ANNUAL REPORT

2011-2012

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN & MANUFACTURING, KANCHEEPURAM

DIRECTOR'S REPORT

The institute has grown significantly since its inception in 2007 with the mandate of excelling in design and manufacturing oriented engineering education and research. The first batch of B.Tech students specializing in Mechanical Engineering (Design & Manufacturing) have recorded around 70% placement and many have secured admissions for MS / Ph.D studies in reputed universities abroad. For the period under report, the institute had a lot of milestones achieved, one of it primarily being the functioning of the institute from its permanent campus at Melakottaiyur Village, Kancheepuram District. It is with a sense of pride that I would like to highlight that the Inaugural Convocation of the institute was held on 05/08/2011 at the IC & SR auditorium, IIT Madras campus and the event was a grand success. Shri.R.Seshasayee, Chairman BoG declared the convocation open and Prof.M.S Ananth (Former Director, IITM) graced the occasion as Chief Guest. The event was attended by all the graduating students and their parents, faculty, Senate & Board members and served as an excellent initiation for the ensuing transition to the permanent campus at Melakottaiyur. Meritorious graduands were honored with awards for Excellence in Academics, Best Outgoing Student and Best B.Tech Project respectively.

The period also saw an increased intake (raised from 20 to 30 / stream) of first year students in the three disciplines of Computer, Electronics and Mechanical Engineering (Design & Manufacturing). Another related aspect to admissions was the contribution of the institute to the cause of AIEEE counseling in the capacity of a Reporting Centre. The institute served both in the capacity of a participating institute and reporting centre for AIEEE admissions and the effort of the Admissions Team was well appreciated by the Central Counselling Board and other stake holders.

The fresh academic session (2011-12) commenced on 16th August, post the independence day celebrations at Melakottaiyur campus to kick start the activities from the new campus. The academic, administration and other co-curricular activities are accommodated in the pre-engineered structures housing the Administration, Laboratories, Lecture Hall & Shopping complex / Gymnasium & Seminar Hall respectively. The institute also supports full fledged practice grounds / facilities for cricket, football, basketball, table tennis and sports of interest to the student community. Hostel accommodation for Boys and Girls are provided for first year students presently with rest of the senior batches being accommodated in IIT Madras hostels.

Permanent structures construction activities are underway and it is expected to have residential facilities for all students available by the start of the next academic session. All lecture halls are equipped with projection facilities and laboratories have been established keeping in mind the experiential learning focus and design and manufacturing mandate of the institute. The institute has been accorded sanction for the introduction of a post graduate level Design (M.Des) programme in Communication Systems discipline. Detailed curriculum design is in progress and the program should be on offer from the ensuing academic session.

The institute newsletter MARG-DARSHAN (Quarterly) is in its fifth edition and has served the objective of acting as an interface with other fellow institutions / organizations and I am sure will grow even further. Intra institute Technical and Cultural Festival SAMGATHA has also grown immensely and the 2012 edition which concluded recently was a grand success, evoking large and enthusiastic number of student participation. I am equally glad to highlight the significant contributions made by the Institute's SSG (Social Service Group / NSS arm of the Institute) to the betterment of the society.

A tree plantation drive was organized in the campus to initiate the SGG activities, which was followed up by computer applications training for school students / citizens of nearby village. These programmes have received good response and also serve as an interface between the institute and the local population. The institute sports contingent performed exceedingly well at TWARAN 2012, an inter institute sports meet organized by IIITM Gwalior with participation from IIITs, NITs, and other engineering colleges and bagged two gold, nine silver and three bronze medals.

It has been an eventful year including events such as the First convocation, Permanent Campus functioning and other activities and I am sure given the dedicated and committed efforts of students, staff and faculty members and the additional infrastructure / resources available in the permanent campus, the institute would scale even further heights in the year to come.

Prof. R. Gnanamoorthy

INSTITUTE ADMINISTRATION

The Indian Institute of Information Technology, Design & Manufacturing, (IIITD&M) Kancheepuram is a Centre of Excellence for technical education and research established in 2007 by the Ministry of Human Resource Development, Government of India. The Board of Governors (BoG) are responsible for the overall administration and functioning of the Institute. The Board is headed by a Non-Executive Chairman to be selected for a three-year term. Mr. Ashok Seshasayee, Vice Chairman, M/s. Ashok Leyland is currently the Chairman of BoG. Other members of the Board are mentioned in Table 1. The Board is entrusted with the responsibility of planning and execution of all activities of the Institute. The Board lays down major policies, rules of governance including delegation of authority, staff recruitment, service conditions, financial management and all other matters pertaining to the day to day administration of the Institute.

Matters relating to financial management of the Institute are referred to the Finance Committee. Finance Committee shall examine the accounts and scrutinize proposals for expenditure. The committee shall examine the annual accounts and financial estimates of the Institute and thereafter submit them to the Board of Governors together with its comments for approval.

The Buildings and Works Committee advises the Institute on matters relating to construction activities. This committee is entrusted with the responsibility of construction of all major capital works after securing from the Board the necessary administrative approval and financial sanction. It shall have the power to give the necessary administrative approval and financial sanction for all construction works and work pertaining to the maintenance and repairs, within the grant placed at the disposal of the Institute for the purpose. It shall prepare estimates of cost of building and other capital work, minor works, repair, maintenance and the like. It shall be responsible for making technical scrutiny of each work as may be considered necessary by it. It shall be responsible for enlistment of suitable contractors and acceptance of tenders and shall have the power to give direction for departmental works where necessary. It shall have the power to secure rates not covered by tenders and settle claims and disputes with contractors. Members of the Finance and Building and Works Committee are given in Tables 2 and 3 respectively.

Table 1 Board of Governors of the Institute (2011-2012)

Shri. R. Seshasayee, Chairman Executive Vice Chairman, M/s. Ashok Leyland	Prof R. Gnanamoorthy, Director IIITD&M Kancheepuram
Shri Ramesh Kumar Khanna Secretary to Government Dept of Information Technology Government of Tamil Nadu	Shri R. C Meena Economic Advisor (HE) Department of Secondary and Higher Education, MHRD
Shri T Ramaswamy Secretary Department of Science & Technology Government of India	Prof. Bhaskar Ramamurthi Director Indian Institute of Technology Madras
Dr. G. Viswanathan Chancellor VIT University, Vellore	Dr. K.P Isaac Member Secretary AICTE
Shri Deepak Puri Chairman & Managing Director M/s. Moserbaer Ltd.	Prof Ashok Jhunjunwala Department of Electrical Engineering Indian Institute of Technology Madras
Prof S. Narayanan Department of Mechanical Engineering Indian Institute of Technology Madras	Shri Onkar Singh Kanwar Chairman M/s. Apollo Tyres Ltd.
Prof. Harishankar Ramachandran Department of Electrical Engineering Indian Institute of Technology Madras.	Lt. Col. (Retd.) Jayakumar, Secretary Registrar, IIITD&M Kancheepuram

Table 2 Finance Committee of the Institute

Shri. R. Seshasayee, Chairman Executive Vice Chairman, M/s. Ashok Leyland	Prof R. Gnanamoorthy, Director IIITD&M Kancheepuram
Shri. Navin Soi Director (Finance) Dept. of Higher Education MHRD, Government of India	Mrs. Pratima Dikshit Director (TE) Dept. of Higher Education MHRD, Government of India
Prof S Naryanan Department of Mechanical Engineering Indian Institute of Technology Madras	Shri. S. Sambasivam Deputy Registrar (F&A) Indian Institute of Technology Madras
Secretary Mr. A Chidambaram Deputy Registrar (Accounts) IIITD&M, Kancheepuram	

Table 3 Building and Works Committee of the Institute

Prof R. Gnanamoorthy, Chairman Director IIITD&M, Kancheepuram	Mrs. Pratima Dikshit Director (TE) Dept. of Higher Education MHRD, Government of India
Prof S Narayanan Department of Mechanical Engineering Indian Institute of Technology Madras	**Shri** R Arumugam Superintending Engineer, Indian Institute of Technology Madras
Shri Rajeev Sharma Superintending Engineer (Elect) CPWD	Secretary Mr. A. Manickavasagam Consultant Engineer (Civil) IIITD&M Kancheepuram

Table 4 Senate of the Institute

Prof R Gnanamoorthy, Director – Chairman	
Prof. S. Narayanan Dept. of Mechanical Engg., IIT Madras	Prof. K. Sridharan Dept. of Electrical Engg., IIT Madras
Prof. S. Santhakumar Dept. of Aerospace Engg., IIT Madras	Dr. Raghu V. Prakash Dept. of Mechanical Engg., IIT Madras
Prof. K. Chandrasekaran (Retd.) Anna University, Chennai	Dr. Nitin Chandrachoodan Dept. of Electrical Engg., IIT Madras
Prof. P. Chandramouli Dept. of Mech. Engg., IIT Madras	Prof. V. Kamakoti Dept. of Computer Sci. & Engg., IIT Madras
Dr. B. Sivaselvan Assistant Professor, Computer Sci. & Engg.	Dr. Shankar Balachandran Dept. of Computer Sci. &I Engg., IIT Madras
Prof. Nilesh Vasa Dept. of Engineering Design, IIT Madras	Dr. Binsu J Kailath Assistant Professor, Electronics Engg.
Prof. G. Thanigaiyarasu Anna University, Chennai	Dr. M. Sreekumar Assistant Professor, Mechanical Engg.
Prof. Pradeep Y Yammiyavar IIT Guwahati	Dr.Noor Mahammad Warden, Boys Hostel
Prof. R. Ramanujam Institute of Mathematical Sciences, Chennai	Dr.K.Selvajyothi Warden, Girls Hostel
Prof. Harishankar Ramachandran Dept. of Electrical Engg., IIT Madras	
Industry Experts	
Dr. Ravikishore. B HCL Info Systems Pvt. Limited, Chennai	Dr. C Mathiazhagan CEO Market I Japan, & MK Tech India
Dr. M Sathya Prasad M/s. Ashok Leyland	Secretary Lt.Col. (Retd.) Jayakumar, Registrar, IIITD&M Kancheepuram

Matters relating to the conduct of the various academic programs of the Institute are referred to the Senate (previously referred as Academic Advisory Committee -AAC). The Senate advises the Institute on introduction of new academic cum research programs, curriculum structuring, conduct of examinations and grading system, student and all other academic matters that arise from time to time. The Institute adopts a consistent feedback and review based approach in all its activities to maintain the highest standards. Teaching and Research are given equal importance and students, faculty and staff members are consistenlty motivated to scale better heights. Members of the Senate are listed in Table 4.

Meetings of the Authorities

The various committees constituted by the Ministry and the Institute govern and advise the Institute on academic, research and development activities, so that the envisioned objectives and mandate are achieved and the Institue moves in the right direction. The committees meet on a regular basis and is apprised of the important events, launch of new degree programs and future plan of work. Table 5 lists the meetings of the committees for the year under report.

Table 5 Schedule of Various Committee Meetings Held

BoG	14.07.2011	08.11.2011	11.02.2012	
Finance Committee	31.05.2011	30.09.2011	11.02.2012	
Building and Works Committee	31.05.2011	29.09.2011	07.12.2011	
Senate	27.05.2011	12.08.2011	16.12.2011	03.02.2012

Permanent Campus Inauguration

Administration Block

Flag Hoisting – Independence Day

Repulic Day – Guard of Honour

Students Performance – 15/08/2011 and 26/01/2012

ACADEMIC PROGRAMS

Admission to the under graduate programs offered at the Institute is based on All India Rank (AIR) in All India Engineering Entrance Examination (AIEEE), conducted by CBSE, New Delhi and reservation rules as laid down by the Government of India are followed. Counselling to the various UG programmes are conducted by Central Counselling Board (CCB). For the period under report the institute also served the CCB cause in the capacity of a Reporting Centre (RC). Provisional offers of admissions to the various National Institute's of Technology / IIITs and other institutes on the rolls of CCB were issued to students. CCB admissions 2011-12 were coordinated by NIT Surathkal and the institute's effort in the capacity of Reporting Centre was well appreciated by CCB and other stake holders.

The Institute is presently offering 4 year B.Tech programs in Mechanical Engineering (Design and Manufacturing), Computer Engineering and Electronics Engineering (Design & Manufacturing), 2 year M.Des programs in Electronic Systems Design and Mechanical Systems Design and Ph.D programmes in interdisciplinary areas of engineering / allied sectors. UG intake for the period under report was increased from 20 to 30 and will see a phased increase in the years to come subsequent to the required infrastructure creation. The B.Tech programmes have attracted high ranking AIEEE students and have earned appreciation for the design focussed engineering curricula. The first batch of students who passed out in 2007 recorded approximately 70% placements and a few were selected for higher studies in reputed univerisite abroad. For the period under report around 65% have been placed so far and many are likely to pursue higher studies in India / abroad. In line with the motto of the institute, most of the recruits have been absorbed by domain specific industiries (core industries). A few of the companies on the recruiters panel of IIITD&M Kancheepuram include M/s. TaeguTech, M/s Ashok Leyland, M/s HCL Technologies,M/s. Congizant Technology Solutions, M/s.Surya Gen, M/s. SVP Laser Tech, M/s. Fabtech Projects and Engineerings, M/s. Apollo Tyres, etc. A more detailed statistic on placement is given in the section on Placements. The period also saw an increase in the number of admits to the M.Des programmes.

Computer Engineering

FACULTY

Dr Sivaselvan B
Assistant Professor
Research Areas:
Knowledge & Data Engineering
Data Structures

Dr Masilamani V
Assistant Professor
Research Areas:
Image Processing & Computer Vision
Data Structures

Dr Noor Mahammad Sk
Assistant Professor
Research Areas:
Reconfigurable Computing
Software for VLSI Design
Evolvable Hardware

RESEARCH SCHOLARS

Mr Kanjar De
Image Processing
Mr Mohamed Asan Basiri

ACADEMIC PROGRAMMES

B. Tech	Computer Engineering
Ph.D	Computer Science & Engineering

B. Tech COE—Highlights

* USP as opposed to conventional CSE programmes— Focus on H/W-S/W interaction

* Novel design focused curricula based on ACM recommendations

* Dedicated focus on experiential learning (~50:50 Theory: Practice)

* Specialization courses: Human Computer Interaction, Embedded Systems, VLSI & Adv. Arch.

LABORATORIES

Human Computer Interaction Lab

System Programming Lab

FACILITIES

Computers	*Fujitsu/IBM Systems X Servers *High end Xeon Quad Core Processor based workstations
Software/OS	* Cadence EDA Tools * Xilinx Prototyping Tools * RHEL
Hardware	* FPGA Prototype Boards * Microprocessor Kits * Interface Cards

PUBLICATIONS

Books	04
Intl. Conferences	20
Intl. Journals	10

STUDENTS

PhD		01
B. Tech	2009	17
	2010	20
	2011	27

Electronics Engineering

Personnel

Faculty

Dr. Binsu J Kailath
VLSI & MEMS

Dr. Damodharan P
Power Electronics & Drives

Dr. Karthikeyan S S
Microwave Integrated Circuits

Dr. Selvajyothi K
Control Engg. & Power Electronics

Dr. Manoharan M
Nano-scale Devices & Circuits

Dr. Ramya T R
Wireless Communications

Staff

Mr. Balaji Raja M
Jr. Technician

Mr. Sriram Bhaskar P M
Jr. Tech. Supt.

Research Scholars

Arun K	Harmonics Reduction
Papanasam E	SiC MOS Devices
Rajin M Linus	Max. Power Point Tracking
Abdul Majeed K K –	Analog VLSI

Facilities

Hardware /Software

❖ Altera	❖ LAN Trainer	❖ Xilinx
❖ DSK6713	❖ Mechatronics	❖ LabVIEW
❖ DSO Lecroy	❖ μ- Controller	❖ Altera
❖ DSO Tektronix	❖ μ- Processor -	❖ MATLAB
❖ DSO Falcon	❖ MSP430	❖ PSPICE
❖ FG Tektronix	❖ NI Elvis	❖ CC-Studio 3.3
❖ FG Scientific	❖ Spartan 3E	❖ IAR System
❖ Fibre Optica	❖ Sci. DC Source	❖ MASM
❖ Wi Com T	❖ Cadence	❖ iVerilog

B Tech

- Analog & Digital Circuits
- Design Practice & Project Mode Learning
- Successful Electronic Product
- Control, Instrument-ation, Board level D&M
- VLSI, DSP, Embedded System`

Research

- National Conferences – 9
- National Journals – 2
- Research Publications
- International Conferences – 27
- International Journals – 27

M Des

- Design Practice & Collaborative Project based learning
- Embedded Sy. Design, Analog ICs, DSP & Arch. EMIC, MEMS, Green Energy
- Successful Industrial Product
- Engg Design Product Analysis & Modeling Product Concep. & Visualizn.
- Creative Design, Life Cycle Management, Design for Quality & Reliability

Mechanical Engineering - Design and Manufacturing

FACULTIES

Dr.Eng Gnanamoorthy.R
Professor & Director
Ph : +91-44-2747 6302
○ Mechanical Design and Manufacturing
○ Surface Engineering,
○ Damage Tolerant Design

Dr.Sreekumar.M
Assistant Professor
Ph : +91-44-2747 6357
• Robotics
• Serial and Parallel Mechanisms

Dr.Shahul Hamid Khan B
Assistant Professor
Ph : +91-44-2747 6344
○ Multi objective Optimization
○ Supply Chain Management

Dr.Raja.B
Assistant Professor
Ph : +91-44-2747 6355
○ Refrigeration and Air-Conditioning, CFD
○ Boiling Heat Transfer and Nanofluids

Dr.Arivazhagan.A
Assistant Professor
Ph : +91-44-2747 6358
○ CAD/CAM/CAPP,
○ STEP-NC & CNC Machining
○ Machining of Prismatic & Rotational Parts

Dr.Jayavel.S
Assistant Professor
Ph : +91-44-2747 6352
○ Computational Fluid Dynamics
○ Fluid and Thermal Sciences

Dr.Pandithevan.P
Assistant Professor
Ph : +91-44-2747 6351
○ CAD/CAM, Bio-mimetic Design,
○ Layered Mfg, Computational Geometry

Mr.Gurunathan.C
Technical Officer
Ph : +91-44-2747 6360
○ Mechanical Design
○ CAE & Simulation

TECHNICIANS

Mr.Manigandan.G
Junior Technician

Mr.Vigneshwaran.A
Junior Technician

RESEARCH SCHOLARS

S Usha
DEAP actuators for Spatial Mechanisms
B Madhevan
Mobile Robots
K Balaji
Parallel mechanism
C Gurunathan
Surface Engineering

FACILITIES AT A GLANCE

Z 450 3D Printer | **Co-ordinate Measuring Machine** | **Tensile Testing Machine** | **Micro Hardness Testing machine** | **Scanning Electron Microscope** | **Axio Imager Microscope**

CORE ENGINEERING COURSES SUPPLEMENTED BY LAB PRACTICES

■ **Machine Drawing practice**
■ **Precision Manufacturing and Metrology**
■ **Finite Element Analysis**
■ **Applied Thermal Engineering**
■ **Robotics and Automation**
■ **Applied Mechanics Lab**
■ **Advanced Manufacturing**
■ **Electrical Drives and Control Engineering**
■ **Electronic Circuit Design**
■ **Microprocessors and Embedded Controllers**

REFLECT
ACT
THINK

CREDIT DISTRIBUTION

B.TECH

17%
34%
7%
9%
13%
8%
12%

Total Credit : 174
Theory : 55%
Practical : 45%

- Mathematics
- Design Concepts
- Basic Engg. & Sciences
- Mech. Engg.
- Humanities and Management
- Electrical and Electronic Engg.

M.DES

25%
32%
4%
9%
30%

Total Credit : 70
Theory : 55%
Practical : 45%

- Core Engineering
- Design Concepts
- Design Concept.
- Project and Seminar
- Mathematics

PLACEMENT AND INTERNSHIP

NISSAN · L&T · IndianOil · BHEL · NHPC · Whirlpool · Mahindra · Honeywell · Lucas-TVS Limited · NSK · ABB · Wheels India Limited · HCL · ASHOK LEYLAND · TaeguTec · BOSCH · SRF · TATA

PRODUCT DEVELOPMENT

"Need - Design - Simulate -Develop"

| Research Publications (2007 onwards)	
International Journals	97
International Conferences	59
National Journals	2
National Conferences	57

M.Des in Communication Systems is to be offered from the ensuing academic session from August 2012.

The incessant demand for increased transmission bandwidth has led to the rapid technological solutions/changes in the modern communication systems in recent times. The sector is exploding with job opportunities and is considered as one of the fastest growing/expanding technological area. India, having made rapid inroads in the software and information technology sector, is short of quality manpower equipped with necessary tools and technological knowledge to meet the requirements of the electronic hardware sector. The proposed M.Des in Communication Systems curriculum of IIITD&M Kancheepuram adopts a balanced approach to the industry requirements with courses on digital communication and communication networks, PCB and embedded system design are included with sufficient coverage of VLSI/FPGA design and VERILOG implementation.

All the academic programmes of the Institute imbibe the principle of "Learning By Doing". The pedagogical practices followed at IIITD&M Kancheepuram employ experiential learning to produce design engineers equipped with good hands on experience in the respective engineering sector.
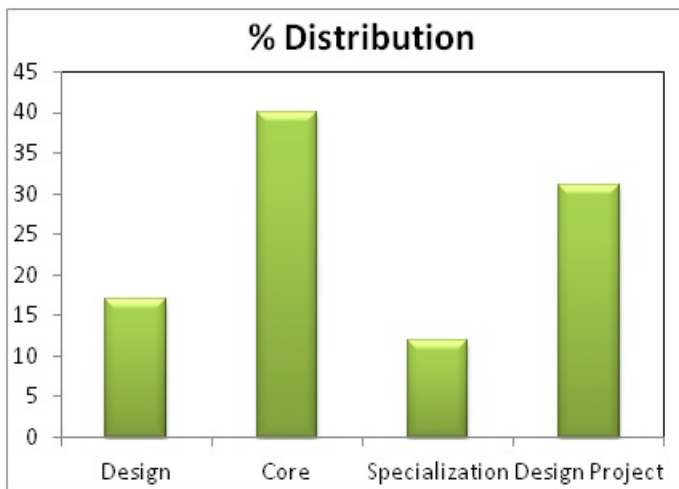
Practice based courses are given more importance and weightage and state-of-the art hardware, software and other facilities are introduced. The Association for Computing Machinery (ACM) based Computer Engineering curriculum offers more electronics engineering courses, and hence will produce engineers with skills required for efficient hardware software interaction and intelligent product design and development. Computer & Electronics Engineering (Design & Manufacturing) graduates of IIITD&M will be proficient with design and development of complex electronic systems and subsystems as a result of the exhaustive exposure to emerging areas such as embedded systems, VLSI design, human computer interaction, power electronics, control and instrumentation. Mechanical engineering graduates will be equipped with good hands on skills in sensors, controls, electronics and automation, in addition to the conventional mechanical engineering areas. The laboratories are equipped with state of the art and modern equipments to supplement the experiential learning thrust of the curricula. The curricula involve engineering simulation courses to enhance the visualization skills and our laboratories are equipped with high end workstations and powerful simulation softwares.

Experiential Learning focused IIITD&M Laboratories

INFRASTRUCTURE AT THE PERMANENT CAMPUS-MELAKOTTAIYUR

The institute moved to the Melakottaiyur Campus post the independence-day celebrations on 15.08.2011. Four pre-engineered structures namely the Administration, Laboratories, Lecture Hall Complex and were setup during the period under report. The administration block houses the Director, Registrar offices, Institute Office and Faculty Rooms while the various laboratories of the institute relating to the computer engineering, electronics engineering, mechanical engineering discipline are housed in the Laboratory block.

Infrastructure at Melakottaiyur Campus

Sports Facilities / other Amenities at IIITD&M Kancheepuram

The Administration Block houses the institute office, Director and Registrar Cabins and Two Faculty Blocks with individual cabins for faculty members. A conference hall equipped with the latest projection facilities and backup power is also housed in the admin block. All the classrooms housed in the Lecture Hall Complex are equipped with projectors to facilitate both multimedia learning and conventional chalk and talk method. Projection facilities are so arranged that they facilitate simultaneous use of both the black board and the projection equipment. 9 Lecture Halls with different seating capacity in the range of 40 to 100 are accommodated in the Lecture Hall Complex.

Office, Faculty Rooms, Laboratories and Lecture Halls are powered via a centralized UPS line. A Seminar Hall with a seating capacity of around 120 to conduct guest lectures, technical fests, etc. is housed in the amenities wing.

A shopping complex to cater to the day to day needs of the students such as stationeries, cafeteria, gymnasium and hobby workshop are accommodate in this wing. Institute's financial transactions are done with Indian Bank and an ATM has been commissioned at the entrance of the institute for the benefit of the IIITD&M fraternity and for the local population. Presently all the academic activities of the institute are

accommodated at the permanent campus while the first year students and other scholars numbering around 150 are provided residential accommodations at the permanent campus. The senior batch students are accommodated in the IIT Madras hostels and shall be moved to the permanent campus in a phased manner subsequent to completion of the construction activities. Two hostels namely Banyan and Lotus accommodate the boys and girls accommodation respectively housing around 80 rooms. First year students are currently provided shared accommodation and individual rooms would be provided for senior batch students. Common rooms supporting television set, indoor games and reading area are also provided in each of the hostels. An institute mess with a seating capacity of around 150 handles the messing requirements of the hostel inmates. Given the sporting culture amongst the students of IIITD&M Kancheepuram, full fledged Basket Ball, Badminton courts, Football and Cricket grounds with Concrete pitch for net practice facilities are supported in the permanent campus. A part time coach specializing in football trains the students and the institute has advertised for a full time physical instructor. Two guest houses, Warden room(s) and Hostel Office are housed in the hostel block. Emergency medical needs of the students and staff and faculty community are handled by an Emergency Medical Aid centre while the institute has entered into a tie up with M/s. Chettinad Health Care, Kelambakkam which is a trusted name in health care services.

ADMIN. AND SENATE HALL. AREA=5453 SQM. ESTIMATED COST= Rs. 14.89 CR.

INSTITUTE MAIN ENTRANCE.

LECTURE HALL BLOCK AREA= 10786 SQM ESTIMATE = Rs. 34 CR.

LABOROTREY BLOCK. AREA= 36439 SQM ESTIMATE =Rs. 128 CR

TRANSIT CAMPUS

Academic zone 3520 SQM

Laboratories	9
Class Rooms	9
Faculty Rooms	21
Auditorium	1
Seminar Halls	2
Gym	1
Hobby Workshop	1
Cafeteria	1
Departmental store	1

Hostel Zone 2800 SQM

Boys Hostel	100 Beds
Girls Hostel	55 Beds
Kitchen Facility	1
Dining Halls	112 Seats
Common Rooms	3
Indoor Games	3
Medical Aid Centre	1

MAIN CAMPUS
GRIHA 4 STAR RATING

Allotted Land	51.75 Acres
Total Construction	1,20,000 SQM
Lecture Halls	3 x 200 capacity
	3 x100 capacity
	20x 60 capacity
Laboratory Complex	45 laboratories
	Faculty=80,
Boys Hostel	1140 beds
Girls Hostel	361 beds
Quarters	80 units

Administration Block	Senate Hall
Indoor Sports Complex	Swimming Pool
Auditorium	Amenities
Guest House	Transit House

HOSTEL BLOCK AREA= 8441 SQM ESTIMATE = Rs. 23.86 CR

ROOM LAYOUT BOYS HOSTEL

FACULTY BLOCK. AREA= 12512 SQM

DINING BLOCK AREA= 2000 SQM ESTIMATE = Rs. 8.50 CR

NOVEL POST GRADUATE (M.DES) PROGRAMS

IIITD&M Kancheepuram functions with the mandate of excelling in design & manufacturing education and research. With a well established novel UG curricula in place, the Institute introduced innovative 2 year postgraduate programmes in 2010. M.Des (Master of Design) is currently offered in Electronic Systems Design and Mechanical Systems Design. M.Des programmes of IIITD&M are aimed to specialize Mechanical and Electrical/Electronics Engineers with design skills required for the design and development of

mechanical and electronic products. The curricula of the post graduate engineering design programs specializing in Mechanical and Electronic Systems created by experts from various design centers, reputed academic institutes such as IITs, IISc, etc. and renowned industry experts is a blend of design thinking and core engineering subjects required for innovative product

design. M.Des programs promote efficient, effective, and desirable human-computer interaction; visualization and navigation through information spaces; time-based information design; and collaborative design practice among different disciplines.

M.Des engineers passing out from IIITD&M Kancheepuram will find scope and relevance in analog and digital electronics IC companies, embedded systems players, automotive design, consumer product design and manufacturing industries. The curricula of the proposed M.Des in Communication systems programme will be in line with the 'Learning By Doing' motto of the institute and would have dedicated practice sessions as part of the core courses. The program aims to bridge the gap between communication and hardware engineers by imparting product / component design aspects for the communication industry and, hence produce next generation communication technocrats. Proposed M. Des curriculum has additional conceptual design courses focused on product design tools/issues. Product design theory and relevant lab courses supplement the core courses and incorporate the design flavor required in the curricula. Topics related to electromagnetic interference and compatibility and RF circuits are adequately highlighted through theory and practice courses. Further issues/concepts related to digital signal and random processes are also effectively covered in the curriculum. The programme would first of its kind design

focused communications systems degree and meet the present day requirement of trained manpower in next generation technologies such 3G, 4G, etc.

With mastery in domain specific design, engineering skills and required managerial expertise, our graduates can entrepreneur organizations involved in the design and manufacture of commercially successful electronics or mechanical products.

RESEARCH PROGRAM (Ph.D)

The Institute started admitting students into the Ph.D programme in 2009. Presently 14 research scholars are working in the disciplines of computer science, mechanical and electrical & electronics engineering in pursuit of their Doctorate degrees. Interdisciplinary research programmes leading to the award of Ph.D degree are offered in Computer, Electrical, Electronics, Mechanical engineering and allied areas of Physics and Mathematics. All faculty members of the institute are doctoral degree holders from reputed institutes with good academic and research record and are involved in sponsored research and industrial consultancy. Split up of the discipline wise Ph.D scholars is given in the following Table.

DISCIPLINE	COUNT
Computer Science	02
Electrical & Electronics	05
Mathematics	02
Mechanical	04
Physics	01
Total	14

STUDENT INTAKE – 2011-12

Admissions to the Undergraduate B.Tech programmes offered by the Institute are based on All India Rank in All India Engineering Entrance Examination (AIEEE), while M.Des admissions are based on GATE / CEED score and test/interview conducted by the institute. The institute is part of the Central Counselling Board (CCB) that conducts the admissions counselling for all NITs, IIITs and other institutes registered with CCB. The recent admissions in 2011 saw an increased intake of 30 students in each of the three streams of the institute, which would be enhanced in a phased manner. The number of UG & PG students on the rolls of the Institute are as follows:

Degree / Stream	2008	2009	2010	2011	Total
B.Tech Computer Engineering	--	17	20	27	64
B.Tech Electronics Engineering (D&M)	20	19	20	26	85
B.Tech Mechanical Engineering (D&M)	38	19	19	26	102
M.Des Mechanical Systems Design (MSD)	--	--	05	08	13
M.Des Electronic Systems Design (ESD)	--	--	11	08	19
Grand Total					283

The sanctioned student strength in each of the three disciplines was 20 (till 2009), which has now been raised to 30 with the approval of the Senate (Academic Advisory Council - AAC) and Board of Governors (BoG). Academic year 2010 saw the introduction of M.Des (Master of Design) in Electronic Systems Design and Mechanical Systems Design with an approved intake of 20 in each stream. There are 32 students registered in the M.Des programme (ESD – 19, MSD – 13). While the UG and PG admissions happen on an annual basis, Ph.D admissions are conducted twice in a year. In all 14 students are registered for Ph.D programme of the Institute for the period under report in the streams of Computer (2), Mechanical engineering (4), Mathematics (2), Electrical & Electronics Engineering (5) and Physics (1) respectively.

Financial Assistance to students

 Merit-cum-Means Scholarships of Rs.1000/-p.m. were sanctioned to the B.Tech students whose parental income is less than Rs.2 lakhs besides the exemption from payment of tuition fees. During the period under report twenty three students benefitted from the scheme. All SC/ST students irrespective of parental income will get tuition fee waiver. But SC/ST scholarship is given to SC/ST students having annual parental income not exceeding Rs.2 lakhs. They will get free messing (basic menu only) pocket allowance of Rs.250/- per month and tuition fee waiver and hostel seat rent Rs.500/- per semester.

Scholarships

The Institute is awarding the following scholarships:

1. **Merit-cum-Means Scholarship**

Merit-cum-Means Scholarships of Rs.1000/-p.m. is sanctioned to B.Tech students whose parental income is less than Rs.4.5 lakhs besides the exemption from payment of tuition fees.

2. **SC/ST Scholarship**

SC/ST students admitted to B.Tech programme are sanctioned concession of free messing plus pocket allowance Rs.250/-p.m. Exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules are also provided.

3. **Institute free Studentship**

Institute free studentship is sanctioned to B.Tech students whose parental income is less than Rs.2 lakhs with a waiver of tuition fees only.

4. **Other Scholarships:**

Scholarships are sanctioned by NCERT, GoI to meritorious students pursuing B.Tech programme in this Institute. As on 31.03.10, 1 student benefited.

Academic year wise break-up of scholarships that have been awarded so far is given in Table 7. Half Time Teaching / Research Assistance (HTTA / HTRA) is awarded to M.Des / Ph.D scholars of the institute. Sixteen (16) M.Des scholars have been provided financial assistance of Rs.8,000 /- p.m while 10 Ph.D scholars were sanctioned HTRA of Rs.18,000/ (engineering) or Rs,16,000 (physics/ maths) respectively.

Table 6 Students on Rolls at IIITDM Kancheepuram

CATEGORY	2008-09	2009-10	2010-11	2011-12
OP	29	29	27	41
OP-PH	01	1	--	
OB	15	15	17	22
OB-PH	--	--	--	1
SC	8	9	8	10
ST	5	4	4	5
SC-PH	--	--	1	1
ST-PH	--	--	1	
Total	58	58	58	80

Table 7 Scholarships (Break-up) Awarded to Students

Batch	MCM [*]	SC/ST	NCERT	Institute Free[+] Studentship
2008-09	15	7	1	3
2009-10	14	7	-	6
2010-11	14	8	-	6
2011-12	21	13	-	8
Total	64	35	1	23

+ - 10% of Students Admitted   * - 25% of Students Admitted

Student Fees Details

The Institute follows the fee structure approved by the Board of Governors (BoG). The detailed fee structure for Undergraduate B.Tech course is as in Table 8.

Students Amenities and activities

The permanent campus at IIITD&M Kancheepuram currently houses Banyan and Lotus Hostels to accommodate the Boys and Girls students respectively. First year students and other scholars numbering around 150 are presently housed in these hostels while the senior batch students are accommodated within the IITM hostels. Construction activities encompassing the Administration, Academic and Hostel Zones are in full swing and it is expected to have the entire student strength accommodated in IIITD&M hostels from the following academic session onwards. Banyan hostel presently can accommodate around 100, while the girls hostel currently accommodates 55 students. Both the hostels are equipped with Common Room (Reading / Recreation zone), Warden Room, Guest Room with AC and a large dining area of 345 sq.m with a seating capacity of around 100 are available in these hostels. Medical care needs of the inmates of the hostels are handled by the team from M/s. Chettinad Health Care comprising of duty doctors and nurses. A separate Emergency Medical Care (EMC) unit is made available in the hostels. Two concrete badminton courts are made available in each of the hostels to cater to the sporting interests of the hostel inmates. Keeping in mind the extra-curricular, sports activities / interest of the students in mind, hostellers are also granted access to the Seminar Hall and other infrastructure in the campus after office hours for conduct of cultural / technical competitions.

Table 8 Undergraduate Degree Fee Structure

Particulars	2007-08	2008-09	2009-10	2010-11	2011-12
A. One Time Fees					
Admission Fee	150	150	150	150	150
Grade Card/Thesis Fee	150	150	150	150	150
Provisional Certificate	100	100	100	100	100
Medical Exam Fees	100	100	100	100	
Student Welfare Fund	200	200	200	200	200
Modernization Fee	300	300	300	300	400
Alumni Life Membership Fee	500	500	500	500	500
Publication Fee	250	250	250	250	250
Total A	**1750**	**1750**	**1750**	**1750**	**1750**
B. Semester Fees					
Tuition Fee	13500	13500	13500	25000	25000
Examination Fee	350	350	350	350	350
Registration Enrolment	200	200	200	200	200
Gymkhana	100	100	100	100	500
Medical Fee	50	50	150	150	500
Hostel Seat Rent	500	500	500	500	500
Fan, Electric and Water Charges	300	300	300	300	300
Student Amenities subs. and lab and Computational Facilities Fund	1650	1350	1350	1350	2000
Total B	**16650**	**16350**	**16450**	**27950**	**29350**
C. Deposits (Refundable)					
Institute and Library Deposit	2000	2000	2000	2000	2000
D. Medical Insurance Premium (per annum)	479	496	520	520	900
E. Hostel Fees and Mess Charges					
Hostel Admission Fee	100	100	100	100	100
Hostel Deposit (refundable)	1000	1000	1000	1000	1000
Advance Dining Charges	8000	8000	10000	10000	10000
Estt. 'A' Charges	3350	3650	3650	3650	6200
Total E	**12450**	**12750**	**14750**	**14750**	**17300**
Grand Total (A+B+C+D+E)	**33,329**	**33,346**	**35,470**	**46,970**	**51,300**

ACADEMIC / CO-CURRICULAR ACTIVITIES ORGANIZED BY THE INSTITUTE

The Institute organized a two day National Conference on Design & Manufacturing 2011 during May 27-28 2011. The conference attracted research papers focusing on engineering, design & manufacturing. Around 125 research papers were received from all over India and 55 were shortlisted for presentation in the conference cum inclusion in the proceedings, which were published as a Special Issue in International Journal of Applied Engineering Research (IJAER). The Special Keynote lecture was delivered by Prof. G K Anantha Suresh (IISc Banglore), which was followed by technical sessions and other keynote lectures. Mr. K. Krishna Prasad (IGCAR Kalpakam), Mr. Anoop Kumar Sood (NIFFT Ranchi), and Mr. Saravana Bavan D (NIT Suratkhal) received the first three best paper awards respectively.   The conference was a grand success and well attended with participants from reputed industries and academic institutions.

A one day workshop on empowering the faculty / staff members of the institute with skills required for counseling students was conducted on 23.06.2011 at Conference Hall. Dr. G.V Kumar, Consultant Psychologist conducted various activities that equipped the participants with counseling related skills. The workshop was highly interactive. A few of the areas touched upon were personality assessment, student oriented approaches in academics / co-curricular activities, etc.

ADIEU 2011 BATCH

The Graduand Photo session for the passing out students of B.Tech Mechanical Engineering (Design & Manufacturing) admitted in 2007 was organized on 13th May. The event was followed by Graduand Dinner organized by the Institute for its first batch alma matter. The alumni cell of the institute to keep track of the passing out students and constant contact is in place. We wish our first batch alma matter success in their life and future endeavors and hope for a sustained and long-standing relationship with the Institute in the years to come.

2011 Batch – Graduands Dinner

FIRST CONVOCATION OF THE INSTITUTE

The first convocation of the institute was conducted on 5th August 2011. Prof.M.S Ananth, Former Director (IIT Madras) was the Chief Guest and the convocation function was presided over by Shri R.Seshasayee, Chairman, Board of Governors, Board and Senate members. The event was well attended by all the 29 graduating students. The event commenced with the traditional procession of the Board / Senate members and was declared open by the Chairman, BoG. The first batch of students have graduated in B.Tech Mechanical Engineering (Design & Manufacturing) with the other specializations namely Electronics & Computer Engineering having been introduced post 2007, the year of inception. The graduands undertook the oath and in all 29 B.Tech degrees were awarded on the day.

The Chief Guest, Prof. M.S Ananth addressed the graduands stressing the need for increased R & D activities in the country and their role in creating the next generation society. The following students were credited with awards / certificates for their excellent performance in academic / extra curricular activities. This was an important milestone and the event was a grand success.

Graduand	Award Category
MIHITA NUTAKKI	1. Excellence in Academics Awarded to the Graduand with the highest CGPA by the end of the 8th Semester 2. Best Term Project Award (Joint Winner) Awarded to the Graduand for having excelled in their Term Project Work on the basis of novelty and contribution to the society.
PRASANTH K.V.S.S.D	Best Term Project Award (Joint Winner)
SIDDHARTH K.B	Best Outgoing Student Awarded to the Graduand with the best overall performance in academics, extra-co curricular activities and contribution to the institute.

Table 9 Meritorious Graduands of the First Convocation

First Convocation of IIITD&M Kancheepuram – August 2011

Independence Day Celebrations @ Permanent Campus – Melakottaiyur Kancheepuram

The institute celebrated the 65th Independence Day at its permanent campus at Melakottaiyur. The event coincided with the inauguration of the permanent campus and marked the beginning of a flurry of academic and extracurricular activities to follow, that are enlisted in the report. The Director addressed the gathering and there were performances by students relating to the cause of independence and the need of the hour for the technocrats to pay back to the society.

Orientation Programme – 2011

An orientation programme was conducted on 16th August 2011 to introduce the first year students of B.Tech and M.Des programmes to the various aspects of student life at IIITD&M Kancheepuram. They were briefed by the faculty coordinators on the rules and regulations relating to academics, curricular and co-curricular activities, hostel life, etc. .

A function was organized on behalf of the Designers Club to welcome the first year students to the new campus where events such as on the spot problem solving were conducted. The contests required the students to put together their basic knowledge and assemble a working model with the given set of

simple tools within the stipulated time. The Tech-Club also organized a Tech-talk on "Evolving Computer and Mobile Technologies". A 2-day technical Robotics workshop was organized with the help of Robotech Labs Pvt. Ltd. Canada, wherein students were equipped with skills required to setup and program autonomous robots. A competition was also conducted and top 3 teams would be participating in the international robotic competition conducted by RCSA Canada.

Hostel Day

Inmates of the Boys Hostel (Banyan) and Girls Hostel (Lotus) celebrated the first hostel day in a grand manner. Various events for boys and girls including sports activities were conducted during the fest and culminated with a grand feast for the inmates and other participants including members of the faculty and staff. This marks a new beginning in the history of IIITD&M Kancheepuram, given they are the trendsetter batch as far as the hostel is concerned. This is a good beginning and would grow, further to complete residential accomodation infrastructure creation.

Hostel Day Celebrations at Permanent Campus

Social Service Group

The Institute Social Service Group (SSG) was inaugurated on 20/09/2011. As part of the event, a "Tree Plantation Drive" was also organized keeping in mind the ecology of the site where the institute is located. The Chief Guest of the occasion was Shri. Hafiz Khan, Head of NGO, E-Zone. The function started with a welcome Address by Dr. V.Masilamani, Faculty Co-ordinator for SSG. It was followed by an address by the Director and later by an enthusiastic and a lively talk by the Chief Guest, Hafiz Khan who is also the manager of Green Kalam, a green earth movement. The event received enthusiastic participation from all members of the IIITD&M family and about 500 saplings were planted. The NSS wing of the Institute is also conducting week-end training programmes on applications of computers in tasks such as documentation, information retrieval, etc. for the benefit of the people in Melakottaiyur Village, neighboring the campus. Participants are provided with the required infrastructure and are trained by the student members of the SSG cell of the Institute. The programme has been a huge hit as reflected by the enthusiastic participation of school students & adults and feedbacks received from them.

**Tata Consultancy Services Visit to the Institute**

A team headed by Mr. Sandip Kr Ghosh, Global Head NPD & Sustenance, Engineering & Industrial Services of TCS visited IIITD&M on 14th of December 2011. The specialization coordinators of the institute presented the profile of their discipline and programmes offered by their discipline. TCS team presented an overview of their Engineering and Industrial Services, business unit, different services lines, and also the process of training & nurturing of human resources. The TCS team were very much impressed with the novel design focused curricula on offer at the institute and exhibited interest in being associated in placement and research level interaction with the institute. A long standing and mutually beneficial relationship has been initiated.

MARG-DARSHAN

The institute newsletter MARDARSHAN has completed an year of being in circulation with three issues launched for the period under report. The magazine serves as an excellent platform for information exchange among peer institutions / organization in India and has evoked good feedback and response from stakeholders concerned. We are confident of enhancing its reach and hopeful of increased issues in the years to come given the expansion of activities in the institute.
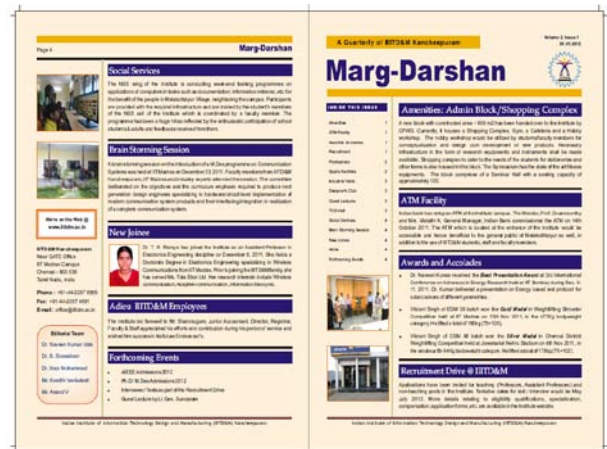
INDUSTRIAL VISITS & GUEST LECTURES ORGANIZED

The institute organizes industrial visits and guest lectures by subject experts from the industry and academia for the benefit of the student, staff and faculty community on a periodic basis. The period under report saw an increased number of external experts deliver invited lectures at IIITD&M Kancheepuram campus in relation to the last year. Details of the guest lectures organized and highlights of the same are given below.

(1) Mr. Ranganath Kumar of Ms Modine systems delivered a technical lecture on 30th Sept 2011 in our campus.

(2) Dr.S.Manivasagam delivered a guest lecture on new product development on 25th October 2011, who is currently the Chief Delivery Officer for Onward Technologies Limited, Pune.

(3) Prof. Xavier Vinas of Universitat de Barcelona, Spain delivered a guest lecture on Physics of Neutron Star in January 2012

(4) Prof. Ramanujam, Institute of Mathematical Sciences (IMSc) delivered a guest lecture on Games for Distributed Computing on 13/02/2012. The lecture concentrated on mathematical models for networking and resource sharing and was well received by the institute audience.

(5) Lt. Gen Sundaram delivered a guest lecture on Micro Sensors.
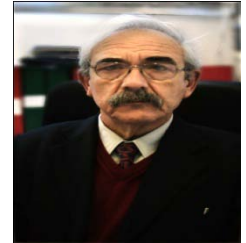
Eminent Speakers who have visited the Institute

Industrial Visits

Our students visited M/s. Delhpi TVS Ltd and were introduced to fuel injection of diesel engines. Students were briefed upon the importance of many aspects such air quality control in micro level manufacturing, process layout, planning and scheduling etc. As part of the visit to M/s. Ador Welding Ltd., the students were introduced to various processes involved in manufacturing of welding electrode. Site engineers demonstrated the functioning of various machines such as high speed wire cutting and shearing machines, Electrode flux mixing chambers, packaging, quality checking etc. A technical discussion between the students and the engineers about the electrode product gave more insight about the industry. Recently students also visited Thermal Plant -I and Mines – I at Nevyeli Lignite Corporation .


Industrial Visits by our Students

STUDENT ACHIEVEMENTS & ACTIVITIES

SAMGATHA, the annual cultural and technical fest of the Institute saw its second edition conducted in a grand manner during March 2012. An intra institute event, Samgatha 2012 evoked good response from the student community this year with large number of registrations for the various technical and cultrual events. A few of the technical events that were conducted include Enginerd, IgNobel, Live Wire, Coding, Robotics, etc. and Collage, Debate, Photography, Shades of Grey, Short Film making, etc. constituted the events in the cultural category. The number of events saw an increase in this years edition and the event was a grand success.

The Institute Sports contigent performed exceedingly well at TWARAN 2012, an inter institute sports meet conducted by IIITM Gwalior. This year the event (previously an Inter IIIT Sports Meet) saw participation from National Institute's of Technology (NITs) and other engineering colleges and our institute was placed third in the gold rankings and second as per the overall medals tally with a listing of 2 Gold, 9 silver and 4 bronze medals. A detailed listing of the various medals won at the sports meet is given in Table . The institute cricket team participated in the IIT Sanmar Cricket Tournament organized by IIT Madras. It is

Student Activities at IIITD&M – A Glance

annual event and attracts participation from all leading colleges in and around Chennai. Details of individual medal winners at the inter iiit sports meet is given in Table 10.
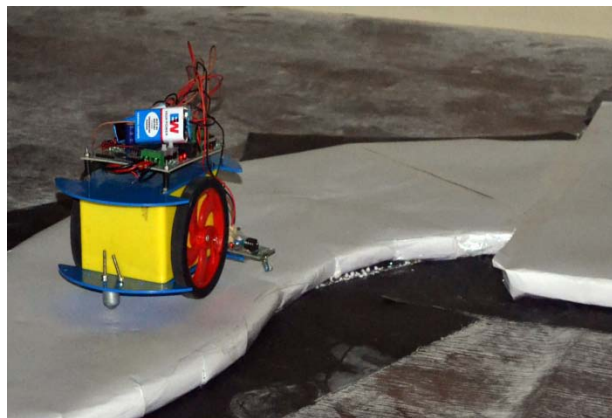
	Name	Sports	Medal
1	Saravana Kumar	Chess	Gold
		4x100 Relay	Silver
		4x400 Relay	Silver
		1600m	Bronze
2	Tadar Amar	Chess	Silver
		4x400 Relay	Silver
3	Sravan	Table Tennis	Gold
4	Swaresh	Table Tennis	Gold
		Volley Ball	Silver
5	Guatham Surya	Table Tennis	Gold
6	G.P.Sathish	Table Tennis	Gold
7	Ranjith Kumar	Table Tennis	Silver
8	Suganth Krishna	Volley Ball	Silver
9	Anil Kumar	Volley Ball	Silver
10	Sree Chandra Teja	Volley Ball	Silver
11	Neeraj Utpal	Volley Ball	Silver
12	Dasari Sridhar	VolleyBall	Silver
		4x100 Relay	Silver
13	K.Sudharshan	Volley ball	Silver
14	Amit Kumar	Volley Ball	Silver
15	B.S Naveen	Volley ball	Silver
16	Naveen.C	100m	Silver
		4x100 Relay	Silver
		4x400 Relay	Silver
		3.5 Km	Bronze
17	Surendra Dudi	4x100 Relay	Silver
		4x400 Relay	Silver
18	Ranjana Kumari	4x100 Relay	Silver
		4x400 Relay	Silver
19	Anuja	4x100 Relay	Silver
		4x400 Relay	Silver
		100m	Silver
		400m	Silver
20	Swathi lakshmi	4x100 Relay	Silver
		4x400 Relay	Silver
		100m	Bronze
		400m	Bronze
21	Sowmya Noone	4x100 Relay	Silver
		4x400 Relay	Silver

Table 10 Institute Medals Tally – Details @ TWARAN 2012 Sports Meet

A few of the other significant contributions by our students in inter institute level competitions / meets is listed below:

❖ Vikrant Singh (DM08B058) won *Gold Medal* in +75 Kg Category (open) in Power lifting competition held at the Institute Sports Complex, IIT Madras, with a total of 345kg in three individual lifts.

❖ Vikrant Singh (DM08B058) won *Bronze Medal* in +77 Kg Category (open) in Power lifting competition held at the Institute Sports Complex on Sept 25, 2011, IIT Madras, with a total of 70Kg (snatch) and 100 Kg (clean and jerk) in individual lifts.

The following students had secured awards / medals in the various technical events conducted as part of the annual technical fest SHAASTRA 2011, conducted by IIT Madras.

❖ Barun Meher (COE 10): 1st in Ethical Hacking
❖ Raj Vinesh(MDM 09): 2nd in Paper Planes
❖ Bachu Shiva Krishna, Anjan Rao (MDM 2009): Finalists in DESMOND
❖ Siddharth, Utkarsh, Koushik (MDM 09): 2nd in Project X
❖ Amit Katta, Preetham, Bachu Shiva Krishna (MDM 09): 3rd in Project X
❖ Amit Katta, Preetam, Anil Kumar(MDM09): 4th in Project X
❖ Contraptions Team: 6th in Contraptions

Research Publications by Students

- Naga Krishna Chaitanya K, Adeel Ahmed Qureshi, Jayavel S, Design and fabrication of a reactor to produce biodiesel from Neem oil, Paper no: 50, Proceedings of Recent Trends in Alternate Energy - 2011, NIT Calicut, June 9-10, 2011.

- Naveen Kumar, G. Vishwanath, Anurag Gupta, An exergy based unified test protocol for solar cookers of different geometries, Paper no: 0061STH, Proceedings of World Renewable Energy Congress 2011, Linkoping Sweden, May 8-13, 2011.

- Naveen Kumar, G Vishwanath, Anurag Gupta, An exergy based unified test protocol for solar cookers of diferent geometries, Renewable Energy, 44,2012, 457-462, Impact Factor:2.7

- Naveen Kumar, M. R. Shenoy, B.P. Pal, Phasor Notations-based Simple Analytical Method for an Intuitive Design of Wavelength Interleaver with Flattop Response", IETE Journal of Research, 57(3), May-June 2011, pp. 219-226.

- Naveen Kumar, G. Vishwanath (MDM 2008), Anurag Gupta (EDM 2008), An exergy based test protocol for Truncated Pyramid Type solar Box cooker", Energy[*], 36(11), 5710-5715, 2011.[*] Impact Factor 3.56.

- Bansal, U., Sindura, B. V., Panneerselvam, S., Santhakumar, S., "Design and Development of a Transitional Micro Air Vehicle", in Proceedings of Symposium on Applied Aerodynamics and Design of Aerospace Vehicles (SAROD 2011), Paper No. 264, DRDO Bangalore, November 16-18, 2011

- Naveen Kumar, G. Vishwanth, and Anurag Gupta, "A proposal for single thermal performance test standard for domestic box type and SK-14 concentrating type solar cookers", in Proceedings of 3rd International Conference on Advances in Energy Research, Abstract No. 137, IIT Bombay, December 9-11, 2011.

- G.P.Harikrishnan, Linet Thomas, Indresh Verma, R. Balavenkatesh and Naveen Kumar, "Piezoelectric transducer arrangement for green energy harvesting", ", in Proceedings of 3rd International Conference on Advances in Energy Research, Abstract No. 030, IIT Bombay, December 9-11, 2011.

- S. Ganga Prasath, M. Sudharsan and S. Jayavel, "Numerical Study on Influence of Blowing on Lid-Driven Cavity Flow using LCS.", Proceedings of IUTAM Symposium on Bluff Body Flows (Blubof2011), Paper no. 83, IIT Kanpur, December 12-16, 2011.

- Anurag Gupta and G. Vishwanath, won scholarship worth € 2000 for presenting their research paper at World Renewable Energy Conference 2011 held at Linkoping University Sweden.

PLACEMENTS / INTERNSHIPS

2007 Batch of Mechanical Engineering (Design & Manufacturing) recorded around 70% placement in core engineering companies specializing in design and manufacturing while 20% studens secured admissions in reputed universities abroad for further studies. The period under report saw 11 companies visit the campus for recruitment. B.Tech Electronics Engineering (Design & Manufacturing) and Mechanical Engineering (D&M) and Master of Design (Mechanical Systems Design and Electronic System Design) graduates would be passing out in May 2012. Of the eligible students, around 62% students have been plaed so far and a sizeable lot have also applied for admissions into MS and Ph.D programmes offered in India and abroad. Few of the companies who have recruited our students include M/s. Taegu Tec India, M/s. HCL Technologies, M/s. Ashok Leyland, M/s. Fabtech Projects & Engineers, M/s Waterjet Germany, M/s. Cognizant Technology Solutions, etc. Detailed split up of the number of offers made by the various companies who have visited our campus is given in the following Table. A few more companies are likely to visit for the period further to this report.

Sl. No	Company Name	No. of offers made
1	Cognizant Technological Solutions (Product Design Group)	14
2	HCL Technologies (Product Design Group)	8
3	Ashok Leyland	4
4	Mu Sigma Business Solutions	5
5	Water Jet Germany Pvt. Ltd.	1
6	SuryaGen Renewable Energy Pvt. Ltd.	5
7	Tata Consultancy Services	1
8	Ashok Leyland Limited	4
9	Fabtech Projects & Engineers Ltd.	2
10	Apollo Tyres	1
11	SVP Laser Tech	2

Industry Institute Interaction

The Institute promotes extensive interaction with the various relevant industry stakeholders. Our institute is also in colloboration with the industries listed in Table 11, relating to student internships / summer projects. Students under the guidance of Faculty members undertake project work during their summer vacation, which is mandatory as part of the curricula requirements. This helps the students gain sound on-the- floor experience and mastery of the concepts gained from their curricula.

Zeus Numerix, Pune	Hummel Bosch , Bangalore	Bosch, Bangalore
Mann-Hummel, Bangalore	Nissan-Leyland, Chennai	Delphi-TVS, Chennai
Wheels India, Chennai	Surya Gen, Bangalore	Hyundai, Chennai
BHEL, Ranipet	Delvac pumps, Chennai	Perfect Instruments, Chennai
SAMEER, Chennai	Yogokawa, Chennai	Rashtriya Ispat Nigam
Indus Teqsite Pvt Ltd	Michelin Tyres	

Table 11 Industry Internships by IIITD&M Students

Guidance & Counseling Cell (GCC)

The Guidance & Counseling Cell of the Institute coordinated by Faculty, Staff and Student members is very active in carrying out counseling for students relating to both academic and non academic issues. The cell assigns faculty advisors for a group of students to look after the academic and personal issues faced by students during their stay at IIITD&M Kanchepeuram. The cell also conducts orientation programmes to have a formal introduction of the freshers to other students and addresses issues faced by first year students on a day to day basis. Faculty and Staff members of the cell interact with parents/students and suggest measures for betterment of the student's academic and overall performance. Student members of the cell help in noticing issues among students from close quarters and bring it to the notice of the Cell for effective counseling. This helps in guiding students who might otherwise not interact with the GCC.

IIITD&M FACULTY & STAFF

The Institute has on its rolls 1 Professor, 19 Assistant Professors in the disciplines of computer engineering, electrical / electronics engineering, mathematics, physics and mechanical engineering. IIITD&M Kancheepuram follows faculty recruitment process similar to IITs. Doctoral degree holders with excellent research experience and proven teaching capability are recruited. Since the Institute's inception in 2007, there have been three rounds of faculty recruitment drive, first in November 2008 and the next one in June 2009. Recruitment for the period under report saw four faculty members joining the IIITD&M family. A brief profile of the newly joined faculty members for the period under report is given below. The discipline specific faculty profile is given in Table 12. Table 13 lists the administrative and technical staff members of the Institute. The Institute has also recruited technical staff to assit the laboratories / academic / administrative activities of the Institute in the disciplines of mechanical and electronics engineering.

Sl.No	Name	Designation	Specialization
01	Prof. R. Gnanamoorthy	Director & Professor	Mechanical Engg.
02	Dr. Sreekumar M	Asst Professor	Mechanical Engg.
03	Dr. Binsu J Kailath	Asst Professor	Electronics Engg.
04	Dr. Shahul Hameed Khan B	Asst Professor	Mechanical Engg.
05	Dr. Sivaselvan B	Asst Professor	Computer Science & Engg.
06	Dr. Shalu M A	Asst Professor	Mathematics
07	Dr. Masilamani	Asst Professor	Computer Science &Engg.
08	Dr. Naveen Kumar	Asst Professor	Physics
09	Dr. Tapas Sil	Asst Professor	Physics
10	Dr. Selvajyothi K	Asst Professor	Electrical Engg.
11	Dr. Damodaran P	Asst Professor	Electrical Engg.
12	Dr. Raja B	Asst Professor	Mechanical Engg.
13	Dr. Vijayakumar S	Asst Professor	Mathematics
14	Dr. Arivazhagan A	Asst Professor	Mechanical Engg.
15	Dr. Jayavel S	Asst Professor	Mechanical Engg.
16	Dr. Noor Mahammad S	Asst Professor	Computer Science & Engg.
17	Dr.Pandithevan P	Asst Professor	Mechanical Engg.
18	Dr.Karthikeyan S S	Asst Professor	Electronics Engg.
19	Dr.Ramya	Asst Professor	Electronics Engg.

Table 12 IIITD&M Faculty Details

Dr. Noor Mahammad Sk joined as an Assistant Professor in Computer Engineering discipline on 19 July 2011. He received his Ph.D. in Computer Science and Engineering from IIT Madras, specializing in high performance computer architecture. His research areas are VLSI Design and Reconfigurable Computing and has publications in IEEE transactions to his credit.

Dr. P. Pandithevan has joined as an Assistant Professor in Mechanical Engineering discipline in August 2011. He received his Ph.D. in Mechanical Engineering from IIT Guwahati in 2010. His research interests are tissue engineering, medical image based reconstruction, computational geometry, etc.

Dr. S. S.Kartheekeyan has joined as an Assistant Professor in Electronic discipline on August 17, 2011. He received his Ph.D. in Electronics Engineering from IIT Guwahati. He was associated with VIT Vellore, before joining IIITD&M Kancheepuram family. His

research interest includes planar microwave devices, microstrip antennas, metamaterials and RF MEMS.

Dr.Ramya has joined the institute as an Assistant Professor in Electronics Engineering discipline in December 2011. She holds a Doctorate Degree from IIT Madras specializing in Wireless Communications and was previously associated with M/s. Tata Elxsi Ltd. Her areas of research interest include Wireless Communication, Adaptive Communication and Information Theory.

Faculty members are provided with individual working space, desktop, printers and other amenities required for their day to day official needs. They are also provided with laptops and initial research grant to support their academic and research activities. Access to reputed Journal and Conference proceedings is made available online and faculty are encouraged to publish papers in conferences and journals of international standing and reputation. The list of faculty who have been sponsored to attend and present papers at International Conferences held in India / abroad is listed below as part of the Cumulative Professional Development Allowance is given below:

(1) Dr.Shahul Hamid Khan

   (a) International Conference on Advanced Topics In Artificial Intelligence (ATAI 2011) held at Singapore to present his paper titled "A New Constructive Based Algorithm for Permutation Flow Shop Scheduling with Minimizing Makespan" during November 24-25 2011.

   (b) International Conference on Business, Finance, Economics & Management Sciences held at Venice, Italy to present his paper titled "New Heuristics for Minimizing Makespan, Mean Flow Time and Maximum Tardiness in Permuation Flow Shop" during April 11-13 2012.

(2) Dr V. Masilamani

   (a) 6th International Conference on Bio-Inspired Computing Theories & Applications held at Universiti Sains Malaysia to present his paper titled P Systems based on Sticker Operations, during September 27-29, 2011.

   (b) International Conference on Digital Image Processing held at Venice, Italy to present his paper titled Double Splicing on ISO Arrays during April 11-13, 2012.

(3) Dr Sivaselvan B was sponsored by the institute to present his paper titled A Novel Knowledge Engineering based Data Compression Scheme at the International Conference on Data Engineering & Communication Systems, ICDECS 2011, Bangalore during Dec 30-31 2011.

(4) Dr Naveen Kumar Vats was funded by the institute to present his papers at the International Conference on on Advances in Energy Research, IIT Bombay, Dec. 9-11, 2011

(5) Dr K. Selvajyothi was sponsored by the institute to present her paper titled Feedback System for Electric Trimmer at the 3rd International Multi Conference on Complexity, Informatics and Cybernetics IMCIC 2012, USA during March 25-28 2012.

Sl.No	Name	Designation
1.	Prof.R.Gnanamoorthy	Director
2.	Lt. Col. (Retd.) Jayakumar	Registrar
3.	Mr. A. Chidambaram	Deputy Registrar
4.	Mr. P M Sriram Bhaskar	Junior Tech. Supdt.
5.	Mr.P. Rajkumar	Sr. Library Asst.
6.	Mr. S.Pandian	Junior Engineer
7.	Mr.N.Aghilan	Junior Assistant
8.	Ms.S.Rajalakshmi	-do-
9.	Mr.S. Saravanan	-do-
10.	Ms.G.Subashini	-do-
11.	Ms.K.Manimegalai	Junior Technician
12.	Mr.G.Manigandan	-do-
13.	Mr.M Balaji Raja	-do-
14.	Mr.C. Gurunathan	Technical Officer Grade I
15.	Mr.A.Vigneshwaran	Junior Technician

Table 13 Administation Team @ IIITD&M Kancheepuram

The following staff members were relieved from the institute for the period under report either to return to their parent organisation on completion of deputation service / otherwise.

(1) Ms.K.Vijayalaxmi – Superintendent

(2) Mr.V.Shanmugam - Junior Accountant

(3) Mr.N.Uma Sankar – Assistant Registar

Appointements to faculty positions are done similar to other institutes of national importance based on the recommendations of a Selection Committee comprising of eminent academicians from reputed institutes in India and on the approval of the Board. Technical and Supporting staff positions recruitment is based on the performance of the candidates in written tests and /or interview by a Selection committee constituted by the Director and with the approval of the Board wherever required. The institute has called for applications for faculty positions, technical and administrative staff positions and the recruitment process is in progress and further details shall be included in the next report.

FACULTY ACCOMPLISHMENTS

Faculty members of the Institute in addition to their academic work are engaged in research and development, serve on the program committees of reputed conferences and journals as referees and colloborate with other institutes of national and regional importance by delivering invited lectures. The detailed list of publications in national and international conferences, journals, workshops attended and organized and contribution in other academic activities for the year under report is listed below.

Research Publications

A summarized view of the journals and conferences publications authored/co-authored by the faculty members of the Institute is given in Table 14. A detailed listing of them follows the table.

Table 14 IIITD&M Kancheepuram Faculty Publications (2011-12)

Sl.No	Publication Type	Count
01	International Journals	16
02	International Conferences	13
Total		29

Journals

- ✓ S Kirupasankar, C.Gurunathan, R.Gnanamoorthy, Transmissiosn Efficiency of Polyamide Nanocomposite spur gears, materials and design, 39, pp.338-343, 2012.
- ✓ Anandakumar S, Ganesh Sundra Raman, T S N Sankaranarayanan, Gnanamoorthy R, Fretting Wear Behaviour of Laser Peened Ti-6AI-4V, Tribology Transactions (in Press).
- ✓ Anandakumar S, Ganesh Sundra Raman, T S N Sankaranarayanan, Gnanamoorthy R, Influence of surface mechanical attrition treatment on the fretting wear behaviour Ti-6AI-4V , Advanced Materials Research, 463-464, p316-320.

- ✓ KVSSD Pransath, M Sreekumar, Design of a New Biomimetic Flow Pump using SMA Actuators, Applied Mechanics and Materials, 110-116,pp.2903-2910, 2012
- ✓ Naveen Kumar, G Vishwanath, Anurag Gupta, An exergy based test protocol for truncated pyramid type solar box cooker, Energy Journal, 5710-5715, 2011, Impact Factor:3.56
- ✓ Naveen Kumar, G Vishwanath, Anurag Gupta, An exergy based unified test protocol for solar cokers of diferent geometires, Renewable Energy, 44,2012, 457-462, Impact Factor:2.7
- ✓ Naveen Kumar, Shenoy M R, and Pal B P, Phasor Notations-based Simple Analytical Method for an Intuitive Design of Wavelength Interleaver with Flattop Response, IETE Journal of Research 57(3), 2011, 218-225.

- R Karthik, N Harish, B Raja, P Damodharan, Thermal Conductivity of CuO-Di water nanofluids using 3 omega measurment technique in a suspended micro wirte, Experimental Thermal Fluid Sciences, Impact Factor:1.247

- P Balachander, B Raja, D Mohanlal, Evaporative Heat Transfer Characteristics of R 404A and R134a under varied heat flux conditions, Experimental Heat Transfer,2011

- L Godson, B Raja,D Mohan Lal, S Wongwises, Convective Heat Transfer Characteristics of Silver Water Nanofluid under laminar and turbulent flow conditions, Journal of Thermal Science and Enginering Aplications, ASME

- L Godson, B Raja,D Mohan Lal, S Wongwises, Convective Heat Transfer Aplications in Nanofluids and Development of Correlations, Particuology

- Usha Sait, Srekumar M, Development of Dielectic, Electroactive Polymer Actuator for Robotics Aplications, Recent Patents on Mechanical Enginering, 4(2), p.180-187,2011

- Gurunathan C, Kirupasankar S, Gnanamoorthy R, Wear Characteristics of polyamiude nanocomposite spur gears, Proc. IMechF, Part J: Journal of Enginering Tribology, 25(5),p,299-306, 201.

- Mihita N, Gurunathan C, Gnanamorthy, FE Simulation of sliding wear in metallic material, International Journal of Applied Enginering Research, 6(5), p.727-732,2011

- Shahul Hamid Khan and Govindan Kannan, A multiobjective simulated anealing algorithm for permutation flow shiop shedulign problem International Journal of Advaned Operations Mangaekent, 3(1), pp 89-10,2011

- P Balachander, B Raja and D Mohan Lal, Investigation on boiling heat transfer characteristics of R404A in an 7.49 m msmooth horizontal tube, Experimental Heat Transfer, 24(4),201,pp.35-369

Conferences

- A.S. Prasanna Venkatesan, D.G. Thomas, V. Masilamani, Splicing Iso array P-system, accepted in 14th International Workshop on Combinatorial Image Analysis (IWCIA 2011) held in Madrid, Spain during 23-25, May 2011

- V.Masilamani, A.S. Prasanna and D.G. Thomas, P Systems Based on Sticker Operations, in Sixth IEEE International Conference on Bio-inspired Computing: *Theories and Applications (BIC-TA 2011)* held in Universiti Sains Malaysia, Penang, Malaysia, during September 27 - 29, 2011.

- V.Masilamani, D.G. Thomas, Sweety, Anna Durai, Kalyani, Algorithms for Reconstruction of Triangular and Hexagonal Arrays, in 5th Indian International Conference on Artificial Intelligence (IICAI-11) to be held In Tumkur, Bangalore, during December 14-16, 2011

- B.Sivaselvan, A Novel Knowledge Engineering based Data Compression Scheme, in International Conference on Data Engineering & Communication Systems, Bangalore, Dec 2011.

- V Masilamani, Double Splicing on ISO Arrays, in International Conference on Digital Image Processing, Venice, Italy during April 11-13, 2012.

- Sriram M, Sarma Swagat, Selvajyothi K, Feedback System for Electric Trimmer in 3rd International Multi Conference on Complexity, Informatics and Cybernetics IMCIC 2012, USA during March 25-28 2012.

- G.P.Harikrishnan, Linet Thomas, Indresh Verma, R. Balavenkatesh and Naveen Kumar, "Piezoelectric transducer arrangement for green energy harvesting, in Proceedings of 3rd International Conference on Advances in Energy Research, Abstract No. 030, IIT Bombay, December 9-11, 2011.

- Naveen Kumar, G. Vishwanth, and Anurag Gupta, A proposal for single thermal performance test standard for domestic box type and SK-14 concentrating type solar cookers, in Proceedings of 3rd International Conference on Advances in Energy Research, Abstract No. 137, IIT Bombay, December 9-11, 2011. (Best Presentation Award)

- Naveen Kumar, Vishwanath G, and Anurag Gupta, An Exergy Based Unified Test Protocol for Solar Cookers of Different Geometries, Proc. World Renewable Energy Congress, Linköping, Sweden, Paper no.: STH 061, May 8-11, 2011.

- Shahul Hamid Khan,A New Constructive Based Algorithm for Permutation Flow Shop Scheduling with Minimizing Makespan in 2nd Annual International Conference on Advanced Topics in Artificial Intelligence during November 24-25 2011

- S. Ganga Prasath, M. Sudharsan and S. Jayavel, Numerical Study onInfluence of Blowing on Lid-Driven Cavity Flow using LCS. Proceedings of IUTAM Symposium on Bluff Body Flows (Blubof2011), Paper no. 83, IIT Kanpur, December 12-16, 2011.

- Naga Krishna Chaitanya K, Adeel Ahmed Qureshi,and S. Jayavel, Design and fabrication of a reactor to produce biodiesel from Neem oil. Proceedings of Recent Trends in Alternate Energy – 2011, Paper no: 50, NIT Calicut, June 9-10, 2011.

- Shahul Hamid Khan, New Heuristics for Minimizing Makespan, Mean Flow Time and Maximum Tardiness in Permuation Flow Shop, International Conference on Business, Economics, Finance and Management Sciences, Venice, April 11-13 2012

Awards

- Dr.Naveen Kumar Vats – Best Presentation Award at International Conference on Advances in Energy Research

Sponsored Research Projects

- Dr.Naveen Kumar Vats - Design, development and characterization of all fiber interferometer for wavelength interleaving and temperature sensing applications, Department of Science & Technology, Rs. 16 Lakhs.

Journals / Conferences/National Institutes Committee Membership

- Dr.M Sreekumar, Organizing co-chair, National Conference on Design & Manufacturing (NaConDM2011) during May 27-28,2011
- Dr.B.Sivaselvan – Master of Science GTC Member, CSE at National Institute of Technology Tiruchirpalalli.
- Dr Shahul Hamid Khan – Reviewer for International Journal of Advanced Manufacturing Technology (IJAMT) and International Journal of Production Research (IJPR)

Invited Lectures / Workshops Attended

- Dr Noor Mahammad - delivered a keynote address on Fault Tolerant Reconfigurable Computing at Research Symposium on Pervasive Computing and its Underlying Technologies (ReSYM - 2011) on 16 September 2011. Organized by TIFAC - CORE, Velammal Engineering College, Chennai - 600 066
- - One Day Workshop on VLSI Design Tools at KEC, Kurnool – March 17,12
- - Chief Guest for Valedictory Function of CETA , VCE Hyderabad
- Dr. V.Masilamani – delivered a guest lecture on Algorithms for compiler design using automata theory at Madras Christian college in workshop on Algorithms and complexity related to Automata Theory on 24-03-2012
- - delivered a guest lecture on An introduction to complexity theory at Velammal Engineering College, chennai on 17-03-2012
- Dr.K.Selvajyothi delivered a lecture on MATLAB for Control Engineers at Magna College of Engineering, Chennai in January 2012
- Dr.Binsu J Kailath delivered an invited talk on CMOS Technology Present and Future at SKR Engineering College, Chennai in January 2012
- - key note address on MEMS and Applications at National MEMS workshop in Rajalakshmi Engineering College.
- Dr M A Shalu delivered an invited lecture on Struction and its applications in the Workshop on Graph Algorithms conducted by Indian Statistical Institute Chennai during March 2012.
- Dr Naveen Kumar Vats delivered an invited talk on Optical system components as part of the Faculty Development Programme on Optical Networks on December 5th 201 at SKR Engineering College

- ✓ Lecture on Introduction to Robotics and Parallel Mechanisms, Smart Sensors and Actuators for Robotics Applications AICTE Sponsored National Workshop on Application of Robotics in Industrial Automation organized by Muthayammal Engineering College,
- ✓ Dr Naveen Kumar Vats attended a one day workshop for Weaker Section students organized by the Ministry of Social Justice and Empowerment at IIT Delhi

Novel Courses Introduced

- ❖ Dr Masilamani – Scripting Languages – Perl & Python – A 3 credit course, it prepares the computer engineering students to aid in application development particularly GUI / pattern matching applications using regular expressions.
- ❖ Dr Noor Mahammad – Advanced Computer Architecture - This USP course of B.Tech Computer Engineering programme furthers the knowledge gained in earlier organization / vlsi design courses by equipping them with skills on hardware design and modeling. The accompanying 4 credit practice courses gives exhaustive hands on exposure to design and development of multi-core processor and optimize performance parameters using multithreading using CUDA.
- ❖ Dr B.Sivaselvan – Software Engineering – This course in contrast to conventional software engineering courses exposes the students to concepts in database management systems and software development lifecycle models and software engineering methodologies. The supplementing practice course equips the students with skills required for front end software design in interface with the back end database / design issues.
- ❖ Dr Shalu – Graph Theory – This higher level elective offered by the Mathematics stream model various applications as problems on graphs and design efficient algorithms for solving graph problems.
- ❖ Dr Vijayakumar – Randomized Algorithms - The course aims to provide a panoramic view of the spirit of algorithms design of the time with illustrations. In particular, the course contents try to fathom the power of randomization, linear programming, and Markov chains.
- ❖ Dr. Raja B - Design of Electronic Cooling System and Packaging – This elective course aims to expand the scope of the electronic engineer to include the importance of effective heat transfer in electronic equipments. The course will explain the design of different types of cooling system used for electronic devices used in the recent days in various fields like avionics, power generation, super computers, miniaturized devices etc. Also, the mechanical reliability of the device with respect to thermal management is introduced.
- ❖ Dr Shahul Hamid Khan -Logistics and Distribution Management - The course aims to provide an in-depth coverage of logistics management. Students will be exposed to various facets such Distribution, Transportation Management, Facility location, Reverse logistics, etc. The course would equip students with skills required for effective decision making and management.

- ❖ Aesthetics in Design – This novel course offered by the institute provide students with the practical knowledge and critical skills necessary to effectively consider visual design as an important and inevitable component of their design work. This course is about learning to develop and execute strong visual design concepts.

RESEARCH AND LABORATORY INFRASTRUCTURE

Further to the transition to the permanent campus, the various disciplines of the institute have been seen a steady increase in the number of laboratories. The various laboratories housed in the Laboratory Complex at the permanent campus are as follows: Human Computer Interaction Lab, Systems Programming Lab, Digital Prototyping Lab (DPL), Mechanical Sciences Lab, Power Electronics and Drives Lab, Circuits and Systems Lab, e-Design Lab, Waves and Electromagnetics Lab. A brief description about the focus areas of the laboratories mentioned above and students at work during the practice sessions follows:

(i)   Human Computer Interaction Lab: Part of the Computer Engineering discipline, this laboratory is used to conduct practice courses namely Computational Engineering, Object Oriented Programming, Scripting Languages, Software Engineering. This laboratory is used to offer courses focussing on computer engineering topics that aid in the design and development of efficient and usable software. Human Computer Interaction focusses on techniques that enable the design of efficient, usable and learnable software. This laboratory houses 21 computer systems including high end DELL worksations and desktop systems. Institute Network infrastruture such as the ISDN equipment, Network Distribution Switches, Fire Wall, Redunant Wireless Access Controller and a FUJITSU Windows Server, IBM Debian Linux Server to cater to the computing needs of the institute / practice courses. Recently the institute has procured a personalized super computing facility namely CUDA (Compute Unified Device Architecture) to run the advanced courses on computer architecture, advanced data structures / algorithms, data base management / knowledge engineering, image processing.

(ii)   The Systems Programming lab under the Computer Engineering discispline runs practice courses on Computer Organization & Microprocessors, Computer Architecture, VLSI Design, Data StructuresStructures & Algorithms, Operating Systems, Compiler Design, Computer Networks, Embedded Systems etc. The thrust area of this laboratory is the design and

development of software systems that interact with the hardware. The laboratory houses hardware design & modeling softwares such as XILINX Integerated Simulated Environment (ISE), XILINX Embedded Development Kit (EDK), CADENCE Electronic Design Automation (EDA) complete suite. XILINX SPARTAN 3E kits, 8051/8086 microprocessor kits, interfacing kits, MSP 430 Embedded Systems kits. The laboratory houses 21 high end workstations running enterprise linux to support the various simulation softwares mentioned above. This laboratory also houses a powerful image processing workstation with Intel X5690 6 core 3.47 GHz processor, 32 GB and 500 GB Memory / Storage, NVIDIA Quadro 5000 2.5 GB Dual monitor support. The system is used for the research project on computer aided semen analysis and shall be utshall be utiilized for surviellance, computational intensive tasks.
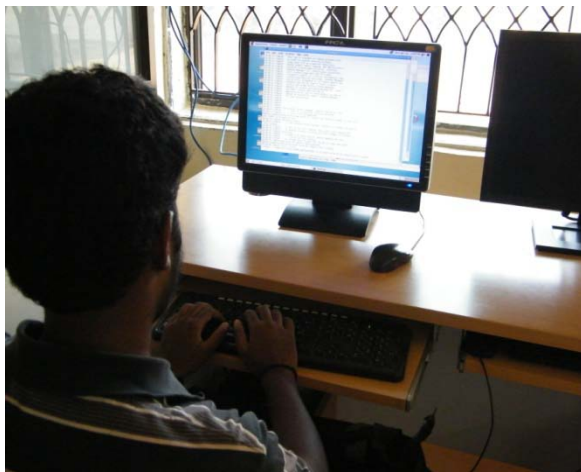

(iii)   Waves & Electromagnetics Lab

Experiments on various optical phenomena are done in the waves and electromagnetic laboratory. Interaction the optical waves are studied by experiments on different types of interference and diffraction such as Fresnel bi-prism, laser grating etc. Propagation of wave through a wave guide is studied with several experiments on optical fiber. There are experiments to study small oscillations and associated mechanical properties. Experiments on some electrical and magnetic properties of materials (such as dielectric, resistivity, magnetic susceptibility etc) are studied in the PHY106P course. Experiment on Lissajous

are employed to know about the superposition of two electrical pulses. Some experiments are here on quantum mechanics which give an idea about the energy quantization and the particle nature of light.

(iv) The Mechanical Sciences Lab provides basic and advanced practice related to workshop science and manufacturing, thermal engineering, mechanics, metrology etc. Apart from practice in conventional machines for manufacturing such as manual lathe, drilling milling etc, the students are exposed to CNC lathe, milling etc. During the practice sessions the students are also exposed to CMM, 3D printers, high end roughness tester, digital microscope, hardness tester etc. Students practice various aspects of statics and dynamics using many real time experiments. Presence of the Instron tensile testing machines, SMC pneumatics, robotic kits enhances the knowledge of the students in mechanics. Students gain knowledge in thermal engineering practice using many custom made test rigs. The various thermal equipments like heat exchangers, engines, Refrigeration, blowers, fans, heat sinks and other essential components in a fluid low, are analyzed practically.

CNC MILLING MACHINE

SURFACE ROUGHNESS TESTER

PRESSURE LOSSES IN PIPES TEST RIG

ROBOTIC KIT
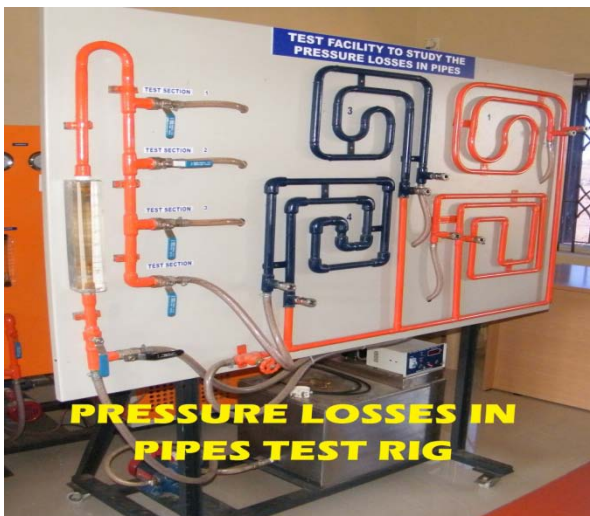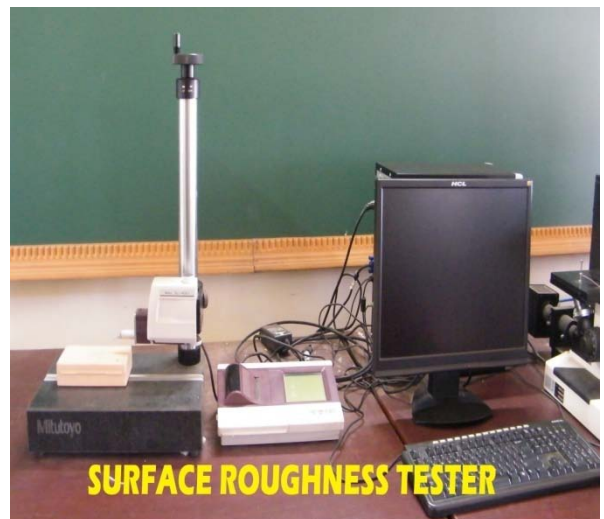
(v)   Digital Prototyping Laboratory:

The objective of Digital Prototyping Lab (DPL) is to provide all necessary facility and develop skills for seamless integration of distinct design phases namely concept design, detail design and analysis. DPL houses 45 no. of high-end workstations to support various drafting, modeling, and simulation software. In addition to workstations, DPL has 20 Wacom Intuos® graphic tablet which will aid the designer for sketching the conceptual designs. The workstation is powered by Intel Core 2 Duo Processors and nvidia Quadro FX 1700 graphics card. The existing configuration of workstations and graphic tablets in DPL provide sufficient infrastructure to conduct following UG and PG course broadly categorized as under. Courses on Graphics Art, Product Conceptualization and Visualization, Engineering Drawing, Machine Drawing, Simulations are offered in this laboratory.
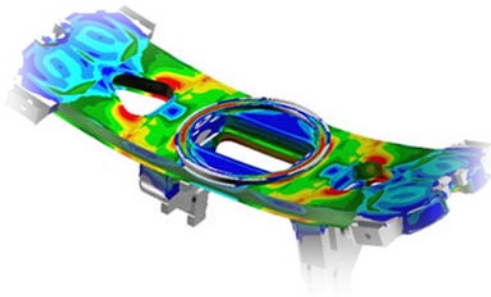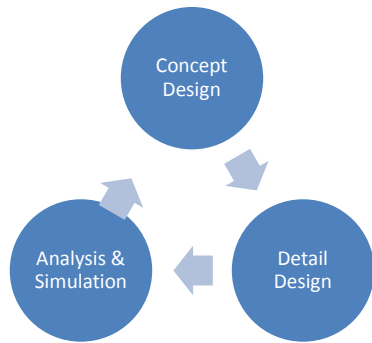
DPL is equipped with Sketch Book Pro, Sketch Book Designer, Corel Draw, AutoCAD, Double CAD XT, Inventor, Pro Engineer, Creo, Adams, MATLAB, Algor, ANSYS, MAYA, 3D Max software. Students sharpen their design skills and learnt practical application of simulation software in engineering design through the execution of mini projects. Till May 2012, 19 modeling mini projects, 46 kinematic & dynamic simulation projects, 51 Finite element analysis projects were performed by the students in DPL as a part of various course activity.

(vi)   Research Laboratory: The institute houses a dedicated research lab that is common for students and scholars, which provides an uninterrupted access. The lab provides the facility and supports the research problems and innovative projects in basic and advanced engineering. Facilities like Universal testing machines, hardness tester, Scanning electron microscope, microscope imager, Coordinate measuring machine, sputter coater are present. The students are permitted to log their usage in a ledger and use the machines. The lab also houses equipment related to funded projects. Using the grant-in-aid provided by the funding agencies, the faculties have brought in the facilities directly pertaining to their research area. Few to mention are Optical Spectrum analyzer, Splice machine, All fiber characterization facility, cold baths, flow boiling in mini channel facility, thermo-physical property facility etc.

CONVECTIVE HEAT TRANSFER CHARACTERISTICS IN MINICHANNEL

SPUTTER COATER

SCANNING ELECTRON MICROSCOPE

COORDINATE MEASURING M/C

INSTITUTE LIBRARY

The institute library despite being an young one supports state of the art open source version of RFID software KOHA. The software aids in efficient management of day to day transactions such as book issue, return, user account management and is robust over conventional database applications in the hardware integration via the software (RFID with software). The library also houses a large collection of engineering and allied areas titles such as Programming Languages, Machine Design, Electronic Circuits, Electrical Machines, etc. to name a few. Further to the transition to the permanent campus, the institute has subsribed to leading journals / publication databases such as IEEE, Elsevier, etc. A detailed list of the volumes and titles available / supported by the institute library is given in Table 15.

Table 15 Library Title(s) Statistics

S.No	Library Books Details	Qty
01	Total No of Books (As per the Accession Register on the date of 21st March 2012)	2130
	Online Journals / databases Subscription Details	
02	The Institute (IIITDM) has subscribed to about 600 Online Journals through INDEST consortium (Elsevier Science Direct 175 + IEEE Xplore 415)	590
03	CD-ROM databases of NPTEL 's video and text contents are available in the library	
	Automated Library Software System (KOHA)	
04	Integrated library management software in Koha with RFID enabled technology	

LAB EQUIPMENTS (Developed by IIITD&M Kancheepuram)

Research / Laboratory Infrastructure

ACKNOWLEDGEMENTS

At the outset I thank our Chairman, Board of Governors and other Members of the Board for sparing their time and effort and guiding us in the right direction. It is the Board's constructive suggestions and criticisms that have largely contributed to the growth of this institute. New areas of diversification for the institute and evolution of conventional technologies to suit the needs of the modern day society have been the motto of the institute and this is primarily due to the contribution of the Board members. I whole heartedly thank the Senate members comprising of faculty members of the institute, IIT Madras, IIT Guwahati, industry experts and other reputed institutes of national importance for their role in the shaping up of the academic programmes of the institute. The innovative programmes and novel courses on offer at the institute are a result of the deliberations and discussions by the Senate members. Members of the Faculty of IIT Madras and other IITs deserve special note of thanks for having extended their fullest cooperation in relation to academic matters and activities of the institute. The second batch of students would have passed out by the time this report is final and I am confident of the fact that our alma matter shall establish themselves as a niche brand and meet the objective and vision of the Government of India in producing next generation technocrats equipped with IT and IT enabled design and manufacturing skills. I should extend my sincere and heartfelt thanks to the Central Public Works Department (CPWD) team incharge of IIITD&M Kancheepuram construction. The entire team headed by Shri Ravi and Shri Annamalai have put in tireless effort and handed over the various blocks mentioned in the report in record time. I would also like to place on record my sincere thanks to the student, staff and faculty community of the institute. Last but not the least, I wish to thank all the contractors and their workers handling the security, catering, construction and housekeeping for their excellent service rendered during the initial formative phases at the permanent campus. Thank you All on Behalf of the Entire Institute. The year gone by has been a momentous one with various important activities / milestones and I am confident of the fact that we shall scale even greater heights in the years to come. Given that the initial scratch as far as the permanent campus development is concerned is done, I wish to address the following year with lot more achievements and events that would take forward the vision of the institute.

Jai Hind!

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