R.Krishnaswamy	Determination of Characteristics of Coir Geotextiles	M/s. Central Coir Research Institute, Kerala	0.25
6.	Dr.A.Boominathan Dr.S.R.Gandhi Dr.N.R.Krishnaswamy	In-situ Dynamic Pile Tests at IOCL – Barauni	M/s. Larsen & Toubro Limited, Chennai	2.70
7.		Dynamic Pile Testing at Guwahati Refinery SRU and U/O Unit	M/s. SiiRTEC NIGI S.p.A.New Delhi	9.00
8.	Dr.A.Boominathan Dr.S.R.Gandhi	Dynamic Pile Tests at U/O units of IOCL Guwahati	M/s. SiiRTEC NIGI S.p.A. Mumbai	9.00
9.	Dr.N.R.Krishnaswamy	Analysis and Design of Foundation for Air Compressor at Guwahati refinery	M/s. SiiRTEC NIGI S.p.A. Mumbai	0.75
10.	Dr.K.Rajagopal Dr.A.Boominathan	*Recommendation of CBR values for truck terminal at Koyambedu market complex	CMDA, Chennai	0.50

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
11	Dr.A.Boominathan Dr.S.R.Gandhi Dr.N.Sundaravadivelu	Design of Foundation for PILESTICK engine	Sri Venkateswara Engineering College, Sriperumpudur	0.40
12	DrS.R.Gandhi Dr.A.Boominathan	Gauge Conversion from Chengalpattu Junction to Arakkonam Junction	Southern Railway, Egmore, Chennai	0.50
13	Dr.K.Rajagopal Dr.S.R.Gandhi Dr.A.Boominathan	Recommendation for the Use of Fly Ash at Refinery Expansion Site, Manali	CPCL, Chennai	0.50
14	Dr.S.R.Gandhi Dr.R.Sundaravadivelu	Site Visit for the Supervision and Execution of SWB in JNPT	JNPT	2.50
15	Dr.S.R.Gandhi Dr.R.Sundaravadivelu	Shore Protection and Dredging Work, Astarang	Gopalpur Port	2.00
16	Dr.K.Ananthanarayanan	Survey Work at Devi River	LMB	2.50
17	Dr.S.R.Gandhi Dr.R.Sundaravadivelu	Further Extn. To Cont. Term at BD with Increased Dredge level	CPT	2.00
18		Construction of 8 th Cargo Berth	TPT	6.00
19		Construction of Wetland Centre at Barakul, Orissa	CDA	4.00
20		Augmentation of Berthing Facilities at Haddo, Navy Port Blair	Navy	5.00
21		Dharma Fishing Harbour	Gopalpur Port	6.40
22		Dr.S.R.Gandhi	Extension of Berthing Jetty at Vadinar	Kandla Port
23	Dr.R.Sundaravadivelu Dr.M.R.Pranesh	Construction of shallow water berth for Handling Generator Container Cargo in JNPT	JNPT	14.00
24	Dr.S.R.Gandhi	Design of Coast Guard Jetty at Port Blair	Navy	3.00
25	Dr.R.Sundaravadivelu	Deepening of Berth No.10 & 11 of Mormugao Port	MPT	9.00
26	Dr.S.R.Gandhi	Modernisation of East Quay Berth at Madras Airport	Madras Port	11.00
27	Dr.R.Sundaravadivelu	Design of Container Berth at Bharathi Dock, Madras Port	Madras Port	10.00

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
28.	Dr.S.R.Gandhi Dr.R.Sundaravadivelu Dr.M.R.Pranesh	Construction of Spillway at Kandla Port Trust	KPT	12.00
29.	Dr.S.R.Gandhi	Geotechnical Investigations at Ravva Site	COMACODE – Mumbai	0.30
30.		Conducting Shear Test of Limestone samples	India Cements Ltd.,	0.40
31.	Dr.S.R.Gandhi Dr.R.Sundaravadivelu	Consultancy Services for geotechnical investigations and foundation engineering at Ravva Offshore field	COMACOE, Mumbai	1.80
32.	Dr.S.R.Gandhi	Design of Rammed Stone Column Checking	TamilNadu Petro Products Ltd	0.20
33.	Dr.S.R.Gandhi Dr.N.Rajagopalan	Soil Investigation for construction of new Lighthouses in Chennai District	Lighthouse Department	0.90
34.	Dr.S.R.Gandhi Dr.K.Rajagopal Dr.Devdas Menon	Pile Foundation for 70m Heavy Weight Micro Wave Tower in TE building compound at Perungudi	Telecom Civil Division II	0.75
35.	Dr. S.R. Gandhi Dr. Nainan P. Kurian	Geotechnical Consultancy Services for 2 nd Launch Pad Project at Sriharikota.	MECON, Ranchi	0.50
36.	Dr. S.R. Gandhi Dr. R. Sundaravadivelu	Soil test and foundation recommendation at Campbell Bay	Navy, Port Blair	2.00
37.	Dr. S.R. Gandhi Dr. Devdas Menon Dr. P.K. Aravindan	Foundation design for boring machine	KCP Ltd.	1.00
38.	Dr. S.R. Gandhi Dr. R. Sundaravadivelu	Extension of Naval Wharf at Port Blair	Navy, Port Blair	5.00
39.		Construction of Cargo Berth No.8 (Multipurpose) at Tuticorin Port Trust	Tuticorin Port Trust	6.00
40.	Dr.Nainan P Kurian	Assessment of Soil Bearing Capacity for Design of Structures	Garrison Engineers, Andamans	0.48
41.	Dr.A.Boominathan Dr.N.R.Krishnaswamy	Dynamic Testing of Piles at IOCL – DHD's Unit of Haldia, W.B.	Technimont SPA India Project Office, Mumbai	2.00
42.	Dr.A.Boominathan	Crosshole Shear Wave Tests at DVB Pragati Power Project, New Delhi	L&T ECC, Chennai	4.00

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
43.	Dr.A.Boominathan	Crosshole Shear Wave Logging at AES Kelanitissa, Colombo, Srilanka	L&T ECC, Chennai	1.25
44.		Design of Foundation for Lake Pump House, NLC, Neyveli	Neyveli Lignite Corporation, Neyveli	0.25
45.		Block Vibration tests at Sagar Sugar Factory, Nelavoy, AP	Sagar Sugars and Allied Products, Chennai	0.50
46.	Dr.A.Boominathan Dr.R.Ambalavanan	Remedial measures for roller mill foundation	ECOF Detergents Private Limited, Chennai	0.15
47.	Dr.A.Boominathan Dr.S.R.Gandhi	Evaluation of Dynamic Pile Parameters	BHPV, Visakhapatnam	6.00
48.	Dr. S.R. Gandhi	Raising of ash dyke at Durgapur Steel Plant	Steel Authority of India	3.00
49.		Raising of ash dyke at NALCO	M.N. Dastur & Co. Ltd.	3.20
50.		Inspection of Damage to Light Houses in Gujarat	Dept. of Light Houses and Lightships, Noida	0.60
51.	Dr. S.R. Gandhi Dr. R. Sundaravadivelu	Extension of Naval Wharf at Port Blair	Navy, Port Blair	5.00
52.	Dr.S.R.Gandhi	Foundation design for Elcome Surveys Ltd	M/s. Elcome Surveys	2.00
53.		Soil Investigation Work of 220 MW Barge Mounter Power Project at Tanir Bavi near Mangalore	Simplex Concrete Piles Ltd	0.50
54.	Dr.P.K.Aravindan	Repair of Underground tanks at Cochin International Airport	M/s.Bharat Petroleum Corporation	0.30
55.		Proof checking of design calculations pertaining to Engine Test Building at Ambattur	M/s.Hindustan Aeronauticals Bangalore	0.30
56.		Structural design of the memorial at SRMCand RI at Porur	M/s. Technicalaya Consultants, Chennai	0.30
57.		Checking of structural design for reconstruction of Auditorium of ROB	Reserve Bank of India, Chennai	0.30
58.		Testing of floor properties specimens and steel	M/s. L & T Chennai	0.45

Sl. No.	Name of the Faculty	Title	Industry	Amount (In Lakhs)
59.	Dr.P.K.Aravindan	Mix design and testing of reinforcement steel for Polur and Pulicholur Road	M/s.Consolidated Construction Consortium Ltd	0.33
60.		Ultrasonic testing foundation in 2 x 210 MM TS-1 Expansion Neyveli	M/s. Simplex Concrete Piles Ltd.	4.18
61.	Dr.P.K.Aravindan	Proof checking and detailed design and estimate for Gaighat Terminal at Guwahati	M/s.Inland Waterways Authority of India Noida	4.20
62.		Analysis and design and preparation of drawings for the shed for Hudco Bay at Port Blair	M/s.Andaman Lakshdeep Harbour Works	0.30
63.		Checking of structural stability and conducting of Non-destructive test at Bombay	Reserve Bank of India	2.20
64.		Analysis and testing of prestressed concrete girder at Karanadai Bridge	M/s Kortalaiyar Bridge Pvt. Ltd.	0.30
65.		Design of various structures in the LPG at Cochin	Indian Oil Corporation	10.0
66.	Dr.P.K.Aravindan	Rehabilitation of structures in distress at refinery	Hindustan Petroleum Chemicals	4.00
67.	Dr.Devdas menon	Design of bridge across Pamba river at Thekkadi	Kerala State Construction	6.00
68.	Dr.P.K.Aravindan	Carrying out the NDT tests at NLC	Simplex Concrete Piles	4.18
69.		Design of Bima Digesters at Ludiana	Eastern Engineering Ltd	1.50
70.		Analysis and design of Bio digesters at Namakkal	Eastern Engineering Ltd	1.20
71.	Dr.P.K.Aravindan Dr.Devdas Menon	Rehabilitation of the silo concrete and the damaged concrete portion	India Cements	0.80
72.	Dr.P.K.Aravindan	Checking the design calculation for the auditorium roof balcony	SS consultants	0.80
73.		Checking of 4 domes for Infosys, Ranchi	Semae Private Ltd	0.50
74.	Dr.N.Rajagopalan	Quality Control of Neoprene Bearings	Pioneer Rubber Industries	1.00
75.		Preparation of Software for design of service reservoirs	TWAD	5.00

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
76.	Dr.N.Rajagopalan	Fatigue studies of PSC mono block sleepers	Patil Group	0.80
77.		Quality assessment of prestressed precast segmentally erected girder	L&T ECC	1.70
78.		Proof checking of 108 m span steel girder bridges	Southern Railway	1.25
79.	Dr.N.Rajagopalan	Proof checking of Road Over Bridge Design - Bow String Girder Bridge	Southern Railway	0.70
80.		Study of Relaxation properties of 15.2 mm LRPC strands	M/s.TATA Steel Co	1.0
81.		Proof checking of ROB Ahmedabad	M/s. Larsen & Toubro, Chennai	1.0
82.	Dr.H.Achyutha	Relaxation tests on prestressing wires and strands	BIS and Steel Industry	2.00
83.		Neoprene Bearings Acceptance tests	Bearings Manufacturers	1.50
84.	Dr.H.Achyutha Dr.Devdas Menon	Safety audit of chennai Airport floors and roof	AAI	1.70
85.	Dr.H.Achyutha	Relaxation Test	M/s. Kvaerner Cementation Ltd.,	0.40
86.		Quality control study of Neoprene Bearings	Various organisations	0.50
87.		Relaxation Tests / Calibration tests of Samples	Various organisations	1.00
88.	Dr.K.Elango Group-A, Dean IC & SR	Common Effluent Treatment Plants	Tannery Societies	
89.	Dr.K.Elango Dr.Rajai Roy Choudhry, NIOT	Flood Hydrology of Cheyyar Thermal Plant site	NTPC - NIOT	2.00
90.	Dr.K.Elango Dr.S.R.Gandhi Dr.K.Srinivasan	Water supply system for a proposed fertilizer plant	IFFCO – Nellore	2.1
91.	Dr.K.Elango Dr.B.S.Murthy	Breach analysis of a storage reservoir	IFFCO – Nellore	0.70
92.	Dr.K.Elango Dr.Rajat Roy Choudhry, (NIOT)	Flood Hydrology of Cheyyur Thermal Plant site	NTPC – NIOT	0.50

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
93.	Dr.V.Kalyanaraman	Structural soundness and rehabilitation	Indian Navy, Cochin	0.18
94.	Dr.V.Kalyanaraman Dr.S.R.Satish Kumar	Designing and drawing of aluminium truss		0.35
95.	Dr.V.Kalyanaraman Dr.S.R.Satish Kumar	Design of cable supported pipe bridge at Cochin	L & T Ramboll Chennai	0.60
96.	Dr.S.Mohan Dr.S.Kumaraswamy Dr.D.V.S.Murthy Dr.R.Ambalavanan Dr.T.Swaminathan Dr.K.Ramamurthy Dr.K.D.Chandrasekaran	Design of water treatment plant in Neyveli	Neyveli Lignite Corporation Ltd.	5.0
97.	Dr.S.Mohan	Testing of water samples for cooling purposes	ABBLtd., New Delhi	0.25
98.	Dr.S.Mohan	Development of module in GIS and their application in Env. Engg.	TNPCB	2.5
99.		Calibration of Current Meters	Various Agencies	5.07
100		Testing of bricks for environmental quality	Needle Industries Ltd. Ooty	0.10
101	Dr.K.Rajagopal	3-D Finite Element Analysis of HDPE pipe-soil interaction	Florida Atlantic University, Boca, Raton, USA	0.86
102		Finite Element Analysis of strutted excavation in Colombo, Sri Lanka	UFC Sincon (India) Private Ltd., Chennai	0.15
103	Dr.K.Rajagopal Dr.B.S.Thandaveswara Dr.H.Achyutha	Recommendations for the repair of Guntur Branch Canal at mini-hydel power plant	Krishna Cement Products Private Ltd.	1.5
104	Dr.K.Rajagopal	Recommendations for the repair of the foundation of oil storage tank	Madras Refineries Ltd., Chennai	0.70
105		Testing and recommendation of the design properties of multifunctional deocomposite	Calcutta Port Trust, Chennai	0.25

Sl. No.	Name of the Faculty	Title	Industry	Amount (In Lakhs)
106	Dr.K. Rajagopal	Recommendation of design parameters for construction of flyover on NH-10, New Delhi	UP State Bridge Corporation, New Delhi	0.30
107		Testing and recommendation of geosynthetics for BHEL Simhadri project	BHEL, Chennai	0.30
108		Testing and recommendation of special design properties for Flyover Projects	L&T ECC Ltd, Chennai	0.50
109		Evaluation of Gabion wall design for repair of slips at Valiyasala	Southern Railway, Chennai	0.20
110		Recommendation for the construction of pavements at Container Freight Station at Manali	Blamer Lawrie & Co. Ltd., Calcutta	1.01
111	Dr.V.Thamizh Arasan Dr.R.Sivanandan	Study of Railway Level Crossing Accidents	Southern Railway, Chennai	2.40
112	Dr.V.Thamizh Arasan	Derivation of job mix formula for strengthening of certain stretches of NH	The Divisional Engineer, NH, Ramanathapuram	0.40
113		Mix design for DBM and SDC works for special repairs to highway	The Divisional Engineer, NH Tuticorin	0.50
114	Dr.V.Thamizh Arasan	Design of mixes for bearing and wearing courses for improvement of riding quality of NH	The Divisional Engineer, NH Tirunelveli	0.60
115		Mix design for DBM and SDC works for special repairs to highway	The Divisional Engineer, Highways Dept. Chennai	0.50
116		Design of bituminous mixes for periodical maintenance for highways	The Divisional Engineer, (H & RW) Tuticorin	0.50
117		Derivation of job mix formulae for SDC and DHM works for flexible pavement construction	The Divisional Engineer, Highway Department Chennai	0.65

Sl. No.	Name of the Faculty	Title	Industry	Amount (In Lakhs)
118	Dr. R. Ambalavanan	Concrete mix design	IRCON, Chennai	0.225
119		Investigations on construction materials and advice	Tamilnadu Housing Board	0.40
120		Investigations on flush door	Kutty Flush Doors and Furniture Co., Ltd., Chennai	0.30
121		Investigation of concrete structural members of Phosphoric Acid Plant	Coromandal Engineering Company Ltd, Chennai	0.25
122		Concrete mix design	A.Prabhakara Reddy, Trichy	0.30
123		Concrete mix design	K.G.Lakshmiopathi & Co	0.25
124		Concrete mix design	Highways and Rural Works Department	0.25
125		Investigation on prestressing strands	Tata SSL Limited, Chennai	0.50
126		Investigations on construction materials	Tamilnadu Slum Clearance Board	0.75
127		Concrete mix design	Highways and Rural Works Department	0.30
128		Investigations on construction materials	Tamilnadu Housing Board	0.40
129		Investigation on prestressing strands	Tata SSL Limited, Chennai	0.75
130		Investigations on construction materials and advice	Hindustan Steelworks Construction Corporation Ltd.,	0.50
131		Concrete mix design	MAC Civil Engineers Ltd.	0.30
132		Concrete mix design	East Coast Construction (P)Ltd., Chennai	0.80
133	Dr.R.Ambalavanan	Investigation on utilisation of waste granite powder	Dailbeck Abrasives (India) Ltd.	0.20
134		Distress assessment and remedial measures of Ammonium Chloride plant	SPIC Heavy Chemicals Ltd	0.35
135		Concrete mix design, Investigation on Construction Materials	Saravana Constructions (P) Ltd., Bangalore	0.50
136		Investigation on concrete admixture	SIKA Qualcrete Ltd.	0.10

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
137		Investigation on granite tiles	South India Corporation, Chennai	0.50
138		Investigation of Building Materials	Various Organisations	1.90
139		Noise measurement of car	Hindustan Motors	0.15
140	Dr.A.Ramachandraiah	Noise control of pile driving equipment	L&T ECC	0.25
141		Noise control of an Industry	L&T ECC	0.25
142	Dr.Koshy Varghese Dr.J.S.Mani	Assistance for Development of Coastal Zone Management Plans for Chennai	Resource Analysis (Netherlands)	1.40
143	Dr.K.N.Satyanarayana	Advice on setting up of Construction Web Site	MFL net Services	0.20
144	Dr.K.Ananthanarayanan Dr.R.Sundaravadivelu	Shore Protection & Dredging work, ASTRANG	Fisheries & ARD Dept, Govt. of Orissa	2.00
145	Dr.K.Ananthanarayanan Dr.R.Sundaravadivelu	Rapid assessment study on environment and erosion		0.75
146	Dr.K.Ananthanarayanan Dr.R.Sundaravadivelu	Survey work at Devi River	ORISSA PWD	25.00
147	Dr.K.Ananthanarayanan Dr.R.Sundaravadivelu	Carrying out Topographic survey in Flatbay, Andaman	WAPCOS	0.50
148	Dr.K.Ananthanarayanan Dr.R.Sundaravadivelu	Dredging and disposal for Fishing Harbour and Hydrography Survey	Fisheries, Govt. of Orissa	0.75
149	Dr.B.S.Thandaveswara (Group Leader)	CETP	SIPCOT/SIDCO, Ranipet	1% of Total cost
150	Dr.B.S.Thandaveswara Dr.K.Srinivasan Dr.B.S.Murthy	New Tirupur water supply project	Tirupur	5.00
151	Shri.K.Gopalakrishna	Design of sewage treatment plant, NLC Township Neyveli	NLC Neyveli.	1.45
152	Shri.K.Gopalakrishna	Cost estimation of proposal STP NLC Township	NLC Neyveli.	0.95
153	Dr.V.R.Rengaraju Shri.M.Subbi Reddy	Job Mix Design and Advice for Bituminuous Macadam and Concrete, Evaluation sub-grade materials, etc.	Government & Private Organisations	5.45

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Lakhs)
154	Dr.V.R.Rengaraju Shri.M.Subbi Reddy	Job Mix Design and Advice for Bituminous Macadam and concrete, Evaluation sub-grade materials, etc.	State Highways and other organisations	6.00
155	Dr.V.ThamizhArasan	Design of surface and sub-surface course mixes for bituminous roads	National Highways and State Highways departments	3.0
156	DR.V.Kalyanaraman	Calibration of Torque Wrench and Testing of Fasteners	L&T ECC Construction Group Chennai	12.0
157	Dr.S.R.Satish Kumar Dr.A.Meher Prasad	Ground Antenna System Design	NRSA Hyderabad	2.90
158	Dr.S.R.Satish Kumar	Design proof checking	CPWD Chennai	0.10
159		Design proof checking	Veejay Consultants Hyderabad	0.20
160	Dr.Nainan P Kurian	Site Inspection and Building Evaluation	Hotel Ennordee International Chennai	0.30

5.3 RBIC

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. S.R. Gandhi	Development of in-situ test device and calibration.	Defence Research Development Organisation, Pune.	3.5
2.	Dr.K.Rajagopal	Studies on the connection strength between geogrid and pre-fabricated blocks	Garware Wall Ropes Ltd., Pune	2.50
3.	Dr.A.Boominathan Dr.S.R.Gandhi	Geotechnical Characterisation of PFBR site	IGCAR, Kalpakkam	2.37
4.	Dr.K.N.Satyanarayana Dr.Koshy Varghese Dr.L.S.Ganesh Dr.S.K.Ramesh	Development of Software for Decision Support System required in the preparation of ICMAM plans for Goa and Gulf of Kutch – Department of Ocean Development	Dept. of Ocean Development	16.86
5.	Dr.K.N.Satyanarayana Dr.A.Meher Prasad Dr.L.S.Ganesh Dr.C.Rajendran Dr.Koshy Varghese Dr.Devadas Menon	Andhra Pradesh Hazard Mitigation and Emergency Cyclone Recovery Project	Government of Andhra Pradesh WL/Delft Hydraulics	11.05

Sl. No.	Name of the Faculty	Title	Industry	Amount (In Lakhs)
6.	Dr.S.Mohan	Long duration of artificial recharge by injection wells in Neyveli	NLC Ltd.	6.50
7.		Water quality analysis and modelling in Neyveli	NLC Ltd.	17.0
8.		Geographic Information based regional micorlevel hydrological model for assessment of ground water recharge	NLC Ltd.	6.50
9.		Studies on rainfall – runoff relations in large /medium reservoirs and in selected tanks / tank chains	IWS, PWD	6.78
10.		Application of System Models for planning and management of water allocation	Krishnan Associates, Chennai	8.1
11.		Development of Optimal pumping plan for ground water pressure control for the existing and future mines at Neyveli and a comprehensive Regional Ground Water Simulation Model for Neyveli Basin	NLC Ltd.	11.5
12.		Modelling of the sea water intrusion in coastal aquifers	IWS, PWD, Chennai	1.24
13.	Dr.A.Meher Prasad Dr.R.Satishkumar	Structural and mechanised design of 6.4 m antenna ground station	NRSA. ISRO	2.90

5.4 Retainer Consultancy:

Sl. No.	Name of the Faculty	Title	Industry	Amount (in Rs)
1.	Dr. S.R. Gandhi	For L&T ECC	L&T ECC	12,000/-
2.	Dr. S.R. Gandhi	For Fichtner Consulting Engineers	Fichtner Consulting Engineers	6,000/-

5.5 Exchange programme with other Universities:

1. Under DAAD Sandwich Program the following students were selected to do their project in Germany from May 2000 to March 2001.
 - i. Shri.Chunchu Mallikarjuna, II. B.Tech in Dresden, Germany
 - ii. Shri.Vivek Sharad Bedekar, II B.Tech, in Aachen, Germany.
 - iii. Shri.Veluri Ramadas, M.S. in Darmstadt, Germany.

4.6 DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

1. Introduction:

The Department of Computer Science and Engineering was established in 1973. It offers B.Tech, M.Tech, M.S. and Ph.D. Programmes.

2. Academic Programmes:

2.1 New Courses Introduced

The following new course was introduced during the year under report.

Sl. No.	Course No.	Title
1.	CS 661	Advances in Database Technology

2.2 Students on Roll

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech.	27	30	33	32	--	--	122
M.Tech. Dual Degree	6	9	7	--	--	--	22
M.Tech.	39	38	--	--	--	--	77
M.S.	25	17	19	4	1	--	66
Ph.D.	6	5	6	1	--	--	18
Total	103	99	65	37	1	--	305

2.3 Number of Scholarship / Fellowship holders:

Programme	Institute Scholarship	Others	Total
B.Tech	10	--	10
M.Tech.	34	--	34
M.S.	21	9	30
Ph.D.	6	--	6
Total	71	9	80

2.4 Endowment Prizes Instituted:

Biswajit Sain Endowment Prize

2.5 Names of student / Names of student/scholar attended Conference/Seminar and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/Symposia	Date & Venue
1	P.C.Reghu Raj	Ph.D	International Conference on Industrial Mathematics (ICIM-2001)	12-14, Aug 2001
2	Y.Sivasubramanyam	M.S	International Conference on Recent Advances in Mathematical Sciences	20-22, Dec 2000
3	K.Srinathan	M.S	First International Conference on Cryptology in India INDOCRYPT 2000	10 – 13, Dec 2000
4	K.Sharda	M.S	International Conference on Recent Advances in Mathematical Sciences ICRAMS – 2000	– 22, Dec 2000

2.6 Number of Degrees Awarded in the last convocation:

Programme	Total
B.Tech.	33
M.Tech.	32
M.S.	8
Ph.D.	4
Total	77

3. Faculty and their Development:

3.1 Faculty Name and Qualification.

S. No.	Name and Qualifications	Major Area of Specialisation
PROFESSORS		
1.	Gonsalves T.A., Ph.D (Standford)	Computer Networks, Distributed Systems, Operating Systems, Performance Evaluation.
2.	Kalyana Krishnan.R, Ph.D (Yale)	Computer Architecture, Computer System Design, Microprocessors, Digital Electronic systems, Computer Graphics, Statistical Signal Processing.

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| 3. | Kamala Krithivasan, Ph.D (Madras) | Theoretical Computer Science,
Computational Geometry, Languages and
Automata Theory |
| 4. | Muthukrishnan C.R, Ph.D (IIT, Kanpur) | Software Engineering,
Computer Architecture,
Distributed and parallel systems,
Object Oriented Systems and databases. |
| 5. | Pandu Rangan C., Ph.D (IISc.) | Algorithms, Parallel and VLSI algorithms,
Graph Theory, Computational Geometry,
Randomised Algorithms, Computational
Learning theory. |
| 6. | Raghavan S.V., Ph.D (IIT, Madras) | Research and development related to
computer network and Protocols with
emphasis on OSI and multimedia systems. |
| 7. | Raman S., Ph.D (IIT Madras) | Computer System Design,
Microprocessor based peripherals,
Natural language processing,
Multimedia. |
| 8. | Siva Ram Murthy C., Ph.D (IISc) | Parallel computing, Distributed systems,
Software engineering, Real time systems,
Architecture for High Performance
computing, Dependable computing. |
| 9. | Yegnanarayana B., Ph.D (IISc) | Digital Signal Processing, Speech and
Vision, Voice Input/Output Systems,
Neural Networks. |

ASSOCIATE PROFESSORS

- | | | |
|-----|--|--|
| 10. | Hema A Murthy Ph.D (IIT Madras) | Speech processing, Computer Graphics and
pattern recognition. |
| 11. | Janaki Ram D, Ph.D (IIT Delhi) | Distributed computing, Distributed Systems,
Software Engineering, Object Oriented
Systems, Database and CAD/CAM |
| 12. | Sreenivasa Kumar P, Ph.D (IISc) | Graph Theory, Algorithms,
Parallel Computations,
Data Mining and Data Bases. |

ASSISTANT PROFESSORS

- | | | |
|-----|---|--|
| 13. | Deepak Khemani, Ph.D (IIT Bombay) | Artificial Intelligence, Knowledge based
systems, Natural Language Processing and
Neural Networks |
| 14. | Sukhendu Das, Ph.D (IIT Kharagpur) | Computer Vision, Image processing and
pattern recognition, Graphics,
Neural Networks,
Digital and Analog Systems. |

15. Chandra Sekhar C., Ph.D (IIT Madras) Speech recognition, Neural Networks, Digital Systems.

3.2 Short term courses/Workshops/Seminars/Symposia/Conferences organised by the Dept:

S.No.	Co-ordinators	Title	Period
1.	Prof.B.Yegnanarayana & Dr.Sukhendu Das	International Conference on Multimedia Processing and Systems (ICMPS-2000)	August 13 – 15, 2000
2.	Dr.S.Raman	First One Day Workshop on Relevant IT Education to meet global challenges	20 th February 2001
3.	Prof.C.Pandu Rangan	Web Technologies in IT Industries	March 22 – 23, 2001
4.	Prof.C.Pandu Rangan	Workshop on Teaching Methodologies in Computer Science-Algorithms	April 7 – 8, 2001

3.3 Short-term Courses/ Workshops /Seminars /Symposia /Conferences / Training attended by the Faculty in Academic Institutions and Public Sector Units.

1. Prof.C.R.Muthukrishnan chaired the session, "WEB Based Education" on 9th July 2000 at IEEE Students' Congress – 2000.
2. Prof.S.V.Raghavan Participated in the panel discussion on "IT & Education" on 9th July 2000 at IEEE Students' Congress – 2000.
3. Prof.C.Pandu Rangan chaired a session on High Performance Computing in CSI 2000 – 35th Annual Convention, held at TIDEL Park, Chennai, during 12-16, September 2000.
4. Prof.Kamala Krithivasan served as a Judge for CSI 2000 – 35th Annual Convention on 12th September 2000.
5. Dr.D.Janaki Ram chaired a session on Distributed Objects CSI 2000 – 35th Annual Convention held at TIDEL Park, Chennai, on 15th September 2000.
6. Prof.Kamala Krithivasan participated in the panel discussion on Information Technology Today at Pondicherry Engineering College, Pillaichavady, Pondicherry on 12th October 2000.
7. Prof.B.Yegnanarayana, chaired a session on "OCR & Speech" on 24.1.2001 at the Discussion and Review meeting on "Technology Development in Indian Languages (TDIL)" organized by Ministry of Information Technology, New Delhi.
8. Prof.C.Pandu Rangan chaired a session in the national conference on "Convergence in IT in 2010".

3.4 Special lectures delivered by the faculty in other Institutions:

S.No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Prof.C.Pandu Rangan	Trends in Randomized Algorithms	REC, Trichy, September 8 – 10, 2000
2.	Prof.S.V.Raghavan	IT Planning Strategies	TIDEL Park, 15 th September 2000
3.	Prof.R.Kalyana Krishnan	Indian Language Enabling	TIDEL Park, 14 th September 2000
4.	Prof.Kamala Krithivasan	Computation Geometry	New Delhi, Dec 16 – 18, 2000

S.No.	Name of Faculty	Topic of Lecture	Venue and Date
5.	Prof.C.Pandu Rangan	What is Computer Science....?!	Pondicherry Engineering College, Pondicherry, 10 th January 2001
6.	Prof.C.Pandu Rangan	Graph Theory and its Applications	Anna University, 14 th March 2001

3.5 Visits abroad by faculty:

S.No.	Name of faculty	Country visited	Date	Purpose of visit
1.	Prof.C.R.Muthukrishnan	France	22.5.2000 – 25.5.2000	To participate in a discussion with Indo-French Centre for promotion of Advance Research (IFCPAR).
2.	Prof.C.R.Muthukrishnan	USA	9.6.2000 – 26.6.2000	To visit IIT Madras Alumni at various places in USA
3.	Prof.B.Yegnanarayana	Turkey	20.5.2000 – 4.6.2000	To attend and present a paper at the International Conference on Acoustic, Speech & Signal Processing
4.	Prof.Kamala Krithivasan	Israel, Austria & USA	25.6.2000 – 20.7.2000	Under the Indo-Isreal project on ATM networks
5.	Prof.S.V.Raghavan	USA	17.6.2000 – 02.7.2000	in connection with re-desing and proof of concept demo of Sankhya Vahini
6.	Prof.C.Pandu Rangan	Japan	06.6.2000 – 01.7.2000	to deliver invited talks on Algorithms
7.	Prof.C.Pandu Rangan	Singapore	16.1.2001 – 17.1.2001	to attend SMA annual symposium
8.	Prof.C.Pandu Rangan	Hong Kong	18.1.2001 – 19.1.2001	to have discussion on organising the International Conference Indocrypt 2001
9.	Prof.C.Siva Ram Murthy	USA	25.6.2000 – 28.6.2000	to attend the International Conference on Dependable Systems and Networks
10.	Dr.Deepak Khemani	Switzerland	16.5.2000 – 12.7.2000	to be an EPFL academic Guest at Swiss Federal Institute of Tech., Lausanne.
11.	Dr.Hema A Murthy	China	17.10.2000 – 20.10.2000	to attend the International Conference on Spoken Language Processing
12.	Dr.D.Janaki Ram	Singapore	5.12.2000 – 8.12.2000	to attend and present a paper at the 7 th Asia-Pacific Software Engg., Conference

3.6 Books, Monographs published:

S.No.	Name(s) of Author(s)	Title of Text Book / Monograph	Publisher
1.	Dr.C.Siva Ram Murthy & Dr.V.Rajaraman, IISc Bangalore	Parallel Computers: Architecture and Programming	Prentice Hall of India
2.	Dr.C.Siva Ram Murthy , Dr.K.N.Balasubramanya Murthy, Malnad College of Engg., and Dr.A.Srinivas, Iowa State Univ	New Parallel Algorithms for Direct Solution of Linear Equations	John Wiley & Sons, Inc., USA
3.	Dr.C.Siva Ram Murthy, Dr.G.Manimaran	Resource Management in Real-time Systems and Networks	MIT Press, USA

3.7 Fellowships of Academies and Professional Societies:

In recognition of Dr.S.V.Raghavan's services to CSI and his contributions in the field of IT, CSI presented him with a citation and named him a Fellow of the Society on the occasion of its annual convention during September 2000.

4. Design & Development Activities:

- The hardware lab of our department, Called Digital Circuits and VLSI Design Lab upgraded and modernised by a large extent by way of condemning slow and old systems and installing 11 high end Pentium based HP systems, latest version of Novell Netware, several instruments like Microprocessor Kits, Oscilloscopes, Function Generators, Power Supplies etc.,
- 7 units of 5 KVA UPS system and 1 unit of 10 KVA UPS system installed for smooth operations of faculty facilities and departmental computing facilities and hardware laboratory.
- The Departmental Computing facilities got major augmentation with the addition of Ultra Sparc Workstations and Sun Ray Enterprise systems with 20 thin clients and a number of high end PCs.

5. Research and Consultancy:

5.1 Sponsored Research Projects:

S. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Information Recovery from Partial Data for Image Processing Applications	1.12.1997 – 31.12.1997	UONR	16,00,000	Dr.B.Yegnanarayana Dr.Sukhendu Das
2.	Applications of Formal Languages in Computing Environments	19.3.1999 – 18.09.2001	DSTX	9,16,550	Dr.Kamala Krithivasan Dr.S.V.Raghavan

4.7 DEPARTMENT OF ELECTRICAL ENGINEERING

1. Introduction:

The Department of Electrical Engineering encompasses Electrical, Electronics and Communication Engineering. The Department comprises the following four sections.

Communication Systems Laboratory

- Digital Signal Processing Laboratory
- Microwave Laboratory, Antenna Laboratory
- Telematics Laboratory
- Communication Laboratory

Circuits and Instrumentation Laboratory

- Digital Systems and VLSI Laboratory
- Measurements and Instrumentation Laboratory

Power System machines and Drives Laboratory

- Control and Robotics Laboratory
- Electrical Machines and Drives Laboratory
- Power Systems Laboratory
- High Voltage Engineering Laboratory

Micro Electronics Laboratory

- Amorphous Semiconductor Laboratory
- Micro Electronics Laboratory

2. Academic Programmes:

B.Tech Degree in Electrical Engineering:

The department offers an integrated undergraduate degree in Electrical Engineering that combines aspects of power, control, communication and micro electronics engineering.

- **M. Tech Degree in Electrical Engineering**

Four major streams of study are available at M.Tech. level:

Communication Systems Engineering
Energy Systems Engineering
Microelectronics
Control, Guidance and Instrumentation Systems

- **Integrated M.Tech. Degree**

Five year integrated M.Tech. Programme in two different streams

Communication systems and
Microelectronics.

Areas of research:

Electronic Circuits, Communication Systems, Computer Networks, Digital Techniques and Computer Technology, Electromagnetic Interference and Compatibility, Antennas, Optical Communications and Networks, Image and Digital Signal Processing, Microwave Engineering, Semiconductor Devices, Amorphous Semiconductor Devices, Control system and Robotics, Electrical Machines and Drives, High Voltage Engineering, Measurements and Instrumentation, Power Electronics, Power Systems.

2.1. Students on Roll

Programme	I year	II year	III year	IV year	V year	Total
B.Tech	83	86	82	97	-	348
M.Tech. (Dual Degree)						
Microelec. & VLSI	9	10	9			28
Comm. Systems	9	10	8			27
M.Tech.						
Comm. Sys.	18	11	-	-	-	29
Energy Sys. Engg	12	12	-	-	-	24
Microelectronics	14	17	-	-	-	31
Control Guid. & Instrumentatin	14	11	-	-	-	25
M.S.	17	14	12	15	3	61
Ph.D.	3	3	2	-	6	14
Total	179	174	113	112	9	587

2.2. Names of student/scholar attended Conference/Seminar and Symposia abroad/India:

The Third Year B.Tech students Rakshe Tejas, Siddharth Ray and Vineet Jain attended TECHFEST-2001 (student Paper Contest) held at IIT Bombay and won Third Prize for the Paper Handwritten digit and Tamil Character recognition using artificial neural networks, based on the work carried out during summer with Dr. Srinivas Chakravarthi.

2.3 Number of Degrees awarded in the Last convocation

Programme	Total
B.Tech.	81
M.Tech.	39
M.S.	26
Ph.D.	4
Total	150

3. Faculty and their Development

3.1. Faculty

Sl. No.	Name and Qualification	Major area of Specialisation
Professors		
1	Ashok Jhunjhunwala,, Ph.D.(Maine) [Head]	Communication Networks, Fibre Optics, Surface Acoustic Wave Devices
2	M.V.Chalapathi Rao,, Ph.D.(IIT Madras)	Control Theory
3	C.Eswaran,, Ph.D.(IIT Madras)	Networks, Digital Filters, Microprocessors
4	P.A. Janakiraman,, Ph.D.(IIT Madras)	Robotics,, Control Systems, Instrumentation, Image Processing
5	M.S.Narasimhan,, Ph.D.(IIT Bombay)	Antenna Engineering, Applied Electromagnetics
6	K.Narayana Bhat,, Ph.D. (IIT Madras)	Semiconductor Fabrication
7	K.M.M. Prabhu, Ph.D. (IIT Madras)	Signal Processing
8	K.Radhakrishna Rao,, Ph.D.(IIT Kanpur)	VLSI,, Analog and Digital IC's
9	K. Ramar,, Ph.D.(IIT Madras)	Power Systems, Computer Applications
10	P. Sankaran, Ph.D.(IIT Madras)	Networks, Magnetic Materials
11	G. Sridhara Rao,, Ph.D.(IIT Madras)	Machines, Power Electronics, Simulation
12	S. Srinivasan,, Ph.D.(IIT Madras)	Digital design, DSP architecture and applications, VLSI design
13	V. Venkata Rao, Ph.D. (Iowa)	Digital Signal Processing, Communications
14	C. Venkateshaiah,, Ph.D.(IIT Madras)	High Voltage, Power Systems
15	Bhaskar Ramamurthi, Ph.D. (California)	Digital Communication and Communication networks, Signal processing
16	V. Jagadeesh Kumar, Ph.D. (IIT Madras)	Measurements, Instrumentation
17	P.R. Vaya, Ph.D (IIT Madras)	Semiconductor Devices
Associate Professors		
18	P. Sasidhara Rao, Ph.D. (IIT Madras)	Electrical Machines
19	C. Dattatreyan, Ph.D. (Sheffield)	Microwaves
20	Amitava Dasgupta, Ph.D. (IIT, Kharagpur)	Si and GaAs Devices, Technology and Simulation
21	Nandita Dasgupta, Ph.D. (IIT Madras)	Si and III-V Semiconductor Devices
22	Enakshi Bhattacharya, Ph.D. (TIFR Bombay)	Semiconductor material and Devices, Amorphous silicon, Porous silicon
23	S. Karmalkar, Ph.D. (IIT Madras)	VLSI, Semiconductor Devices
24	Devendra Jalihal, Ph.D. (Duke)	Statistical Signal Processing
25	R. Aravind, Ph.D. (California)	Signal Processing

Sl. No.	Name and Qualification	Major area of Specialisation
26	K. Giridhar, Ph.D. (California)	Communication and Signal Processing
Assistant Professors		
27	M. Antony Reddy, Ph.D. (IIT Kharagpur)	Electronic Circuits
28	M. Krishnamurthi, M.Tech. (IIT Madras)	Power Systems
29	P.C. Majhee, M.Tech. (IIT Madras)	Measurements, Instrumentation
30	G.T. Manohar, M.Tech. (IIT Madras)	Microprocessors, computers, control systems
31	T.J. Vitto, Ph.D. (IIT Madras)	Semiconductors
32	C. Mathiazhagan, Ph.D. (Univ. California)	RF SP, Analog Circuits for Telematics
33	Vinita Vasudeven, Ph.D. (IIT Bombay)	Devices, CAD for VLSI
34	T.G. Venkatesh, Ph.D. (IISc.)	Computer Architecture and Networks
35	Krishna Vasudevan, Ph.D.(IIT Madras)	Power Electronics
36	R. Sarathi, Ph.D. (IISc.)	High Voltage Engineering
37	Srinivas Chakaravarthy Ph.D (Austin)	Neural networks, handwritten characterisation
38	K. Shanthi Swarup Ph.D (IISc)	Power systems, Computational Intelligence and Energy Management Systems.
39	Dr. Jayashankar	Instrumentation and Measurement, High Voltage.
40	Dr. AN. Rajagopalan	Image processing and Computer Vision
41	Dr. K. Sridharan	Robotics and Control, Software Engineering
42	Dr. Ramalingam CS	Digital signal processing, Speech coding
Senior Design Engineers		
43	P. Ramaseshagiri Rao, M.S. (IIT Madras)	Semiconductor Fabrication
Scientific Officers		
44	T.V. Gopal, M.S. (IIT Madras)	Measurements, Computer System Management
45	K. Ponnuraju, Ph.D. (IIT Madras)	Solid State Electronic Devices, Semiconductor Technology
46	H. Renganathan, M.S. (IIT Madras)	DSP. Microprocessor Systems

3.2 Short-term Courses/Workshops/Seminars/Symposia/Conferences organised:

Sl.No.	Co-ordinators	Title	Period
1	S. Srinivasan	Man power Development in VLSI design	20-25 th Nov.2000

3.3 Short-term Courses / Workshops / Seminars / Symposia / Conferences Training attended by the Faculty in recognised Academic Institutions and Public Sector Units:

Sl.No.	Name of Faculty	Title	Institution	Period/Duration
1	R. Sarathi	Insulec-2000	IEEMA, Mumbai	Nov, 2000
2	R. Sarathi	NPSC-2000	IISC,B,lore	Dec.2000
3	K. S. Swarup	NPSC-2000	IISC,B'lore	Dec.2000
4	K.S. Swarup	International seminar on Telecommunication for utilities in the millennium	CBIP	Apr.2001
5	P.Sankaran	IMTC 2000 conference	USA	1 st -5 th May 2000
6	S. Srinivasan	Ninth International FPGA-2001.	USA	11 th Feb 2001
7	G. Sridhara Rao	NPSC 2000	IISc, Bangalore	Dec 2000
8	Amitav Dasgupta	EOS/SPIE Applied Photonics Symposium	SPIE and European Optical Society at Glasgow, UK	May 22-25, 2000
9	Nandita Dasgupta	EOS/SPIE Applied Photonics Symposium	SPIE and European Optical Society at Glasgow, UK	May 22-25, 2000

3.4 Special Lectures Delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Place and Date
1	Ashok Jhunjunwala	Wireless local loop – solutions	Bombay,02.05.2000
2	Ashok Jhunjunwala	Unleashing the net in the developing countries	XVII world telecom congress, Birmingham, UK., 07-12 th May 2000
3	Ashok Jhunjunwala	Wireless local loop for telecom infrastructure developments	National Telematics forum, Chennai26th May 2000
4	Ashok Jhunjunwala	Competitiveness of Indian Information, communication and entertainment companies in the international market	Inaguration of ICE business forum, Chennai, 24 th July 2000
5	Ashok Jhunjunwala	Meeting with wireless planning commission	New Delhi, 8 th August, 2000
6	Ashok Jhunjunwala	Guest Lecture on Wireless local Loop	IIM, Bangalore, 9 th August 2000
7	K.N. Bhat	SOI CMOS Technology and Devices	IMAPS ,Bangalore, August 19, 2000

Sl. No.	Name of Faculty	Topic of Lecture	Place and Date
8	Ashok Jhunjunwala	Meeting with Ministry of Science and Technology	Bangalore. 16 th August 2000
9	K.N.Bhat	Guest Lecture at International Microelectronics and Packaging society-India	Bangalore, 27 th August, 2000
10	Ashok Jhunjunwala	Talk at seminar on Venture Capital,	Tidal Park, Chennai, 29 th Sept, 2000
11	K. N. Bhat	Overview of MEMS", September 28, 2000	IIT Madras, 28 th Sept 2000
12	Ashok Jhunjunwala	Presentation at HP labs	Bay area, USA, 8.11.2000
13	Ashok Jhunjunwala	Invited talk at conference on telecom policy and regulations	Stanford University, San Francisco, USA. 9 th Nov. 2000
14	Nandita Dasgupta	Invited talk on "VLSI Technology- The Millenium Issues	Nov. 2000
15	K.N. Bhat	Compact Course on Semiconductor Devices.	Texas instruments, Bangalore 18 th -21 st Dec 2000
16	Ashok Jhunjunwala	Invited Talk on Telecom Technology trends and the impact on indian life style at future stock International advertising convention chennai	Chennai, 19.Jan 2001
17	Ashok Jhunjunwala	Invited Lecture on enhancing throughput of existing railway network using information and communication technology at National connectivity vision: surface transportation and communication	Hyderabad, 20.01.2001
18	Ashok Jhunjunwala	Lecture on Telecom and IT for the masses, at Asia Pacific region micro credit summit meeting of councils	New Delhi, 04.02.2001
19	Ashok Jhunjunwala	Indian Innovations in broad band communications at technology summit-Nasscom 2001	Mumbai, 07.02.2001
20	Ashok Jhunjunwala	Presentation on Wireless solution for developing countries-Wireless Internet conference	Mumbai, 08.02.2001
22	Ashok Jhunjunwala	Attended brain storming meeting to initiate inter institutional research in broad band wireless access technology by Sasken communications	Bangalore, 15.02.2001

Sl. No.	Name of Faculty	Topic of Lecture	Place and Date
23	Ashok Jhunjunwala	Invited Talk on Affordable telecom and IT solutions at seminar on Wireless multimedia communications, IETE, Mumbai	Mumbai, 16.02.2001
24	Ashok Jhunjunwala	Invited lecture on telecom technology trends and the impact on Indian Life style at pole star award 2000	Chennai, 21.02.2001
25	Amitav Dasgupta	Invited talk on Semiconductor Device Modelling	Warangal 11 th Nov.2000
26	Ashok Jhunjunwala	Meeting on Rural initiative for IT of IT's Hardware special interest group	Chennai, 10 th March 2001

3.5 Visits Abroad by Faculty

Sl.No.	Name of Faculty	Country visited	Date	Purpose of visit
1	Ashok Jhunjunwala	UK	7 th - 12 th May 2000	Invited Talk in the conference, Baltimore
2	Ashok Jhunjunwala	USA	16 th -22 nd Nov, 2001	E- Development Symposium, MIT Media Lab, USA
3	Ashok Jhunjunwala	USA	8-21 st June	IITM Alumni Meeting
4	Ashok Jhunjunwala	Singapore	11 th -13 th Nov, 2000	Meeting with BBS Electronics
5	Ashok Jhunjunwala	Stanford University, USA	7-11 th Nov.2000	Invited Talk in the conference
6	B. Ramamurthi	Brazil	7 th -13 th Jan 2001	WLL project
7	K. Giridhar	Stanford University, USA	1 st May till 17 th Aug. 2001	Visiting Faculty
8	S. Srinivasan	USA	11 th -13 th Feb 2001	Presented a paper In the conference
9	M.V.Chalapathi Rao	On sabbatical	Botswana, Africa	Visiting Faculty
10	Ennakshi Bhattacharya	On sabbatical	USA	Visiting Faculty
11	K. Ramar	On sabbatical	University of Telecom, Malaysia	Visiting Faculty
12	K.M.M. Prabhu	On sabbatical for one year	Joined on 01.09.2000	Visiting Faculty

SI.No.	Name of Faculty	Country visited	Date	Purpose of visit
13	P. Sankaran	Baltimore, USA	1 st to 5 th May 2000	Presented a paper in the conference
14	P. Sankaran	Multimedia University, Malaysia	1-12-2000 till 14-09.2001	Contract Professor

3.6 Honours and Awards obtained:

Name of Award/Honour	Awarded by	Awarded for	Date of Award
Dr. P. Sheel Memorial Lecture award for the year 2001 by Prof. Ashok Jhunjhunwala	The National Academy of Sciences	Outstanding Contribution in Research	March 2001
IETE M.N.Saha Memorial award by Prof. K.N. Bhat	IETE, India	Best Application Oriented Paper	30.9.2000
7 th IETE- Prof. Sreenivasan Memorial Award by Dr.G.T.Manohar	IETE, India	Contribution in the field of teaching Electronics and communication Engineering	August 2000

4. Design and Development Activities:

4.1 Brief and specific details of Process/Instruments/Equipment/Software Designed and Developed:

1. PCs provided for all faculty
2. Networking of the department completed
3. Setup of pulse electroplating of semiconductor and other substrates
4. Semiconductor parametric analyser
5. Electron Beam evaporation unit
6. Installed ETAP software in Power system laboratory pcs.
7. Design and implementation of FPGA encoder
8. Lightning Impulse voltage testing facility as per International standard
9. Digital Signal Processing laboratory for advanced studies

Industry Collaborations:

The following were setup

- ADI-IITM DSP learning centre
- Intelligent Optical Networking Lab
- Intel Lab on Internet Technologies

5. Research and Consultancy:

5.1. Sponsored Research Projects:

Title of the Project	Sponsoring Agency	Value (Rs. Lakhs)	Coordinator/ Co-Investigators,
Development of synthesiable VHDL cores for DSP	DRDO	Rs.4.89	Prof.S. Srinivasan Dr. Vinita Vasudevan Dr. H. Renganathan

Sl.No.	Name and Designation	Date of Visit
20	Mr. Reddy Penumalli and Mr. Ashok Kamath, ADI Bangalore Mr. Josh Kablatsky, ADI, USA	02.02.2001
21	Sanjay Das Gupta, IAS, Karnataka	06.02.2001
22	Prof. Chew Yong Tian and Prof. Ling Chung Ho from National University of Singapore Prof. Lau Chew Tong from Nanyang Technological University, Singapore	10.02.2001
23	Mr. Ravi G. Narayan, CEO, Nex Tone Communications, USA	12.02.2001
24	Dr. C.M. Kees Moerman, Philips Semiconductor, The Netherlands Mr. Thomas Major Phillips Semiconductos, Bangalore Dr. M.R. Bhatt, ADI Bangalore	14.02.2001
25	Mr. Vivek Agarwal and Mr. S.N. Agarwal Bhoruka Power corporation Ltd, Bangalore	19.02.2001
26	Mr. Rajeev Agarwal, MTNL, Delhi	20 th and 20.02.2001
27	Mr. Yogesh Pathak and Mr. Shilpa Kullarni Eventures India (P) Ltd, Mumbai	23.02.2001
28	Mr. Siddarth Das, Jayanathi Bose, Intel Asia Electronics, Bangalore	27.02.2001
29	Mr. Subir Hari Sinha, Jt. Secretary to Govt. of India, Ministry of Information Technology	02.03.2001
30	Dr. M. Rammohan Rao, Director, IIM, bangalore Prof. S. Surendera Rajan Chair Person, Executive Education, IIM, Bangalore Dr. D.V.R. Seshadri, IIT Delhi	02.03.2001
31	Dr. Arya Sengupta, IIT Delhi	05.03.2001
32	Mr. Yeo Chew Tong, Minister for Communications and Information Technology, Singapore	11.03.2001
33	Mr. Amit Agarwal, Dy Secretary-IT Chandigarh	22.01.2001
34	Mr. Greving Warren, Mr. Anand Tawker, HP, USA	27.03.2001
35	Michael Best, MIT, USA	31.03.2001

4.8 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

1. Introduction

The Department of Humanities and Social Sciences has existed from 1959. This was in tune with the recommendations of the Niranjana Sarkar Commission which designed the format of the IITs. In 1969, the Department introduced two Postgraduate Programmes (M.Tech) in Industrial Engineering and in Industrial Management. The Industrial Engineering Programme was merged with the Industrial Management Programme in 1981. Further the Department offers research programmes (Ph.D) in the various disciplines of Humanities and Social Sciences and in the major functional areas of Management. In addition, the Department offers a masters' level research programme (MS) in Management. The major areas of teaching and research of the Department are:

- Undergraduate courses in Humanities and Social Sciences
- M.Tech Programme in Industrial Management
- M.S. Programme in Production and Operations Management, Applied Decision Analysis, Materials Management, Systems Analysis and Modelling, Financial Management, Business Policy/Strategic Management, Marketing Management, Organisational Behaviour, Personnel Management and Industrial Relations, Technology Management, Science and Technology Policy Studies.
- Ph.D Programme in New Literatures in English, Linguistics, Teaching of English as a Second Language (TESL), German Literature, Modern Indian History, Socio-Economic Cultural Developments, Applied Economics, Psychology, Marketing Management, Organisational Behaviour, Personnel Management and Industrial Relations, Financial Management, Business Policy/Strategic Management, Applied Decision Analysis, System Analysis and Modelling, Production and Operations Management, Technology Management and Science and Technology Policy Studies, Sociology.

2. Academic Programmes:

2.1 New Courses Introduced:

The following new courses were introduced during the year under report.

S.No.	Course No.	Title
1	HS 477	Project Planning, Execution & Control
2	HS 237	Introduction to Sociology

2.2 Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
M.Tech	20	25	--	--	--	--	45
M.S.	2	11	3		-	-	16
Ph.D.	3	4	2	4	3	-	16
Total	25	40	5	4	3		77

2.3 Number of Scholarship/Fellowship holders

Programme	Institute Scholarship	Others	Total
M.Tech	34	-	34
M.S.	13	-	13
Ph.D.	8	-	8
Total	55	-	55

2.4. Number of Degrees Awarded in the last Convocation:

Programme	Total
M.Tech	24
M.S.	4
Ph.D	6
Total	34

3. Faculty and their Development

3.1 Faculty

S. No.	Name and Qualifications	Major Area of Specialisation
PROFESSORS		
1.	R.N. Anantharaman, Ph.D (Bangalore)	Organisational and Consumer Behaviour, Human Resources Management, Industrial Relations
2.	Shreesh Chaudhary, Ph.D (CIEFL Hyderabad)	Theoretical Linguistics, ELT & Need Based Courses in English
3.	L.S.Ganesh, Ph.D (IIT Madras)	Technology Management, Project Management, Applied Systems Analysis and Decision Making
4.	Evangeline Manickam, Ph.D (Madras)	American Literature, English, French
5.	Malathy Duraisamy, Ph.D (Madras)	Applied Economics/Econometrics Labour Economics/Economics of Science and Technology
6.	V.R.Muraleedharan, Ph.D (IIT Madras)	Health Economics/Public Policy/ History of Healthcare in South India
7.	T.T.Narendran, Ph.D. (IIT Madras) (Head)	Operations Management, Decision Support Systems, Group Technology
8.	R. Rajagopalan, Ph.D. (IIT Kanpur)	Science and Technology Policy, Computer Applications, Production Management, Group Technology

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|-----|---------------------------------|--|
| 9. | C.Rajendran, Ph.D (IIT Madras) | Production Management, Scheduling,
Computer Simulation |
| 10. | L.V.L.N.Sarma, Ph.D (IISc) | Financial Management, Business
Policy & Corporate Strategies. |
| 11. | B.Subramanian, Ph.D (Karnataka) | German Studies, Philosophy |

ASSOCIATE PROFESSORS

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|-----|--|---|
| 12. | Elizabeth Nainan Kurian, Ph.D (IIT Madras) | American Fiction |
| 13. | S. Jayachandran, Ph.D (IIT Madras) | Marketing Management |
| 14. | T.J.Kamalanabhan, Ph.D (Madras) | Industrial Psychology,
Organisational Behaviour |
| 15. | G. Srinivasan, Ph.D (IIT Madras) | Operations Management, Group
Technology, Production Management,
Operations Research |
| 16. | M. Thenmozhi, Ph.D (Madras) | Financial Management, International
Business |

ASSISTANT PROFESSORS

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|-----|-------------------------------------|--|
| 17. | Dr.(Mrs.) Devaki Reddy | English, Sociolinguistics, ELT |
| 18. | M.Durgaprasada Rao, M.B.A. (Andhra) | Management Accounting,
General Management |
| 19. | R Madhumathi, Ph.D (Madras) | Financial Management and Accounting |
| 20. | S. Mohan, M.A. (Madras) | English, Science Fiction,
Technical Report,
Writing Business Communication |
| 21. | Prema Rajagopalan | Sociology of Science & Technology/
Development/Women in Science &
Technology |
| 22. | D. Veeraraghavan, Ph.D (IIT Madras) | Social and Economic History,
Labour Movements |

DAAD VISITING FACULTY

- | | | |
|-----|----------------|----------------------------------|
| 23. | R.G. Koeckritz | German, Communication Strategies |
|-----|----------------|----------------------------------|

VISITING FACULTY

- | | | |
|-----|---------------------|---------|
| 25. | Dr. B.Krishnamurthy | English |
| 26. | (Mrs.) Zoya Abraham | German |
| 27. | Dr. K.Srilata | English |

3.2 Short-term Courses/Workshops/Seminars/Symposia/Conferences organized:

S.No.	Co-ordinator	Title	Period
1	Dr.G.Srinivasan	5-day QIP course titled "Recent Trends in Production Management"	June 26-30, 2000
2	Dr.G.Srinivasan	Fourth Operations Management Conference	Dec.22-24, 2000
3	Dr.M.Thenmozhi/ Dr.L.V.L.N.Sarma	Chain Seminar on "Information Technology – New Trends"	IIT/ICWAI- May 13 – June 10, 2000
4	Dr.M.Thenmozhi/ Dr.T.J.K.Kamalanabhan	STUP (Skill cum Technology Upgradation Programme) on "Computer Skills for SSI Units"	3-7, July 2000
5	Dr.S.Jayachandran/ Dr.R.Madhumathi	Small Industries Management Programme (SIMAP) in collaboration with SIDBI and AIEMA	12 th June – 15 th September 2000
6	Dr.M.Thenmozhi/ Dr.T.J.Kamalanabhan	STUP – Electronic Commerce	17-19 July 2000
7	Dr.T.J.Kamalanabhan/ Dr.M.Thenmozhi	STUP – Total Quality Management	20-22 July 2000

3.3 Short-term courses /Workshops/Seminars/Symposia/Conferences / Training attended by the Faculty in Academic Institutions and Public Sector Units.

Sl. No.	Name of Faculty	Title	Institution	Period Duration
1	Dr.S.C.Chaudhary	Examiner Training	British Council Kathmandu	16 th Feb. 2001
2	Dr.E.Manickam	Conference of the International Society for Humour Studies	Kansai Univ. Japan	24-27 July 2000
3	Dr.E.Manaickam	International Conference on Buddhisted Philosophy & Contemporary Issues	Roorkee Univ.	13-16 Nov.2000
4	Dr.B.Subramanian	International Seminar on Indo-German Relations – India's Cultural Relations with Germany	JNU/DAAD, Delhi	Oct.29 – Nov.2, 2000
5	Dr.G.Srinivasan	World Symposium on Cellular Manufacturing	Puerto Rico	March 2000
6	Dr.Prema Rajagopalan	All India Sociological Conference	Univ. of Kerala Trivandrum	28-31 Dec.2000
7	Dr.Prema Rajagopalan	Workshop on Domestic Service and Mobility	International Institute of Social History Amsterdam, Netherlands	5-7 Feb. 2001

Sl. No.	Name of Faculty	Title	Institution	Period Duration
8	Dr.Prema Rajagopalan	Displaced People in S.Asia	MIDS, Chennai	2-4 March 2001
9	Mr.R.G.Koeckritz	Annual Meeting	DAAD	29/9-2/10 2000 & 29/1-1/2/2001
10	Dr.R.Madhumathi	Workshop on Case Methodology and Case Development	SIDBI	23-25, Nov.2000
11	Dr.V.R.Muraleedharan	Seminar on Health and Equity	IIMB-HIVOS-FRCH, Bangalore	8-10, November 2000
12	Dr.V.R.Muralaeedharan	Conference on National Health Assembly	Calcutta	30.11 – 1.12.00
13	Dr.V.R.Muraleedharan	Indian History Congress	Calcutta	22-24, Dec.2000
14	Dr.V.R.Muraleedharan	International meeting on Ethical Issues in Health Research in South Asia	Achutha Menon Centre for Health Sciences Studies, Trivandrum	28 th Jan – 1 st Feb. 00
15	Dr.V.R.Muraleedharan	Seminar on Tamil Nadu State Disease Surveillance System	Govt. of T.N. USAID & World Bank	7-8 March 2001
16	Dr.M.Thenmozhi	Conference on Computing Strategies in emerging markets	CII	Jan.20, 00
17	Dr.D.Malathy	International Seminar on Programme of Research in Human Development .	Presented a paper in NCAER, New Delhi	Nov.27-29 August

3.4 Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	Dr.S.C.Chaudhary	ELT in 2001	Bangalore Univ., 6-7 January
2	Dr.S.C.Chaudhary	Linguistics and Language Learning	Madras University, 22.02.2001
3	Dr.S.C.Chaudhary	ESP Material	Annamalai University, 11.02.2001
4	Dr.S.C.Chaudhary	ELT in 2001	BHU, Varanasi, June 01
5	Dr.Evangeline Manickam	Contemporary Literature from the Sub-continent – India, Pakistan, Bangla Desh, Sri Lanka	UGC Refresher Course Stella Maris College, 15 th February 2001

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
6	Dr.B.Subramanian	Load Chandos & Affes	UGC Refresher Course Stella Maris College, February 19, 2001
7	Dr.G.Srinivasan	Synchronous Manufacturing	REC, Trichy, October 2000
8	Mr. M.Durgaprasada Rao	G. Management	Regional Labour Instt.
9	Dr.R.Madhumathi	Computerised Analysis for Research	MOP Vaishnav College for Women, 2-3 Dec.00
10	Dr.T.T.Narendran	Cellular Manufacturing System	Indian Institute of Materials Management, Chennai, 29.6.2000
11	Dr.M.Thenmozhi	Project Finance – Trends	SRM Institute of Management, 4.8.2000
12	Dr.M.Thenmozhi	Cash and Receivable Management & Tax Revenue Management, EDP for Municipal Officers	Anna Institute of Management, June – July 2000
13	Dr.R.Madhumathi	Computerised Analysis for Research	MOP Vaishnov Collge for Women, 2-3 Dec.2000

3.5 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1	Dr.S.C.Chaudhary	Nepal	16/02/2001	Training
2	Dr.Evangeline Manickam	Japan	July 2000	International Conference
3	Dr.Prema Rajagopalan	Netherlands	5-9, Feb. 2001	Workshop
4	Mr.R.G.Koeckritz	Germany	June 2000	Annual Visit
5	Dr.V.R.Muraleedharan	Oxford	8 weeks from May 17,2000	C.R. Parekh / Nirmal Visiting Fellow under the South Asian Visiting Scholars Programme, University of Oxford.
6	Dr.R.N. Anantharaman	Stockholm, Sweden	23-28, July 2000	International Congress of Psychology
7	Dr.V.R.Muraleedharan	Bangkok	10-14, October 2000	Resource Person in the International Conference on "Health Research for Development".
8	Dr.R.Rajagopalan	Lausanne, The Netherlands	20-26,Nov. 2000	To organise and Plan a PG course on Technology and Sustainable Development at Ecole Polytechnique Federate De Lausanne (EPFL) Lausanne

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
9	Dr.C.Rajendran	Florida, USA	5-7, March 2001	28 th International Conf.on Computers and Industrial Engineering”
10	Dr.D.Malathy	Seattle, USA	August 2000	8 th World Congress of the Econometric Society

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1.	Dr.M.Thenmozhi	Best Teaching Award (Second Prize))	AIMS/IIM Bangalore	Best Innovation in Teaching	27 th -29 th August 2000

3.7 Books/Monographs authored or co-authored

S.No.	Name(s) of Author(s)	Title of Text Book / Monograph	Publisher
1.	Dr.B.Subramanian	Year Book of the Goethe Society of India 1999-2000	German Book Centre, Madras

5. Research and Consultancy:

5.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Speculation in Foreign Exchange	Aug.2000 – Aug.2001	IC & SR	1.00	Dr.R.Madhumathi
2.	Financial Analysis for Engineers	June, 2000 – June 01	CCE	0.90	Dr.R.Madhumathi
3	Development of Multimedia based Instructional Module on Corporate Strategy Formulation in the Global Scenario	2000-2001	CCE	1.00	Dr.M.Thenmozhi
4	Schooling of the Disadvantaged Groups in a DPEP Phase II district in Tamil Nadu	7 months	Govt.of T.N.	0.57	Dr.D.Malathy

5.2 Industrial Consultancy

Sl. No.	Name of Faculty	Title	Industry	Amount (in Lakhs)
1	Dr.G.Srinivasan	Manpower Assessment	Brakes India, Chennai	0.46 lakhs
	Dr.T.T.Narendran			

Sl. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
3	Dr.B.Mahadevan, Associate Professor, IIM Bangalore	25.7.2000	Guest Lecture
4	Prof.K. Srihari, State University of New York, Binghamton, USA	8.8.2000	Guest Lecture
5	Mr.Vasu, Consultant	6.9.2000	Guest Lecture
6	Dr.Colabitar, Univ. of Pittsburgh		For Discussion with faculty of Psychology
7	Prof.H.Jansen & Prof.B.Dembach, University Hochschule, Bremen		For discussion
8	Dr.Sam N Basu, Professor of Management & Finance, California State University, Hayward	01/02/2001	Guest Lecture
9	Mr.Rahul Cherian of Kurian and Kurian, Advocates	2/02/2001	Guest Lecture
10	Mrs. Shashi Deshpande, Bangalore Based Novelist	March 13, 2001	To deliver 2 nd Prof.A.V.Krishna Rao Memorial Lecture on the "Art of Writing".

7.1. Other Activities

MoU between IIT Madras and ICWAI renewed.

4.9 DEPARTMENT OF MATHEMATICS

1. Introduction

The Department of Mathematics was established in 1959. It offers Ph.D and M.Sc. programmes in Mathematics and M.Tech. programme in Industrial Mathematics and Scientific Computing [IMSC]. In addition, the Department has taken the responsibility of teaching Mathematics courses to B.Tech., M.Tech (other than IMSC). and Ph.D students of the Institute. The major areas of research of the department are:

1. Algebra and its Application
2. Applied Probability
3. Approximation Theory
4. Computational Fluid Mechanics
5. Continuum Mechanics
6. Coding Theory
7. Complex Analysis
8. Data Networks
9. Differential Equations and Ill-Posed problems
10. Fluid Mechanics
11. Functional Analysis
12. Fuzzy Sets and Systems
13. Graph Theory and Combinatorics
14. Inventory and Reliability
15. Mathematical Logic & Applications
16. Mathematical Modelling
17. Mathematical Physics
18. Nonlinear Analysis
19. Numerical Analysis
20. Operations Research
21. Operator Theory
22. Queueing Theory
23. Statistical Quality Control
24. Stochastic Processes and their applications
25. Theoretical Computer Science
26. Wavelets and their applications.

2. Academic Programmes

2.1 New Courses introduced:

The following new courses were introduced during the period under report.

Sl. No.	Course No.	Title
1.	MA 733	Advanced Mathematical Analysis and Differential Equations
2.	MA 579	Computer Modelling & Simulation
3.	MA 691	Computability
4.	MA 619	Elements of Logic
5.	MA 692	Science of Programming
6.	MA 592	Object Orientation in Scientific Computing
7.	MA 593	Database Management Systems & File Organization

2.2 Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
M.Sc	29	34	--	--	--	--	63
M.Tech.		9	8	--	--	--	17
Ph.D	6	7	6	6	3	--	28
Total	44	49	6	6	3	--	108

2.3 Number of Scholarship / Fellowship holders:

Programme	Institute Scholarship	Others	Total
M.Sc.	19	--	19
M.Tech.	7	--	7
Ph.D.	18	--	18
Total	44	--	44

2.4 Names of student / scholar attended Conference / Seminar and Symposia abroad / India :

Sl. No.	Name of the Student / Scholar	Name of the Conf./ Seminar / Symposia	Date and Venue
1.	Dennis Williams (M.Sc.)	International Conference on Recent Advances in Mathematical Sciences 9ICRAMS 2000)	December 20-22, 2000, I.I.T. Kharagpur.
2.	S. Deviyamini (M.Sc.)		
3.	P.V. Komathi (M.Sc.)		
4.	M.S. Balu (M.Sc.)		
5.	D. Sukumar (M.Sc.)		
6.	Madhan N. (M.Sc.)		
7.	Mr.S.R. Kannan	(Ph.D. Research Scholar)	International Conference on Recent Advances in Mathematical Sciences (ICRAMS 2000)
8.	Mr.R.S. Selvaraj		
9.	Mr.R.S. Rajadurai		
10.	Mr.R. Balasubramanian (Ph.D. Research Scholar)	International Conference on Computers Communication and devices 2000.	December 14-16, 2000, I.I.T. Kharagpur
		Indian Conference on Computer Vision Graphics and Image Processing (International)	December 20-22, 2000, I.I.Sc. Bangalore
		Participated in 'School on Mathematical Problems in Image Processing' conducted by ICTP, Italy.	September 4-22, 2000 at ICTP, Trieste, Italy.
11.	Mr. P.S. Srinivasan (Ph.D. Research Scholar)	International Conference on Analysis & Applications	December 6-9, 2000, at Korcin d'Analystes, Chennai.
12.	Ms. Krishna Shankara Narayanan (Ph.D. Research Scholar)	International Conference on Recent Trends in Analysis	December 16-18, 2000, Irinjalakuda, Kerala.

Sl. No.	Name of the Student / Scholar	Name of the Conf./ Seminar / Symposia	Date and Venue
13.	Mr.M.P. Rajan (Ph.D. Research Scholar)	International Conference on Recent Trends in Analysis	December 16-18, 2000, Irinjalakuda, Kerala.
14.	Ms. B. Uma (Ph.D. Research Scholar)	Summer Internship program for two months. She gave a talk on "Film Flow of a thin liquid film on a rotating disk: Spin coating applications" on 13 th September, 2000. She worked along with Prof. Jacques Rappaz on a topic "Numerical simulation on free surface flows". She also presented a technical report on the above topic to CFRC, International Relations, EPFL, Switzerland.	September 5-October 19, 2000, at Ecole Polytechnique Federal de Lausanne (EPFL), CH Lausanne, Switzerland
15.	Dr.C. Vani Project Associate Gr-I	Participated in 'School on Mathematical Problems in Image Processing' conducted by ICTP, Italy.	September 4 – 22, 2000, at ICTP, Trieste, Italy.
		Delivered a talk entitled 'Wavelet based numerical methods for partial differential equations'.	September 15, 2000, at University of Pavia, Italy.
		Attended the "Instructional Conference on Non-linear partial Differential Equations".	8.1.2001 to 18.1.2001 organised by International Centre for Mathematical Sciences, Edinberugh, U.K.
16.	Ms.S. Ramathilagam (Ph.D. Research Scholar)	International Conference on Recent Advances in Mathematical Sciences 9ICRAMS 2000)	December 20-22, 2000, I.I.T. Kharagpur.
		Participated in the 88 th Session of the Indian Science Congress and also presented a paper titled " <i>Estimation of overall profit to the Industries and Maximum Satisfaction to the Employers using special Fuzzy Matrix</i> ".	January 3 – 7, 2001, at Indian Agricultural Research Institute, New Delhi
17.	Ms.V. Sunitha (Ph.D. Research Scholar)	Presented a paper titled "Automorphisms of Augmented Cubes" at the Conference on Graph Theory and its Applications.	March 14-16, 2000, Anna University, Chennai – 600 025.

2.5 Number of Degrees Awarded in the last Convocation:

Programme	Number Awarded
M.Tech.	29
Ph.D.	5
Total	34

3. Faculty and their Development

3.1 Details of Faculty:

S.No.	Name and Qualifications	Major Area of Specialisation
	Professors	
1.	A. Avudainayagam, Ph.D (IIT Madras) [Head]	Fluid Mechanics, Suspension Rheology, Polar Fluids, Low Reynolds numbers flows Wavelets and applications.
2.	P. Bhattacharyya, Ph.D (London)	Complex analysis, Theory of Splines, Lacunary Interpolation, Approximation Theory
3.	S.A. Choudum, Ph.D (IIT Madras)	Graph Theory, Combinatorics
4.	(Mrs.) S.Kalpakam, Ph.D (IIT Madras)	Applied Probability and Stochastic Processes, Operations Research
5.	S.H. Kulkarni, Ph.D (IIT Bombay)	Functional Analysis, Numerical Analysis
6.	S.N. Majhi, Ph.D (IIT Madras)	Fluid Mechanics, Bio-Fluid Mechanics, Mathematical Modelling
7.	P.R.Parthasarathy, Ph.D (Annamalai)	Applied probability and Stochastic Models, Mathematical Ecology, Operations Research, Statistical Inference, Communication networks
8.	A. Rangan, Ph.D. (IIT Madras)	Probability Theory, Stochastic Processes, Operations Research, Applications to Biological Sciences, Neural Method Inventory Controls, Ecology, Reliability
9.	U.N. Srivastava, Ph.D (IIT Madras)	Applied Mathematics, Differential Equations, Continuum Mechanics, Singular Perturbation Problems, Boundary Layer Theory, Differential Inequalities, Mathematical Ecology, Dynamical Systems.
10.	P.V.Subrahmanyam, Ph.D (IIT Madras)	Fixed Point Theory/Analysis
11.	(Mrs.) R.Usha, Ph.D (IIT Madras)	Fluid Mechanics Bio-fluid Mechanics
	Associate Professors	
12.	S.G. Kamath, Ph.D (IIT Delhi)	Theoretical Physics, Elementary Particle Physics
13.	S. Ponnusamy, Ph.D. (IIT Kanpur)	Complex Analysis, Function spaces, Special functions and Conformal Geometry

S.No.	Name and Qualifications	Major Area of Specialisation
14.	S. Sundar Ph.D. (IIT Madras)	Computational Fluid Dynamics, Computational Linear Algebra, Modelling and Simulation, Computer Science
15.	M.Thamban Nair, Ph.D (IIT Bombay)	Functional Analysis, Linear Operator Equations
16.	P. Veeramani, Ph.D (IIT Bombay)	Functional Analysis
17.	V. Vetrivel, Ph.D. (IIT Madras)	Non-smooth Analysis, Optimization Theory, Fixed Point Theory
Assistant Professors		
18.	Arindama Singh, Ph.D (IIT Kanpur)	Numerical Analysis, Mathematical Logic.
19.	Y. Nagendra, Ph.D (IIT Kharagpur)	Statistical Quality Control
20.	(Mrs.) R. Rama, Ph.D (Anna Univ)	Theoretical Computer Science, L-Systems, Formal Languages Automata Theory
21.	Satyajit Roy, Ph.D. (IISc). (Bangalore)	Computational Fluid Dynamics, Boundary Layer Theory
22.	Y.V.S.S. Sanyasiraju, Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis
23.	(Mrs.) W.B. Vasantha, Ph.D (Madras)	Algebra, Coding Theory, Fuzzy Sets and Systems, Application of Algebra
Senior Scientific Officer (Gr.I)		
24.	K. Swaminathan, Ph.D (Agra)	Fluid Dynamics, Ship Hydro-Dynamics, Systems Simulations and Development of Software for Control Systems
Research Associates		
25.	Dr.R. Esther Grace	Stochastic Processes
26.	Dr. Sushma N. Agarwal	Functional Analysis
27.	Dr.C. Vani	Wavelets and applications
28.	Dr. N. Vijayarangan	H* Algebra

3.2 Short-term Courses / Workshops / Seminars / Conferences Organised:

Sl. No.	Title	Date	Co-ordinator(s)
1.	Mathematics Training & Talent Search (MTTS) Programme	May 15, 2000 To June 10, 2000	Dr.M. Thamban Nair
2.	Modelling and Simulation of Fluid Flow Problems in Industry	June 23, 2000 & June 24, 2000	Dr.Y.V.S.S. Sanyasiraju & Dr.Satyajit Roy
3.	One Day Conference on Analysis and its Teachings – in connection with the 40 th Anniversary of I.I.T. Madras	August 12, 2000	Prof. P.V. Subrahmanyam

3.3 Short-term Courses/Workshops/Conferences / Training attended by the faculty in Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period
1.	Dr.M. Thamban Nair	Gave 15 lectures at MTTS 2000 on Analysis	I.I.T. Madras	15.5.2000 to 10.6.2000
		Gave an invited talk on Regularization of Ill-Posed Problems	15 th Annual Conference of Ramanujan Math. Soc.	June, 2000
2.	Dr.P.Veeramani	National Workshop on Fuzzy Mathematics and its Applications	Cochin University	28.8.2000 to 31.8.2000
3.	Prof.P.R. Parthasarathy	Gave a talk " Industrial Mathematics & Scientific Computing" at the Symposium on "Mathematical Cancer Openings in Teaching and Research, Management and Industry"	Vivekananda College, Chennai	12.9.2000
4.	Prof. S.N. Majhi	Gave an invited talk on "Brainstroming Session for Futeristic Development of Mathematical Models for Applied Sciences" to commemorate the World Mathematical year 2001.	BITs, Ranchi	6.12.2000
5.	Dr.P.Veeramani	Gave a refresher course in Topology.	Ramanujan Institute	2.12.2000 to 5.12.2000
6.	Dr.P.Veeramani	Attended an International Conference on Analysis & Applications	Forum arranged by Meenakshi College, Chennai	6.12.2000 to 9.12.2000
7.	Dr.K. Swaminathan	Attended an International Conference on Communications, Computers and Devices	I.I.T. Kharagpur	14.12.2000 to 16.12.2000
8.	Prof. P.V. Subrahmanyam	International Conference on "Analysis and its application", Chaired a paper reading session, gave an invited talk on "Silver man – Toeplitz Theorem for Fuzzy numbers".	MCW College, Chennai – 600 024	6.12.2000 to 9.12.2000
9.	Prof. A. Rangan	International Conference on Stochastic Optimization and Adaptation, and presented a paper on "Stochastic Analysis of Drug Dosing in Cancer Chemotherapy".	Cochin University	19.12.2000 to 22.12.2000

Sl. No.	Name of Faculty	Title	Institution	Period
10.	Dr. K. Swaminathan	International Conference on Recent Advances in Mathematical Sciences 2000, and Chaired a session presented a paper <i>"Effects of unequal focal length of cameras in two perspective views"</i> .	I.I.T. Kharagpur.	20.12.2000 to 22.12.2000
11.	Dr. Arindama Singh	International Conference on Recent Advances in Mathematical Sciences 2000, and presented a paper Co-authored by Mrs.S. Sheela (Ph.D. Research Scholar) under his guidance entitled <i>"Tikhonov Regularisation of a singularly perturbed Elliptic PDC"</i> .	I.I.T. Kharagpur	20.12.2000 to 22.12.2000
12.	Dr. P. Veeramani	International conference on Nonlinear Systems and presented a paper titled <i>"On Boot Proximity pair Theorems & their Applications"</i> .	Dr.S.B. Agase, NES Science College, Nanded, Maharashtra;	27.12.2000 to 28.12.2000
13.	Dr.M. Thamban Nair	Gave an invited talk on "Regularization & Approximation of Ill-posed Problems" at an International Conference on Recent Trends in Analysis.	Irinjalakkuda, Kerala.	16.12.2000 to 17.12.2000
14.	Prof. P.R. Parthasarathy	Organised a session at the Joint Statistical Meeting of International Indian Statistical Association, University of Delhi, Delhi; and presented a paper entitled <i>"Fluid Queues driven by birth and death processes"</i> .	University of Delhi, Delhi	30.12.2000 to 3.01.2001
15.	Dr.P.Veeramani	On Analysis, Linear Algebra	MTTS -2000 at I.I.T.Madras	May, 2000
			Ramanujan Institute, Madras University	December 2000
			Queen Maris College, Chennai.	February 2001
		Fuzzy set theory & applications	Cochin	August 2000

Sl. No.	Name of Faculty	Title	Institution	Period
16.	Dr.V.Vetrivel	Applicable Maths – Past & Present	I.I.T. Kharagpur.	24.3.2001 to 25.3.2001
17.	Dr.Satyajit Roy	National Conference on the role of Maths in New Millennium – Theory & Application.	I.I.T. Kharagpur.	24.3.2001 to 25.3.2001
18.	Dr.S. Sundar	Applied Mathematics: Past & Present (Workshop)	Dept. of Mathematics, I.I.T. Kharagpur	24.3.2001 to 25.3.2001

3.4 Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Delivered at	Date
1.	Dr.Arindama Singh	Gave 9 lectures on Linear Algebra	MTTS – 2000, IIT Madras.	22.5.2000 to 6.6.2000
2.	Prof.P.R. Parthasarathy	Applied Birth and Death Models	Ecole Technische Hochschule, Zurich, Switzerland.	31.5.2000
	-do-	Compartmental Models	Ecole Polytechnique Federale de Lausanne, Switzerland	6.6.2000
3.	Prof..A. Rangan	Optimization Problems in Industry	Ramanujan Institute, Chennai	3.6.2000
4.	Dr.S. Ponnusamy	Geometric Properties and Inequalities Related to Hypergeometric Functions	The School of Mathematics, University of New South Wales, Sydney.	20.6.2000
		Role of Special Functions in Function Theory and Function Spaces.	The Department of Mathematics, University of Sydney, Sydney	22.6.2000
		Properties of Hypergeometric Functions on Function Spaces.	School of Mathematics, University of South Australia, Mawson lakes campus.	28.6.2000
		Generalization of Legendre-Elliots Identity and Integral Transform.	School of Mathematics, University of South Australia, Mawson lakes campus.	29.6.2000

Sl. No.	Name of Faculty	Topic of Lecture	Delivered at	Date
5.	Dr.M.Thamban Nair	Gave a lecture on "Regularization & Approximation of Ill-posed Problems".	Dept. of Mathematics, I.I.Sc., Bangalore	18.8.2000
6.	Prof.(Mrs.) R. Usha	Roll of Mathematical Modelling in Industry.	Stella Maris College, Chennai – 600 006.	November 2000
7.	Prof.S.H. Kulkarni	Gave a series of lectures sponsored by UGC "Generalized Riemann Integrals"	Nagarjuna University	14.9.2000 to 16.9.2000
8.	Dr.P.Veeramani	Gave two lectures on "Fuzzy Set Theory and Applications"	T.V.S. Lucas, Padi, Chennai	29.9.2000
9.	Prof.P.R. Parthasarathy	Gave a lecture on Industrial Mathematics at the One day Seminar on Multi Dimensions of Mathematics.	MOP Vaishnava College, Chennai	25.2.2001
10.	Prof. U.N. Srivastava	Gave a lecture on "Stability of critical points of non-linear differential systems in a plane and application to predator – prey systems".	Joseph's College, Trichy	16.2.2001
11.	Dr.S.Sundar	Delivered an invited talk on "Industrial mathematics – A Relevance for Engineering Education"	AICTE Sponsored Southern Regional Workshop on National Technical manpower Information System held at Technical Teachers' Training Institute (TTTI), Chennai	22.2.2001 to 23.2.2001
12.	Prof. P.R. Parthasarathy	"Birth and Death Processes, Orthogonal Polynomials and Continued Fractions"	Prof.Balakrishnan Endowment lecture, National College, Trichy	23.2.2001
13.	Prof. P.R. Parthasarathy	Gave an Invited talk titled "Queueing Models"	Saranath Engineering College, Trichy.	23.2.2001
14.	Dr.P. Veeramani	Gave two talks on "Fuzzy Metric Spaces" at the National Symposium on Fuzzy Topology and its Applications.	P.G. Dept. of Mathematics, New Arts, Commerce and Science College, Ahmednagar, Maharashtra State.	12.3.2001 to 13.3.2001

Sl. No.	Name of Faculty	Topic of Lecture	Delivered at	Date
15.	Dr. V. Vetrivel	Presented a paper on "Optimality conditions from Non-smooth Analysis" at the Conference on Applicable Mathematics: Past & Present.	I.I.T. Kharagpur.	24.03.01 to 25.03.01
16.	Dr.S. Sundar	Presented a paper on " Industrial Mathematics : A Relevance for Engineering Education" at the Conference on Applicable Mathematics: Past & Present.	I.I.T. Kharagpur.	24.03.01 to 25.03.01
17.	Dr.K. Swaminathan	Presented two papers at the Conference on Applicable Mathematics: Past & Present, "Simulation studies for reconstruction of a straight line in 3-D from 2 arbitrary perspective views using epipolar method" "Mathematical representation of bodies of revolution".	I.I.T. Kharagpur.	24.03.01 to 25.03.01
18.	Prof. P.V.Subrahmanyam	Silverman Theorem Totolitz for Fuzzy numbers.	International Conference on Analysis, Chennai.	7.12.2000 to 10.12.2000
		35 th Annual Conference of A.M.T.I. Maharashtra Ganitha Adhyapak Mandal of A.M.T.I., Pune; gave a presidential address entitled "Current Trends in Mathematics Education".	A.M.T.I. Maharashtra Ganitha Adhyapak Mandal of A.M.T.I., Pune	25.12.2000 to 26.12.2000

Sl. No.	Name of Faculty	Topic of Lecture	Delivered at	Date
19.	Dr.Satyajit Roy	Gave an invited talk on "Brainstroming Session for Futeristic Development of Mathematical Models for Applied Sciences" to commemorate the World Mathematical year 2001.	BITS, Ranchi	6.12.2000
20.	Prof.P.R. Parthasarathy	M.Tech.(IMSC) at IIT Madras – A German Initiative	International Seminar for Technical University of Berlin Alumni, IIT Madras.	9.12.2000

3.5 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr.S. Ponnusany	Australia	24.4.2000 to 12.7.2000	To participate in a Joint Research Work at the School of Mathematics, University of South Australia.
2.	Dr.(Mrs.) R. Rama	Germany	1.5.2000 to 9.6.2000	To attend courses on Industrial Mathematics at University of Kaiserslautern.
3.	Prof. P.R. Parthasarathy	Ecole Polytechnique Federale de Lausanne Switzerland	26.5.2000 to 25.6.2000	To accept an academic guest position at Swiss Federal Institute of Technology, Lausanne.
4.	Prof. A. Rangan	U.S.A.	23.8.2000 to 27.8.2000	To present a paper at II International Conference on "Deterministic & Stochastic Modelling of Bio-interaction 'DESTOBIO 2000' " at Purdue University, West Lafayette, Indiana.
			28.8.2000 to 7.9.2000	To visit universities in U.S.A.

3.6 Honours and Awards obtained

Sl. No.	Name of the faculty	Honours / Awards
1.	Prof. P.R. Parthasarathy	Has been awarded Senior Associateship of The Abdus Salam International centre for Theoretical physics, Trieste, Italy from 2000.

Sl. No.	Name of the faculty	Honours / Awards
2.	Prof. S.N. Majhi	Has been given the Vocational Award by the Rotary Club of Madras, Silver Beach on the occasion of Teacher's Day on the 5 th September, 2000.
3.	Dr.H.S. Paul (Retired faculty of the Dept.)	The Accoustical Society of America (ASA) has elected Dr.H.S.Paul as a Fellow of the Society and Chair of First International Chapter of ASA, based on his 34 years of work at I.I.T. Madras and contributions to pistoelectric materials and International outreach.
4.	Prof. (Mrs.) S.Kalpakam	Invited to be a Member "professional Women's Advisory Board", awarded by American Biographical Institute (ABI) Inc., N.C., U.S.A.

PRIZES WON BY M.Sc.STUDENTS :

The M.Sc. students of the Department of Mathematics, participated and won prizes at Culturals held at Stella Maris College and Loyola College from 16th to 18th December, 2000. At Loyola College, they also bagged the overall championship trophy for having secured the maximum No. of points. The prize winners are as follows:

Sl. No.	College Name	Name of Event	Participants	Prize
1.	Stella Maris College	Olympiad	Lakshmi Narayanan S.	II
			Dhayal Prasad S.	III
		Cross word	Vidya M., Lakshmi Narayanan S. (Team)	II
2.	Loyola College	Quiz	Suresh A.	I
		Seminar	Sukumar D.	I
		Cross word	Sriram, Dhayal Prasad, Vidhya M. . (Team)	I
		Dumb Charades	Vidya M., Sriram B. (Team)	III

3.7 Fellowships of Academies and Professional Societies (Humboldt / INAE /Hon. FRA, etc.

Sl. No.	Name of the faculty	Name of the Academy / Professional Society	Level	Year of Admission
1.	Dr.Y.V.S.S. Sanyasiraju	Aeronautical Society of India	Member	1997

4. Design and Development activities

4.1 Brief and specific details of Process / Instruments / Equipment / Software Designed and developed:

Dr.Y.V.S.S. Sanyasiraju Assistant Professor :	Designed a CD on Numerical Analysis titled "Computer Aided Instruction Module for Numerical Analysis" (CAIMNA).
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4.2 New facilities added or major equipment procured through project funds:

Dr. (Mrs.) R. Usha, Associate Professor :	'MATLAB' procured through funds from UNESCO project.
Dr. A. Avudainayagam Professor & Head	Pentium III 550 MHs 512 MB RAM 6GB HDD, Laser Printer and 0.6 KV UPS. Matlab with associated tool boxes.

5. Research and Consultancy

Sl. No.	Title	Period	Funding Agency	Amount (Rs.in lakhs)	Co-ordinators
1.	A Project CAIMNA Ref : CCE/CDE/08/2000/2001	July 2000 to June 2001	CCE, IIT Madras	1.00	Dr.Y.V.S.S. Sanyasiraju
2.	Probabilistic Modelling of e-commerce		e-space Technologies	1.00	Prof.P.R. Parthasarathy

5.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs.in lakhs)	Co-ordinators
1.	Stochastic Modeling of Cellular Damage and Repair in Cancer Radiation Therapy.	Three years 1998-2000	CSIR	9.00	Prof. A. Rangan & Prof. Megha Singh
2.	On Estimating Errors in Regularization Methods for Ill-Posed Operator Equations.	30.05.1997 to 29.05.2000	NBHM- (DAE)	2.00	Dr. M. Thamban Nair
3.	Numerical Study of particulate suspension flow through wavy walled channels and its stability characteristics.	Three years 15.8.2000 to 15.8.2003	CSIR	4.83	Dr.(Mrs.) R. Usha Prof.E.G. Tulapurkara – AE
4.	Surface – tension driven gas – liquid flows under Microgravity conditions – measurements and CFD predictions.	Three years 15.8.2000 to 15.8.2003	ISRO	12.74	Dr.(Mrs.) R.Usha Dr.Srinivas Jayanti – CH
5.	Studies in Contextual Grammers	22.06.1999 to 01.06.2002	DAE	3.32	Dr.(Mrs.) R. Rama Prof.Kamala Krithivasan - CSE
6.	Inverse Problems in B-L Flows.	6.08.1999 to 05.08.2002	UGC	1.95	Dr.Satyajit Roy

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
2.	Dr. R. Venkataraman Dept. of Mathematics Lehigh University Pennsylvania, U.S.A.	July 2000 to October 2000	Visiting our department
		20.7.2000	To give Special Seminar
3.	Prof. M. Rajagopalan Dept. of Mathematics, Tennessee State University, Nashville, Tennessee U.S.A.	25.7.2000	To give Special Seminar
4.	Prof. Klaus-Peter Kistner University of Bielfeld Germany.	3.8.2000 & 26.7.2000 to 10.8.2000	To give Special Seminar
5.	Dr. Sarada Ramanan Tata Consultative Services, Chennai	31.8.2000	To give Special Seminar
	Shri. R. Narayanan Vice President Corporate Training & Education Tata Consultancy Services Trivandrum	7.9.2000	To give Special Seminar
6.	Prof. C. Krattenthaler Dept. of Mathematics University of Vienna, AUSTRIA.	14.9.2000	To give Special Seminar
7.	Dr. Ramanujan The Institute of mathematical Science Taramani Chennai – 600 036.	5.10.2000	To give Special Seminar
8.	Dr. Venkadesh Raman The Institute of Mathematical Science Taramani Chennai – 600 113.	19.10.2000	To give Special Seminar
9.	Dr. Mike Fellows University of Victoria Canada and Victoria University Wellington New Zealand	25.10.2000 & 9.11.2000	To give Special Seminar
10.	Prof. Michael Waldshmidt Institut de Mathematiques de Jussieu Universite P.et.M.Curie (Paris VI) Theorie Des Nombres France.	2.11.2000	To give Special Seminar

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
11.	Prof.Dr. Helmut Neunzert Director Institute for Industrial Mathematics University of Kaiserslautern Germany	22.11.2000 & 24.11.2000	To conduct Modelling workshop, to visit industries and to give two special Seminar talks.
12.	Prof. Frode Ronning Sor-Trondelag College School of Teacher Education Trondheim NORWAY.	2.12.2000 to 18.12.2000	Visited our department, gave two Special Seminar and an AMTI lecture on the topic "Constructivise ideas in the learning of Mathematics, series of talks/ seminar, and was also engaged in collaborative work with some faculty members.
13.	Prof.Lisa Lorentzen Norwegian University of Science and Technology Trondheim Norway	2.12.2000 to 18.12.2000	Visited our department, series of talks/ Special seminar, and was also engaged in collaborative work with some faculty members
14.	President Prof.Dr.-Ing Gunter Warnecke University of Kaiserslautern Germany	4.12.2000	Visited the department
15.	Dr. Ing.Madhukar Pandit University of Kaiserslautern Germany	4.12.2000	Visited the department
16.	Dr.re.nat Joachim Dietmer University of Kaiserslautern Germany	4.12.2000	Visited the department
17.	Prof. Olav Njastad Norwegian University of Science & Technology Trondheim Norway	4.12.2000 to 10.12.2000	Visited the Department
18.	Mr.Suraj WIPRO	19.12.2000	To brief our Ph.D. research scholars regarding employment opportunities at WIPRO.
19.	Prof. James H. Matis Dept. of Statistics Texas, A & M University	January 2001 to April 2001	To give special Seminar talk & is visiting the department
20.	Prof. V. Ramaswami AT & T BELL LAB U.S.A.	4.1.2001	To give Special Seminar
21.	Prof. V.B. Johri Former Professor of I.I.T. Madras CSIR-Emeritus Professor Lucknow University.	5.1.2001	To give Special Seminar

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
22.	Prof. Vidyandhi Vajjhala San Jose University.	6.1.2001	To give Special Seminar
23.	Prof. Krishna B. Atherya Cornell University	18.1.2001	To give Special Seminar
24.	Prof. Jukko Pihko Dept. of Mathematics University of Helsinki FINLAND	4.2.2001 & 24.2.2001	Visited the department and gave two Special Seminar
25.	Prof. Renuka Ravindran Dept. of Mathematics Indian Institute of Sciences BANGALORE	24.2.2001	To give Special Seminar
26.	Prof. Vikramaditya Singh Retired Professor from Punjab University Patiala.	1.3.2001 to 31.3.2001	Visited the department and gave Special Seminar
27.	Prof. R. Sivaramakrishnan Retired Professor of Mathematics University of Calicut.	7.3.2001 to 9.3.2001	To give Seminar talk and to have interaction with faculties
28.	Dr. Prabhu Manyem Center for Industrial and Applicable Mathematics University of South Australia Adelaide, Australia.	15.3.2001	To give Special Seminar
29.	Prof. Dr. Stephan Ruscheweyh Mathematisches Institut Universitaet Wuerzburg Am Hubland, D-97074 Wuerzburg, GERMANY.	22.3.2001 to 28.3.2001	Visited the department, gave two seminar talks and had interaction with the faculties.
30.	Mr. Sunil K. Sharma GE (Capital)	30.3.2001	To explore possibility of mutual collaboration, made presentation to Faculty members and to the Research Scholars, M.Sc. / M.Tech. students in two different sessions

7. Other Activities

Faculty of the department refereed several research papers for National and International Journals, reviewed papers and books and refereed projects for CSIR and DST.

a) Weekly Seminar :

Under the auspices of Mathematics Department, a seminar talk was arranged on every Thursday at 3.00 p.m. The speakers include visitors from abroad, faculty members of various Institutions in Chennai and various Departments from IITM Chennai. The post-graduate students of the Department, the Research Scholars and the Faculty Members of the Department and interested persons from the other neighbouring Institutions were highly benefited by this programme. Topics dealt with by the speakers range from pure mathematics to applications relevant to engineering problems, social sciences and biological sciences. The Co-ordinator of this programme for the period under report was Dr. S.Ponnusamy.

b) PROGRAMME FOR GIFTED YOUTH

The faculty of the Department participated in the 3-week Programme for Gifted Youth arranged jointly by the Bharatiya Vidya Bhavan and IIT Madras during April 24-May 13, 2000. 40 students selected from the Bharatiya Vidya Bhavan schools from all over the country were given intensive training in Mathematics and Computer Science involving lecture, tutorials and laboratory classes and individual projects. Profs. P.R.Parthasarathy and S.H. Kulkarni of this department gave lectures in the programme.

c) MATHEMATICS TRAINING AND TALENT SEARCH (M.T. & T.S.) PROGRAMME 1999

The Programme is going on since 1993, every summer at different places. The Programme is funded by the National Board of Higher Mathematics (NBHM). It was held in the Department of Mathematics, IIT Madras in 1997, 1998, 1999 and 2000.

The aims of the programme are:

1. To teach mathematics in an interactive way rather than the usual passive presentation.
2. To promote independent thinking in mathematics.
3. To provide an opportunity for the talented students to interact with the experts in the field.

In 2000 the Programme was held during May 15- June 10 with Prof.S. Kumeresan, Department of Mathematics, University of Mumbai, as the Director and Dr.M.Thamban Nair, Associate Professor, Department of Mathematics, IIT Madras as the Local Organizers of the Programme. 37 candidates participated in the programme.

Resource persons included Dr. Ramakrishnan from Mehta Research Institute, Allahabad; Dr. Vijay from Institute of Mathematical Sciences, Chennai; Dr. K.C. Sivakumar and Dr. R. Radha from Anna University, Chennai apart from Prof. S.H. Kulkarni and Dr. P. Veeramani of the Department.

d) VISITING FACULTY

Dr. Iskander Nezhmetdinov, Faculty of Mechanics and Mathematics, Kazan State University, Russia joined the Department of Mathematics in October 1999 on a six month Fellowship, under the Visiting Professors Scheme of the National Board for Higher Mathematics, Government of India. NBHM had extended its support for another 6 months upto October 2000.

Prof. Frode Ronning, Sor-Trondelag College, School of Teacher Education, Trondheim, Norway and Prof. Lisa Lorentzen, Norwegian University of Science and Technology, Trondheim, Norway joined the department for a period of six months under Visiting Professors Scheme of the National Board for Higher Mathematics, Government of India.

e) M. TECH. (IMSC) STUDENTS INDUSTRIAL TOUR

Industrial tour is an important component of the M.Tech. (IMSC) programme. The students were taken on an industrial tour to ONGC REGIONAL COMPUTER CENTRE, Chennai.

1. The students of M.Tech. (IMSC) visited M/S. Rane Nastech Ltd., Guduvanchery on Saturday the 19th August, 2000. Dr. Satyajit Roy was the Co-ordinator.
2. The students of M.Tech. (IMSC), a few faculty members and research scholars visited the Regional Computer Centre of ONGC, Chennai on 7th March, 2001 as part of the IMSC curriculum. Dr.Amaravadi, Dy.General Manager, Dr.K.C. Balan, Head of the Computer Centre made arrangements for a tour of different cells of the Computer Centre such as :

Systems Maintenance & Administration (RS6000 parallel machine: 8 node machine) Archiving (storing converting the available data in High density media tapes) Data Acquisition and Processing (Mathematical Tools for Reconstructing from the digitized Data with noise filter) Interpretation (Detailed Analysis) Management (Further Analysis, Network Computing, Oracle Database Administration).

3. The students of M.Tech. (IMSC), a few faculty members along with Prof. Neunzert visited :

- (a) Lucas TVS on 22nd November 2000
- (b) e-Space Technologies on 23rd November, 2000
- (c) e-health care on 25th November, 2000.

f) I BATCH OF THE M.TECH. (IMSC)

Two M.Tech. (IMSC) students completed their project in Germany :

- 1. Mr. Venkataramanan - University of Karlsruhe
- 2. Mr. Sureshan - University of Kaiserslautern

The first batch students of the M.Tech. (IMSC) programme have completed the course and the students were absorbed by various reputed industries.

RAMANUJAN DAY

The department organised a "One Day Symposium on Mathematical Methods and Applications" on 22nd December, 2000, the day of the 112th birth anniversary of Sri Srinivasa Ramanujan, the great Indian Mathematician. The day's events were inaugurated by Dr. R. Balasubramanian, Director, Institute of Mathematical Sciences, Chennai.

This was followed by three invited key note addresses in the forenoon by :

- (i) Prof. T. Parthasarathy (ISI, N. Delhi),
- (ii) Prof. K. Gopalsamy (Flinders University, Australia) and
- (iii) Prof. S.S. Verma (Defence Institute of Physiology & Allied Sciences, Delhi).

In the afternoon, parallel paper presentation sessions were held on :

- (i) Applied Mathematics,
- (ii) Pure Mathematics I,
- (iii) Pure Mathematics II and
- (iv) Operations Research

Prof. S. Narayanan, Dean, Academic Research, presided over the valedictory function. Dr. Y. Nagendra, Assistant Professor of the Department was felicitated on the occasion of his superannuation.

h) CELEBRATION OF 40TH ANNIVERSARY OF I.I.T MADRAS – ORGANISATION OF AN ONE DAY CONFERENCE BY THE DEPARTMENT OF MATHEMATICS

A "One Day conference on Analysis and its Teaching" was conducted in connection with the Fortieth Anniversary of I.I.T. Madras on Saturday, the 12th August, 2000, in ICSR Hall III, I.I.T. Madras. Prof. C. R. Muthukrishnan, Deputy Director, I.I.T. Madras, inaugurated the conference and Prof. R. Balasubramanian, Director-in-Charge, Institute of Mathematical Sciences, Chennai, presided over the function. There were about 40 participants. Prof. P.V. Subrahmanyam was the co-ordinator of the conference.

I) FORAYS – 2001

The students of the department of Mathematics organised FORAYS-2001, a two day intercollegiate programme on 17th and 18th February, 2001. Around 300 students from city colleges attended and participated in the events such as Quiz, Olympiad and seminars. This Math Mela was inaugurated by Prof. C.R. Muthukrishnan, Deputy Director, IIT Madras.

There was a panel discussion on “Impart of Technology on Mathematics, Education and Development”. The panalists were Prof. P.V. Subrahmanyam, Prof. S. H. Kulkarni, Dr. Mangalasundar, Dr. Sriram, Ms.Vidhya and Ms. Sunitha.

The winners and the participants were congratulated at the valedictory function. Prof.A.Avudainayagam, Head of the department, distributed the prizes to the winners. The whole programme was a spectacular display of talents by students.

Dr .V. Vetrivel was the faculty co-ordinator of this programme.

J) VISITING STUDENT

Ms. Nichole Marcheineke, an M.Sc. Student of University of Kaiserslautern, visited the department from 15th August, 2000 to 2nd October, 2000, and took some courses in Mathematics under student exchange program of DAAD.

k) VISIT OF GERMAN PRESS ‘STERN’

Mrs.Nikola Sellmair, reporter and Mr. Enver Hirsch, photographer, of ‘Stern’ Magazine, Germany visited the department from 8th August, 2000 to 16th August, 2000.

I) NEW POST DOCTORAL FELLOW

Dr. N. Vijayarangan, joined the Department of Mathematics on 2nd January, 2001 as Post Doctoral Fellow under Prof. S.H. Kulkarni, sponsored by NBHM. He left the department w.e.f. 21st February, 2001.

4.10 DEPARTMENT OF MECHANICAL ENGINEERING

1. Introduction

The Department of Mechanical Engineering was established in the year 1959. The department offers Ph.D., M.S., M.Tech and B.Tech. programmes. The department has excellent facilities to carry out state-of-the-art research and three major disciplines of Mechanical Engineering, namely, Thermal Engineering Stream, Design Stream and Manufacturing Engineering Stream.

The Thermal Engineering Stream comprises of six laboratories namely, Heat Transfer and Thermal Power, Hydro-Turbo Machines, I.C.Engines, Refrigeration & Airconditioning, Thermal-Turbo Machines and Thermodynamics & Combustion.

The Design Stream consists of the Machine Design Section.

The Manufacturing Engineering Stream consists of the Manufacturing Engineering Section and Precision Engineering & Instrumentation laboratories.

2. Academic Programmes

2.1 New Courses Introduced:

The following new courses were introduced during the year under report.

S.No.	Course No.	Title
1.	ME 618	Energy and Environment
2.	ME 756	Precision Engg. elements and Instruments

2.2 Students on Roll

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech.	77	95	90	104	--	--	366
M.Tech. (Dual Deg.)							
Engg. Tech.	5	7	4	--	--	--	16
Intelligent Mfg.	6	6	4	--	--	--	16
Product Design	6	7	6	--	--	--	19
M.Tech.							
Thermal Engineering	31	33	--	--	--	--	64
Design	31	27	--	--	--	--	58
Manufacturing Engg	23	27	--	--	--	--	50
Automative Engg. Tech. (UoP)	11	11	--	--	--	--	22
M.S.	17	16	15	6	3	--	57
Ph.D.	15	21	15	8	7	7	73
Total	128	135	44	14	10	7	324

2.3 Number of Scholarship/Fellowship holders

Programme	Institute Scholarship	Others	Total
B.Tech.	39	..	39
M.Tech.	102	--	102
M.S.	20		20
Ph.D.	15	--	15
Total	176	--	176

2.4 Names of student /scholar attended Conference/Seminar and Symposia abroad/India

Sl. No.	Name of the Student/ scholar	Programme	Name of the Conf/ Seminar/ Symposia	Date and Venue
1	P.Muthukumar	Ph.D.	DST-DAAD Scientist Exchange Programme	16-09-2000 to 15-12-2000 Institut für Kernenergetik und Energisysteme, Pfaffenwaldring 31, Universität Stuttgart, D-70569 Stuttgart, GERMANY
2	Abhijit Ashok Sathe	M.Tech	IIT DAAD – Masters Sandwich Programme 2000-2001 IIT-DAAD student exchange programme	11-05-2000 to 28-02-2001 Institut für Thermodynamik und wärmetechnik, Universität Stuttgart, D-70569 Stuttgart, GERMANY
3	S.Pugazhenth	Ph.D	National Symposium on Manufacturing Engg. In 21 st century	March 2-3, 2001 IIT Kanpur
4	Y. Janardhana Reddy	M.S.	IPROMM-2000	16-21 Jan.2001 Nagpur
5	Ms. Raji	M.S.	25 th National Symposium on Instrumentation IISc.Bangalore	8-11 Nov.2000 Bangalore
6	S.H.Somashekhar	Ph.D (Project)	Fluid Power Society one day seminar	5, May .2000 Madras
7	S.H.Somashekhar	Ph.D (Project)	YUKEN –IIT-FLOW LINES Workshop at IIT Madras.	19-21 Oct.2000 IIT Madras
8	S.H.Somashekhar	Ph.D (Project)	19 th All India Manufacturing Technology Design & Research Conference at IIT Madras.	14-16 Dec.2000 IIT Madras

2.5 Number of Degrees Awarded In the last convocation:

S. No.	Programme	Total
1	B.Tech.	81
2	M.Tech.	87
3	M.S.	25
4	Ph.D.	15
	Total	208

3 Faculty and their Development

3.1. Faculty

Sl. No.	Professors	Area of Specialisation
1.	Ajit Kumar Kolar, Ph.D.(IIT Madras)	Fluidized Bed combustion
2.	Balabaskaran, V., Ph.D.(IIT Madras)	Hydroturbomachines
3.	Bhaskaran, K.A., Ph.D.(IIT Madras)	Combustion and Propulsion
4.	Ganesan, V., Ph.D.(IIT Madras) (Head)	I.C. Engines
5.	Gopinath, K., Ph.D.(IIT Madras)	Machine Design, Tribology and Power Metallurgy
6.	Govardhan M., Ph.D.(IIT Madras)	Thermal Turbomachines
7.	Krishnaiah Chetty, O.V., Ph.D.(IIT Madras)	Conventional and Unconventional Machining, FMS, CIM, Scheduling Petrinets
8.	Krishnakumar R., Ph.D.(IIT Madras)	Non-linear and linear finite elements, CAD, Fracture Mechanics
9.	Krishnamurthy, R., Ph.D.(IIT Madras)	Metal cutting, Grinding, Unconventional Machining Ceramics
10.	Krishnan Balasubramaniam, Ph.D.	Non-destructive evaluation and sensor
11.	Kumaraswamy, S., Ph.D.(IIT Madras)	Hydroturbomachines
12.	Madhusudana Rao, M., Ph.D.(IIT Madras)	Mechanical Handling, Materials Handling
13.	Nagalingam, B., Ph.D.(IIT Madras)	I.C. Engines
14.	Nagarajan, T., Ph.D.(IIT Madras)	Robotics, Pneumatics, Medical Instruments
15.	Narayanasamy K., Ph.D.(IIT Madras)	Precision Engg., Manufacturing methods in the field by Precision Engg. Metrology
16.	Natarajan, R., Ph.d.(Waterloo) (Director, IIT Madras)	Heterogeneous Combustion, Energy Conservation, Rocket and Ramjet Combustion, Thermodynamics, Analysis of Energy Systems
17.	Philip, P.K., Ph.D.(IIT Madras)	Material removal processes, CAD/CAM, Fluid power, Tool design
18.	Pramod S Mehta, Ph.D. (Loguhborough, UK)	I.C. Engines

Sl. No.	Professors	Area of Specialisation
19.	Prasad, BVSSS., Ph.D.(IIT Kharagpur)	Turbomachines, Fluid Mechanics, Heat Transfer
20.	Premananda Shet, U.S., Ph.D.(IIT Madras)	Combustion and Propulsion, Computational Fluid
21.	Radhakrishnan, V., Ph.D.,(IIT Madras)	Metrology, Automation, Grinding, CIM
22.	Ramamoorthy B., Ph.D.(IIT Madras)	Metrology, CAI/Sensors/Mfg. Engg/ Quality control
23.	Raman R., Ph.D., (IIT Madras)	Precision Engineering, Mechanical Measurements
24.	Ramesh Babu N., Ph.D.(IIT Madras)	CNC, CAM, LBM, Grinding, PLC Applications
25.	Shunmugam M S, Ph.D.,(IIT Madras)	Metrology, BTA, Gear Maching, Grinding, EDM, Statistical Quality Assurance, Automation, Computer Aided Manufacturing Systems and Control
26.	Singaperumal M., Ph.D.(IIT Madras)	Fluid Power, Electro-hydraulic servo-systems
27.	Sivaprasad N., Ph.D.(IIT Madras)	CAD, FEM, Machine Design, Computer Graphics
28.	Srinivasa Murthy S., Ph.D.(IIT Madras)	Thermal Engineering
29.	Srinivasa Y G., Ph.D.(IIT Madras)	Instrumentation and Control, Active noise control, Active suspensions
30.	Sriramulu, V., Ph.D. (IIT Madras)	Combustion and Propulsion
31.	Sundararajan, T., Ph.D.(Pensylvania)	Dynamics and Heat Transfer
32.	Venkatesh A., Ph.D.(IIT Madras)	Solar Energy Utilisation
33.	Venkateshan S P., Ph.D.(IISc Bangalore)	Heat Transfer
34.	Vijay R Raghavan Ph.D. (IIT Madras)	Heat exchangers and Cooling Towers, Heat Recovery and conservation
	Associate Professors:	
35.	Babu V., Ph.D.(Ohio)	Combustion and Propulsion
36.	Krishnamurthy S., Ph.D.(IIT Madras)	Machine Design, Tribology
37.	Mani A., Ph.D.(IIT Madras)	Thermal Engineering
38.	Mayuram M M., Ph.D. (IIT Madras)	Machine Design and surface engineering
39.	Muthuveerappan G., Ph.D.(IIT Madras)	Machine Design, Vibrations
40.	Prakash M Maiya., Ph.D.	Thermal Engineering
41.	Raju Sethuraman, Ph.D.,(IIT Bombay)	Machine Design/ Fracture Mechanics
42.	Ramesh A., Ph.D. (IIT Madras)	I.C.Engines
43.	Sarit Kumar Das, Ph.D.(Sambhalpur)	Heat Transfer, Heat exchanger, CFD
44.	Sitaram N., Ph.D. (Pennsylvania)	Thermal Turbo machines
45.	Venkatrathnam, G., Ph.D. (IIT Kharagpur)	Thermal Engineering

Sl. No.	Professors	Area of Specialisation
46.	Vijayaraghavan L, Ph.D.(IIT Madras)	Metal Cutting, CAD, Grinding, Condition Monitoring and Surface Technology
	Assistant Professors:	
47.	Balaji C., Ph.D. (IIT Madras)	Heat Transfer, Computational Heat Transfer, Natural Convection, Radiation, Cooling of Electronic Equipment, Energy Systems Design
48.	Gnanamoorthy R., Ph.D. (IIT Madras)	Machine Design, Materials Technology
49.	Gopalan K N, Ph.D. (IIT Madras)	Analysis, Simulation and Dynamics
50.	Ramalingeswara Rao D V., M.Tech. (IIT Madras)	Instrumentation and Control Engineering
	Senior Design Engineer:	
51.	Kalandar Saheb,M.Tech. (IIT Madras)	Jigs and Fixtures, Powder Metallurgy of gears, Design for manufacture, Design of Mechanical Machines
	Senior Maintenance Engineer:	
52.	Arun A., B.E. (Madras University)	Refrigeration and Airconditioning
	Henry Ford Chair Professor:	
53.	Gopalakrishnan K V., Ph.D. (IIT Madras)	I.C. Engines

3.2 Short-term Courses/Workshops/Seminars/Symposia/Conferences organized:

Sl. No.	Co-ordinators	Title	Period
1	Prof K Gopinath	Recent Developments in Gear Engg.	1 day
2	Prof Krishnan Balasubramaniam	Preparatory Course for ISNT level III Certification Examination in the areas of Basics in NDT, Ultrasonic Testing, Liquid Penetrant Testing, Magnetic Particle Testing and Radiographic Testing	5 weeks in June, 2000.
3	Prof R Natarajan Prof M Govardhan	ENFUSE Golden Jubilee Seminar (31 st National Seminar) on Energy and Environment – Current Status and Future Challenges	June 16-17, 2000
4	Prof S Kumaraswamy	Workshop on Creation of Design Data Book for Centrifugal Pumps	3 rd November 2000
5	Prof.S.Srinivasa Murthy (Conductor/ Resource Person)	Two-Day Workshop on Recent Advances in Environment Friendly Refrigerants; Khatmandu, Nepal	22-23 rd April, 2000
6	Prof.S.Srinivasa Murthy Dr.M.Prakash Maiya	MNES Sponsored Workshop on Absorption Cooling Systems suitable for Low Grade Heat Sources, Madras	29 th September 2000

Sl. No.	Co-ordinators	Title	Period
7	Prof.S.Srinivasa Murthy (Conductor/ Resource Person)	Two-Day Workshop on Recent Advances in Environment Friendly Refrigerants for Refrigeration & Aircoditioning; Singapore	12-13 January 2001
8	Dr.Y.G.Srinivasa	Workshop on Mechatronic – Dr.Dharmambal Polytechnic for Women, Chennai	Nov.27-Dec.1, 2001

3.3 Short-term Courses / Workshops / Seminars / Symposia / Conferences / Training attended by the Faculty in recognized Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
1	Prof Krishnan Balasubramaniam	Review of progress in quantitative nondestructive testing held on July 22-28, 2000.	Ames, Iowa	July 22-28, 2000
2	Prof Krishnan Balasubramaniam	NDE 2000, the Annual Conference of ISNT	Calcutta	December 14-16, 2000
3	Dr Raju Sethuraman	Fatigue and fracture related life prediction techniques	IIT Madras	27.11.2000 to 1.12.2000
4	Dr R Gnanamoorthy	International Conference on Trends in Mechanical Alloying and application	Jaipur	February, 2001.
5	Prof BVSSS Prasad	NCABE 2000	DRDL, Hyderabad	Dec. 21-23, 2000
6	Prof M Govardhan	27 th National Conference on FM and FP	FCRI, Palghat	Dec. 11-13, 2000
7	Dr N Sitaram	NCABE 2000	DRDL, Hyderabad	Dec. 21-23, 2000
8	Prof S Kumaraswamy	Tata-Elxi-SGI User meet	Tata Elxi Ltd., Chennai	5 th December 2000
9	Prof S Kumaraswamy	27 th National Conference on Fluid Mechanics and Fluid Machinery	Fluid Power Research Institute, Palghat	11 th to 13 th December, 2000
10	Prof S Kumaraswamy	Workshop on Accreditation of Engineering Colleges	NBA, AICTE, New Delhi held at IIT Madras	31 st March 2001
11	Prof. R. Raman Member, Organising Committee	19 th AIMTDR Conference	IIT Madras	Dec.14-16, 2000
12	Prof. T. Nagarajan Member, Organising Committee	19 th AIMTDR Conference	IIT Madras	Dec.14-16 2000.

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
13	Prof. Y.G.Srinivasa Member, Organising Committee	19 th AIMTDR Conference	IIT Madras	Dec.14-16 2000.
14	Prof. M.Singaperumal Member, Organising Committee	19 th AIMTDR Conference	IIT Madras	Dec.14-16 2000
15	Prof.K.Narayanasamy Member, Organising Committee	19 th AIMTDR Conference	IIT Madras	Dec.14-16 2000

3.4 Special Lectures Delivered by the faculty in others Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	Prof Pramod S Mehta	The Role of Combustion Chamber in Engine Emissions	Sri Ramakrishna Engg. College Coimbatore, 31.8.2000
2	Prof N Sivaprasad	Finite Element Analysis in Metal forming	Madras Institute of Technology
3	Prof N Sivaprasad	Finite Element methods in Design	College of Engg. Anantapur
4	Prof N Sivaprasad	Finite Element Methods in Mathematics	Vellore Engg. College, Vellore
5	Prof Krishnan Balasubramaniam	NDE in a Product Cycle	ISRO-SHAR Shriharikota – October 2000.
6	Dr A Mani	Solar Refrigeration system, Energy for the Milleneium	
7	Prof V Balabaskaran	Harnessing Energy from Ocean Tides	One Day Seminar on "Renewable Energy from the Ocean" jointly organized by Tamil Nadu Energy Development Agency and Ocean Engg. Centre, IIT Madras on 10 th June 2000 at EVK Sampath Maligai, Chennai 600 006.
8	Prof S Kumaraswamy	Cavitation Noise	27 th National Conference on Fluid Mechanics and Fluid Machinery, Fluid Power Research Institute, Palghat on 12 th December 2000.
9	Prof S Kumaraswamy	Cavitation induced vibration in pumps	AU-FRG Institute for CAD/CAM, Anna University, Chennai 600 025. on 21 st December, 2000.
10	Prof.S.Srinivasa Murthy	New Envi-ronment Friendly Refrigerants.	Khatmandu University, Nepal, 22-23 April 2000

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
11	Prof.S.Srinivasa Murthy	Environment Friendly Refrigerants for Refrigeration & Aircoditioning	Singapore, 12-13 January 2001
12	Prof K Narayanasamy	Advanced Manufacturing	CVRDE, 16 th February, 2001

3.5 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country visited	Date	Purpose of Visit
1	Prof.V.Ganesan	Germany	11.10.2000 to 22.12.2000	DAAD-IITM MoU
2	Dr.A.Ramesh	France	27.5.2000 to 4.5.2001	Post Doctoral Fellowship at Ecole Des Mines De Nantes
3	Prof Krishnan Balasubramaniam	USA	July 2000	World Federation of NDE Centers Meeting, Ames, Iowa
4	Dr Raju Sethuraman	USA	July 2000	Conference Paper Presentation
5	Prof.S.Srinivasa Murthy	Nepal	22-23 April 2000	To conduct a Workshop and deliver lectures on New Envi-ronment Friendly Refrigerants.
6	Prof.S.Srinivasa Murthy	Germany	May-July 2000	Guest Scientist - To work on the Joint Project on New Environment Friendly Refrigerants for Heat Pump Applications
7	Prof.S.Srinivasa Murthy	Singapore	12-13 January 2001	To conduct a Workshop and deliver lectures on Recent Advances in Environment Friendly Refrigerants for Refrigeration & Aircoditioning.
8	Prof.S.Srinivasa Murthy	Various Universities in USA; USA	18 August - 6 Sept. 2000	Discussions on possible collaborative projects, / Delivering lectures on heat pumps/ Use of low grade heat sources for cooling/ Upgradation of low grade heat sources

Sl. No.	Name of Faculty	Country visited	Date	Purpose of Visit
9	Prof. K.A.Bhaskaraan	Duisburg, Germany	June 2000 to December 2000	Visiting Research Assignment at the Gerhard Mercator University, Duisburg. To work on Shock Tube generated Nano-Particles.
10	Prof.V. Sriramulu	Boston, USA	June 11-15, 2000	Participated in the ASME Fluid Engineering Conference.
11	Prof.U.S.P.Shet	Sweden	May-June 2000	Research Fellowship at the Royal Institute of Technology, Stockholm.

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Awarded by	Awarded for	Date
1	Prof K Gopinath	MN Saha Memorial Award, awarded by the Institution of Electronic and Telecommunication Engineers (IETE)	Best application oriented paper 1998	30.9.2000
2	Prof M Govardhan	S Anantha Ramakrishna Merit Prize	Effect of Streamwise Fences on Secondary and Tip Clearance Flows in a Two-dimensional Linear Turbine Rotor Cascade	2000

3.7 Books/Monographs authored or co-authored

Sl. No.	Name(s) of Author(s)	Title of Text Book / Monograph	Publisher
1	Prof.V.Ganesan	Computer Simulation of Compression – ignition engine processes	University Press (Orient Longman Ltd.) Hyderabad, India
2	Prof .V.Ganesan	Gas Turbines	Tata Mc Graw Hill, New Delhi, India.
3	Dr M S Loknath Dr S P Venkateshan Dr BVSSS Prasad Dr B Basu Dr V Prasad	Proceedings of 15 th National and 4 th ISHMT ASME Heat and Mass Transfer Conference	Tata McGraw Hill

**3.8 Fellowships of Academies and Professional Societies
(Humboldt/INAE/INSA/Hon. FRA, etc.)**

Name of Faculty	Name of the Academy/ Professional Society	Level	Year of Admission
Prof.V.Ganesan	Indian National Academy of Engineering	Fellow	2000

4. Design and Development Activities

- (a) Gear test rig with dynamic loading facility
- (b) Receptroating wear test rig to evaluate dental alloys
- (c) Load cells 0.1, 1.0, 50, 100 kN
- (d) Bearing test rig
- (e) Vacuum seals & seal testing facility
- (f) Successfully developed a jet pump for the under water mining with financial assistance from NIOT

4.1 Brief and specific details of Process/Instruments/Equipment/Software Designed and developed:

1. Conceptual Design of Horizontal Boring machine for 7 m long and 2 m dia cylinders for Servall Engineering, Coimbatore
2. Designs and Development of Fretting Fatigue Test Facility

The developed test facility is first of its nature in India and this will be of use to many government research organisations and industries. The test facility is capable of simulating the many practical situations where fretting is a prime cause of failure. It has sophisticated instrumentation and PC controlled data acquisition and storage system.

4.2 New facilities added and Major equipment procured through project funds:

- a) Chemiluminiscent – NO_x Analyser
- b) Flame Ionisation for exhaust hydrocarbon measurements
- c) Dynamometer Controller with speed (RPM) and torque indicator
- d) Digital RPM Indicator
- e) Digital Torque Indicator
- f) Modi Xerox Machine
- g) Gas Flow meters
- h) Set up Computer Engineering Laboratory
- i) 50 T Fatigue test machine fabricated
- j) Torque Transducer, Tension/Compression Load Cell, Image Analyzer

4.3 Patents Filed:

Development of the Naval Branched Tubular Suction Control Nozzle Jet Pump

Gary S Strumolo and V Babu, Method and System for providing a Virtual Wind Tunnel, 1997, U.S.Patent, No.6,088,521, July 11, 2000.

5. Research and Consultancy

5.1 Sponsored Research Projects on hand (only ongoing):

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Modelling of Iso-thermal and Reacting Flows in After Burners	1998-2001	ARDB	9.085	Dr.V.Ganesan Dr.T.Sundararajan
2	Study and Development of repair technology for repairing composites at site under-water for vessels	3 years	Naval Research Board	22.67	Dr.K.Gopinath Dr.R.Gnanamoorthy Dr.S.K.Malhotra Dr.R.Natarajan
3	Computer Aided Teaching of Engineering Graphics	1999-2001	MHRD	11.00	Dr.C.R.Muthukrishnan
4.	Application of Numerical Predictions for Flow Through Swirlers.	April 1999 to March 2002	ARDB	Rs. 8,86,000/-	Dr. T. Sundararajan Dr. V. Ganesan
5	Virtual prototyping & Gun control system		MHRD	8.00	Dr.M.S.Shunmugam
6	New Sintered bearings – performance improvements	3.5 years	MHRD	6.00	
7	Development of Computer controlled high speed reciprocating wear test rig	3.5 years	MHRD	6.00	Dr.K.Gopinath
8	Design and Analysis of Hybrid Pressure Vessel	2 years	ISRO	Rs.3.91	Dr..N.Siva Prasad
9	Development of slurry pumping system using jet pumps	1999-2000	NIOT	Rs.	Dr..M.Madhusudana Rao Dr.S.Kumaraswamy
10	Design, Development and evaluation of solar augmented evaporation pond for treatment of segregated tannery effluent	1998-2001	UNIDO, Vienna, Austria	Rs.6.3	Dr.A.Mani Dr.A.Venkatesh Dr.T.K.Ramanujam
11	Design and development of solar augmented evaporation pond for tannery effluents	2000-01	CLRI, Chennai	Rs.6	Dr.A.Mani Dr.A.Venkatesh Dr.V.Sriramulu

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
12	Numerical and Experimental Investigations of Local Blockages in LMFBR Fuel Sub Assembly	1999 – 2002	BRNS, DAE.	24.79	Dr. B.V.S.S.S. Prasad Dr. B.H.L. Gowda
13	Study of Transient Thermal Response of a Cryogenic Rocket Turbo-pump Assembly	1999-2001 (Ongoing)	ISRO-IITM (LPSC, Trvm.)	6.31	Dr. S. SrinivasaMurthy and Dr.G. Venkatarathnam
14	Studies on Stratification of Cryogenic Liquid Propellants	1999-2001 (Ongoing)	ISRO-IITM (LPSC, Tvm)	7.27	
15	Advanced Biomass Gasification	2000-2003 (Ongoing)	MNES	61.525	Dr. A. K. Kolar Dr. B.V.S.S.S. Prasad
16	Development of Propulsion Integrated System Software for Launch Vehicles	3 years	ISRO	7.7625	Dr. K.A.Bhaskaran Dr. T. Sundararajan Dr. S. Kumaraswamy Dr. M. Govardhan
17	Computer Aided Instructional Modules on Turbomachines	1998 – 2000	AICTE	1.77	Dr. N.Sitaram Dr. M.Govardhan
18	Tip Clearance Flows and Loss Reduction in Turbine Nozzle and Rotor Cascades (Project is approved)	3 years	DST	6.83	Dr. M.Govardhan Dr. B.H.L. Gowda
19	Energy Efficient Cross Flow Fans (Sanctioned)	2 years	MHRD	16.9	Dr. M.Govardhan Dr. N. Sitaram
20	Computer Aided Instructional Module on Turbomachines	2 years	CCE	1.75	Dr.N.Sitaram Dr. M. Govardhan
21	Tip Clearance Flows and Loss Reduction in Turbine Nozzle and Rotor Cascades	3 years	DST	5.53	Dr. B.H.L. Gowda Dr. M. Govardhan
22	Performance and Stall Margin Improvements in an Axial Flow Compressor by Means of Forward Swept Blades	2 years	ARDB	7.178	Dr. N. Sitaram Dr. M. Govardhan
23	Diffusers for Energy Efficient Centrifugal Compressors	3 years	CSIR	5.03	Dr. N.Sitaram Dr. M. Govardhan

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
24	Development of back-up software for the effective learning of Vortex Element Methods	2 years	Curriculum Development Cell Supported by AICTE	2.16	Dr V Balabaskaran
25	Creating a Design Database for Centrifugal pumps under the Institute Industry Partnership Programme	1 year	AICTE	0.50	Dr S Kumaraswamy
26	Development and Testing of Metal Hydrides for Environmentally friendly Energy Conversion (ongoing)	April 2000 – March 2002	Department of Science & Technology - German Academic Exchange Service	6	Dr.S.Srinivasa Murthy Dr.M.Prakash Maiya
27	Development of Novel Metal Hydride Reactors for Environment Friendly Energy Conversion Devices (ongoing)	October 2000 - September 2003	Ministry of Non-Conventional Energy Sources	28	Dr.S.Srinivasa Murthy Dr.B.Viswanathan Dr.M.Prakash Maiya
28	Design Analysis of a Scramjet Engine.		DRDL	Rs.5 lakhs.	Dr.V. Sriramulu
29	Development of a CFD software for the performance evaluation of straight cylindrical and second throat diffusers used in the HAT facility at VAST, SHAR Centre.	21-06-2000 to 21-06-2001	ISRO-SHAR	Rs.2 lakhs	Dr.V. Babu Dr.T. Sundararajan
30	Development of a Propulsion Integrated System Software for Lanunch Vehicle.	March 1998 to March 2001	ISRO	Rs.7,76,250/-	Dr. K.A. Bhaskaran Dr. T. Sundararajan Dr. S. Kumaraswamy Dr. M. Govardhan
31	Modelling of Isothermal and Reacting Flow in Afterburners.	March 1998 to March 2001	ARDB	Rs. 9,08,500/-	Dr. T. Sundararajan Dr. V. Ganesan
32	Modelling of the Combustion Process in Liquid Rocket Engines.	Jan. 1999 to Dec. 2000	ISRO	Rs. 6,61,000/-	Dr. K.A. Bhaskaran Dr. T. Sundararajan Dr. S.P. Venkatesan Dr. V. Babu

Sl. No.	Title	Period	Funding Agency	Amount (In lakhs)	Co-ordinators
33	Establishment of a Centre for Computation Fluid Dynamics.	Sept. 98 to Aug. 2000	DST	Rs. 3,58,00,000/-	Dr. T. Sundararajan Dr. E.G. Tulapurkara Dr.P.A.Aswathanarayana Dr. V. Ganesan Dr. S. Jayanthi Dr. M. Ramakrishna
34.	Thermal Hydraulic Investigation of Thermal Striping in the Hot and Cold Pools of LMFBFR.	Oct. 1999 to April 2001	IGCAR – Kalpa-kkkam	Rs. 6,12,000/-	Dr. T. Sundararajan Dr. S.K. Das Dr. C. Balaji
35.	Numerical Prediction of Flow and Combustion in Gas Turbine Systems.	March 1997 to March 2001	ARDB	Rs. 4,83,000/-	Dr. T. Sundararajan Dr. V. Ganesan

5.2 Industrial Consultancy (only ongoing)

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1	Dr Pramod S Mehta and Dr B Nagalingam	Engine Testing	Bureau of Indian Standards	Rs.60,000/-
2	Dr.K.Gopinath	Failure study and remedy	Sterlite Ind.	0.20
3	Dr.N.Siva Prasad	a) Design and Development of Traverse and Elevation of Gear Boxes,	BEL	1.50
4	Dr.M.Madhusudana Rao	Seismic test	Crompton Greaves ABC, BHEL, W.S.Insulators ALSTROM	2.00
5	Dr A Mani Dr A Venkatesh Dr V Sriramulu	Design of solar augmented evaporation pond for tannery effluents	UNIDO, Repo, Chennai	Rs.1.5
6	Dr M Govardhan	Calibration of "S" type probes	BHEL Ranipet	0.12
7	Dr M Govardhan	Calibration of Cylindrical Probes	BHEL Hyderabad	0.09
8	Dr V Balabaskaran	Prototype testing of a Self Priming Pump	M/s Southern Agro Engines Pvt. Ltd. Chennai 600 097.	0.12

Sl. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
2	Mr. Stephen Godfree Director Leaf Coppin Publishing, France	14.2.2001	Laboratory visit
3	Dr. Walter Arnold, Professor University of Saarburken, Germany	Nov.2000	Technical discussion
4	Dr. Volker Schmitz, Franhofer Institute for NDE, Germany	Jan.2001	Technical discussion
5	Dr. Yoshiharu Mutoh, Nagaoka University of Technology, Japan	October 2000	Technical discussions
6	Dr. Yuji Tomia, Kyushu Institute of Technology, Japan	Dec.2000	Technical discussion
7	Dr. Zhong Yongxing, Vice Chief Engineer, China Aero Gas Turbine Establishment, Jiang You, China	11.8.2000	
8	Mr. Jiang Zhengn Li, Senior Engineer, China Aero Gas Turbine Establishment, Jiang You, China	11.8.2000	
9	Dr. Tadashige Kawakami, Associate Professor, Mechanical Engineering Department, Hosei University, Tokyo, Japan	Two months from January 23, 2001	Visiting Scientist at Thermodynamics and Combustion Engg. laboratory, Mech. Engg. department
10	Dr. Ing. A. Eiber, Scientist, University of Stuttgart	Dec. 2000	Indo-German Project

Other Activities:

Mechatronics laboratory development and central system laboratory development in the pipe line.

Dr. B.V.S.S.S. Prasad:

1. Treasurer, Indian Society for Heat and Mass Transfer, 1998 - date.
2. Reviewer, I MechE (U.K.).
3. Reviewer, Journal of Thermal Engineering (U.K.).
4. Reviewer, Heat and Mass Transfer – International Journal (Germany).
5. Reviewer, World Conference of Fluid Mechanics, Thermodynamics and Heat Transfer.

Dr. M. Govardhan:

1. Head, Guidance and Counseling, September 1999 - till date.
2. Vice-Chairman, Vana Vani Matriculation Higher Secondary School, October 1999 - till date.
3. Vice-President, Staff Club, August 1999 - till date.
4. Coordinator, Educational Technology Cell, March 2000 - till date.

4.11 DEPARTMENT OF METALLURGICAL ENGINEERING

1. Introduction

The Department of Metallurgical Engineering was established in 1959. It offers Ph.D., M.S., M.Tech. and B.Tech. programmes. The major areas of teaching and research of the Department are:

Metal Casting
Metal Forming
Metal Joining
Materials Technology

2. Academic Programmes

2.1 New Courses Introduced:

The following new courses were introduced during the year under report.

Sl. No.	Course No.	Title
1.	MT 331	Introduction to Materials Science
2.	MT 332	Techniques of Material Characterization
3.	MT 333	Non-metallic Materials
4.	MT 334	Materials Processing Techniques

Minor stream on Materials Technology for U.G. programme was started.

2.2. Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech.	26	27	25	29	--	--	107
M.Tech. (Dual Degree)	6	5	4	-	--	--	15
M.Tech.	16	15	--	--	--	--	31
M.S.	7	3	1	1	--	--	12
Ph.D.	4	2	4	6	6	--	22
Total	59	52	34	36	6	--	187

2.3 Number of Scholarship/Fellowship holders:

Programme	Institute Scholarship	Others	Total
B.Tech.	13	--	13
M.Tech.	28	--	28
M.S.	10	-	10
Ph.D.	04	--	04
Total		--	55

2.4 Names of Student/Scholar attended Conference/Seminar and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf/Seminar/Symposia	Date and Venue
1.	Palaniappa M.	Ph.D.	CORCON 2000	19-25 Nov. 2000

2.5 Number of Degrees Awarded in the last Convocation:

Programme	Total
B.Tech.	27
M.Tech.	13
M.S.	1
Ph.D.	5
Total	46

3. Faculty and their Development:

3.1 Faculty

Sl. No.	Name and Qualification	Major area of specialisation
Professors:		
1.	Achar, D.R.G. Ph.D.	Welding Technology, Failure Analysis, Corrosion, Industrial Metallurgy
2.	Gokularathnam, C.V. Ph.D.	Physical Metallurgy, X-ray Diffraction, Powder Diffraction, Powder Metallurgy, Advanced Ceramics, SEM and TEM
3.	Kesavan Nair, P. Ph.D.	Physical Metallurgy, X-ray Diffraction, Materials Science and Technology
4.	Padmanabhan, K.A. Ph.D. (on lien at IIT Kanpur as Director)	Metal Forming, Rolling, Sheet Metal Forming, Forging, Mechanical Metallurgy, Super-plasticity
5.	Paramanand Singh Ph.D.	Powder Metallurgy, Ceramics, Composites and Materials Science
6.	Pathak, S.D. Ph.D.	Materials Science and Technology, Mechanical Behaviour, Mechanical Metallurgy, Mechanical Testing, Fatigue, Fracture Mechanics
7.	Prasad Rao, K. Ph.D.	Metal Joining, Corrosion
8.	Prasanna Kumar, T.S. Ph.D.	Metallurgical Process Modeling, Steel Plant Automation and Off-line Simulators, Metal Casting
9.	Raghavan, S. Ph.D.	Process and Extractive Metallurgy, Thermodynamics, Solid Electrolyte Chemical Sensors, Hot Corrosion
10.	Seshadri, S.K. Ph.D.	Chemical Metallurgy, Surface Technology, Corrosion

Sl. No.	Name and Qualification	Major area of specialisation
11.	Sundaresan, S. Ph.D.	Metal Joining, Welding Metallurgy, Mechanical Behaviour
12.	Venugopal, P. Ph.D.	Metal Forming Processes, Press Tool Design, Hammers and Presses, Cold Extrusion of Materials.
Associate Professor:		
13.	Guha, B. Ph.D.	Fatigue & Fracture of Welded Joints, Appln. of FEM/CAD in the area of Welding Technology
Assistant Professors:		
14.	Balasubramanian, M. Ph.D.	Processing and Characterization of Composite Materials, Ceramic Processing
15.	Bhattacharya, S.S. Ph.D.	Superplasticity and High Temperature Behaviour, Metal Forming
16.	Devanathan, R. Ph.D.	Electron Microscopy, Computer Simulation of Atomic level Processes in Materials
17.	Ganesh Sundara Raman, S. Ph.D.	Mechanical Metallurgy, High Temperature Deformation, Fatigue, Fracture Mechanics, Structure – Property Correlation.
18.	Kamaraj, M. Ph.D.	Mechanical Behaviour of Materials, High Temperature Materials, Failure Analysis, Wearsurfacing Materials
19.	Raghunatha Rao, B. Ph.D.	Materials Technology, Heat Treatment, Failure Analysis
20.	Sampath, V. Ph.D.	Materials Technology & Science, Composite Materials, Physical Metallurgy, Surface Modification
21.	Sampath Kumar, T.S. Ph.D.	Surface Science, Biomaterials and Composite Super Conductors
22.	Uday Chakkingal Ph.D.	Materials Processing and Characterization, Aluminium Alloys, Surface Coatings
Emeritus Professor:		
23.	Radhakrishnan, V.M. Ph.D.	Mechanical Behaviour, Creep, High Temperature Materials, Life Assessment
Visiting Faculty		
24.	Nagarajan, K. V. Ph.D.	Material Processing of Aerospace Alloys, Joining of Titanium Alloys and Maraging Steels
Scientific Officers:		
25.	Annamalai, S. M.S.	Metal Forming, Forming of P/M Components & Material Testing
26.	Jothinathan, G. M.Tech.	NDT, Metal Casting, Electro Met., Corrosion, Ceramics
27.	Kumaran, S. M.S.	Non Ferrous Extraction Metallurgy, Chemical Metallurgy

3.2 Short Term Courses/Workshop/Seminars/Symposia/Conferences organized:

Sl. No.	Co-ordinators	Title	Period
1.	Dr. D.R.G. Achar	Industry-Interaction Meet on Welding of Aluminium and its Alloys	12.01.2001
2.	Dr. Paramanand Singh	Technology Appreciation Programme on Powder Metallurgy	20.12.2000
3.	Dr. S.K. Seshadri & Dr. R. Devanathan	3 rd National Symposium of Research Scholars on Metals and Materials	08.09.2000 & 09.09.2000
4.	Dr. M. Bala-subramanian	Intensive Workshop on Fibre Reinforced Thermoset Plastics	12.02.2001 to 17.02.2001

3.3 Shortterm Courses/Workshops/Seminars/Symposia/Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
1.	Dr. D.R.G. Achar	THEMEC 2000	TMS, USA	3.12.2000 to 8.12.2000
2.	Dr. D.R.G. Achar	International Welding Conference IWC – 2001	IIW & CII	15.2.2001 to 17.2.2001
3.	Dr. Paramanand Singh	Workshop on Setting up NAFETIC	IITM	1.12.2000
4.	Dr. Paramanand Singh	Workshop on Materials & Materials Science	VEC, Vellore	21.12.2000 to 22.12.2000
5.	Dr. Paramanand Singh	Seminar on Advanced Ceramics	Anna Univ.	25.1.2001
6.	Dr. Paramanand Singh	International Conference on Trends in Mechanical Alloying	Jaipur	21.2.2001 to 23.2.2001
7.	Dr. K. Prasad Rao	International Symposium on Materials Ageing and Life Management	IGCAR & IIM Kalpakkam	3.10.2000 to 6.10.2000
8.	Dr. K. Prasad Rao	International Welding Conference IWC – 2001	IIW & CII	15.2.2001 to 17.2.2001
9.	Dr. V. Sampath	Advances in Composites – 2000	IISc & HAL, Bangalore	24.8.2000 to 26.8.2000
10.	Dr. V. Sampath	Surface Finishing using Lasers	Institution of Engineers India	25.12.2000
11.	Dr. T.S. Sampath Kumar	Conference on Inorganic Materials for the New Millennium	IIT Madras	18.01.2001 & 19.01.2001

3.4 Special Lectures delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr.D.R.G.Achar	Welding Process and Defects	Indian Society for NDT, Chennai (29.8.2000)
2.	Dr.D.R.G. Achar	Welding of High Strength Steels – Consumables Selection	DMRL, Hyderabad (3.11.2000)
3.	Dr. D.R.G. Achar	Welding Technology	RESOT Centre, Chennai Refineries Limited, Chennai (15.11.2000)
4.	Dr.D.R.G. Achar	Welding Dissimilar Materials	Technology Development Centre, General Motors, Warren, USA (19.12.2000)
5.	Dr. D.R.G. Achar	Metal Joining Research Activities at IIT Madras	Centre for Laser aided Intelligent Manufacturing, Univ. of Michigan, Ann Arbor, USA (20.12.2000)
6.	Dr. D.R.G. Achar	Welding Technology in the New Millennium	American Welding Society, India International Section, Chennai (2.3.2001)
7.	Dr. Paramanand Singh	Powder Metallurgy Materials	VEC, Vellore (21.12.2000)
8.	Dr. V. Sampath	Surface Finishing using Lasers	Institution of Engineers India, Tamil Nadu State Centre, Chennai (25.11.2000)

3.5 Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country visited	Date	Purpose of visit
1.	Dr. D.R.G. Achar	USA	3.12.2000 to 30.12.2000	To attend a conference and deliver lectures at Industry and University
2.	Dr. R. Devanathan	USA	4.6.2000 to 13.7.2001	To perform research at Pacific Northwest National Laboratory, Richland, WA, USA

3.6 Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1.	Dr. R. Devanathan	Faculty Fellowship	Associated Western Univ., USA	Research	May-July 2000
2.	Dr.T.S. Sampath Kumar with Mr. V. Arvind, B.Tech. Student	Innovation Potential of Students Projects Award 2000	INAE	B.Tech. Project	8.12.2000

4. Design and Development Activities

4.1 Brief and specific details of Process / Instruments / Equipment / Software designed and developed:

1. Charpy Impact Test Specimen Die Design for P/M Ceramics Lab.
(Dr. Paramanand Singh)
2. Tensile Test Specimen Die Design for P/M Ceramics Lab.
(Dr. Paramanand Singh)
3. Development of Self Flow Castables, first time in India
(Dr. Paramanand Singh)
4. Development of Solid State Chemical Sensors (Dr. S. Raghavan)
5. Design and Fabrication of Equal Angle Channel Extrusion set up
(Dr. P. Venugopal)
6. A process for the formation of functionally graded bio-active structure from calcium phosphate ceramic using silver oxide and titania by conventional sintering methods
(Dr. T.S. Sampath Kumar)

4.2. Patents awarded:

1. Stabilized two phase glass diffusion barrier, 6.6.2000, USA Patent
(Dr. K. Prasad Rao)

5. Research and Consultancy

5.1 Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Computer Aided Simulation and Computer Aided Design and Engineering in Welding Technology	1994 - 2000	DST	12.04	Dr. D.R.G. Achar & Dr. B. Guha
2.	Production and Characterization of Carbon Nanotubes	1999 - 2001	NBB	20.25	Dr. P. Kesavan Nair
3.	Application of Electron Beam Welding Techniques on Ti-6Al-4V Alloy	1997 - 2000	ISRO - IITM Cell	6.50	Dr. K. Prasad Rao & Dr. B. Guha
4.	Improvement of Toughness of Titanium Alloys	1997 - 2001	DST	8.00	Dr. K. Prasad Rao & Dr. B. Guha
5.	Modernisation of NDT Lab.	2000 -	MHRD	15.00	Dr. S.K. Seshadri & Mr. G. Jothinathan
6.	Welding Procedure Development and Performance Evaluation of Steam Generator Transition Joints	1996 - 2000	BRNS	11.13	Dr. S. Sundaresan & Dr. S. K. Seshadri
7.	AICTE - MODROBS Project on Ironing and Bending	1996 - 2000	AICTE	8.00	Dr. P. Venugopal

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
8.	Open Die Extrusion of Sintered P/M Preform of Iron	1996 -- 2000	DST	18.20	Dr. P. Venugopal & Dr.S.S. Bhattacharya
9.	Fundamental Studies in Superplasticity and High Temperature Creep – Phase II: Phenomenological Studies	1997 – 2002	Naval Research Lab., USA	13.86	Dr.S.S.Bhattacharya & Dr. S.D. Pathak
10.	Removal of Obsolescence in Computer Network	1997 -- 2001	MHRD	6.00	Dr.S.S. Bhattacharya Dr. K. Varghese Dr. V. Vasudevan Dr. Ramakrishna Dr. M. Sundar Dr.M.S.Shiva Kumar
11.	Characterisation of Semiconductor Nanocrystals produced by Ion Implantation	1999 – 2000	Inter-University Consortium for DAE facilities	0.78	Dr. R. Devanathan & Dr. C. Vijayan
12.	Design and Development of Compact X – Band EST Spectrometer for Identifying the Irradiated Foodstuffs	1999 – 2000	AERB	26.68	Dr.T.S.Sampath Kumar Dr. SP. Venkatesan Mr. G. Palanisamy
13.	Study of Crack Initiation and Propagation in Nuclear Components under LCF	2001 – 2004	AERB	11.3903	Dr. Uday Chakkingal & Dr. R. Devanathan

5.2 Industrial Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. S.D. Pathak	K _{IC} Determination	FOMAS	0.5
2.	Dr. S.D. Pathak	Static Tensile Behaviour	GIRI Electronics	0.05
3.	Dr. S.D. Pathak	Flow Properties	FORD	0.06
4.	Dr. S.K. Seshadri & Dr. B. Raghunatha Rao	Failure Investigation of Spinning Rings	LMW	0.15
5.	Dr. S. Sundaresan	Hot Cracking Studies	VSSC, Thiruvananthapuram	0.6
6.	Dr. S. Sundaresan & Dr. B. Raghunatha Rao	Failure Analysis	Foster Wheeler	0.3
7.	Dr. R. Devanathan	Study of Dental Material	Tamilnadu Dental College, Chennai	0.033
8.	Dr. R. Devanathan	Electron Microscopy	CLRI, Chennai	0.02
9.	Dr. B. Raghunatha Rao	Aluminium Channel Test	IOC, Chennai	0.07
10.	Dr. B. Raghunatha Rao	Failure Analysis of Crank Shaft	L & T McNeil, Chennai	0.28

4.12 DEPARTMENT OF OCEAN ENGINEERING

1. Introduction

Ocean Engineering Centre (OEC) was established in 1977. It became Department from 26.03.2001. It offers Ph.D., M.S., M.Tech. (Ocean Engineering) and B.Tech. (Naval Architecture and Ocean Engineering) programmes. The major areas of teaching and research at the Centre are :

Structural analysis, Design and Testing
Wave Hydrodynamics
Floating and Submerged Bodies
Marine Geotechniques
Materials in Ocean Environment
Ocean Energy
Naval Architecture
Underwater Instrumentation

2. Academic programmes

2.3 Students on Roll :

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
B.Tech.	19	19	15	19	--	--	72
M.Tech.(Dual Degree)	5	5	4	--	--	--	14
M.Tech.	13	6	--	--	--	--	19
M.S.	13	10	9	2	--	--	34
Ph.D.	8	4	1	3	4	--	20
Total	58	44	29	24	4	--	159

2.4 Number of Scholarship/Fellowship holders :

Programme	Institute Scholarship	Others	Total
B.Tech.	-	--	-
M.Tech.	9	--	9
M.S.	12	--	12
Ph.D.	5	--	5
Total	26	--	26

2.6 Names of student/scholar attended Conference/Seminar and Symposia abroad/ India :

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/Symposia	Date & venue
1.	S Muthukumar	M.Tech.	Indian Geotechnical Conference (IGC 2000)	13-15 Dec 2000, IIT Mumbai

2.7 Number of Degrees Awarded in the last Convocation :

Programme	Total
B.Tech.	19
M.Tech.	13
M.S	6
Ph.D.	1
Total	39

3. Faculty and their Development

3.1 Faculty

Professors :

Sl. No.	Name and Qualifications	Major Area of Specialization
1.	Ganesh Babu K <i>Ph.D</i>	Analysis and design of ocean structures, Behaviour of materials in ocean environment
2.	Idichandy V G <i>Ph.D</i>	Experimental techniques, Instrumentation, Analysis and testing of structural models and prototypes, Structural diagnostics
3.	Muthukrishnaiah K <i>Ph.D</i>	Marine geotechnical engg., analysis and design of foundations for offshore and onshore structures
4.	Narasimha Rao S <i>Ph.D</i>	Marine geotechnical engineering, Seabed soil characteristics under static and dynamic loads, Foundations for coastal and offshore structures
5.	Pranesh M R <i>Ph.D</i>	Marine corrosion and control, Behaviour of materials in ocean environment, Design of port structures, Coastal process, Marine surveying, Marine geotechnical engineering
6.	Subramanian S P <i>Ph.D</i>	Geological oceanography, engineering geology
7.	Sundar V <i>Ph.D</i>	Wave-structure interaction, coastal erosion and shore protection, Fluid flow problems
8.	Vendhan C P <i>Ph.D</i>	Analysis and design of ocean structures, Structural dynamics, Dynamics of floating bodies
9.	Raju VS <i>Ph.D</i>	Marine geotechnical engineering, Foundation design for onshore and marine structures
10.	Ravindran M <i>Ph.D</i>	Turbomachines, pumps, hydraulic turbines, ocean energy
11.	Bhattacharya S K <i>Ph.D</i>	Computer aided analysis of ship and offshore structures, Dynamics of floating bodies
12.	Mani J S <i>Ph.D</i>	Coastal Engineering, Wave hydrodynamics
13.	Rajagopalan K <i>Ph.D</i>	Computer aided analysis and design of ship, underwater and offshore structures, reinforced and pre-stressed concrete structures
14.	Sundaravadivelu R <i>Ph.D</i>	Computer aided analysis, design and experimental studies of coastal and offshore structures

Associate Professor

Sl. No.	Name and Qualifications	Major Area of Specialization
15.	Natarajan R <i>Ph.D</i>	Naval Architecture, Design and model studies of small crafts, mooring analysis of floating structures.
16.	Anantha Subramanian V <i>Ph.D</i>	Experimental ship hydrodynamics.
17.	Neelamani S <i>Ph.D</i>	Wave dynamics, Wave-structure interaction, Wave energy, Coastal structures

Assistant Professor

Sl. No.	Name and Qualifications	Major Area of Specialization
18.	Surendran S <i>Ph.D</i>	Naval architecture, mooring systems
19.	Sambandan P <i>M.S</i>	Ship design, ship structures, computer applications in ship design

3.2 Short-term courses/ Workshops/ Seminars/ Symposia/ Conferences organized

Sl. No.	Coordinator(s)	Title of Workshop/ Seminar/Symposium / Conference	Period
1	S. Neelamani	Ocean Dynamics for Offshore and Coastal Engineering Applications (CEP)	5-9 JUNE 2000
2	S. Neelamani	Ocean Dynamics for Offshore and Coastal Engineering Applications (QIP)	5-9 JUNE 2000
3	S. Neelamani	Design of Coastal Structures (CEP)	4-8 DEC 2000
4	SP Subramanian M R Pranesh J S Mani	Management of problems in Coastal areas	20-22 NOV 2000
5	M R Pranesh	Management of problems in Coastal areas	22-24 NOV 2000
6	S Narasimha Rao	Short term training programme on soil investigations and survey for Dredging Engineers at Visakhapatnam	21-23 SEP 2000

3.3 Short-term courses/ Workshops /Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Units

Sl. No.	Name of Faculty	Title	Place	Period/ Duration
1	K Muthukrishnaiah	One day seminar on bored cast-in-situ piles experiences in design and construction	Anna University	21-4-2000
2	K Muthukrishnaiah	One day seminar on current trends in Environmental geotechniques	Anna University	11-11-2000
3	K Muthukrishnaiah	Indian Geotechnical Society 2000	IIT Mumbai	13-15 Dec 2000

Sl. No.	Name of Faculty	Title	Place	Period/ Duration
4	V S Raju	IGC 2000	IIT Mumbai	13-15 Dec 2000
5	V S Raju	National Seminar on knowledge Networking in Engg. & tech Education and Research	IIT Delhi	1-2 Dec 2000
6	C P Vendhan	ISOPE 2000 Conference	Seattle, WA, USA	June 30 – July 5 2000

3.4 Special Lecture(s) Delivered by the Faculty in other Institutions

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	S Neelamani	Wave Dynamics	PWD, Saidapet
2	S Neelamani	Design of Break Waters	PWD, Saidapet
3.	V Sundar	Coastal Erosion & Protection	University of Madras, A.C.Tech, Chennai 22 nd – 23 rd Feb 2001
4.	C P Vendhan	Finite element modeling of Acoustic wave propagation	Stevens Institute of Technology, New Jersey, USA June 24 2000
5.	J S Mani	Tidal energy	TEDA Chennai 10/6/2000
6.	S Narasimha Rao	Ground improvement using lime column techniques. Store columns for large based structures and for stabilization of rods	S J College of Engg. 3/4/2000

3.5 Visits abroad by faculty

Sl. No.	Name of Faculty	Country visited	Date	Purpose of visit
1	S Neelamani	Iran	21-24 Nov 2000	ICOPMAS 2001 Conference
2	V Sundar	Italy	2-6 Apr 2000	To present a paper in Intl. Maritime Association of Mediterranean Congress
3	V Sundar	Germany	17 May – 30 June 2000	Under Indo German Project
4	V Sundar	Iran	19-23 Nov 2000	To present papers in Intl. Conf. ICOPMAS
5	V Sundar	Netherlands	4-20 Dec 2000	Visiting Fellow, invited by Lamminga Foundations, Netherlands
6	R Sundaravadivelu	Thailand	Nov 2000	APD-IAHR' 2000
7	R Sundaravadivelu	Iran	Nov 2000	ICOPMAS'2000
8	V S Raju	Germany	18-20 Oct 2000	3 rd Workshop on Global Engg. Education

Sl. No.	Name of Faculty	Country visited	Date	Purpose of visit
9	C P Vendhan	USA	June 24-July 6 2000	To attend conference and give seminar
10	J S Mani	Australia	July 2000	ICCE Conference
11	J S Mani	Thailand	November 2000	APD-IAHR Conference

3.7 Books/Monographs authored and co-authored :

Sl. No.	Name of Faculty	Title	Publisher
1	M R Pranesh	Environ Hazards and Safety requirements in Port Sector	CCE IITM June 2000
2	J S Mani	Coastal processes in Tamil Nadu and Kerala : Environmental and Socio economic aspects	Bookwell Delhi Year 2000

4. Design and Development Activities

4.1 Brief and specific details of process/Instruments/Equipment/ software designed and developed :

J S Mani Development of submerged pipe breakwater

5. Research and Consultancy

5.1 Sponsored Research Projects :

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
1	Depth & Range dependant Acoustic propagation in Oceanic waveguides by finite element method	March 2001-2004	Naval Research Board	Rs.1805500	S K Bhattacharyya & C P Vendhan
2	Stability of ships in damaged condition	March 1999-2002	Naval Research Board	Rs.1800000	V Ananthasubramanian & S Surendran
3	Development of finite element capability for fluid structures interaction	March 1998-2001	Naval Research Board	Rs.1946000	S K Bhattacharyya & C P Vendhan

**5.2 Industrial Consultancy :
(Projects approved during April 2000 – March 2001)**

Sl. No.	Name of the Faculty	Title of the work	Name of the Client	Amount involved (Rs.in lakhs)
1	R Sundaravadivelu	Site visit for the supervision and execution of shallow water berth in JNPT	Jawaharlal Nehru Port Trust	246400.00

Sl. No.	Name of the Faculty	Title of the work	Name of the Client	Amount involved (Rs.in lakhs)
2	K Muthukrishnaiah	Recommendations for suitable type of foundations and other geo-technical aspects for building project	Consolidated Construction Consortium Ltd	10000.00
3	K Muthukrishnaiah	Drainage and civil work in and around ACTP area	Cochin Refineries Ltd	164000.00
4	K Muthukrishnaiah	Advice on geotechnical aspects of MIP projects	Mahindra Reality & Infrastructure Dev Ltd	10000.00
5	M R Pranesh	Equivalency evaluation of epoxy system for underwater application	Mormugao Port Trust	120000.00
6	S Narasimha Rao	Design of preparation & submission of drawings for RCC Ricid Raft foundation for New Edible Oil Tanks at Kakinada	Godavari Fertilisers & Chemicals Ltd	45000.00
7	K Ganesh Babu	Rehabilitation of paper mill and concrete mix design	Emami Paper Mills Limited	80000.00
8	R Sundaravadivelu	Shore protection and dredging work, Astaranga	Gopalpur Port Project	200000.00
9	S P Subramanian	Rapid assessment study on environment and erosion	SPS Pneumatic Products (Pvt) Limited	75000.00
10	K Muthukrishnaiah	Consultancy for Garrison Engineer, Avadi	Garrison Engineer	25000.00
11	S Narasimha Rao	Design of pile cap for TNEB Project at Chennai	Thermax Limited	10000.00
12	K Muthukrishnaiah	Consultancy for Assistant Garrison Engineer (I) R & D	Garrison Engineer (I) R & D	60000.00
13	R Sundaravadivelu	Survey work at Devi River	Lower Mahandi Basin	2500000.00
14	V S Raju	Construction of Drydock at Navaldock yard Mumbai	Continental Construction Limited	200000.00
15	J S Mani	Study of Beach Nourishment	Nagarjuna Oil Corporation Limited	100000.00
16	R Sundaravadivelu	Testing of Under Water Grout	Fosroc Chemicals India Limited	50000.00
17	R Sundaravadivelu	Further extension to Container Terminal Berth at Bharathi Dock with increased ultimate dredge level	Chennai Port Trust	200000.00

Sl. No.	Name of the Faculty	Title of the work	Name of the Client	Amount involved (Rs.in lakhs)
18	R Sundaravadivelu	Construction of Sea Protection Wall and Extension of Existing Jetty at Nani Daman	Water & Power Consultancy Services (I) Ltd	125000.00
19	R Sundaravadivelu	Foundation for Air Compressor at Guwahati Refinery	SIIRTECH NIGI	50000.00
20	R Sundaravadivelu	Carrying out Topographic Survey in Flatbay, Andaman	Geo Foundations & Structures Pvt Ltd	50000.00
21	V Sundar	Model Study for effluent disposal pipeline at Simhadri make-up water system turnkey package	Navayuga Engineering Company Limited	550000.00
22	K Muthukrishnaiah	Suitable type of foundation for Overhead-Tank at Avadi	Garrison Engineers	10000.00
23	R Sundaravadivelu	Design for sheet piling	Pipeline Engineers	40000.00
24	R Sundaravadivelu	Testing of underwater epoxy grout	Fosroc Chemicals India Limited	50000.00
25	K Muthukrishnaiah	Expert opinion for the foundations of proposed buildings for Pulianthope and Otteri schemes of Tamilnadu Police Housing Corporation Ltd.,	Tamil Nadu Poilce Housing Corpn. Limited	30000.00
26	K Muthukrishnaiah	Assessment of soil conditions and recommendations for foundation for Hotel Complex at Pondicherry	Auberge Hotels Limited	10000.00
27	S Narasimha Rao S P Subramanian V G Idichandy	Training programme for dredging Crporation of India	Dredging Corpn. of India Ltd.	60000.00
28	R Sundaravadivelu	Topographic survey and related data collection for development of fresh water lake at Flat Bay, Port Blair	Geo Foundations & Structures (P) Ltd	50000.00
29	R Sundaravadivelu	Dredging / Disposal for fishing harbour & hydrographic survey	PWD	75000.00
30	S Surendran	Steel Scrap estimation	Tebma Consultancy & Management Services P Ltd.	5000.00

Sl. No.	Name of the Faculty	Title of the work	Name of the Client	Amount involved (Rs.in lakhs)
31	R Sundaravadivelu	Seawater intake system for Pipavan 615 MW CCPP of Kribbco	Encon Services Ltd	100000.00
32	S Narasimha Rao	Foundation Consultancy for information technology building in Guindy	R Mansingh & Sons Pvt Ltd.	5000.00
33	S Narasimha Rao	Foundation Consultancy for Doppler weather radar building as Shar.	Chief Construction Engineer	25000.00
34	S Narasimha Rao	Foundation Strengthening for additional floors	M/s. Marg Constructions Ltd	5000.00
35	V Sundar	Feasability study of EMRIP – Sea protection works	Tamilnadu Road Devt. Co. Ltd.	20000.00
36	S Narasimha Rao	Foundation Consultancy for ACCN at OTA & OTM & Tech. Accn. At CGAS, Meenambakkam, Chennai	Garrison Engineer	30000.00
37	R Natarajan	Model Testing of Floating Border outpost	Mazagon Dock Ltd	150000.00
38	K Ganesh Babu	Condition Assessment of Bridge Structures	Aarvee Associates	400000.00
40	S Narasimha Rao	Scrutiny checking the aprons on lighting mast tower for BPCL	Geomarine Consultants Pvt Ltd.	5000.00
41	R Sundaravadivelu	DPR. For salt Export Jetty at Jau Kaur	Good Earth Marine Ltd.	200000.00
42	K Muthukrishnaiah	Construction water system IOLL Pradeep Refinery Project	M/S. SPS Engg. Ltd.	25000.00
43	R Sundaravadivelu	Existing jetty at old port Pondicherry	Port Department of Pondicherry	75000.00
44	S Narasimha Rao	Design of pipeline support across River Ganges at Dibiyapur	Aban Constructions	80000.00
45	R Sundaravadivelu	Topographical survey for the proposed Port at Colachel	Consultants India	50000.00
46	R Sundaravadivelu	Precast jointed piling scheme for tankages for eastern refinery at Paradeep	Simplex Concrete Piles Ltd.	80000.00
47	V Anantha Subramanian	Design tests & advice for TTDCOBM Crafts	TTDC	100000.00
48	S Narasimha Rao	Design of mooring berths	Mormugao Port Trust	150000.00

4.13. DEPARTMENT OF PHYSICS

1. Introduction

The department of physics was established in the year 1959 and it offers Ph.D. and M.Sc. programmes in physics as well as an M.Tech programme in Solid state technology. In addition, the department teaches various core and elective courses in physics to B.Tech. students. The department also undertakes a large number of sponsored research and consultancy projects.

2. Academic programmes

2.1. Students on Roll :

Programme	I Year	II Year	III Year	IV Year	V Year	Total
M.Tech	6	7	-	-	-	13
M.Sc.	35	34	-	-	-	69
Ph.D	9	7	3	4	7	30
Total	50	48	3	4	7	112

2.4. Number of Scholarship/Fellowship holders:

Programme	Institute Scholarship	Others	Total
M.Tech.	12	--	12
M.Sc.	18	--	18
Ph.D.	22	--	22
Total	52	--	52

2.3. Names of students/scholars who attended Conferences/Seminars and Symposia abroad/ in India:

Sl. No.	Name of the Scholar	Programme	Name of the Conf/Seminar/Symposia	Date & Venue
1	M.C. Ingersoll	Ph.D.	BARC	14.8.2000 to 19.8.2000 Bombay
2	R, Nirmala	Ph.D.	Int. Conference on Magnetic Materials	17.10.2000 to 19.10.2000 Calcutta
3	V. Ravindranath	Ph.D.	Int. Conference on Magnetic Materials	17.10.2000 to 19.10.2000 Calcutta
4	V. Radha Ramani	Ph.D.	Int. Conference on Magnetic Materials	17.10.2000 to 19.10.2000 Calcutta
5	V. Radha Ramani	Ph.D.	XI National Seminar on Ferroelectrics & Dielectrics (NSFD-XI)	29.10.2000 to 7.11.2000 Jammu

Sl. No.	Name of the Scholar	Programme	Name of the Conf/Seminar/Symposia	Date & Venue
6	P. Malar	Ph.D.	National Conference on Materials and Semiconductor Techniques in Elec. Research	8.11.2000 to 10.11.2000 Uttar Pradesh
7	Ramesh Chandra Mallik	Ph.D.	National Conference on Materials and Semiconductor Techniques in Elec. Research	8.11.2000 to 10.11.2000 Uttar Pradesh
8	R. Justin Rajesh	Ph.D.	Int.Conference on Fiber Optics and Photonics	18.12.2000 to 20.12.2000
9	R. Nirmala	Ph.D.	DAE Solid State Physics Symposium	27.12.2000 to 31.12.2000 Bilaspur
10	K Madhu	Ph.D.	Int. Conference on Strings 2001	5.1.2001 to 10.1.2001 TIFR, Bombay
11	P Malar	Ph.D.	Inorganic Materials for the New Mill	18.1.2001 to 19.1.2001 MSRC, IITM
12	K.C. Kumari Lakshmi	Ph.D.	6 th Discussion on Meeting on a Frontier area in Physics	1.2.2001 to 8.2.2001 Dhvanyaloka
13	Ramesh Chandra Mallik	Ph.D.	Intl. Workshop on Preparation and Characterization of Tech. Important Single Crystals	26.2.2001 to 28.2.2001 NPL, New Delhi

2.4 Number of Degrees Awarded in the last convocation:

Programme	Number Awarded
M.Tech.	5
M.Sc.	40
Ph.D.	2
Total	47

3. Faculty and their Development:

3.1 Faculty

Sl. No.	Name and Qualification	Areas of specialization
Professors		
1.	V.Balakrishnan, Ph.D (Brandeis Univ., USA)	Mathematical Physics, Statistical Physics and Dynamical Systems
2.	V.Damodara Das, Ph.D (SPU, Vidyanagar)	Thin film science and technology
3.	P.C.Deshmukh, Ph.D (Nagpur Univ., Nagpur)	Atomic and Molecular Physics

Sl. No.	Name and Qualification	Areas of specialization
4.	K.Hariharan, Ph.D (IIT, Madras)	Solid state ionic
5.	M.P.Kothiyal, Ph.D (IIT, Madras)	Physics - Applied optics
6.	(Mrs) Maha Seshasayee, Ph.D (RPI, New York, USA)	Condensed matter physics, (structure studies)
7.	J.Majhi, Ph.D (IIT, Madras)	Semiconductor physics
8.	V.R.K.Murthy, Ph.D (IIT, Madras) (Head)	Microwaves and Dielectrics
9.	T.S.Natarajan, Ph.D (IIT, Madras)	Conducting polymers, Instrumentation Electronics
10.	T.A.Prasada Rao, Ph.D (Andhra Univ., Waltair)	Electronic spectra of molecules, lasers, nonlinear optical processes, electro-optic Kerr effect in liquids and liquid crystals
11.	V.Ramachandran, Ph.D (IIT, Madras)	Theoretical and Experimental condensed matter physics
12.	K.V.S.Rama Rao, Ph.D (Andhra Univ., Waltair)	Magnetism and magnetic materials, Hydrogen in metals, Actuators/Sensors
13.	G.Rangarajan, Ph.D (IISc, Bangalore)	Low temperature physics, Superconductivity & Magnetism
14.	R.S.Sirohi, Ph.D (IIT, Delhi)	Optics
15.	K.Srinivasan, Ph.D (IIT, Madras)	Lattice Dynamics, Electro optics, Dielectrics
16.	A. Subrahmanyam	Semiconductor Devices, photovoltaics Transparent conducting thin films
Associate Professors		
17.	(Mrs) S.Lakshmi Bala, Ph.D (Madras Univ.)	Theoretical Physics with specialization in gauge theories, dynamical systems and chaos
18.	G.Markandeyulu, Ph.D (IIT, Madras)	Magnetism and magnetic materials
19.	V.S.Murty, Ph.D (IIT, Madras)	Resonance spectroscopy
20.	(Mrs) Neelima M. Gupte, Ph.D (SUNY, Stony Brook, USA)	Dynamical systems, Statistical Physics
21.	S.Ramaprabhu, Ph.D (IIT, Madras)	Metal hydrides, Resonance Spectroscopy
22.	V.Sankaranarayanan, Ph.D (IIT, Madras)	Superconductivity, Low Temperature Physics, Cryogenics
23.	G. Sreenivasa Murthy, Ph.D. (I.I.T., Madras)	X-ray crystallography
24.	B.Subramanyam, Ph.D (Andhra Univ., Waltair)	Condensed Matter Physics

Sl. No.	Name and Qualification	Areas of specialization
25.	V.Venkateswara Rao, Ph.D (IIT, Madras)	Applied optics
26.	C.Vijayan, Ph.D (IIT, Madras)	Photonics, Nonlinear Optics
Assistant Professors		
27.	P.B. Bisht, Ph.D (Kumaun Univ., Nainital)	Ultrafast laser optics and spectroscopy
28.	Govindarajan Suresh, Ph.D (Pennsylvania Univ., USA)	Theoretical Physics with specialization in Field Theory & Dynamical Systems
29.	S.Kasiviswanathan, Ph.D. (IIT, Madras)	Thin Films
30.	M.S.Ramachandra Rao Ph.D (IIT, Kharagpur)	Experimental Solid State Physics (Electronic and Magnetic Materials - Thin films and bulk)
31.	M.V.Satyanarayana, Ph.D (Madras Univ.)	Photonics, Quantum optics
32.	K.Sethupathi, Ph.D (Moscow State Univ., Russia)	Low temperature physics and Superconductivity
33.	V.Subramanian, Ph.D. (IIT, Madras)	Microwaves, Semiconductors, Ferroelectrics
34.	P.B. Sunil Kumar, Ph.D. (IISc, Bangalore)	Condensed Matter Physics
35.	(Ms) T.M.Vimala, Ph.D (IIT, Madras)	X-ray crystallography
Chief Design Engineer		
36.	D.K.Sharma, Ph.D (IIT, Madras)	Optical instrumentation, lens design
Senior Scientific Officer Gr.I		
37.	Mr.K.Sarangapani, M.Sc. (Madras Univ.)	Thermal expansion of materials

3.2 Short-term Courses/Workshops/Seminars/Symposia/Conferences organised:

Sl. No.	Name of Faculty	Title	Institution	Period / Duration
1	Dr.V.S. Murty	Environmental Physics	AICTE sponsored Short Term Training Programme	December 11-16, 2000

3.3 Short-Term Courses / Workshops / Seminars / symposia / Conferences / Training attended by the Faculty in recognised Academic Institutions and Public Sector Units:

Sl. No.	Name of the Faculty	Title	Institution	Period / Duration
1	P.B. Bisht	UGC staff seminar on spectrum of photochemistry	Sri Sharda Womens college, Salem	July 5, 2000

Sl. No.	Name of the Faculty	Title	Institution	Period / Duration
2	P.B. Bisht	National Conference on Spectrophysics	Pachayappa College, Chennai	Aug 9-11, 2000
3	P.B. Bisht	International Conference on communications, Computers and Devices.	I.I.T. Kharagpur	Dec. 14-16., 2000
4	P.B. Bisht	Int. Conf. on fibre optics and Photonics, Calcutta	Calcutta Univ. Kolkata	Dec. 18-20, 2000
5	P.B. Bisht	Dynamics of complex chemical systems,	IISc. Bangalore	Jan 9-13, 2001
6	P.B. Bisht	Unesco regional training school	I.I.T., Madras	Jan 1-13, 2001
7	Sainathan & A.T. Seshadri	Creative Science Workshops	Australian National University, Canberra	October 30, 2000
8	S. Lakshimbala	DAE Symposium on High Energy Physics held	Central University, Hyderabad	Dec. 18-22,2000

3.4. Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
1	Dr.C. Vijayan	Photoacoustic Spectroscopy	Chem.Dept., I.I.T., Madras December 2000
2	Dr.C. Vijayan	Quantum Dot Materials	Pondicherry University March 2001
3	Dr.P.B. Bisht	Fluorescence microscopy, morphology dependent resonances and their effects on laser action in dyes	SERC School on Concepts in Chemical Dynamics: Sponsored by DST, New Delhi, Chemistry Department, IIT Madras, Date: 15 March, 2001.
4	Dr.P.B. Bisht	Supersonic free-jet spectroscopy: monitoring excited state reactions	SERC School on Concepts in Chemical Dynamics: Sponsored by DST, New Delhi, Chemistry Department, IIT Madras, Date: 16 March, 2001.
5	Dr.S. Lakshmi Bala	Complex Variables – Special lectures in the Refresher course for College Teachers	Madras University, Department of Theoretical Physics Date: 2.2.2001 – 3.2.2001

3.5. Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country visited	Date	Purpose of Visit
1	Dr.V. Balakrishnan	Belgium	11.10.2000 - 28.2.2001	To do Collaborative Research Work at Limburgs Universitair Centrum (LUC)
2	Dr.P.C. Deshmukh	USA & Italy		
3	Dr.T.S. Natarajan	London	15.9.2000 - 18.9.2000	Attending and Presenting a paper at the Conference on Physical Interpretations of Relativity Theory VII held in Imperial College
4	Dr.T.S. Natarajan	Italy	17.9.2000 - 23.9.2000	Attending a Workshop on Mysteries, Puzzles and Paradoxes in Quantum Mechanics held in Gargnano
5	Dr.K.V.S. Rama Rao	Germany	1.9.2000 - 31.10.2000	To avail AVH Fellowship and to accept the assignment of Visiting Professor at T.U. Darmstadt on Foreign Service Terms
6	Dr.G. Rangarajan	Austria, Germany, Switzerland	17.7.2000 - 16.7.2001	To attend an International Conference and Visiting Professor at RWTH, Aachen, Germany and acceptance of Invited Professorship at DP-EPFL, Lausanne, Switzerland
7	Dr.R.S. Sirohi	Singapore	29.11.2000 - 1.1.2.2000	Participating in the 2 nd International Conference on Experimental Mechanism (ICEM-2000) at National University of Singapore, Singapore
8	Dr.G. Markandeyulu	USA	9.6.2000 - 12.7.2000	Visiting Professor at the Carnegie Mellon Univ., Pittsburgh
9	Dr.V.S. Murty	Durban, South Africa	4.9.2000 - 7.9.2000	Attending the Third International Conference on Physics & Industrial Development Bridging the gap bridging the gap
10	Dr.D.K. Sharma	California	16.7.2000 - 20.7.2000	Presentation of a Paper in the International Conference on Liquid Atomization and Spray Systems (I Class 2000) held at Pasadena

3.6 Honours and Awards obtained

Sl. No.	Name of Faculty	Name of the award	Award by	Awarded for	Date
1	Dr. N. Krishna Mohan	Best Poster Award	SPIE International Conference on Optical Science and Technology	Research paper entitled 'Fringe Formation in a dual beam symmetric illumination observation TV holography system	30.7.2000 - 4.8.2000

3.7. Books/Monographs authored or co-authored:

Sl. No.	Name(s) of Author(s)	Title of Text Book/Monograph	Publisher
1.	N. Rajalakshmi, K.S. Dhathathreyan and S. Ramaprabhu, Editors:- Cathrine E. Gregoire and Francis Lou, Kluwer	"Investigation of a novel metal hydride electrode for Ni-MH batteries", CHAPTER 10, pages 121 - 130, in "Advances in Hydrogen Energy"	Academic/Plenum Publishers, New York (2000)

3.8 Fellowships of Academies and Professional Societies: (Humboldt/INAE/INSA/Hon. FRA, etc.)

Sl. No.	Name of Faculty	Name of Academy / Professional Society	Level	Year of Admission
1	Dr.P.C. Deshmukh	Indian Society of Atomic & Molecular Physics	Secretary	
2	Dr.V. Damodara Das	Semiconductor Society of India	Life Member	
3	Dr.V. Damodara Das	Materials Research Society of India	Life Member	
4	Dr.V.S. Murthy	Life Member of Materials Research Society of India	General Secretary 93-94	1982
5	Dr.V.S. Murthy	International liquid crystal society	Life member	
6	Dr.S. Ramaprabhu	International Association of Hydrogen Energy	Member	1995
7	Dr.V.V. Rao	Optical Society of India	Fellow	1982
8	Dr.V.V. Rao	SPIE-India Chapter	Member	2000
9	Dr.C. Vijayan	Indian Physical Society	Life member	1998
10	Dr.C. Vijayan	Indian Association of Physics Teachers	Life member	1992
11	Dr.C. Vijayan	SPIE Madras Chapter	Member	1997

Sl. No.	Name of Faculty	Name of Academy / Professional Society	Level	Year of Admission
12	Dr.C. Vijayan	Luminescence Society of India	Member	1999
13	Dr.D.K. Sharma	Optical Society of India	Fellow	1982
14	Dr.D.K. Sharma	SPIE-India Chapter	Member/ Founder Secretary	1996

4. Design and Development Activities:

4.1 Brief and specific details of Process/Instruments/Equipment/Software Designed and Developed:

In Situ conductivity measurement set up for flash evaporated thin films of ionic materials.

Amorphous fast ion conducting phase through ball milling technique.

Development of Cavity holders in microwave frequencies

CBT packages in 1) Basic Electronics 2) Superposition of Waves

Designed and fabricated 3 inch dia magnetron target for thin film sputtering.

Software developed to collect thermoelectric data of thermoelectric material Thin Films

Designed and fabricated an experimental facility for magnetization measurements at fields in the range ~0 – 400 Oe. The measurements can be made at temperatures in the range 12 – 900 K.

Development of a facility to prepare amorphous materials by melt spinning technique

In situ electrical resistivity setup for metal-hydrides

High temperature electrical resistivity setup for the alloys.

Experimental set-up for measuring thermoelectric power from 15K – 300 K using a closed circuit helium refrigerator and its automation using a personal computer.

PC controlled laser induced transient grating technique with 16.6 femtosecond time resolution has been developed in the laboratory.

A laser pumped PC controlled spectrometer was developed for fluorescence measurements.

Developed software for ultrafast pulse simulation in a all fibre solid state laser.

Designed a sample holder to hold two samples at a time for magnetotransport studies □ the sample holder is being tested.

A software was developed to interface the MR set-up to a computer for data acquisition

A vacuum chamber (substrate heater, target mount, shutter, gas inlets etc.) was designed for thin film growth using a pulsed laser □ M/s Hind High Vac. Pvt. Ltd. has taken up the design and fabricating the chamber and the associated pump assembly based on the design

Designed and fabricated a pellet making die to make 76mm targets to be used for dc Magnetron sputtering unit

Developed a new technique to prepare manganite thin films by using Chemical Solution Deposition

5. Research and Consultancy

5.1 Sponsored Research Projects on hand (only ongoing):

Sl. No.	Title	Period	Funding Agency	Amount	Coordinators
1	Optical Instrumentation	1993-2000	DAE	60.00	Dr.M.P. Kothiyal/ Dr.R S Sirohi/ Dr. D K Sharma/ Dr.V V Rao
2	Doppler Michelson Interferometer	2000-2002	DRDO	66.00	Dr.M.P. Kothiyal/ Dr.R.S. Sirohi
3	Structure studies on $\text{Li}_2\text{S-P}_2\text{S}_5$ glasses using neutron diffraction.	1996-2000	IUC	2.0	Dr.Maha Seshasayee
4	Molecular dynamics simulation of superionic conducting glasses: a reverse monte carlo approach.	1997-2000	DST	4.09	Dr.Maha Seshasayee Dr.A. Subrahmanyam
5	Genetic Algorithm for structure prediction of complex systems	2000-2003	DST	8.72	Dr.Maha Seshasayee Dr.A. Subrahmanyam
6	Evaluation of Process Induced defect levels	1997-2001	Indo-US Rupee Fund	19.224	Dr.A. Subrahmanyam Dr.J.Sobhanadri
7	Technology Development for TCO for EMI	1999-2001	Dept. of Electronics (MIT)	6.90	Dr.A. Subrahmanyam Dr.M.S.R.C.Rao
8	Publication of BOYSCAST News Letter	1999-2001	DST	2.75	Dr.A. Subrahmanyam Dr.C.Siva Rammurthy
9	Spatio-temporal order and chaos in systems with many degrees of freedom	1997-2000	DST	24.9	Dr.S. Lakshmi Bala, Dr.N.M. Gupte & Dr.S. Govindarajan
10	Development of a Temperature Sensitive Magnetic Switch	1996-2001	IGCAR	24.73	Dr.G. Markandeyulu Dr. K.V.S. Rama Rao Dr. V. Radhakrishnan [ME] Dr. A. K. Kolar [ME] Dr. K. Prasada Rao [MET] Dr. S. Sundaresan [MET]
11	Development of novel 3:29 permanent magnet materials based on rare earth and transition metals	2001-2004	DRDO	24.79	Dr.G. Markandeyulu Dr. K.V.S. Rama Rao

Sl. No.	Title	Period	Funding Agency	Amount	Coordinators
12	Spatio-temporal order and chaos in systems with many degrees of freedom	1997-2001	DST	24.9	Dr.Neelima M Gupte Dr.S.Lakshimbala Dr.S. Govindarajan
13	Investigations of hydrogen solubility, electrochemical hydrogen storage capacity of RE-TM Laves phase alloys.	1999-2002	CSIR	10.98	Dr.S. Ramaprabhu Ananth, CECRI, Madras Unit
14	Development of Hydrogen storage device with Indian misch metal based Laves phase AB ₂ alloys.	2000-2003	MNES	18.9	Dr.S. Ramaprabhu
15	Specific Heat studies of Magnetic Ordering Phenomena at Millikelvin Temperatures	1997-2000	DST	11.5	Dr.V. Sankaranarayanan Dr.G. Rangarajan
15	An advanced multipurpose lab to study transport properties of materials	1998-2001	MHRD	5.0	Dr.G. Sreenivasamurthy Along with other Co-investigators
17	Development of ITO films	2000-2001	CSIR	6.5	Dr.A. Subrahmanyam Dr.M.S. Ramachandra Rao
18	Morphology dependent resonances in microcavities and their effect on laser action in xanthone dyes	2000-2004	DST	21.42	Dr.P.B. Bisht
19	Photonic bandgap structure at microwave frequencies using magnetic materials	2001-2004	DRDO	12.49	Dr.V.Subramanian Dr.V.R.K. Murthy
20	Dynamics of Semiflexible polymers and their network	2001-2004	CSIR	5.88	Dr.P.B. Sunil Kumar

5.2 Industrial Consultancy (only ongoing):

Sl. No.	Name of the Faculty	Title	Industry	Amount (in lakhs)
1	Dr.M.P. Kothiyal/ Dr.R.S. Sirohi	Optical Head for lographic Interferometer	ISRO	2.95
2	Dr.M.P. Kothiyal/ Dr.R.S. Sirohi	Development of Optical for Speckle Shearographic System	ISRO	2.80

3.2 Short-term Courses / Workshops / Seminars / Symposia / Conferences organized :

Sl. No.	Co-ordinators	Title	Period
1	Dr. N.G. Nair	Workshop on FRP Technology	24.4.2000 to 29.4.2000
2	Dr.N.G.Nair	TIFAC Industry Meet in collaboration with FRP Institute	25.5.2000
3	Dr. M. Balasubramanian	Workshop on FRP Technology	12.2.2001 to 17.2.2001
4.	Dr. N.G. Nair	Quality Assurance and ISO 9000 Certification in FRP Composites Industry in collaboration with FRP Institute	9.1.2001
5.	Dr. N.G. Nair	Fibre Reinforced Thermoplastics and Their Applications in collaboration with FRP Institute	17.3.2001

3.3 Short-term Courses / Workshops / Seminars / Symposia / Conferences / Training attended by the Faculty in Academic Institutions and Public Sector Units :

Sl. No.	Name of Faculty	Title	Institution	Period / Duration
1	Dr.S.K.Malhotra	3 rd International Conference on Advances in Composites (ADCOMP-2000)	I.I.Sc. Bangalore	24.8.2000 to 26.8.2000
2	Dr.S.K.Malhotra	Symposium on Recent Trends in Polymer Composites	GE India Tech. Centre, Bangalore	30.10.2000 to 31.10.2000
3	Dr.S.K.Malhotra	Materials for the New Millennium (Matcon 2001)	Cochin University of Science & Technology	March 1-3, 2001
4.	Dr. N.G. Nair	NRB Seminar 2000 on Materials for Marine Environment	NMRL, Ambarnath	14.12.2000 to 15.12.2000
5.	Dr. N.G. Nair	RP Asia 2000, Kuala Lumpur	Elsevier, U.K	20.9.2000 to 22.9.2000

3.4 Special Lectures Delivered by the faculty in other Institutions :

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	Dr.N.G.Nair	Fibre Science and Technology	Shriram Fibres Ltd., Manali, Chennai., 11.5.2000.
2	Dr. N.G. Nair	Composites Design and Failure Criteria	Composite Product Development Centre, DRDO, Hyderabad, dt. 30.8.2000.
3.	Dr. N.G. Nair	Composite Materials and Their Worldwide Technological Development	National University of Singapore, 25.9.2000
4.	Dr. N.G. Nair	Non-metallic Materials and Composites for Naval Environment during the NRB Seminar 2000 on Materials for Marine Environment	NMRL, Ambarnath, 14.12.2000 and 15.12.2000

3.5 Visits Abroad by Faculty :

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr. N.G. Nair	Kualalampur, Malaysia	20.9.2000 to 22.9.2000	Participated in the International Conference RP-Asia 2000 and presented a paper on Case studies of development of FRP atrium roof and windmill blade.
2.	Dr. N.G. Nair	Singapore	25.9.2000	To deliver a lecture at National University of Singapore

4. Design and Development Activities :

4.1 Brief and specific details of Process / Instruments / Equipment / Software Designed and developed :

1. A FRP filament wound hollow pile designed and developed by the Centre was driven into soil at the MRTS track near Velachery to demonstrate its use. These piles foundation will be used by NF Railways as substitute for the wooden piles initially for erecting temporary bridges during floods and later as permanent piles with concrete filling. These lightweight piles segments can be carried by four persons and are retrievable after use.
2. During the financial year 2000-2001, 69 testing assignments for a total of Rs. 3.23 lakhs were taken up from industries under the Composites Test Facility. During the same period 54 assignments were taken from other departments of our Institute.
3. During the year under report, a sum of Rs.3.81 lakhs received as contributions from industries towards the corpus fund of the Centre.

5. Research and Consultancy :

5.1 Sponsored Research Projects :

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Technology Project in Mission Mode on Advanced Composite CTC, Chennai	4 years	TIFAC, New Delhi	1.5	Dr. N.G. Nair

5.2 Industrial Consultancy :

Sl. No.	Name of the Faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr.N.G.Nair	Design of FRP Tank for Storage of HCL Acid	Laybond Pipings & Equipments	0.05
2.	Dr.N.G.Nair	Fabrication and Evaluation of FRP Thermal Expansion Joint for Bridges and Buildings	Vijay Nirman Company	0.12
3	Dr.N.G.Nair	Design of FRP Cooling Tower Fan Blades	Shriram Tower Tech. Ltd.	0.70

5.2 MATERIALS SCIENCE RESEARCH CENTRE

1. Introduction

Materials Science Research Centre (MSRC) was established in 1975 as an interdisciplinary centre for carrying out research in the frontier areas of advanced ceramic materials. The major areas of research of the centre are:

- Perovskite mixed oxides
- Magnetoresistance oxides
- PLZT ferroelectric ceramics
- Fast ion conductors
- Nuclear waste disposal materials
- Thermoelectric studies
- Luminescent materials
- Electrode materials for Li-batteries
- Thin films
- Fuel cells

PEROVSKITE MIXED OXIDES:

Formulation, synthesis and characterization of new and novel rare-earth containing perovskite mixed oxides – study of electrical and magnetic properties – search for magnetic and semiconductor-to-metal transitions. Lanthanum strontium orthochromite based composition for high temperature heating element applications.

Magnetoresistance (MR) Studies:

MR Studies on perovskite manganites and intermetallics. CMR (Colossal Magnetoresistance) manganites: A new class of materials of this type $\text{La}(\text{Sr})\text{MnO}_3$ exhibiting huge changes in resistivity as a function of applied magnetic field has been examined. Large changes in MR ratios of the order of ~ 20-80 % could be achieved by doping. Apart from the underlying physics which is an important aspect to study, these materials show great promise in device applications such as MR-recording heads, switching etc.

PLZT Ferroelectric Ceramics:

PLZT (x/65/35) compositions were prepared in single phase by using a covering method and dielectric studies were carried out. It is intended to use these materials in transducer applications and thin film capacitors.

Fast Ion Conductors:

Fundamental studies on ion mobility and structure property correlations in conductors (viz., 3-D oxides, and phosphates and pyrochlore structure.

Thermoelectric Studies:

Thermoelectric materials are a class of compounds used for thermal to electrical energy conversion and vice versa (thermo-refrigeration). They are basically semiconductors with optimum doping (both n- and p-type) to get maximum conversion efficiency in the temperature range of operation. Thermoelectric refrigerators are finding applications in space vehicles and in vibration and noise free refrigeration.

Skutterudite compounds are recently identified as potential thermoelectric materials. The general formula is AB_3 where A is Co, Ir, or Rh and B is As, P or Sb. In the present study thermoelectrical properties of a series of compounds of $CoSb_3$ family are being investigated.

Luminescent Materials:

Fundamental studies on the structure property correlations in luminescent materials are underway.

Lithium Ion Battery Materials:

To identify new cathode materials for lithium ion battery.

2. Academic Programmes

B.Tech.	: Inorganic, Physical and General Chemistry / Applied Solid State Physics
M.Tech.	: Synthesis and Characterization of Materials / Advanced Materials Science
M.Sc.	: Solid State Chemistry and Crystal Chemistry / Solid State Physics
Ph.D.	: Advances Solid State Chemistry / Solid State Physics

2.1 Students on Roll

Programme	I year	II year	III year	IV year	V year	Others	Total
Ph.D.*	1	2		2	-	-	5

*Scholars registered in the concerned departments.

2.2 Number of Scholarship/Fellowship holders

Programme	Institute Scholarship	Others	Total
Ph.D.	4	--	4

3. Faculty and their Development

3.1 Faculty

Sl. No.	Name and Qualification	Major Areas of Specialization
1.	Prof K. Gopinath, Head (till Feb.2001) Ph.D. (IIT Madras)	Materials Engineering, Powder Metallurgy, Tribology and Surface Engineering
2.	B. Viswanathan, Head (from March 2001) Ph.D., (IIT Madras)	Surface Science, Materials Science and Catalysis, Energy, Fuel Cells.
3.	Dr. U.V. Varadaraju, Prof., Ph.D., (IISc., Bangalore)	Materials Science and Solid State Chemistry, High Tc Superconducting Materials, High Temperature Oxide and Phosphate based waste disposal. Cathode materials for lithium ion battery, Luminescent materials.
4.	Dr. M.S. Ramachandra Rao, Asst. Prof., Ph.D., (IIT Kharagpur)	Solid State Physics, Materials Science, Oxide Electronic Materials, Magnetic Materials, HTSC, Advanced Ceramics, Intermetallics and thin films growth using PLD technique. CMR manganites, Ferroelectrics, Electroluminescent (EL) thin films.
5.	Dr. K.D. Chandrasekaran, S.S.O. - I Ph.D., (IIT Chennai)	Oxide Ceramic Systems for Practical Applications, High Temperature Heating Element Composition,

5.3 REGIONAL SOPHISTICATED INSTRUMENTATION CENTRE

1. Introduction

Regional Sophisticated Instrumentation Centre (RSIC) established with the help of DST provides sophisticated instrument and equipment facilities to Scientists / Faculties of Educational Institutions, National Laboratories, Industries and IIT Madras.

RSIC also undertakes on specific request, servicing of sophisticated instruments at other institutions and also provide training for operation and maintenance.

Periodically RSIC conducts workshops, seminars and conferences to expose new trends in sophisticated instrumentation and methods. Contact programs for college students and open house for school children are conducted every year to motivate them towards scientific careers.

2. Academic Programmes

2.1 New Courses Introduced :

Sl. No.	Course No.	Title
1.	MT601	Advanced Engineering Materials

2.2 Students on Roll :

Programme	I Year	II Year	III Year	IV Year	V Year	Others	Total
M.Sc	2	-	-	-	-	-	2
M.S	1	-	-	-	-	-	1
Ph.D	6	-	-	-	-	-	6
Total	9	-	-	-	-	-	9

*Students registered with respective departments.

3. Faculty and their Development

3.1 Faculty :

Sl. No.	Name and Qualification	Major Area of Specialization
1.	Prof. S.P. Venkateshan, Ph.D	Heat Transfer, Instrumentation
2.	Dr. T. Pradeep, Ph.D	Physical Chemistry, Spectroscopy, Monolayers, Ion chemistry
3.	Dr. T.S.Sampath Kumar, Ph.D	Surface Science, Biomaterials

3.2 Short-term Courses/Workshops/Seminars/Symposia/Conferences organised

Sl. No.	Co-ordinators	Title	Period
1.	Dr. T. Pradeep.	Summer Training Program in Advanced Physical Chemistry	June 26 - July 25, 2000

3.3 Special Lectures Delivered by the faculty in other Institutions :

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
01.	Prof. S.P. Venkateshan	Radiation Heat Transfer	VSSC Trivandrum
02.	Prof. S.P. Venkateshan	Interactions of radiation and conduction in participating media	IIT Guwahati

3.4 Visits Abroad by Faculty :

Sl. No.	Name of Faculty	Country visited	Date	Purpose of visit
1.	Dr. T. Pradeep	South Korea	June 2000	Research

3.5 Honours and Awards obtained :

Sl. No.	Name of Faculty	Name of Award/Honour	Awarded by	Awarded for	Date
1.	Mr. V. Aravind Student of Dr. T.S. Sampath Kumar	Innovation Potential of students Projects Award 2000	Indian National Academy of Engineering	B.Tech project by Mr. Aravind	8 th Dec. 2000

4. Design and Development Activities

- A Thermal desorption/mass spectrometry system fabricated
- A low temperature resistance set-up developed
- A process for the formation of functionally graded bioactive structures from calcium phosphate ceramics using silver oxide and titania by conventional sintering methods.

5. Research and Consultancy :

5.1 Sponsored Research Projects on hand :

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators(s)
01.	Design and development of a compat X-band electron spin resonance spectrometer for identifying the irradiated food stuffs	April 1999 to April 2002	AERB	Rs.26.68	Prof. SP Venkateshan Dr. TS Sampath Kumar Mr. G. Palanisamy
02.	Computer Aided Instructional Module for Conduction & Radiation	Sept., 98 to Aug. 2000	CCE IIT Madras	0.96	Prof. SP Venkateshan
03.	Development of a General purpose computer program for estimation of Radiant heat flux in a Solid rocket motor	Aug. 99 to Aug. 2000	ISRO	8.14	Prof. SP Venkateshan

6.1 CENTRE FOR CONTINUING EDUCATION

6.1.1 Introduction

The *Centre for Continuing Education (CCE)* was established in June 1986 by merging together the different units connected with Quality Improvement Programme (QIP), Continuing Education Programmes (CEP-STC) and Curriculum Development Cell (CDC) activities of the Institute. Since then, the activities of the centre expanded bringing into its fold, the activities of Early Faculty Induction Programme (EFIP) and Production of Computer Aided Learning Material.

6.1.2 Quality Improvement Programme (QIP):

The QIP was formulated by the All India Council for Technical Education (AICTE) with the prime objective of upgrading the expertise of the faculty members of AICTE approved degree level engineering institutions in the country through improvement of their qualifications. Since inception, 289 faculty members from other institutions obtained Ph.D degrees and 397 faculty members M.Tech degrees under this programme.

Following are the data on Quality Improvement Programme (QIP) for the year 2000-01:

Title of the Programme	Number Admitted	Number on Roll	Degrees Awarded
Ph.D.	14	41	7
M.Tech	12	27	7

6.1.3 Short Term Training Programmes (STTP) under QIP:

Under QIP STTPs, 6 courses were held in 2000-01 and 149 teachers of Engineering Institutions as well as a few participants from industries/R&D organizations participated in these programmes.

From 1970-71 to 2000-01, 190 STTPs. were held, and 4,400 teachers from various engineering colleges participated and got benefited from these courses.

6.1.4 Curriculum Development Cell (CDC):

Curriculum Development Cell (CD Cell) caters to the needs of all Departments. The course materials in the form of modules are developed. On request, these materials will be sent to various engineering colleges/industries.

During the year under report, 12 programmes were taken up by the faculty members of the institute.

6.1.5 Book Writing Scheme (BWS)

This scheme is designed to encourage text book writing by teachers. During the year 2000-01, 6 faculty came forward to write books under this scheme. 30 books were so far published under this scheme.

6.1.6 Early Faculty Induction Programme (EFIP)

AICTE formulated the EFIP scheme to induct bright young graduates interested in teaching as a career to undergo M.Tech courses in one of the IITs. The Centre for Continuing Education assists AICTE to select the candidates for the scheme and also coordinate the programme.

At present, there are **25** students in M.Tech. programme. For the benefit of EFIP candidates, a One-Day **Workshop** was held on 9th December, 2000 on "**Teaching Methodology, Pedagogy and Students Psychology**".

6.1.7 Continuing Education Programme (CEP)

Institute faculty members organize several short term courses under Continuing Education Programme for the professionals from industry and R&D establishments on need-basis. From the date of inception, i.e., between 1980 & 2000-01, **411** Short term Courses. were conducted and **8,375** participants participated in these courses. About 25 to 30 such programmes are organized every year. During the year under report, **26** Short Term Courses were conducted and **604** participants attended these programmes.

6.1.8 Educational Consultancy/Training Programmes (ECP)

Educational Consultancy Programmes (ECP) are offered to a specific industry or institution and it is a tailor-made programme to suit their requirements. The course content and the syllabus are drawn in consultation with the industry and offered either in IIT campus or at a location suggested by the sponsors. From the date of inception, i.e., from 1997-98, **26** training programmes were held and during the year under report, **12** such programmes were taken up.

6.1.9 Other Activities:

1. A Half-Day Workshop on "Authorware" was held on 28th October, 2000 for the benefit of both IIT faculty and students.
2. A Workshop on "Accreditation of Engineering Colleges" NBA, AICTE was organized on 31st March, 2001. This Workshop was exclusively for the faculty of IIT Madras and attended by 56 senior faculty members of Engineering Departments attended the workshop.

6.2 CENTRE FOR INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

6.2.1 Introduction:

The Centre for Industrial Consultancy & Sponsored Research was set up in 1973 to promote interaction with industries. It facilitates active participation of the faculty in various interactive programmes organized for the benefit of industries. The Centre also provides administrative support for carrying out consultancy and sponsored research projects particularly for recruitment of project staff, maintenance of accounts and purchase of equipments and materials.

Some of the areas of major activities of the Centre are:

- Sponsored Research programmes
- Plan Schemes
- Technology Development Mission Schemes
- Consultancy programmes: Project/research/retainer based
- Collaborative projects with foreign countries
- Industrial Associateship Scheme
- ISRO-IITM Space Technology Cell joint projects
- Projects sponsored by National Institute of Ocean Technology
- Technology Transfers
- Patents
- IGCAR-IITM Cell joint projects

Dean : Prof. S. Srinivasa Murthy

Staff :

Dr. D. Balakrishnan	Chief Techno Economic Officer
Sri R. Sundaram	Senior Techno Economic Officer
Sri V. Suresh	Senior Techno Economic Officer
Sri S. Mahalingam	Assistant Registrar (F & A)
Sri B. Ramaswamy	Assistant Registrar (Project Purchase)

6.2.2 Sponsored Research:

A. Indigenous Projects

53 projects of value totaling to Rs.874.07 lakhs were taken up by the Institute during 2000-2001.

Name of Agency	No. of Projects	Sanctioned Value (Rs. Lakhs)
Atomic Energy Regulatory Board	1	11.39
All India Council for Technical Education	1	3.00
Armament Research Board	1	9.80
Aeronautics Research & Development Board	5	29.56
Boards of Research in Nuclear Sciences	1	20.15
Central Leather Research Institute	1	6.00
Council of Scientific and Industrial Research	5	37.00
District Primary Education Programme	1	0.57
Defence Research and Development Organisation	4	61.02

DACS Software Pvt. Ltd.	1	3.75
Department of Science & Technology	14	403.75
ERNET India	1	31.45
Indian Space Research Organisation	1	12.74
Inter University Consortium for DAE Facilities	1	0.85
Ministry of Human Resource Development	7	57.00
Ministry of Non-Conventional Energy Sources	3	119.36
Naval Research Board	1	18.05
RCI, Hyderabad	1	4.95
Technology Development Mission	1	10.00
Total	53	874.07

- A. Foreign Collaborative Projects .. Nil
 B. Industry Sponsored Projects .. 2

6.2.3 Plan Schemes:

Plan Schemes were sanctioned to this Institute by the Ministry of Human Resource Development in the following areas:

- Nationally co-ordinated project on Telematics
- Nationally co-ordinated project on Educational Technology
- Seven projects under Thrust area, Modernisation & Removal of Obsolescence and Research & Development schemes

6.2.4 Consultancy Programmes:

819 Consultancy assignments of value totaling to Rs.333.48 lakhs, 27 Research Based Industrial Consultancy for a total value of Rs.252.65 lakhs were taken up during 2000-2001. Also 9 faculty were retained as consultants of various industries at a cost of Rs.83.90 lakhs.

6.2.5 Collaborative Research Projects:

22 proposals for joint research projects with Universities in Germany through BMBF, Germany were submitted.

6.2.6 New Faculty Scheme:

17 proposals were approved for funding under the New Faculty Scheme for a total sum of Rs.17,26,750/-

6.2.7 Industrial Associateship Scheme:

234 Industries are members of this Scheme (Large scale 26, Medium scale 110 and Small Scale 98).

Six Technology Appreciation Programmes were organized during the period under report:

6.2.8 Other Programmes:

ISRO-IITM Space Technology Cell joint projects:

This is an on-going activity sponsored by the ISRO where research projects of interest to ISRO are being taken. Seven on-going projects were continued during the year 2000-2001.

6.3 CENTRAL ELECTRONICS CENTRE

6.3.1 Introduction:

The Central Electronics Centre (CEC) was established in 1971 with the main objective of servicing and maintaining the wide variety of sophisticated electronic equipment belonging to various departments of the Institute. The need for training service engineers was recognized and a Training program, the first of its kind in the country, was started in the same year. Since then, conducting such Training Programs of this type every year, has become one of the important activities of the Centre. Through these programs, so far 200 engineers were trained. Also, this Centre has been conducting Short Term Courses from time to time for the benefit of practising engineers from Industries.

The Centre is housed in a dust-free environment of about 500m², essential for the proper functioning of a variety of test and measuring instruments, calibration standards and trainer systems. The infrastructural and equipment facilities have been adequately strengthened over the years by collaborative Indo-German Projects. The Centre has a team of well qualified and talented staff members, trained in Germany in various fields of Electronics Instrumentation. The significant advantage, this Centre has over other service organisations is the mixed environment, i.e a blend of academic environment and industry type working atmosphere.

The Centre has continuously enlarged and diversified its activities and is now offering the following services:

- Servicing and Maintenance of Electronic Equipment
- Training Programs for Manpower Development
- Measurement of Physical Parameters
- Calibration of Electronic Equipment
- Development of Custom-built Systems

This Centre has offered its consultancy services in the above areas to about 210 industries and other organizations in and outside the country.

In the area of Renewable Energy too, this Centre has been playing a key role by conducting the Training Programs and developing sub systems in the area of Solar Photo Voltaics (SPV). In the last five years, 40 programs have been conducted and more than 860 personnel were trained. The project is sponsored by IREDA (Indian Renewable Energy Development Agency), New Delhi. SPV Laboratory (indoor and outdoor) facilities have been established and Solar Photo Voltaic Park has been developed to promote the developmental activities in this area.

In the last two years, four batches of special 12 weeks Training Programs of unique in nature, were organised to retrain the Radio officers of Merchant Navy to become Electro-Technical Officers. The project is sponsored by AMET (Academy of Maritime Education and Training), Chennai.

6.3.2 Activities

1 Training Programs

1.1 Long Term CEC Training Program

XV CEC Training Program of one year duration ended on 5th July 2000. XVI CEC Training Program commenced on 17th July 2000. The number of candidates in each Program is fifteen.

1.2 AMET (Academy of Maritime Education and Training) Training Program

Third Electro-Technical Officers Training Program for the Marine Radio officers of the Merchant Navy was conducted in co-ordination with AMET, Chennai.

Co-ordinator	Title	Period	Project Value
Dr.M.Kumaravel	Electro-Technical Officers Training Program for Merchant Navy	12 weeks 29.5.2000 to 18.8.2000	Rs 6 lakhs

2 New facilities added and major equipment procured

- (i) Advanced Logic Probe
- (ii) Data Acquisition / Switching Unit
- (iii) DC Power Supplies
- (iv) Digital Multimeters
- (v) Digital Plotter
- (vi) Fibre Optic Trainer Kit
- (vii) Interactive Electronic Board
- (viii) Mixed Signal Functional Testing System
- (ix) Mixed Signal Oscilloscope
- (x) MT Rework / Repair System
- (xi) Multifunction Multiproduct Calibrator
- (xii) Power Analyser
- (xiii) Power Electronics Trainer
- (xiv) Process Control Trainer Kit
- (xv) Programmable Loads
- (xvi) Programmable Logic Controller
- (xvii) Transducer Trainer Kit

3. Some of the Important Consultancy Projects completed

Sl. No.	Co-ordinator	Title of Project	Organisation	No of Assign.	Project value in Lakh of Rs.
1.	Dr.M.Kumaravel	CNC M/C Modules, Drives and Monitors	Heavy Vehicles Factory, Ministry of Defence, Avadi, Chennai	15	1.79
2.	-do-	Drives & Instrumentation Modules	Heavy Alloy Penetrator Project, Ministry of Defence, Trichy	9	1.60
3.	-do-	CNC M/C Modules	Ordnance Factory, Ministry of Defence, Medak, A.P	1	0.12
4.	-do-	CNC M/C Modules	GE Power Controls, Pondicherry	1	0.55
5.	-do-	Controllers for Textile Machineries	Euro Tech, Chennai	4	0.54
6.	-do-	Texture Analyser	Glugel (Ind) Pvt.Ltd, Coimbatore	1	0.16

7.	-do-	Electro Acoustic Water leak Detector	Fluid Control Research Centre, Palghat, Kerala	1	0.18
8.	-do-	Oxygen Analysers & Fire Detectors	Chettinadu Ship Management (P) Ltd, Chennai	3	0.26
9.	-do-	Ultrasonic Scanner	Appadent, Chennai	1	0.17
10.	-do-	Circuit Boards	Bharathiar University, Coimbatore	1	0.06
11.	-do-	Oscilloscope	Ashok Leyland, Chennai	1	0.06
12.	-do-	Drives and Controllers	SPIC Electronics Ltd, Chennai	4	0.52

4. (i) Lecture delivered in National Seminar:

Author	Lecture Topic	Name of the Workshop	Date
Dr.M.Kumaravel	Solar Photo Voltaic Systems – Current Status & Emerging Challenges	National Seminar on Energy & Environment organised by ENFUSE.	16-17 th, June 2000
Dr.M.Kumaravel	Solar Photo Voltaic Systems	“Train the Trainer Program” on Nonconventional Energies at ANERT of Government of Kerala in Trivandrum..	24th Jan 2001

(ii) Paper presented in Seminar:

Author	Title of the Paper	Name of the Conference	Period
Dr.M.Kumaravel	Grid connected Photo Voltaic Systems and Reliability Issues	Green Energy for Millennium Seminar, sponsored by MNES and organised by TEDA in Chennai	9 th October 2000

5. Special Assignments

- (i) Dr.M.Kumaravel served in the Special Committee constituted by IREDA, New Delhi to inspect and evaluate 100KW Grid connected Photo Voltaic Plant on 30th November 2000 at Coimbatore.
- (ii) Dr.M.Kumaravel served in the selection Committee constituted by Director General of Police, TamilNadu for the selection of Sub Inspectors(Technical), during 3-6th November 2000.

6. Design and Development Activities:

Design and fabrication of six numbers of portable PA Systems for the use at Class Room Complex of IITM.

7. Staff Strength

The Centre has 10 Technical, 4 Administrative and 2 Project staff.

6.4 COMPUTER CENTRE

6.4.1 Introduction:

The Computer Centre was established in 1973 and provides Central Computing resources - facility and support. The Centre started with IBM 370 and changed over to SIEMENS 7580-E in 1987. The mainframe was complemented with MX500 running Unix and several microcomputers and PCs to support research and development in various areas. Applications for the Institute are also supported. The Siemens system was replaced by a client-server environment with effect from November 1995. The present IBM RS 6000 models 590 and 370, a cluster of servers on a high-speed network, provide a distributed computing platform for research and development. The computing facility was enhanced with H.P high end server cluster and a file server under ICOSER scheme and IBM S-390, a gift from IBM.

Computer Centre also provides Campus network connecting all the departments and Internet facility. The current Campus network is an ATM based High-speed backbone and the internet facility is provided by VSNL 64Kbps radio link. Fibre cable is used to connect buildings and enhanced UTP cable for general networking of each building. The backbone is 622 Mbps and each building is connected to the backbone by 155 Mbps ATM uplink. This network has been extended to cover the hostel sector. Steps are being taken to have 2 Mbps dedicated link for Internet connectivity beside the 64 Kbps.

The facilities at the Computer Centre will enable students to learn the state-of-the-art computing techniques and methodology for problem solving in analysis and design. The installation provides new opportunities for computing to students and faculty apart from rendering the Centre as one of the most modern among its peer academic institutes in the country.

The PC Maintenance cell provides services for repairs and maintenance of PCs in the institute including projects totaling to about 2000 machines. In addition Computer Centre has been serving the computerization of the following establishments of the IIT:

- | | |
|-----------------------|-------------------------------|
| 1. Administration | 6. GATE |
| 2. Finance & Accounts | 7. Joint Entrance Examination |
| 3. Hospital | 8. Hostels |
| 4. Library | 9. Stores & Purchase |
| 5. Engineering Unit | 10. Academic Section |

Details of Staff

Name and Qualification

Major Area of Specialization

Head

Krishnakumar R, Ph.D

Computer Aided Design, Simulation of Manufacturing Processes, Nonlinear Finite Element

Senior Systems Engineers

Dheenadayalu R, M.Sc(Engg)

Data Centre Operations, Systems Administration. Application System selection.

Jayaprakash S, Ph.D.

Software Engineering, Computer Networks, Fault-tolerant Distributed Systems, Internet, Next Generation Network (NGN)

Ramesh S.K, M.S

MIS, Data Management, Data Processing,
System Programming,

Systems Officer Gr.I:

Sourirajan C.S, M.Sc.

System Administration, Programming,
Languages, Small computers, Application
Software Development.

Senior Systems Officers:

Ravichandran V, M.Sc.

Application Programming, Database Management
systems, System Operations, Networking,
Systems Programming, System Administration,
Training industrial Personnel on Mainframes.

**Vijayaraghavan C.N, M.Sc. &
M. Tech. In Ind. Maths.**

Computer Applications in Industry, Operating
Systems, Systems Operation, Administration,
Networking

Assistant System Engineer:

Baman Banavath B.Tech(C.S)

System Analysis & Design WINDOWS95,
Windows NT server Administration, INTERNET,
Database Management System, Power builder,
Visual Basic GUI Applications.

Junior Systems Engineer:

Sreekumar P.Y, B.Tech(C.S)

Computer Networks, Database Management
Systems, Systems Administration.

System Trainees on Roll: (1999-2001)

Trainees in PC Cell

1. A. Nandini Devi
2. M. Parthasarathy
3. V. Sriram
4. P. Vijaya Rajkumar
5. D. Bhanu
6. P. Senthilkumar
7. M. Minimol
8. J. Ramesh Kumar
9. Alice Jeby Joseph
10. R. Amutha

- J. Balachandar
K. Damodaran
B. Gayathri
K. Saminathan
T. Vairamuthu
K.B. Dhanasekaran

New Facilities / Equipment Added:

Additions:

Electronic classroom

A state of the art electronics classroom with 20 pcs for students and one PC for the instructor is functioning. LCD panel has been added to this facility.

Hardware:

The following hardware has been installed.

5 nos. of HCL infinity series Pentium III with 128 MB RAM and 20GB hard disk have been added.

Software:**Networking:**

The ATM based backbone network connecting all the buildings has been implemented by Computer Centre. Mostly, the existing conduits laid for running the Siemens systems cables have been used for installation of the fibre optic cable. The three nodal points for the backbone are Computer Centre, Hydraulics Lab and RSIC. The ATM small switches are placed in R&AC, MES and administration building. The edge devices are placed in optimal locations in each one of the buildings, so that any next level switch can be reached within the UTP CAT5 cable length limitation of 100 meters. Buildings with large spread (BSB, HSB, Workshop Lab complex) have been provided with multiple fibre drops to enable full coverage. In each one of the buildings, the local network is implemented based on a structured design for scalability using enhanced CAT5 UTP cable. To implement the campus network, 3 ATM (622 Mbps) backbone switches, 3 ATM (155 Mbps) small switches, 25 edge devices with ATM (155 Mbps) uplink, 80 Ethernet switches, 7 kilometers UTP components are used. The network provides about 200 ports at the 100 Mbps (lab/server) level and about 1500 ports at the 10 Mbps (desktop) level.

GATE on the Website:

Mr. SK Ramesh and Mr. V. Ravichandran, System staff of the computer centre designed, developed and are maintaining a separate website for GATE Office (gate.iitm.ac.in).

JEE 2001 Website/IVR (Interactive Voice Response)

Mr. Sreekumar P Y and Mr. Vijayaraghavan C N created a Website for JEE 2001 results and application enquiries. The same available on IVR (4458098).

McAfee Antivirus:

500 copies of Antivirus Software were procured and installed on the machines by Computer Centre. Dr.D. Hariharan co-ordinated this activity.

Electronic documentation for ISO 9001

Mr. C.N. Vijayaraghavan assisted by Mrs. Lakshmi Venkatesan took up the work of electronic documentation and related activities of ISO 9001.

Institute Projects:

S. No.	Title	Coordinators
1.	Campus Network	Dr. S. Jayaprakash Mr.P.Y. Sreekumar
2.	Hospital Information System	Mr. R. Dheenadayalu
3.	JEE Data Processing	Mr. C.N. Vijayaraghavan Mr. P.Y. Sreekumar
4.	GATE Data Processing	Mr. S.K. Ramesh Mr. V. Ravichandran

S. No.	Title	Coordinators
5.	M. Tech Admission	Mr. S.K. Ramesh Mr. V. Ravichandran
6.	CARS/ARMS System Management	Mr. P.Y. Sreekumar
7.	Hostel Mess Management	Mr. C.S. Sourirajan Mr. V. Ravichandran
8.	Hostel Billing System	Mr. C.S. Sourirajan
9.	Taramani Guest House Automation System	Mr. Banavath Baman
10.	Faculty Academic Profile	Mr. Banavath Baman
11.	Teachers Evaluation (processing)	Mr. C.S. Sourirajan
12.	Teachers Evaluation (on line feedback)	Mr. P.Y. Sreekumar
13.	ISO 9001 Electronic Documentation	Mr. C.N. Vijayaraghavan Mrs. Lakshmi Venkatesan

Consultancy Projects:

Sl. No.	Title	Period	Funding Agency	Coordinators
1.	S390 Assembler Conversion work	Oct.2000- Jan.2001	Pentasoftware Ltd.	S.K. Ramesh
2.	Software Guidance using PL/1	Mar 2001- Apr 2001	Hexaware Ltd.	S.K. Ramesh V. Ravichandran
3.	Short Term Course on Internet Technology and Services	One week 5-9 th Mar 01	SUN iTech, Chennai	Dr.S.Jayaprakash

7. CENTRAL FACILITIES

7.1. Central Workshop :

“Workshop is an educational platform where science is translated into technology”

Central Workshop was established to meet the above objective from 1959 with three major production processes, i.e. Metal cutting, Metal joining, Metal forming with shops as given below: Apart from these shops five more shops were added (mentioned below) in the process of modernizing the workshop training in line with industry to suit industrial requirements.

Shops	Facilities
1. Carpentry shop	Turning, Thickness reduction – Polishing and Blitting
2. Fitting shop	Filing, Drilling, Tapping – Zig Boring Toll Milling, Engraving – Marking Slotting and Grinding
3. Machine shop	Shaping – Milling – Turning – Planning Radial drilling Tool & cutter grinding and work cutting
4. Gear shop	Spur, Helica, Bevel Gear cutting
5. Electrical shop	Simple wiring and winding, simple electric circuit
6. Instrument shop	Pressure testing facilities upto 100 Kg NC Trainer Lathes, Milling Machine
7. Welding shop	Arc Welding, Gas welding, soldering Brazing and Profile cutting
8. Foundry	Oil fired furnace, Cupola and Sand Plant
9. Smithy	Hand forging and a power hammer
NEW SHOPS	
i. Pneumatics and ii. Hydraulics	<ol style="list-style-type: none"> 1. Festo Training kits with different valves 2. Electromagnetic kit 3. PLC to demonstrate pneumatic 4. Practical demonstration like auto wheel brake system Weight lifting equipment for demonstration from Eukon Bosche Hydraulic Kit for different values for students' Bosch Training kit for students' demonstration
iii. Electronic	Soldering practice, Measurements Oscilloscope, PLCs battery charging unit, battery operated van for demonstration
iv. FRP	Material process demonstration of preparation of dust bin-welding hand shield
v. Plastics	Material– process practical demonstration of cycle token-key tags, Caps.

Besides the above, Central Workshop also bears the responsibility of maintaining Institute vehicles.

Central Workshop very effectively caters to the undergraduate programmes by imparting individual practical training in various shops cited above.

During the year under report, 470 undergraduates (I B.Tech.) got training under the assigned course of ME 107 and ME 108 titled Workshop Training I and II bearing 2 credits each.

For the II year undergraduates of Mechanical Engineering branch, ME 203 Workshop III with 2 credit was offered.

Advanced workshop training with 3 credits for 3rd and 4th year Mechanical Engineering students was also offered..

Central Workshop executes fabrication of test setups and their accessories related to Ph.D, P.G. and U.G. project works. 687 work orders were executed during the year under report.

- A. Calibration of pressure gauges for M/s. Larsen and Toubro Limited, Neycer India Limited, Kayes Construction Limited were undertaken.
- B. Calibrated the gauges for Aerospace Engineering, Mechanical Engineering Department (Precision Engineering and Thermodynamics and Combustion Engineering).
- C. Undertaken a major project work from Applied Mechanics (Biomedical) Department of "Early detection of human breast cancer using laser transiliminants tomography A3 D scanner device for getting tomogram was designed and work in progress.
- D. Fabricated concave + convex milling cutter for production engineering.
- E. Undertaken a major project of "Advanced Technology for combustion of bio-mass for Mechanical Engineering Department under Prof. Ajit Kumar Kolar.

7.2 Central Photographic Section :

The Centre caters to the various photographic needs of the Departments and Centres of the Institute as well as various sponsored and consultancy projects. The jobs include photographic coverage of various important functions such as Convocation, Institute Day, Sports Day, conferences held in the Institute. Besides this, it renders assistance to various departments for the technical photography. The in-house processing and printing work is confined to black and white photography. The center caters to the requirements of the research scholars/faculty. Facility for colour photography is also available. However, the processing and printing works are carried out outside.

In an effort to upgrade technology, acquired an electronic photographic equipment and also doing training for existing personnel to adapt new technology. With most of the essential equipment available, these facilities will be offered on a regular basis.

Central photographic section handled 330 job orders during the year under report to the value of Rs.50,000/-. Only cost of materials and chemicals were charged.

7.3 Airconditioning Unit :

1. Total No. of work orders received/call attended and job completed	232
2. Total No. of units received for repair	167
3. Total No. of units delivered after repair	163
4. Total No. of units compressor replaced	18
5. New units purchased and installed:	

3 TR split air conditioners:

OEC Seminar Hall	3 Nos.	Humanities	1 No.
Aero. Engg. (Seminar Hall)	3 Nos.	Met. Engg. (Seminar Hall)	3 Nos.
IC&SR	1 No.	Mech. Engg. MDS	3 Nos.
Comp.Science & Engg	3 Nos.	Civil Engg. Dept.	1 No.
Chemistry (Seminar Hall)	3 Nos.	Telephone Exchange	1 No.
Elect. Engg. Dept.	4 Nos.	COMPTECH	1 No.

6. 2 TR split air conditioners:

IC&SR (Usha Martin Academy)	1 No.
GATE	1 No.

7. 1.5 TR split airconditioners:

Elect. Engg.	1 No.
Aerospace Engg.,	1 No.
COMPTECH	1 No.

8. Window type air conditioner (2TR):

Director's Secretariat	2 Nos.
Registrar's Room	1 No.
Comp. Science & Engg. Dept	1 No.

9. Window type air conditioner (1.5TR):

Mathematics Dept.	1 No.
Mechanical Engg. Dept	1 No.
GATE	1 No.
Chemical Engg. Dept.	2 Nos.
Metallurgical Engg. Dept.	2 Nos.
Central Workshop	1 No.
Physics Dept.	2 Nos.
Dy. Registrar (Admn)	1 No.
Mechanical Engg. (PEIL)	1 No.

7.4. Central Gas Supply Unit :

The Central Gas Supply Unit procured industrial gases from various manufacturers/ suppliers and issues to various departments/laboratories of the Institute for research and practical classes.

Industrial gases	:	Oxygen, Nitrogen, Dissolved acetylene and Hydrogen
Special gases	:	High pure argon, High pure oxygen, High pure Nitrogen and zero air.

Quantity ordered and issued to various Departments during the year under report.

Item	Ordered quantity	Consumption
Industrial gases:		
Oxygen	2250 cu.m.	1883 cu.m.
Nitrogen	2250 cu.m.	2246 cu.m.
Dissolved acetylene	300 cu.m.	162 cu.m.
Hydrogen	300 cu.m.	187 cu.m.
Special gases:		
High pure argon	1400 cu.m.	640 cu.m.
High pure oxygen	150 cu.m.	84 cu.m.
High pure nitrogen	300 cu.m.	184 cu.m.
Zero air	250 cu.m.	245 cu.m.

7.5. Central Glass Blowing Section :

The Central Glass Blowing section is one of the important infrastructure facilities of the Institute since its inception in 1972. Being a central facility, this section engaged in design and fabrication of sophisticated scientific glass and quartz apparatus for research and development in various departments.

The Central Glass Blowing section received and completed 239 work orders during the period under report and earned Rs.35,453/- in terms of service charges.

7.6. Educational Technology Cell :

Educational Technology Cell was established by the Ministry of Human Resource Department in 1989 with the main objective of making available the valuable expertise and experience of the

faculty of IIT Madras as well as the benefit of the laboratory facilities in IIT Madras to the students of engineering colleges and scientists of R&D departments/industries through programmes/lessons produced at the ETC.

1) (i) Video recording of semester based lecture courses (completed) :

- (a) Digital Integrated Circuits by Dr. Amitava Das Gupta, Electrical Engineering Department (40 lectures of each 50 minutes duration).
- (b) Computational methods in design and manufacturing by Dr R. Krishnakumar, Mechanical Engineering Department (33 lectures of each 50 minutes duration).
- (c) Measurements in thermal sciences by Prof. S.P.Venkateshan, Mechanical Engineering department (40 lectures each of 50 minutes duration).

(ii) Video recording of semester based lecture courses (under production) :

- (a) Computational fluid dynamics by Dr.T.Sundararajan & Dr. Babu Viswanath.

2) Video shooting and analysis of research projects :

- (a) Experiments on liquid metal cooled fast breeder reactor for Prof. B.H.L. Gowda, Department of Applied Mechanics.
- (b) Flow visualisation in cross flow fan for Prof. M.Govardhan, Department of Mechanical Engineering.
- (c) Shooting and editing of a pilot laboratory class for Prof V.G.Idichandy, Department of Ocean Engineering.
- (d) Loading of Bridge Beam for Prof. V. Kalyanaraman, Department of Civil Engineering.
- (e) Vortex studies in nuclear reactor models for Prof. B.H.L. Gowda, Department of Applied Mechanics.
- (f) Cross flow fan flow pattern for Prof.M.Govardhan, Department of Mechanical Engineering.
- (g) FRP pile foundation for MRTS station for Dr. N.G. Nair, Composite Technology Centre.
- (h) Restoration of heritage monuments, Lecture by Shri K.T. Narasimhan, Director of Archeological Department for Prof. M.S. Mathews, Department of Civil Engineering.

3) Video coverage of Institute functions :

- (a) 37th Convocation
- (b) A new vision for undergraduate engineering education
- (c) Inauguration of TCS Academic Centre of Excellence and user oriented M.Tech. programme in Computational Engineering at IC&SR Building.

4) Visitors :

- (1) Mr. Raju Sharma, IAS, Commissioner, Board of Technical Education and Member Board of Governors, IIT Madras.
- (2) Mr. R.Ramakrishnan, Advisor (Technical), Ashok Leyland.
- (3) Prof. Paul Goodman, Cornegie Mellon University
- (4) Prof. Vijay Dhir, Chair Professor, Arcot Ramachandran Chair for Heat Transfer.

5) Sponsored Projects :

Education Technology, Nationally co-ordinated project by MHRD (Value: Rs.8 lakhs).

6) Seminars conducted :

Two seminars on Autoware Software by Dr. Adam Halstead, MCH Multimedia, Montreal, Canada were conducted on 2nd and 3rd March 2001.

7) Augmenting ETC for the Digital Technology of the future :

A non-linear editing workstation added to the ETC facility and work is underway to

- (a) transfer all 900 hours of educational video material available at ETC to digital format and make available in CD ROM/DVD/Internet.
- (b) to shoot the identified 1200 laboratory experiments and convert to digital format for use in multimedia production.

8) Sale of video programmes :

About 900 hours of video material available with the centre being disseminated to various colleges and R&D establishments at a subsidized rate.

8. CENTRAL LIBRARY

The Central Library is well equipped with all modern facilities and rich resources in the form of CD-ROM, On-line databases, printed and non-printed documents on Applied Science, Engineering, Technology, Humanities, Social Science and other new emerging areas. The Central Library holds 3,47,975 collection, 890 current journals catering the needs of 5,307 members. The major activities undertaken in the Central Library during the period as reported are listed below:

8.1. New Millennium Library Building

The new millennium library building was inaugurated and dedicated to IIT Madras by the Director, Prof. R. Natarajan on 7th July 2000. The new building has been carefully planned to have more space, free flow of air and natural lighting for the comfort of the users. The reference section has been fully air conditioned and the current journals are kept in one place for easy reference. The attractive lobby area for the visitors, world class signage boards, electronic messaging system, the modern spacious counters, the electronic resource center, facilitating the access of bibliographic electronic resources on internet as well as CD-ROM are some of special features of the new building.

8.2. ISO 9001

The Central Library participated in ISO activities along with other units of the Institute. Some of the major activities are listed below:

- a. Internal Quality Auditing was conducted on 31-08-2000.
- b. ISO-9001 Surveillance Audit party visited the Central Library on 29-11-2000.
- c. Prepared a brochure on rules, regulations and relevant information for the users.
- d. Mr.C.R. Sekar, Assistant Librarian was deputed to attend workshop on ISO-9001 electronic form of documentation held on 19-01-2001.

8.3. Digital Initiatives

With the objective to provide world class facilities for the users to access On-line international databases, the Central Library has taken various initiatives in creating Information Technology Infrastructure with the objective to create a Digital Library. Some of them are listed below:

- a. The Central Library initiated to provide on-line access to the core collection of ACM through subscribing digital library core package plan which will enable the users to access ACM digital resources and to download the full text databases under LAN/WAN environment.
- b. Special presentations from Elsevier, Edutech were arranged to create awareness about the availability and usage of electronic resources. The users were able to login the databases for limited period.
- c. Interactive web-site (<http://www.cenlib.iitm.ac.in>) for the Central Library was created which contains information about the list of journals, holdings, organization of collections, services, catalogue of video cassettes, expertise, facilities, working hours, patents, on-line reference sources, virtual reference desk, on-line help desk etc.,
- d. Computer Centre created e-mail addresses for the following sections of the Central Library for effective and efficient communication:
 1. Book Acquisition Section, 2. Technical Processing Section, 3. Journals Information Section, 4. Circulation & Reference Section, 5. Book Bank Section, 6. Printing & Publications Section, 7. Journal of Mathematical & Physical

Sciences, 8. Library Administration & Maintenance Section, 9. Document Delivery Services Section.

- e. List of Journals (in floppy) subscribed for the year 2000 was created and sent to all departments/centres for the use of faculty/students on 31-05-2000.
- f. Mr.C.R. Sekar, Assistant Librarian was deputed to attend the workshop on Digital Libraries: Managing Convergence, Continuity and Change held during 12-16, March 2001 at University of Mysore.

8.4 Upgradation of Binding Facilities

Over the past decades, users used to face problems for not getting the publications in time as external binders used to take on an average 4 to 6 months to complete the binding. To overcome this difficulty, the Central Library initiated to install Welbound Automatic Binding Machine with the facility to bind the books in few seconds using strong glue. This has saved the entire amount spent on binding through external binder and also saved the time of users ensuring great satisfaction among them. During the period under report, 3334 volumes of books/journals were bounded costing Rs. 2.10 lakhs.

8.5 New Facilities/ Equipments added

- a. Two numbers of water coolers of storage capacity 80 liters and cooling capacity 40 liters installed on 28.04.2000
- b. 34 " Colour Television and Video Cassettes Recorder installed in the New Millennium Library on 3.05.2000
- c. 200 New Steel Book Racks installed for keeping the books in the New Millennium Library Building on 9.05.2000
- d. Electronic Display Board installed in the Millennium Library Building on 12.09.2000
- e. Two number of Toshiba 4570 plain paper copiers installed at New Library Building and Old Library Building on 01.03.2001

8.6 Donation

Received a bank draft for US \$525 from Mr. Sivakumar Tadikonda, for the subscription to the Journal of Micromechanics and Microengineering and also 19 books from Mr. Bhanu Gotlure, 750 N. Shoreline Blvd, No.48, Mountain View, CA 94043, USA.

8.7 Distinguished Visitors to the Central Library

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of visit
1.	Mr.S. Bhattacharya, Head Publishing Promotion (India) British Council Division, British High Commission New Delhi.	April 10, 2000	To see the facilities and functioning of the Library
2.	20 MLISC Students +1 Faculty from Behrampur University, Orissa	May 23, 2000	To see the facilities and functioning of the Library
3.	Prof. Manoj L. Shrastra, Prof. of Business and Economics, Koran University School of Management, Okamolu, Higashinadu-Ku, Japan, and Prof. Hiroshi Yoda, Prof. of Comparative, Politics, Faculty for the study of contemporary society, Kyoto Women University, Japan.	September 14, 2000	To see the facilities and functioning of the Library

Sl. No.	Name of the staff	Topic of Lecture	Venue and Date
3.	Dr. Harish Chandra	Creating Digital Library for Intellectual Property laws with Specific Reference to Patents	Department of Library and Information Science, University of Madras, August 30, 2000
4.	Dr. Harish Chandra	Total Quality Management in Libraries	Academic Staff College, Sambalpur University, Sambalpur, Orissa January 1-5, 2001
5.	Dr. Harish Chandra	Implementation Plan for ISO-9001 in Libraries	
6.	Dr. Harish Chandra	Multimedia Application in Libraries	
7.	Dr. Harish Chandra	Digital Library	MNM Jain Engineering College, Chennai February 3, 2001
8.	Dr. Harish Chandra	Management and Retrieval of Technical Information	
9.	Dr. Harish Chandra	Computer, Library and Research	Academic Staff College, SV University, Tirupathi February 5, 2001
10.	Dr. Harish Chandra	INFLIBNET	
11.	M.Koteswara Rao	Selecting the Right Library Software	National Institute of Port Management, Chennai December 14, 2000
12.	Mr.Koteswara Rao	CD-ROM Networking	IIT, Madras, December 23, 2000

8.13 Journal Editorial Board

Sl. No.	Name of the staff	Level	Journal
1.	Dr.Harish Chandra	Secretary	Journal of Mathematical & Physical Sciences

8.14 Short – term Courses/ Workshops/ Seminars/ Symposia/Conferences organized

Sl. No.	Co-ordinator	Title	Period
1	Dr. Harish Chandra	National Convention on Library and Information Networking (NACLIN 2000)	December 24-25,2000
2	Dr. Harish Chandra	Tutorials (1) CD-ROM Networking (2) Web-Publishing (3) MARC Format (4) Library Resources on INTERNET	December 22-23,2000

8.15 Visits Abroad by Staff

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Dr. Harish Chandra	International University Bremen Germany	February 12 –16, 2001	To visit International University Bremen regarding Information Resource Center

8.16 Honours and Awards obtained:

Sl. No.	Name of Staff	Name of Award/ Honour	Awarded by	Awarded for	Date
1.	Dr. Harish Chandra	Certificate of Honour	Madhya Pradesh Library Association, Bhopal	For getting ISO 9001 for the Central Library of IIT, Madras	April 23, 2000
2.	Dr. Harish Chandra	Certificate of Merit	DIRECTOR DELNET, New Delhi	For successfully organizing the National Convention on Library and Information Networking (NACLIN 2000) held at IIT, Madras.	Dec. 22-25, 2000
3.	Dr. Harish Chandra	Third Prize for Best Paper & Presentation	Indian Institute of Management, Lucknow	For paper presentation entitled "Bricks for Competence Building in Libraries" at 3 rd Annual National Convention on Business Librarianship and Information Services from Independence to Interdependence held at IIM, Lucknow.	March 12-14, 2001

8.17 Paper Presentation by the Staff

Sl. No.	Name of the Staff	Title	Institution	Duration
1.	Dr. Harish Chandra	Patent Information Support Services for R & D Activities : A case study of IIT Madras	C M T I , Bangalore & IC&SR of IIT Madras.	July 21, 2000
2.	Dr. Harish Chandra	Bricks for Competence Building in Libraries	Indian Institute of Management, Lucknow	March 12-14, 2001
3.	Mr. Koteswara Rao	Planning the CD-ROM Networking System for Library	NACLIN 2000, IIT Madras	Dec. 24, 2000

8.18 Library and Information Services Statistics:

a. Membership

Institute Members	2000-2001	Total
Staff	62	1,127
Retired Faculty	4	32
Students	1,120	3,624
Alumni Members	8	31
Corporate Members	5	36
Industrial Associateship Members	90	302
Special Members	41	126
Project Coordinators	4	29
	<hr/>	<hr/>
	1,334	5,307
	<hr/>	<hr/>

b. Collection

Books	3,025	1,94,626
Ph.D Theses	248	2,729
Pamphlets and Reports	152	2,273
Microfilms/Fische	----	1,842
Book-Bank (General)	11	4,537
Book-Bank (Weaker Section)	21	6,567
Current Periodicals by Subscription	803	---
Current Periodicals by Exchange/Gift	87	---
Back Volumes of Periodicals	1,852	75,401
	<hr/>	<hr/>
	6,199	3,47,975
	<hr/>	<hr/>

c. Services : Circulation

Number of Readers visited	1,98,460
Number of Books/Journals issued	1,21,729
Number of Books issued through Book Bank (General)	2,650
Number of Books issued through Book Bank (Weaker Section)	4,500
Consultation cards issued to users	560
Overdue & other charges collected	Rs. 3,98,812
Xerox Charges Collected	Rs. 3,28,220

d. Reservation of Books

Registered	18,698
Fulfilled	18,632

e. Loans

Department Loan (Under issue)	5,680
Permanent Loan issued	1,108

f. Inter Library Loans

Borrowed from other Libraries	350
Loaned to other Libraries	37

g. Literature Search

CD-ROM search by users	5,800
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h. Reprint Service

Reprints received from other Institutions	1,120P
Reprint supplied to other institutions	2,412P

i. Reprography Service

Number of Xerox copies supplied	5,55,000
Number of copies printed on Rotoprinter	2,21,000
Barcode – ID cards Produced	1,500

j. Binding

Number of Books and journals bound (internal)	6,000
Number of Miscellaneous publication bound (internal)	1,500
Cutting / Trimming (Sheets)	30,000

9. STUDENT AMENITIES AND ACTIVITIES

9.1. Hostels :

All students admitted to IIT Madras required to reside in the hostels inside the campus. There are 11 men's hostels and 1 ladies hostel with a total of 2503 single room and 163 triple room accommodation. During the period under report, there were 2625 men and 280 women students reside in the hostels.

A Warden and an Assistant Warden administer each hostel. A Hostel Council consisting of Student Secretaries and Assistant Warden assists the Warden in day-do-day functioning of the hostel. The Hostel Management is a centrally administered body and is in overall charge of the functioning of the hostels and the Central Supplies Unit. There are 255 hostel employees and are responsible to the Hostel Management through the respective Wardens of the hostels. The Chairman, Council of Wardens is the Chairman of the Hostel Management. He is assisted by the supporting staff. During the period under report, the following officers were in position:

Chairman, Council of Wardens
and Hostel Management

Dr. S. Kumaraswamy
Professor, Mechanical Engg.

Name of the Hostel/Unit

Warden

Alakananda

Dr. A. Mani
Assoc. Prof. Mech. Engg. Dept.

Brahmaputra

Dr. N. Ramesh Babu
Professor, Mech. Engg. Dept.
(upto 6.2.2001)

Dr. K.N. Satyanarayana
Assoc. Professor, Civil Engg.
(from 7.2.2001)

Cauvery

Dr. Amitava Dasgupta
Assoc. Prof. Elect.Engg. Dept.

Central Supplies Unit

Dr. S. Kumaraswamy
Professor, Mech. Engg. Dept.

Ganga

Dr. G. Sundararajan
Professor, Chemistry Dept.,

Godavari

Dr. L. Vijayaraghavan
Assoc. Prof. Mech.Engg. Dept.
(upto 30.4.2000)

Dr. K. Ramamurthy
Assoc. Prof., Civil Engg. Dept.
(from 1.5.2000)

Jamuna

Dr. Job Kurian
Professor, Aerospace Engg. Dept.
(upto 10.8.2000)

Dr. V. Jagadeesh Kumar
Professor, Elect. Engg. Dept.
(from 11.8.2000)

Krishna	Dr. S. Mohan Professor, Civil Engg. Dept
Mandakini	Dr. R. Ambalavanan Professor, Civil Engg. Dept.
Narmada	Dr. C. Pandu Rangan Professor, Comp. Sci & Engg. Dept. (upto 28.5.2000) Dr Prakash Maiya Assoc. Prof., Mech. Engg. Dept. (from 29.5.2001)
Saraswathi	Dr. K. Ganesh Babu Professor, Ocean Engg. Dept. (upto 19.12.2000) Dr. M. Ramasubba Reddy Assoc. Prof. App. Mech. Dept. (from 2.1.2001)
Sarayu	Dr. Hema A. Murthy Assoc. Prof., Comp.Sci. & Engg Dept.
Tapti	Dr. A. Subramanyam Professor, Physics Dept.

9.2. Central Supplies Unit :

A Warden administers the Central Supplies Unit. It procures milk from Tamilnadu Co-operative Milk Producers' Federation and distributes to the student hostels. Under the provision supply scheme, the unit procures the items of major consumption from the wholesale suppliers and distributes them to the hostels, thus economizing the mess expenditure in the hostels.

9.3. Medical facilities :

Medical facilities are provided to the students in the well equipped Institute Hospital. Advice is given to the students on a wide range of health problems. The details of medical facilities available are given in Chapter 13.5 – Campus Amenities.

A sum of Rs.22,431/- was reimbursed to 8 students/scholars for the treatment undertaken by them from the Medical Emergency Fund during the year under report.

9.4. N.C.C. :

4 (TN) AIR SQN (TECH) NCC

The Senior Division Air Wing (Tech) NCC Unit is functioning at IIT Madras from 16th Sept. 1965. It provides NCC training exclusively to the students of the Institute. Regular Air Force Officers and Airmen are posted to this Unit to impart training. Unit strength is augmented by two Associate NCC Officers and other civilian staff drawn from the Institute. NCC syllabus includes Drill, Civil Defence, Weapon training, Leadership course, Health & hygiene, History of IAF, Principles of flight, Aeromodelling and avionics.

Highlights of the training for the year under report:

Small arms training given to the Cadets on 29 and 30th January 2001.

Range firing carried out at Air Force Station Tambaram on 29 and 30th January 2001.

Highlights of the Community development activities:

Under social services, 40 cadets cleaned the unit premises on 15th October 2000.

110 cadets took part in cleaning the Vana Vani School premises on 15th October 2000.

50 cadets took part in Tree plantation programme on 5th November 2000.

51 cadets donated blood to Indian Red Cross Society on 3rd February 2001 at the blood donation camp organised at NCC building.

100 cadets collected clothing & medicines from the residents of IIT and sent to Gujarat to help the earth quake victims.

The NCC Unit helps to a sense of discipline, comradeship, a spirit of adventure and quality of leadership in the minds of cadets of IIT.

Offg. Commanding Officer	:	Lt Col Jacob George
Associate NCC Officers	:	Flt Lt A Mani
		Pt Offr S Neelamani

9.5. Gymkhana :

Cultural Activities :

The cultural year began with the 'fresher open' events which were held to familiarize the new entrants with the different literary and cultural events held during the year in the Institute. The first of the events held was the quiz. This event drew an enthusiastic response from the freshmen with the CLT packed to its capacity. Events such as Tintoretto, Pictionary, Dumb-charades, Light and Western Music (solo) were also held.

In contrast to previous practice, this year the Lit-soc events were spread to both odd and even semesters with a view avoid crowding of events and promote better and more active participation.

Freshies Nite :

The fresh entrants were given a chance to demonstrate their talents and put up a cultural show at the 'Freshies Nite' held on August 18, 2000, which turned out to be a wholesome and entertaining affair.

Fresh men presented songs, dances and skits of high quality. This event was held in SAC and was very well attended.

Bharat Utsav 2000 :

The Bharat Utsav 2000 (BU 2000) was held between 22nd and 24th of September 2000. The Director, Prof. R. Natarajan, inaugurated the festival. The cultural event for the evening by professionals was 'Unity in Diversity' a medley of dances of different genres from the **Nivedanam Dance School, Chennai**. The Director of the dance school, Mrs. Nivedita Parthasarathy presented a very commendable variety dance programme on Lord Krishna. The compositions rendered were in different languages and regions of India. This show was liked by one and all and drew the largest ever audience for any professional show at BU. The next evening show was a grand show by **Kalariapayattu (Kerala Martial Arts) & Mohiniattam, by C.V.N. Kalari Foundation, Kottayam, and Kerala**, who rendered a unique show of ancient heroic form of play and classic art. This programme was a big hit indeed!

A variety of literary and cultural events such as India quiz, Classical music, Lec-Dem, and Choreography (folk) etc. were held as competition events during the festival. The *heritage quiz*

and *Antakshari* were the most popular events. Other high lighting features of this utsav are that 'Street play' event was revived in a big way and for the first time two new events 'monoacting' and 'Shloka recitation' were introduced. All these events turned out to be a roaring success and have compelled the organisers to continue with them in future.

Talks and Lecture Demonstrations, which impart a lot of **educational value to the festival**, were also featured in this utsav. *Mr. G. Elangovan* spoke on 'Role of Indian medicine in today's world', *Dr. Krishnamurthy* spoke on 'Twenty seven Sanskrit formulae to find out time at night by looking at the stars and the famous writer of Chennai *Mr. Ashok Mitran* spoke on 'Facts to fiction'. Fine arts competitions held include painting, clay-modeling, collage and rangoli, Mehendi artwork and soap carving. Pottery, glass blowing, Palmcraft, Puppetry and Face painting workshops were also held. All the workshops were well attended with requests that they will be continued in future and conducted over a longer duration, if possible. 'Informal events' held in the festival area was very well attended. The festival concluded with the screening of the movie '**Sardar**'.

Director Prof.R.Natarajan released the Bharathi 2000 Millennium issue.

The Essay competition held for BU-2000 featured the following titles:

1. East or west, India is the best?
2. Kashmir issue - Is there no light at the end of the tunnel?
3. Gene R & D has given birth to 'Brahmas' (creator!!) should India participate and support this activity?

From around 15 entries, three best essays were given prizes. The panel also recommended a special prize for a beautifully written essay in Telugu. The prize-winning essays will feature in the next issue of our annual magazine '**Bharathi**'.

Saarang 2001 :

The Saarang 2001 was held from 23rd to 28th of January 2001. The festival was inaugurated by Prof. R. Natarajan, Director, IITM. This was followed by the **Light Music show** by Mano, Anooradha Sriram & Lakshman Shruti. The next evening, OAT played host to the choreography competition with a jam-packed OAT. Both the western and eastern choreography entries were of high quality and the teams performed with a high degree of professionalism. The show for the following evening was the '**Fusion Music Nite**' which featured *Pt. Hariprasad Chaurasia*, Louis Banks and Sivamani. The audience was treated with a blend of *carnatic music and jazz*. The last pro-show was a '**Western Music show**' by artistes from '**Moksha**'. This probably the only show in Chennai where almost all genres of western music were covered on one night and the show had a special appeal to youth. It must be mentioned that the audience level was unprecedented for all the professional and evening shows held at OAT.

All the literary events conducted during the festival attracted a very good response and posed challenge to the organisers to adhere to the schedule. The feedback received from the students of other colleges was that all the literary events were of very high quality and standard. The 'informal games' also received a tremendous response. So was Saarang's very own personality contest - "**Mr. and Ms. Saarang**". Famous *cine actor Mr. Madhavan* was one of the *judges* for the event who also spoke on the occasion.

Organisers of Saarang also undertook a 'Fund Raising Mission' for earth quake victims of Gujarat and collected nearly Rs.10,000/- with in a day.

A big contingent of our students' (16) represented our Institute in *Unmaad 2001 held* at IISc Bangalore and won many prizes. They got first prize in the Light Music, Pot Pourri and One Act Play and 2nd^{prize} in Debate, Classical Music & Group song competition events.

Also, our students won the first place in the Cultural festival 2001 organised by the Madras Christian College. At "**Natak 2000**" an inter-collegiate drama festival, our students received wide appreciation for their performance and won the prize for the creation of best back drop and sets.

Yoga class : Yoga classes were conducted in the Staff Club for the benefit of students and other campusites. Smt.Raji Ramakrishnan of the International Sivananda Yoga Vedanata Centre conducted the classes.

Vivekananda Study Circle : VSC - a student body on our campus was also active and conducted various events and special lectures during the year.

Sports Activities :

IIT Sanmar Cricket Tournament :

The most prestigious IIT-Sanmar Inter Collegiate Cricket tournament in the city for college students sponsored by "Sanmar Group", the IIT-Sanmar Cricket Tournament was conducted from 10th February to 14th March 2001 with sixteen teams participating for top honour witnessed a high level competition.

In one of the severely contested semifinal matches, our IIT Madras team lost to R.K.M. Vivekananda College which won the trophy defeating Gurunanak College in the final.

Inter IIT Aquatic Meet :

Inter IIT Aquatic meet was held from 14th October to 16th October 2000 at IIT Kanpur. Five IITs, excluding IIT Guwahati, participated in the above meet in which our contingent won the water polo championship and came third in the swimming events.

Inter IIT Sports Meet :

This year, the Inter IIT Sport meet was held at IIT Kanpur from 13th to 18th December 2000 and our contingent came fifth in the overall position. Our boys won silver medal in Badminton and bronze in Cricket, Volleyball and Basketball.

All India Inter Collegiate Invitation Basket Ball Tournament :

This tournament which was conducted from 17th to 21st January 2001, attracted outstation teams this year from Karnataka, Kerala, Maharashtra and all over Tamil Nadu. The large number of spectators who attended this tournament witnessed many exciting matches.

Our boys played an excellent performance against Adaikala Madha College Tanjore, which entered into the round robin league. Loyola College Madras won the Gerhard Fischer Cup for men colleges and St. Josephs College for women; Alapuzha won the Kokila Rajaiah Trophy for the women colleges.

Inter Hostel Tournament :

The tournaments were played in all the games / events throughout the academic year and were keenly contested and the Schroeter Trophy for General Championship was shared by both Saraswathi and Ganga Hostels.

Non Media Tournaments :

Apart from the Inter Hostel tournaments, the following Non-Media Tournaments were conducted for the students - 3-a-side Basket ball, 3-a-side Volley ball, 9-a-side Tennis ball Cricket, Freshies 9-a-side Tennis ball Cricket, 6-a-side Hockey and 6-a-side Foot ball. This promotes larger participation and chance for every one in the hostel and as usual attracted large participants with large number of student spectators witnessed and encouraged their teams.

All the Gymkhana clubs like Fitness Club (newly added facilities), Badminton Club, Tennis Club and Swimming Pool Club functioned well during the period under report.

Swimming Pool :

The Swimming Pool is functioning very well and it is maintained well with high standards. The users are highly satisfied with the well-maintained swimming pool.

Institute Open Bridge Tournament :

The Institute Gymkhana organised the Open Bridge tournament on 24th and 25th March 2001 under the auspices of the Chennai District Bridge Association. Nearly 125 participants, including IIT Madras students took part in the above tournament. This tournament was sponsored by an outside agency, members of the Tamilnadu Bridge Association.

National Sports Organisation (NSO) :

As per the Government of India's decision for improving sports with special reference to keep fit, our Institute is taking necessary steps for encouraging students to participate in various games and events and in Physical Fitness as well.

This year nearly 150 first year under-graduate students were registered under this scheme. Officials/Experts from various Games Federations were engaged for coaching our students.

The noteworthy performance of sizable first year students at the various tournaments viz., Inter IIT Sports Meet, and All India Inter Collegiate Invitation Basketball Tournament due to their effort is worth special mention here.

Other Events :

IIT Madras participated at the TNTA League 'F' division and won the Second place in the league.

The Indian Cricket team's coaching camps before Nairobi tour and Australian series were held at IIT-Chemplast cricket ground. Sourav Ganguly, Sachin Tendulkar and others appreciated the quality of the IIT-chemplast ground and mentioned that it is one of the best available in the country.

9.6. Placement of students

Placement Office of this Institute maintains a symbiotic, vibrant and purposeful interaction with industries across the country. About 150 industries drawn both from the private and public sectors are in this office list. About 80 companies visit our Campus every year for conducting interviews. These can be either hardcore engineering industries, software companies, manufacturing organisations, engineering consultancy firms, management consultancy set-ups or R and D laboratories.

Similarly the types of jobs available to the graduates are of a wide variety – it can be a graduate engineer trainee, a management trainee, a software professional, a purely R & D job or a career involving consultancy or design.

Details of the number of students placed during the period under report are given below as against those registered during 2000-2001.

Sl. No.	Branch	Total Number placed	No.Placed more than one job
1. B.Tech			
1	Aerospace Engg.	21	2
2	Chemical Engg.	45	2
3	Civil Engg.	36	2

4	Comp. Sci & Engg.	30	6	
5	Electrical Engg.	71	1	
6	Mechanical Engg.	82	6	
7	Met. Engg.	27	4	
8	Naval Arch.	20	2	
	Total	332	25	
2. M.Tech				
1	Aerospace Engg.	2	Nil	
2	Applied Mechs.	14	Nil	
3	Chemical Engg.	34	2	
4	Civil Engg.	45	Nil	
5	Comp. Sci. & Engg.	19	5	
6	Electrical Engg.	37	3	
7	Incl. Mgmt.	19	1	
8	Mech. Engg.	56	3	
9	Met. Engg.	8	Nil	
10	Ocean Engg.	1	Nil	
11	Solid State Tech.	5	Nil	
12	Incl. Maths	6	Nil	
	Total	246	14	
Number Placed				
3. Ph.D./ M.S./M.Sc.				
Sl. No.	Branch	Ph.D.	M.S.	M.Sc.
1	Aerospace Engg.	Nil	6	Nil
2	Applied Mechs.	Nil	8	Nil
3	Chemical Engg.	Nil	4	Nil
4	Chemistry	2	Nil	3
5	Civil Engg.	Nil	5	Nil
6	Comp. Sci & Engg.	Nil	18	Nil
7	Electrical Engg.	Nil	9	Nil
8	Incl. Mgmt.	1	6	Nil
9	Maths	3	Nil	23
10	Mech. Engg.	3	21	Nil
11	Ocean Engg.	1	12	Nil
12	Met. Engg.	Nil	2	Nil
13	Physics	1	Nil	14
	Total	11	91	40

During the year under report, 720 students/scholars were placed in different industries.

A System Trainee of Computer Centre was also placed in a company.

10. FINANCIAL ASSISTANCE TO STUDENTS / SCHOLARS

Financial assistance in the form of scholarships and fellowships is given to meritorious students who are pursuing Engineering, Technology and Science education at this Institute. The details of Scholarships and Fellowships sanctioned to the students of different programmes during 2000-2001 are as follows:

10.1 Assistance to B.Tech students :

Merit-cum-means scholarships of Rs.300 p.m. were sanctioned to the B.Tech. students whose parental income is less than Rs.One lakh besides the exemption from payment of tuition fees. During the period under report 82 students benefitted. The year-wise details of number of students benefitted are given in Table 10.1.

SC/ ST students admitted to B.Tech programme upto July 2000 were sanctioned the concession of free messing plus Rs 70/- p.m. out of pocket expenses, exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2001, 43 students benefitted. The year-wise details of number of students benefitted are given in Table 10.1.

Table 10.1

Batch	MCM Scholarship	SC/ST Scholarship
2000	14	7
1999	39	18
1998	15	8
1997	14	10
Total	82	43

In addition to the above, the Institute sanctioned notional prize of Rs.1000/- to the following 25 first B.Tech top ranking (in the JEE 2000) students whose parental income is more than Rupees One lakh:

Sl. No.	Roll No.	Name of Student
1.	CS 00152	Mythili Ranganath V
2.	CS 00148	Karthik S
3.	CS 00158	Ravi Kanth DVS
4.	CS 00163	Sriram S
5.	CS 00151	Muthuramakrishnan V
6.	CS 00165	Swastik Kopparty
7.	CS 00150	Keerti Pendyal
8.	CS 00161	Srikanth V
9.	CS 00145	Chennupati Mohana Krishna
10.	CS 00157	Rangarajan A V
11.	CS 00155	Pratibha P
12.	CS 00156	Rama Bhargav P
13.	CS 00162	Sriram R
14.	CS 00160	Shivram K
15.	CS 00166	Uday Kumar Reddy B
16.	CS 00153	Phanikumar Velaga
17.	CS 00139	Aditya S Ramni
18.	CS00147	Ganesh V

19.	EE 00202	Kesavan Mukunthan
20.	EE 00229	Ravi Shankar V
21.	EE 00179	Anjan Sundaram
22.	EE 00243	Siddharth T
23.	EE 00227	Ramji S
24.	EE 00213	Nannapaneni Charwak
25.	EE00223	Prashanth P S

10.2 M.Tech :

Students who joined M.Tech programme through GATE were awarded Half-time Teaching Assistantship (HTTA) at Rs 3,000 per month. During the period under report 221 fresh assistantships and 224 renewed assistantships were given. The department-wise details are given below:

Table 10.2
No. of HTTA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	8	7	15
2	Applied Mechanics	10	10	20
3	Chemical Engineering	27	28	55
4	Civil Engineering	37	37	74
5	Computer Science & Engg.	20	14	34
6	Electrical Engineering	36	39	75
7	Industrial Management	17	17	34
8	Mathematics	7	-	7
9	Mechanical Engineering	52	50	102
10	Metallurgical Engineering	15	13	28
11	Ocean Engineering	6	3	9
12	Solid State Technology	6	6	12
Total		221	224	445

10.3. M.Sc. :

Students admitted to M.Sc programme were sanctioned Rs 300/- p.m. merit scholarship as per rule. Exemption from payment of tuition fee was also given to certain students. During the period under report 55 students benefitted. The department-wise details are given below:

Table 10.3
No. of merit scholarship and freeship awarded

Sl. No.	Course	Merit scholarship awarded		Freeship (tuition fees waiver)	
		1 st Year	2 nd Year	1 st Year	2 nd Year
1.	Chemistry	6	6	3	3
2.	Maths	6	6	3	4
3.	Physics	6	6	3	3
Total		18	18	9	10

10.4. M.S. :

The scholars admitted to M.S. programme through GATE are given Half-time Teaching Research Assistantship (HTRA) of Rs 5,000/- p.m. for three years. During the period under report 175 scholars received this assistantship of whom 75 were fresh scholars. The department-wise details of the assistantships awarded and renewed are given below:

Table 10.4
No. of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	6	10	16
2	Applied Mechanics	11	11	22
3	Chemical Engineering	5	6	11
4	Civil Engineering	6	9	15
5	Computer Science & Engg.	11	13	24
6	Electrical Engineering	11	21	32
7	Humanities & Social Sciences	5	8	13
8	Mechanical Engineering	9	11	20
9	Metallurgical Engineering	7	3	10
10	Ocean Engineering	4	8	12
Total		75	100	175

10.5. Ph.D. :

The Scholars admitted to Ph.D. full time programme in Engineering are sanctioned Half-time Teaching / Research Assistantship (HTRA) of Rs 6,000/- per month. Scholars admitted to the Ph.D fulltime programme in the Science subjects through GATE or other equivalent exams are sanctioned Rs 5,000/- p.m. During the period under report 159 Students obtained assistantships of whom 38 were fresh scholars. The department-wise details of the assistantships awarded and renewed are given below:

Table 10.5
No. of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	1	1	2
2	Applied Mechanics	2	5	7
3	Chemical Engineering	3	10	13
4	Chemistry	8	37	45
5	Civil Engineering	2	8	10
6	Computer Science & Engg.	2	2	4
7	Electrical Engineering	2	4	6
8	Humanities & Social Sciences	1	7	8
9	Mathematics	5	13	18
10	Mechanical Engineering	1	14	15
11	Metallurgical Engineering	1	3	4
12	Ocean Engineering	4	1	5
13	Physics	6	16	22
Total		38	121	159

10.6 Financial Assistance for presentation of paper (abroad) :

This Institute is encouraging the Research Scholars to present papers in international conferences for which they are given financial assistance to the tune of Rs 5,000 with a registration fee of US \$ 100. During the period under report, 2 scholars were given this benefit. In March 2001, the financial assistance to M.S. & Ph.D. scholars was increased as follows:

Adhoc amount	:	Rs. 10,000/-
Registration fee	:	US \$ 300

National conference/International conference in India:

Research scholars and students of course programme are given the following financial assistance for presentation of papers in national/international conference in India:

Registration fee:

National conference	:	Rs. 2,000/-
International conference	:	Rs. 3,000/-
Travel	:	Second class rail fare
Daily allowance	:	Rs. 120/- per day irrespective of the city Subject to a maximum of 10 days.

11. WEAKER SECTION AND FOREIGN STUDENTS

11.1 B.Tech programme:

As per the GOI orders 15% and 7.5% of seats are reserved for SC and ST students respectively in the B.Tech. programme. These students are admitted through the Joint Entrance Examination with a relaxation. These students have to get only 60% of the marks obtained by the last student of the general category to get qualified for admission. During counselling prior to admission, the Adviser explained to each student the requirements of different branches. This helped the students to choose a suitable branch based upon their capability and interest. When a student finds the chosen branch is tough, he is allowed to switch over to lower JEE cut-off branch at the end of his first semester.

The following are the details of number of SC/ST students admitted to B.Tech programme through JEE and Preparatory Course in July 2000:

Total Sanctioned intake	Sanctioned Intake		No. joined through			
			JEE		Preparatory Course	
	SC	ST	SC	ST	SC	ST
477	69	38	19	4	8	10

SC/ST students admitted against reservation are given the following benefits:

- * Travelling allowance (II Class train fare/ordinary bus fare) from the place of residence to Chennai to join the B.Tech. programme.
- * Tuition fee waiver.
- * Free lodging and messing (basic menu only) and pocket allowance of Rs.70/- p.m. provided their parents' income is Rs.1,00,000/- net per annum or less.
- * A Book Bank as part of Central Library is maintained for the benefit of the SC/ST students. The students are issued 12 tickets for taking books from the Book Bank. Books are issued for a semester.
- * Drawing instrument (Mini-drafter) free of cost.
- * Help in getting placement. Wherever possible, industries are requested to conduct separate interviews for SC/ST students and the requirements for these students are lower than those for the general category.

11.2 Preparatory Course for admission to B.Tech programme:

A preparatory course of one academic year was initiated by the Ministry of Human Resource Development, Government of India, during the year 1983-84 exclusively for SC/ST students. Selection for this course is made from the Joint Entrance Examination list of SC/ST students who did not qualify for admission. Upon successfully completing the preparatory course at the IIT, they would be eligible to join the B.Tech programme and they will not require to write the JEE again. Following are the details of admission in July 2000:

Offer issued for PC		No. joined	
SC	ST	SC	ST
61	9	37	5

In July 1999, 26 SC and 20 ST candidates were offered admission, but 14 SC and 14 ST students only joined. Of this, only 9 SC and 10 ST students successfully completed the course but only 8 SC and 10 ST students joined B.Tech programme.

11.3 M.Tech programme:

Seats are reserved for SC and ST candidates as per the Government of India orders. They are admitted through GATE by a separate merit list. Following are the details of admission in July 2000:

Offer issued		No. joined	
SC	ST	SC	ST
47	20	42	20

11.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. One student each was admitted in SC and ST categories. These students were given tuition fee waiver.

M.Tech and M.Sc students admitted against reservation are given the following benefits:

- * Book Bank facility with 12 library tickets. Books are issued for a semester.
- * Both Public Sector and Private Sector industries were requested to recruit SC and ST students. Other special steps were also taken to enhance the recruitment of this category of students.
- * Scholarship is given to these students as per Govt. of India norms.

11.5 Admission of Foreign National Students and Indian National Residing Abroad:

In July 2000, 16 students (USA-1, Indian National-15) joined B.Tech programme under DASA (Direct Admissions of Students Abroad) scheme. 1 student from Nepal and 1 student from Bangladesh joined M.Tech programme.

At the end of March 2001, 14 foreign nationals and 99 Indian nationals residing abroad were on the rolls of the Institute. The programme and country-wise details are given below:

Country	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech						
1. Foreign National Students						
USA	1	3	1	-	-	5
Malasiya	-	-	1	-	-	1
Korea	-	-	1	-	-	1
2. Indian National Students						
Arabian Gulf	-	1	-	-	-	1
Bahrain	-	4	2	3	-	9
Canada	1	-	-	-	-	1
Hongkong	-	1	-	-	-	1

Indonesia	-	1	-	-	-	1
Israel	-	-	1	-	-	1
Kuwait	2	2	4	4	-	12
Kenya	-	-	-	1	-	1
Mauritius	-	-	1	-	-	1
Oman	2	3	1	1	-	7
Saudi Arabia	1	2	3	1	1	8
Srilankan	-	-	-	-	1	1
Thailand	-	-	1	-	-	1
UAE	9	8	15	20	-	52
Qatar	-	1	1	-	-	2
Total	16	26	32	30	2	106

Foreign National Students/Scholars

Country	M.Tech			Ph.D.					
	I Year	II Year	Total	I Year	II Year	III Year	IV Year	V Year	Total
Bangladesh	1	-	1	-	-	-	-	-	-
Nepal	1	2	3	-	-	-	-	-	-
Iran	-	-	-	-	1	-	-	2	3
Total	2	2	4	-	1	-	-	2	3

Foreign students are also permitted to use the Book Bank. 4 Book Bank Library tickets are issued to each student. Books are issued for a semester.

12. CAMPUS AMENITIES

IIT Madras is a residential institution. It is housing about 3,000 students and 980 staff members in the Campus. It provides various amenities in the Campus for students and staff.

The Engineering Unit of the Institute is responsible for construction of new buildings and the maintenance of the Campus.

12.1 Major Works:

The following are the major works completed during the year 2000-2001:

	Rs. in lakhs
1. Extension of one bay at MEMH Lab	6.14
2. Extension of 3 rd floor over ICSR building	80.00
3. Improvement of Toilets in various hostels	52.00
4. Construction of lab building for Material Development programme of COMPTECH centre	20.00
5. Construction of 3 rd floor over FOSSAP building at CSD	23.00
6. Modification works to Room No 218 & 219 of MEMH lab of Mechanical Engineering department	3.90

Work in progress:

1. Construction of E1 type quarters – One block of 12 Flats (Phase II)	50.00
2. Additional construction of lecture hall complex	135.00
3. Construction of additional rooms and toilets for Krishna & Cauvery hostels	351.40
4. Construction of second floor over Computer Centre	148.20
5. Construction of Ladies hostel	460.00
6. Construction of Chairman Council of Wardens (CCW) Office	64.98
7. Extension of Gas Dynamics lab at Aerospace Engg Dept	41.00
8. Extension of GATE/ JEE office at NCC building	25.00
9. Providing chain link fencing around ICSR building	4.90
10. Providing chain link fencing around Tharamani Guest house	5.30
11. Construction of RSU for Chennai Telephones at IITM	13.10

12.2 Housing Facilities:

As on 31.3.2001, there were 980 quarters in the Campus. In addition to this 140 servant quarters were also in the Campus.

12.3 Horticulture:

A separate horticulture unit is functioning under Engineering Unit . During the year 2000-2001, this unit developed garden around administrative block, besides planting of trees and saplings and maintaining nursery at various places of campus.

12.4 Telephone Facilities:

A new telephone exchange is proposed to be commissioned by Chennai Telephones in the Campus. All direct telephone lines which are at present working from Raj Bhavan telephone exchange will be functioning from this telephone exchange shortly.

12.5 Guest House:

There are two Guest Houses in the Campus viz. the Main Guest House and Taramani Guest House which have six suites and 76 rooms respectively.

12.6 Hospital:

Institute hospital serves for about 1650 employees, 4000 dependents, 3000 students and about 500 project staff. In total about 9150 persons were registered in the hospital.

Doctors:

Dr N A Jayavelan, MBBS(MD)	Chief Medical Officer i/c
Dr S Aruna, MBBS	Medical Officer
Dr C Sridevi, MD DCH M.Sc	Medical Officer
Dr Mahalakshmi M.Ravi,MBBS	Medical Officer
Dr K Sundarrajan, MBBS	Junior Medical Officer
Dr R Mala, MBBS	Junior Medical Officer

Part-time Consultants:

Dr S Kameswaran, MS Ph.D. FRCS (ED), FRCS(GL),FRCS(DLO)D.Sc	ENT Surgeon
Dr S Devaji Rao, MS MNAMS, FICS	General Surgeon
Dr S Rathnamala, MBBS DO	Ophthalmologist
Dr R Rajkumar, MD DPM	Psychiatrist
Dr Jayashree Murthy, MBBS DNB(O&G)	Gynaecologist

Paramedical Staff:

Staff Nurses	8
Pharmacists	4
Lab Technician	2
Male & Female Helpers	10
Others	7

Out-patient service:

Institute hospital has fully computerised O.P. card registration system for all the staff/ students and others. In 2000-2001, 55419 out-patients were treated in the hospital.

In-patient service:

Hospital has 35 beds for treating in-patients. In 2000-2001, 445 patients were treated as in-patients.

Emergency Service:

Emergency service is available round the clock on all the days with a duty doctor and supporting staff. 6,070 emergency cases were attended during non-OP hours in 2000-2001. About 102 complicated cases were referred to outside hospital. An Ambulance service is available on call.

Clinical Laboratory service:

A well equipped clinical laboratory with two Laboratory Technicians is available. 15,674 clinical lab tests and 5,493 biochemical tests (blood sugar and urea) were done in 2000-2001. A modern computerised ECG record facility is available round the clock. 775 ECGs were recorded during 2000-2001.

Operation Theatre:

A well equipped operation theatre with sophisticated operating microscopes, instruments for IOL surgery, Pulse oximeter, cardiac monitor, etc. along with regular equipments is available. In 2000-2001, 61 general and 94 minor surgeries, 10 ENT, 33 eye surgeries, and 46 gynaec operations were done at the hospital. This includes successful fixing of 24 intra ocular lenses and 2 hysterectomies caesarians.

A diesel operated 5 KVA generator is available in the hospital for power back up.

Public Health Program:

Under the preventive health care, during the year 2000-2001 with the help of Lion's Club of East Chennai, Hepatitis B vaccination was given to about 1000 students at subsidised rate. About 300 children were immunised under regular immunisation programme.

Public Health Education Programme was conducted at our hospital on bronchial asthma, allergy, diabetes and meditation. A camp to detect "Bone mineral density" was conducted in March 2001 and about 190 persons were screened.

The report of the previous bone density camp was analysed by the biomedical department and a paper was presented in an International Conference in Feb 2001 with CMO i/c as a co-author.

A diabetic project in collaboration with Diabetic Research Centre, Royapuram was inaugurated in March 2001 to screen normal persons to detect diabetic and follow them for the next three years.

Treatment for Non-entitled:

Non-entitled guests of a staff member when accompanied by the staff member or his authorised dependent, can avail emergency treatment on payment basis subject to the Institute rules. Rs.30,883/- were collected in the year 2000-2001.

Stores and Dispensary:

A medical cum surgical stores manned by a qualified pharmacist is available. All activities, enquiry, comparative statement, indenting, issues, etc. are computerised. It had dealt with the purchase worth more than Rs.15 lakhs in 2000-2001.

All the drugs were purchased from recognised drug companies only at the hospital as decided by the Hospital Drug Committee.

Hospital Office:

Apart from dealing with the administration of the hospital, this office processes medical reimbursement claim and a sum of Rs 41,69,375 were reimbursed in the year 2000-2001.

C.M.E. programme:

4 CME programme for updating the current knowledge for our medical officers and paramedical staff were conducted during the period under report.

12.7 Bank:

State Bank of India IIT Branch is functioning on the campus. An extension counter of Canara Bank is also functioning on the campus.

12.8 Post Office and Telecom centre:

There is a post office on the campus opposite to the State Bank of India to cater to the needs of the staff, students and residents of the campus. A 24 hours telecom centre is functioning to cater to the needs of the staff, students and residents of the campus.

12.9 Schools:

Vanavani Matriculation Higher Secondary School (VVMHSS) administered by IIT Madras Employees' Educational Society is functioning on the campus besides a Kendriya Vidyalaya (K.V.) VVMHSS school is offering courses from LKG to XII Standards and the KV is offering courses from I standard to XII standard.

12.10 Open Air Theatre:

An Open-Air Theatre is available for screening films by the Film Club during week ends and for use for other functions of the Institute and the Schools.

12.11 Student Activities Centre:

This building is used for indoor games of the students as well as for the conduct of important functions such as Convocation, orientation programme for freshers etc.

12.12 Cafeteria:

Two Canteens, viz. IIT Staff Canteen and RPG Restaurant are available on the campus to cater to the needs of the staff and students. Transport facilities are also available for the official work.

12.13 Creeche:

A Creeche is functioning in the campus for the benefit of staff/ working women. There were about 50 children in the Creeche during the period under report.

12.14 Transport Services:

The Institute has 5 buses which provide transport facility to the staff, students and residents of the campus.

12.15 Campus News:

A Campus News is published every Friday highlighting the important events of the Institute.

13. FINANCE AND ACCOUNTS

The financial year of the Institute corresponds with that of Government of India ie., 1st April to 31st March of the following year. The Accounts of the Institute are annually audited by the Principal Accountant General, (Tamil Nadu & Pondicherry), Chennai on behalf of the Controller & Auditor General of India (C&AG New Delhi.)

The 62nd Finance Committee of the Institute in its meeting held on 11.11.2000 recommended Non-Plan Revised Estimates of Rs.9512 lakhs (Gross) for 2000 -2001 and Non-Plan Budget Estimates of Rs.9250 lakhs (Gross) for 2001-2002. The Committee also recommended Plan Revised Estimates of Rs.2787.12 lakhs for 2000-2001 and Budget Estimates of Rs.3209 lakhs for 2001-2002.

The following are the summary of Revised Estimate for 2000-2001 and Budget Estimate for 2001-2002 approved by Board of Governors of the Institute approved in their 172nd meeting held on 15.11.2000.

(Rs. in Lakhs)

Head	BE 2000-01	RE 2000-01	BE 2001-02
I. Non-Plan:			
Income	1595.83	1611.22	1806.41
Grant demanded from MHRD	7288.12	7900.78	7443.59
Total	8883.95	9512.00	9250.00
Expenditure			
Recurring	8783.95	9412.00	9150.00
Non-Recurring	100.00	100.00	100.00
Total	8883.95	9512.00	9250.00
II Plan:			
Grant demanded from MHRD	3018.50	2787.12	3209.00
Opening Balance	2058.66	2058.66	--
Total	5077.16	4845.78	3209.00
Expenditure:			
Committed Expenditure	*2058.66	*2058.66	
Recurring	60.00	30.00	30.00
Non-Recurring	2958.50	2757.12	3179.00
Total	5077.16	4845.78	3209.00

*Carry over from 1999-2000 A/c and represents irrevocable commitments

Audit:

The Annual Accounts of the Institute for the year 1999-2000 was audited by Accountant General (Tamil Nadu & Pondicherry) between May 2000 - July 2000. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament.

Summary of Audited Receipts & Payments Account for the year 1999-2000 is given below.

Receipts

Rs. in Lakhs)

Sl. No.	Item	Rs.
	I. Receipt	
1.	Opening Balance	4637.28
2.	Grant from GOI received during 1999-2000	7108.00
	Grant recd. in respect of projects/Modernisation schemes etc.	2329.22
3.	Institute Receipt:	
	Fees, etc.	766.63
	Application Fees	265.37
	Income from Vehicles	8.23
	Income from Buildings	94.73
	Other Receipts	754.63
4.	Recovery of Advances	91.07
5.	Deposits/Donations/Corpus Fund Receipts	1457.44
	Total	17512.60
	II. Payments	
	a. Capital Account	
1.	Buildings & Constructions	572.12
2.	Furniture/Equipment and fittings, Research Centres & Central Services	398.57
3.	Library Books and Journals	286.36
	Total (a)	1257.05
	b. Revenue Account:	
1.	Academic Departments/Centres:	
	Pay & Allowances of Teaching Staff	1137.23
	Pay & Allowances of Non-Teaching Staff	526.33
	Department running expenses	174.87
	Library staff salary and running expenses	71.54
	Central workshop staff salary and running expenses	83.14
	Research Centres Pay & Allowances including working expenses,	129.25
	Institute Scholarships/HTTA and other items	340.58
	NCC, NSS and NSO: Pay & Allowances and others expenses	5.10
	Total (b.1)	2468.04

2.	Central Administration:	
	Pay & Allowances	311.01
	Hostel	233.72
	Stores Pay & Allowances & others expenses	23.04
	Gymkhana	41.19
	Lawns & Gardens	2.99
	Service & Maintenance (Telephone, Power, Water, Oil, Petrol etc.)	534.99
	Dispensary including Staff salary	83.50
	Vanavani Matriculation Hr. Sec. School Subsidy	6.50
	Security Section Pay & Allowances & other expenses.	91.00
	Total (b.2)	1327.94
3.	Works & Maintenance	
	Pay & Allowances and other expenses (b.3)	401.17
4.	General Expenses:	
	Postage, Liveries, Stationery, Printing etc.	277.48
	TA to authorities & Institutes selection committee members	3.69
	Candidates called for interview, Reimbursement of stamp duty, sundries etc.	21.92
	PF/Gratuity/Pension	1494.77
	Advances Paid	162.53
	Deposits Refunded	259.05
	Investments of Donation received.	605.56
	Total (b.4)	2825.00
5.	Payments out of Project funds account/modernisation schemes/CSIR scholarship etc. (b.5)	2381.81
	(b.1+b.2+b.3+b.4+b.5) (b)	9403.96
	Total (a+b)	10661.01
6.	Closing Balance	6851.59
	Total	17512.60

1. THE SENATE

Chairman
R NATARAJAN

Members

Prof H Achyutha	Prof (Mrs) Kamala Krithivasan
Prof Ajit Kumar Kolar	Prof P Kesavan Nair
Prof R Ambalavanan	Prof M P Kothiyal
Prof M S Ananth	Prof Krishnan Balasubramanian
Prof R N Anantharaman	Prof K Krishnaiah
Prof P K Aravindan	Prof O V Krishnaiah Chetty
Prof Ashok Jhunjhunwala	Prof R Krishnakumar
Prof P A Aswathanarayana	Prof R Krishnamurthy
Prof A Avudainayagam	Prof S Krishnan
Prof V Balabaskaran	Prof N R Krishnaswamy
Prof A R Balakrishnan	Prof C S Krishnamoorthy
Prof V Balakrishnan	Prof S H Kulkarni
Prof K K Balasubramanian	Prof S Kumaraswamy
Prof N Balasubramanian	Prof B H Lakshmana Gowda
Prof Balasundaram Subramanian	Prof K (Mrs) Lalitha
Prof K A Bhaskaran	Prof M Madhusudhana Rao
Prof Bhaskar Ramamurthy	Prof (Mrs) Mahaseshasayee
Prof P Bhattacharya	Prof J Majhi
Prof S K Bhattacharyya	Prof (Mrs) Malathy Duraisamy
Prof M V Chalapathy Rao	Prof J S Mani
Prof T S (Mrs) Chandra	Prof M S Mathews
Prof M Chidambaram	Prof Megha Singh
Prof S A Choudum	Prof S Mohan
Prof V Damodara Das	Prof K M Muraleedhara Prabhu
Prof P C Deshmukh	Prof V R Muraleedharan
Prof K Elango	Prof C R Muthukrishnan(Dy Director)
Prof C Eswaran	Prof (Mrs) Kamala Krithivasan
Prof (Mrs)Evangeline Manickam	Prof P Kesavan Nair
Prof S R Gandhi	Prof M P Kothiyal
Prof N Ganesan	Prof Krishnan Balasubramanian
Prof V Ganesan	Prof K Krishnaiah
Prof L S Ganesh	Prof O V Krishnaiah Chetty
Prof K Ganesh Babu	Prof R Krishnakumar
Prof S S Gokhale	Prof R Krishnamurthy
Prof C V Gokularathnam	Prof S Krishnan
Prof T A Gonsalves	Prof N R Krishnaswamy
Prof DR Gopalakrishna Achar	Prof C S Krishnamoorthy
Prof K Gopinath	Prof S H Kulkarni
Prof M S Gopinathan	Prof S Kumaraswamy
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