



National Institute of Technology

Tiruchirappalli



POST GRADUATE PLACEMENT INVITATION 2012

INTRODUCTION

National Institute of Technology, Tiruchirappalli is one of the premier institutes in the country in the field of technical education where both the cream of students and faculty co-exist. Over the years, it has produced students with impeccable engineering acumen while providing a conducive environment for the development of extracurricular talent. The students also acquire strong leadership, communication and team skills which ensure a smooth and effective transition into the corporate world. Various surveys have consistently ranked NITT among the top engineering institutes in India and this is further proof that we are among the very best.

OUTLOOK

Rank	Name of institute	P. Pvt G: Govt	City	Selection process (227)	Academic excellence (214)	Personality devt & ind interface (175)
1	IIT	G	Kharagpur	195.5	189.2	134.9
2	IIT	G	Delhi	207.6	181.5	137.2
3	IIT	G	Mumbai	203.3	195.4	128.6
4	IIT	G	Kanpur	199.2	192.7	140.2
5	IIT	G	Chennai	197.7	187.0	153.9
6	IIT	G	Roorkee	203.4	189.2	136.5
7	IIT-BHU	G	Varanasi	207.1	174.8	140.2
8	BITS	P	Pilani	192.1	176.3	158.9
9	Delhi Technological University	G	Delhi	197.7	159.5	140.2
10	NIT	G	Tiruchirappalli	188.0	167.7	128.8
11	ISMU	G	Dhanbad	170.3	157.8	98.7
12	College of Engineering, Anna Univ	G	Guindy	165.5	152.9	121.3
13	BIT, Mesra	P	Ranchi	163.6	159.0	99.3
14	NIT	G	Surathkal	168.4	141.2	115.0

Careers360

Indian Institute of Technology, Guwahati (IIT G)	9	10
National Institute of Technology, Surathkal (NIT S)	10	8
Institute of Technology- Banaras Hindu University (IT-BHU)	11	7
National Institute of Technology, Tiruchirappalli (NIT T)	12	7
Delhi College of Engineering	13	13
National Institute of Warangal (NIT W)	14	14
Subhas Institute of Technology, New Delhi (NSIT ND)	15	18

FROM OUR ESTEEMED RECRUITERS

Thank you!! We have had a great recruiting experience with NIT,Trichy - Facebook

Looking forward for a long term relationship with NIT,Trichy - Schlumberger

Bandwidth of knowledge is good - nVIDIA

We hope to continue this excellent relationship in the years to come - Microsoft

Hospitality was very good - DE Shaw and Co.

We had a great time in NIT,Trichy, looking forward to receiving the students in CISCO - Cisco Systems

Good students with good communication skills - Maruti Udyog Limited

Had a very good experience - Adobe

Selection Process	2
Master of Business Administration (MBA)	3
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M.Tech. Programme	
Chemical Engineering	5
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Computer Science and Engineering	7
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Process Control and Instrumentation	17
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Thermal Power Engineering	19
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M.Sc. Programme	
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The Management, Engineering and Science departments at NIT Tiruchirappalli offer Post-Graduate programmes leading to MBA, MCA, M.Tech., M.S. (Research), M.Sc. and Ph.D. degrees. With these diverse set of programmes offering different specializations, NITT has stayed at the forefront of emerging technologies. Further, the selection procedure for the various Post-Graduate programmes at NITT ensures that only the very best of students make it to its campus.

MBA: The two year programme follows a trimester pattern covering 32 courses spread over modules of 10 weeks each and a summer project of 10 weeks. The selection is based on the score obtained in CAT, a National Level Entrance Test conducted by IIMs. Candidates are further screened through a Group Discussion and a Personal Interview before the final admission. The MBA programme admits students with any under graduate degree.

MCA: The MCA programme admits students with an under graduate degree who had mathematics in 10+2. The three year course comprises a 6-month project, wherein the students gain hands on experience in various technologies and 30-months of coursework to develop a sound theoretical knowledge. The selection is based on the score obtained in NIMCET, a National Level Entrance test conducted by NITs for admission to the MCA course offered by NITs.

M.Tech.: The M.Tech. programme admits graduate students in core as well as interdisciplinary courses. The two year course comprises a 12-month research project, wherein the students gain hands on experience in cutting edge technology and 12- months of coursework to develop a sound theoretical base. The selection is based on the score obtained in Graduate Aptitude Test in Engineering (GATE), a highly competitive National Level Entrance Examination. The top percentile candidates short listed via this examination are then screened at the departmental level through an interview process before the final admission.

M.Sc.: The M.Sc. programme admits science graduates with pertinent specialization. The two year course comprises a 6-month research project, wherein the students gain a sound experience and 18-months of coursework to develop a sound theoretical knowledge. The selection is based on the score obtained in a National Level written test administered by NITT. Candidates are further screened through department level interview before the final admission.

M.S. (Research): The M.S. (Research) programme is offered to graduates in engineering. It includes a research project, wherein the students get enough opportunities to carry out research in the fields of specific interest and gain hands on experience in emerging technologies and a coursework which establishes a sound theoretical background. The selection is based on the score obtained in GATE or NITT written test. Candidates are further screened through department level interview before the final admission.



DEPARTMENT PROFILE

The Department of Management studies (DoMS) was established in 1978. The MBA programme was started in 1982. Aided by the state-of-the-art infrastructure, DoMS, NITT incorporates lectures, case studies, seminars, business games, simulation exercises, mini projects, unstructured group works and field visits in its teaching methods. DoMS offers dual specialization thereby developing the students' skill to cater the requirements of a competitive environment. The academicians at DoMS, NITT are a veritable treasure of learning & erudition.

COURSE PROFILE

The programme follows a trimester pattern and imparts in-depth knowledge in the crosscuts of all academic areas and pools together resources from every functional area, thus driving home the importance of seeing the "big picture" in business. The course is designed so as to expose the students to various theoretical concepts and the best practices of the industry. The stress towards academic excellence at NIT Trichy, combined with inputs from practicing managers provide a congenial environment for nurturing managerial experience. Further, a concentrated effort is made throughout the course to incorporate computer orientation in every functional area in order to cope with the dynamic changes. The programme covers 32 courses spread over modules of 10 weeks each and a summer project of 10 weeks.

STUDENT ACTIVITIES

The students of the school are a reflection of its capability to produce renaissance managers of the future. The classroom routine has been remarkably supplemented with efforts of the students as well as the academia in the form of clubs. They organize various events like business quizzes, stock exchange games, product promotion games and management debates. They serve as a forum for pooling in knowledge from all the departments and as a confluence of thoughts in the form of case discussions, management events and industry interaction.

CURRICULUM

Marketing

- Marketing Research
- Marketing Metrics
- Strategic Brand Mgmt.
- Business to Business Marketing
- Service marketing
- Operations Management
- Logistics Management
- Technology Forecasting
- Service Operations Mgmt.
- Advanced Material Mgmt.

Finance

- Financial Institutions and Services
- Treasury Management
- Investment Banking
- Investment Security Analysis & Portfolio Mgmt.
- Personal Finance
- Advanced Corporate Finance
- Human Resources
- Knowledge Management
- Change Management
- Strategic HR Development
- Counseling in Workplace

Business Analysis & IT Consulting

- Introduction to Business Analysis & IT Consulting
- Business Analysis in Financial Services / Capital Markets
- Business Analysis in Retail
- Business Analysis in Manufacturing
- Systems Analysis & Design
- Software Project Management
- Software Quality Management

Business Analytics

- Introduction to Business Analytics
- Data Analytics-I
- Data Analytics-II
- Data mining Techniques
- Marketing Analytics
- Supply Chain Analytics
- Financial Risk Analytics
- HR Analytics
- Digital Analytics





DEPARTMENT PROFILE

The Department of Computer Applications is one of the pioneering departments of the institution. The MCA programme offered at NITT is considered to be the best in the country. The course provides a good theoretical foundation through high quality teaching complemented by extensive practical teaching. The main objective of the programme is to provide professional training in the area of computer applications and to develop computer professionals to meet the demand of the fast growing IT industry.

COURSE PROFILE

This programme is specifically aimed at fulfilling the industry's growing need for competent software professionals. MCA is a six semester full time Post-Graduate programme spread over three years. The curriculum is designed to provide a solid conceptual foundation and an extensive focus on application of these concepts to real life situations. The curriculum covers diverse streams such as systems, application and management. In the first five semesters, the course content is a perfect blend of computer science, computer oriented mathematics and management science. The sixth semester is dedicated exclusively to project work.

CURRICULUM

- | | | | |
|---|--|--|---|
| <ul style="list-style-type: none"> . C / C++ / JAVA programming . Data structures and Algorithms . Data Base Management System . Object Oriented Analysis & Design . Operating Systems . Visual Programming . Software Engineering . Computer Networks . Data Warehousing & Data Mining . Software Architecture & Testing . Image Processing | <ul style="list-style-type: none"> . Computer Organization & Architecture . Organizational Behavior . High Performance Computing . System Programming . Mathematical techniques . Discrete Mathematics . Operations Research . Numerical and Statistical Methods | <ul style="list-style-type: none"> . Management Science . Accounting & Financial Management . Management Information System . Advanced Topics . Principles of Programming Language . Principles of Compiler Design . Client / Server Technology | <h3>LAB COURSES</h3> <ul style="list-style-type: none"> . C / C++ / JAVA programming . Visual Programming (.net) . Data Structures . UNIX shell programming . RDBMS . Computer Graphics |
|---|--|--|---|

LAB FACILITIES

- . The MCA lab distinguishes itself with 100 DELL PCs and a high-speed gateway to the Octagon's central computing facilities.
- . In addition, it also has IBM RS/6000SP along with the digital Library software.

ONGOING PROJECTS

- . Graph based classification of geometric shaped objects
- . Approximation algorithm for hard problems in engineering
- . A composite color-texture-object-shape feature using saturation thresholding from the HSV color fuzzy approach for content-based image and video retrieval.





DEPARTMENT PROFILE

Established in 1968, the Department of Chemical Engineering, NIT Trichy is regarded as one of the premier centers for Chemical Engineering in India by industries as well as academia. The National Board of Accreditation (NBA) has granted the department A(+3) certification for 3 years, the topmost any department can aspire to get. It also has the distinction of being ranked as one of the top seven Chemical Engineering divisions in India by Chemical Engineering Faculties. The department is backed by highly qualified and experienced faculty, most of whom have been involved in various industrial projects and consultancy services.

COURSE PROFILE

The Course offers a specialization in chemical engineering with specific focus on plant design. It strives to meet the growing demand of design engineers in private and public sector companies as well as consultancies by bridging the gap between a theoretically sound student and a practically qualified technocrat. Students are imparted with knowledge in advanced heat, mass and momentum transfer along with chemical reaction engineering and process control. Students are also made acquainted with purely industry oriented subjects like pinch technology and new separation techniques. Course is so designed to groom students that they extract the best talents out of them and excel in their discipline.

CURRICULUM

- . Process Engineering Design
- . Advanced Process Control
- . Process Modeling and Simulation
- . Chemical Reactor Analysis and Design
- . Fluid Particle Technology
- . Advanced Fluid Dynamics and Heat Transfer
- . Computational Fluid Dynamics
- . Pinch Technology
- . New Separation Techniques
- . Bio Energy Engineering
- . Optimization Techniques
- . Bioprocess Engineering

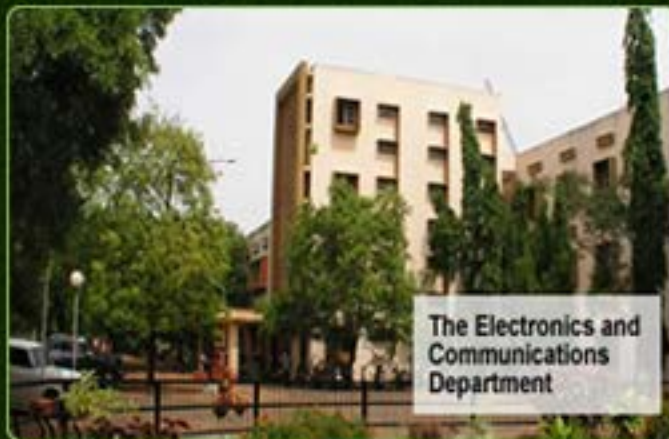
LAB FACILITIES

- Unit Operations
- Process Control and Instrumentation with plant condition simulator, energy trainer and analog simulator and DDC systems
- Chemical reaction, technical analysis, Momentum transfer.
- Mechanical Unit Operations Lab
- Biochemical laboratory with biostat E, Fluidized Bed Reactor and UV Spectrometer
- Software Packages: CFD, Aspen Plus, Hysis, ChemCAD, Matlab.

ONGOING PROJECTS

- Removal of phenol / phenolic compounds using RTIL Impregnated microcapsules - DST/ SERC
- Analysis of existing cyclones in CDP, BHEL Trichy & study of recirculation performance
- Investigations in mechanistic features of the Sonochemical remediation of dyes in textile effluent - DST / FTP / ETA
- Development of polymeric membranes for waste water treatment & recovery - DST





The Electronics and Communications Department

DEPARTMENT PROFILE

The department of Electronics and Communication Engineering was established in 1968. Since its establishment, the department strives to maintain its high standard by revising its academic syllabi to suit the industrial standards. The alumni consistently feed inputs for improvement of the curriculum and research facilities.

COURSE PROFILE

Recognizing the need for specialist engineers in the field of Communications, the department has introduced Communication Systems as a post graduate course.

The coursework has been designed with curriculum

- laying strong emphasis on rigorous mathematical foundation.
- with in-depth analysis on the principles of communication and their applications.
- with advanced concepts and recent trends in the fields of Communication and Signal Processing.

The students also undergo laboratory programmes on the design and implementation of DSP modules and fibre optic devices, besides devoting their entire final year to the project work.

CURRICULUM

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • Advanced Digital Signal Processing • Advanced Digital Communication • High Speed Communication Networks • Microwave Circuits • Probability and Stochastic processes • Broadband Wireless Technologies • Optical Communication Systems | <ul style="list-style-type: none"> • Architecture of DSPs • DSP Structures for VLSI • RF MEMS • FPGA Based System Design • Verilog HDL • Detection and Estimation | <h3>LAB COURSES</h3> <ul style="list-style-type: none"> • Microwave and MIC Lab • Fiber Optics and Communication Lab • Digital Signal Processors Lab |
|---|---|---|

LAB FACILITIES

The course has been framed with the right blend of both hardware and software laboratories. The modern microwave laboratory is equipped with a microwave vector network analyzer, a digital spectrum analyzer and software based MIC filter design tools. The fiber optics laboratory contains application specific software packages like PHOTONICS - CAD and OPTSIM. In addition, a CAD center for MIC & RF MEMS has been established with application software such as IE3D and FIDELITY. Besides all these, COMMSIM, COVENTOR, INTELLISUITE, EMPIRE and ANSOFT HFSS have been procured.

ONGOING PROJECTS

- Trans-receiver design of multi-user MIMO
- Direction of arrivals estimation
- Analysis and Design of Coplanar Waveguide (CPW) Filters, AICTE, Govt. of India





DEPARTMENT PROFILE

The department of Computer Science and Engineering with its cohesive team of faculty members, offers sound programmes at the UG and the PG levels. The curriculum is updated regularly to keep up with the growing demands and the changing trends of the software industry and research laboratories. Core courses include Programming Languages, Computer Architecture, System Software, Networking Technologies and Artificial Intelligence.

COURSE PROFILE

This programme is aimed at providing a comprehensive overview of the later-day advances in the various frontiers of Computer Science including Computer Architecture, Software Systems, Parallel & Distributed Computing and Networking & Web Technologies. The highly experienced faculty team coupled with modern computing facilities provides an environment in which students can improve their professional skills and knowledge base which are mandatory to conquer the challenges of the future. To enhance the awareness of the rapid changes in computer science, students participate in various guest lectures and workshops conducted by eminent personalities from the industry.

CURRICULUM

- . Advanced Concepts in Database Systems
- . Advanced Concepts in Operating Systems
- . Advanced Digital Design
- . Advanced Database Concepts
- . Data Structures and Algorithms
- . Distributed Systems
- . Parallel Computer Architecture
- . Design and Analysis of Parallel Algorithms
- . Fault Tolerant Computing Systems
- . Network Security
- . Network Principles and Protocols
- . Principles of Cryptography
- . Mobile Network Systems
- . Wireless Sensor Networks

LAB FACILITIES

- . State-of-the-art computing facility at the Octagon with Pentium IV and Sun SPARC systems.
- . Servers which support the LAN also provide a Linux/Unix environment and include SUN SPARC and Silicon Graphics workstations
- . Lab specially dedicated to M.Tech. students with latest configuration of i-macs.
- . Dedicated lab with multi-core processors for research.

ONGOING PROJECTS

- . Smart and Secured Environment (Sponsored by N.T.R.O., Delhi)
- . Automatic Test Case Generator for evolving Processor Architectures.
- . Page Functions : Developing a Faster Approach to Address Translation.
- . Bus architecture for multicore systems.





DEPARTMENT PROFILE

CEEESAT-Center for Energy and Environmental Science and Technology emerged under the protocol signed by the Governments of India and the United Kingdom. The department has been established as an interdisciplinary nodal center to enhance the excellence in training, research and consultancy in Energy and Environmental Science. Main emphasis will be given to the identification of appropriate technologies for the efficient production, distribution and use of energy.

COURSE PROFILE

The two year M.Tech. course on Energy Engineering aims at offering a competency based education to emphasize an Energy Engineer to perform tasks such as

- Choosing an energy source and evaluating its economic viability.
- Choosing an energy option with reference to environmental benefits.
- Setting up energy management as a regular feature.
- Selecting appliances and designing suitable devices.
- Energy auditing and devising conservation schemes.
- Simulating energy consuming devices by CFD techniques.

CURRICULUM

- Energy Audit and Management
- Fuels and Combustion Technology
- Solar Energy Engineering
- Thermal Engineering
- Environmental Impact Assessment and Economic Analysis
- Environmental Engineering and Pollution
- Wind Energy Engineering
- Optimum Utilization of Heat and Power
- Batteries and Fuel Cells
- Computational Fluid Dynamics
- Design of Heat Transfer Equipments

LAB FACILITIES

- CHNO Analyzer, Delta T Logger
- Fluidized Bed Gasifier
- Spectro Photometer, Ultimate Analyzer
- Vapor Absorption Refrigeration System
- Thermo Gravimetric Analyzer
- Wind / Solar Energy Converter
- Pyronometer
- Data Loggers and Noise Level Indicators

ONGOING PROJECTS

- R&D project in 'Experimental and simulation studies on CO₂ sequestration using solar, chemical methods-DST / FTP / ETA
- Combined pyrolysis and steam gasification to establish multifuel production with maximum hydrogen yield-DST / FTP
- Modeling and simulation of integrated solar combined cycle plant
- Studies on auto gasification of lignite
- Studies on auto gasification of wooden stick
- Performance evaluation of combined solar still FPC





DEPARTMENT PROFILE

The Department of Civil Engineering has been one of the oldest and finest departments of the institute. Established in 1964, it has been involved in making professional Civil Engineers. The vision of the Department is to shape infrastructure development with societal focus. The highly qualified and experienced faculty along with its Engineering Consultancy Centre has been instrumental in bringing the institute to the forefront of academic and research activities.

COURSE PROFILE

The Post Graduate Programme in Environmental Engineering was started as an interdisciplinary Programme (Civil, Chemical & Mechanical Engg.) under TEQIP in 2006. The course aims to develop professional engineers with leadership qualities in engineering aspects of land & water management, environmental assessment, skills in water supply, waste water treatment, land reclamation and solute transport. It will also enable engineers to converse scientifically with biologists, ecologists and resource managers. With these skills, graduates will be able to play a leading role in developing engineering solutions to a wide range of problems and opportunities within an ecologically sustainable context.

CURRICULUM

- . Air Quality Management
- . Biological Process Design for Wastewater Treatment.
- . Environmental Chemistry & Microbiology
- . Physico-Chemical Process for Water & Wastewater Treatment
- . Solid & Hazardous Waste Management
- . Transport of Water & Wastewater
- . Bio-Energy & Engineering
- . Contaminant Transport Modeling
- . Environmental Impact Assessment
- . Industrial Wastewater Management
- . Water & Air Quality Models
- . Bio process engineering

LAB FACILITIES

Key equipments include

- Atomic Absorption spectrophotometer
- UV Visible Spectrophotometer
- Ion Analyser
- COD
- Digester, Orbital Shaking Incubator
- Flue Gas Analyser
- Vehicle Exhaust Analyser
- Diesel Smoke Meter
- Key software include AutoCAD, Visual MODFLOW, Arc GIS, Arc View, Arc Info, ENVI, RIAM, QUAL2E.

ONGOING PROJECTS

- Remote sensing application in Ambient Air Quality Monitoring, sponsored by MHRD
- Engineered solid waste management, sponsored by MHRD
- Modeling of Leachate migration from Open dumping site, sponsored by DST





DEPARTMENT PROFILE

The Production Engineering department was established in 1981. The department aims at imparting education and training that help the students in ensuring a challenging and satisfying career. In the modern rapidly changing technologically competitive world, there is an immense need of technocrats specialized in manufacturing and operations. Realizing this trend in the global scenario, the department offers two post graduate programmes in Industrial Engineering and Manufacturing Technology.

COURSE PROFILE

Industrial Engineering is a unique discipline which amalgamates the engineering skills with business sense and managerial abilities of a technocrat. By focusing on present industrial scenario and their needs, the course equips the student with operational management skills to utilize the available resources in a cost effective and productive way. The course ensures holistic transformation of undergraduate scholars to dynamic and innovative Industrial Engineers who can design & integrate systems, analyze problems and provide permanent solutions with business consciousness.

CURRICULUM

- Probability and Statistics
- Advanced Operations Research
- Analysis and Control of Manufacturing System
- Quality Engineering
- Modelling and Simulation
- Work Design and Ergonomics
- Supply Chain Management
- Terrotechnology
- Total Quality Management
- Facility Planning
- Value Engineering
- Production Management System
- Enterprise Resource Planning
- Logistics Management
- Data Analysis for Management
- Financial Management
- E-Commerce

LAB FACILITIES

- Simulation packages – Simquick, Arena, Witness, CPLEX
- Operation Management packages – OM Expert, TORA
- CAD/CAM packages – Pro/E Wildfire, Ideas, Unigraphics, Ansys 10.0
- Computer Programming Languages – C/C++

ONGOING PROJECTS

- Hybrid laser- Laser beam welding and gas metal arc welding of AISI 904L super austenitic stainless steel, DST (FTP).
- Joining of thermoplastic composite pipes, comparison of hole expansion ratio, stretch flangeability, wrinkling behavior and crash worthiness of high strength IF steel tailor welded blanks, fabricated by various welding techniques, DST (FTP).
- Improvement of wear resistance of Ti-alloy disc brake rotor through laser surface melting, DST (FTP).



MECHANICAL ENGINEERING



DEPARTMENT PROFILE

The Mechanical Engineering department has the reputation of being amongst the finest in the country since its inception. Keeping itself up to date with the latest developments in the field and with dedicated, highly qualified and experienced faculty members in all streams of mechanical engineering, the department aims at providing world class facilities for education and research. An interactive relationship, maintained between the students and staff, ensures effective learning.

COURSE PROFILE

Post Graduate programme in Industrial Safety Engineering was started in 1985, with the support of BHEL, Trichy, as a multidisciplinary programme. The course is aimed at developing managerial skills to administer Health, Safety & Environment programmes. Continually updated curriculum addressing the current and future needs and the faculty team consisting of practising HSE professionals facilitate in transforming the students to competent professionals.

CURRICULUM

- Probability and Statistics
- Safety Management
- Occupational Health and Hygiene
- Safety in Chemical Industry
- Regulation for Health, Safety and Environment
- Computer Aided Risk Analysis
- Safety in Material Handling
- Human Factors Engineering
- Environmental Pollution Control
- Safety in Engineering Industry
- Electrical Safety

LAB FACILITIES

- PPE (Personal Protective Equipment) Lab: Safety helmets, Safety shields, Safety shoes, Safety belt, Safety gloves, Leather hand sleeve, Leather leg guard, Ear muff, Ear plug, Safety aprons, Safety goggles, Safety respirators, Dust mask, BAM Friction Tester.
- National Model Centre for Occupational Health Services (OHS) an ILO/UNDP project of BHEL, Trichy.
- Sound level meters, Noise dose meters, Air samplers, WBGT index meter & KATA thermometer, LUX meter, Tread mill & ECG for measuring work capacity.

ONGOING PROJECTS

- Modelling of environmental emission and design & development of fuzzy control fume extraction system for electrical discharge machining process – Ministry of environment and forest
- Risk assessment for Vetrivel explosives Pvt Limited, Thuriyur
- Comprehensive safety audit for M/S WIMCO Ltd, Chennai
- Offsite emergency plan for Karur District





DEPARTMENT PROFILE

The Production Engineering department was established in 1981. The department aims at imparting education and training that help students in ensuring a challenging and satisfying career. In the modern rapidly changing technologically competitive world, there is an immense need of technocrats specialized in manufacturing and operations. Realizing this trend in the global scenario, the department offers two post graduate programmes in Manufacturing Technology and Industrial Engineering. It was declared as the best department of the institute for the year 2006-2007.

COURSE PROFILE

The industrial scenario today is poised for modernization and growth in manufacturing. Given the paucity of manufacturing professionals, the course intends to shape the students in tune with advanced methods of manufacturing technology by imparting essential inputs on practical and theoretical exposures vogue in present day industries. The course aims at producing world class manufacturing engineers armed with knowledge in diversified fields of manufacturing.

CURRICULUM

- Computational Methods and Engineering
- Tooling for Manufacturing
- Casting and Welding Technology
- Manufacturing Management
- Advance in Manufacturing Technology
- Computer Integrated Manufacturing
- Advance Finite Element Methods
- Flexible Manufacturing System
- CAD/CAM
- Production automation and CNC technology
- Material Technology
- Tool Engineering
- Mathematical Methods
- Terrotechnology
- Project Management
- Manufacturing of Products from Non-metallic Materials

LAB FACILITIES

- CAD/CAM software – Pro/E wildfire 3, Catia V5R19, UniGraphics NX2, ANSYS 11, IDEAS, Auto CAD 2010.
- Machining Centers- HARDFORD FANUC VMC, LEADWELL turning center, HMT-STC turning center, TRIAC milling machine, MCO PC TURN 55, EMCO PC MILL 55.
- Robotics- RHINO X-3 Robot work cell, Machine Vision system, SCORBOT ER5 Plus.
- Micro Machining Lab – FIST
- Mechatronics Lab – FIST

ONGOING PROJECTS

- Hybrid laser- Laser beam welding and gas metal arc welding of AISI 904l super austenitic stainless steel- DST (FTP).
- Joining of thermoplastic composite pipes, Comparison of hole expansion ratio, stretch flange ability, wrinkling behavior and crash worthiness of high strength IF steel tailor welded blanks, fabricated by various welding techniques - DST (FTP).
- Improvement of wear resistance of Ti-alloy disc brake rotor through laser surface melting - DST (FTP).





DEPARTMENT PROFILE

The department of Metallurgical and Materials Engineering was established in 1967. Since then the department has been one of the premier centers of excellence in the field of Metallurgical and Materials Science. Highly qualified faculty handle the lectures and in addition to that guest lectures are delivered by eminent professionals from premier organizations such as DRDO, IISc, WRI-BHEL and IGCAR.

COURSE PROFILE

The programme in Materials Science has been designed to meet the requirements of Manufacturing, Materials Development and Materials Research. The coursework covers both metallic and non-metallic materials. Students get opportunity to do projects in various emerging fields like Powder metallurgy, Wear, Composites, Bio-materials, Nano technology, Process modeling, Corrosion etc.

CURRICULUM

- Physical Metallurgy
- Thermodynamics
- Selection of Materials
- Mechanical Behavior of Materials
- Ceramic Science and Technology
- Composites and Polymers
- Corrosion Engineering
- Surface Engineering
- Nano-Materials and Technology
- High Temperature Materials
- Iron and Steel Making

LAB FACILITIES

- Powder Metallurgy - Screw Press, High Temperature Furnaces & Ball Mills
- Surface Engg - Abrasion wear, Pin on disk wear test setup
- Characterization - SEM, High Resolution Microscope and Image Analyzer
- Tensile testing - Universal testing machine 60 T
- Hardness testing - Brinell, Vickers, Rockwell, Micro hardness
- Creep testing, Impact testing, Rotary fatigue testing machines
- Corrosion Centre - Galvanostat, Potentiostat, Salt Spray Unit
- Process Metallurgy: Thermocalc Modeling Software, Thermo-Chemical Calculation, High Temperature Pyrometer.

ONGOING PROJECTS

- Evaluation and control of Corrosion Problems in SWC pumps of Lignite mines, Neyveli Lignite Corporation (NLC).
- Development of Iron based bulk metallic glasses through MA, RST-SERC.
- Development of nanostructure and bimodal nano structured Aluminium alloys by severe plastic deformation, DRDO.
- Development of high strength, high conductivity Cu-Cr in-situ composites prepared by mechanical alloying, DST.
- Development of Ultra High Strength Aluminium based in situ Composite by Cryo-rolling, DST Fast Track.





DEPARTMENT PROFILE

The department of Physics is one of the oldest and active departments of NITT. Masters programme in Non-Destructive Testing, offered by the Department of Physics, is a unique course of its kind in Asia. The course is developed in line with Brunel University, U.K. It is offered under collaborative venture with NDTL of BHEL Trichy. The course and the institute are recognized by ASNT and ISNT. Also the department proudly organizes "QUALITY" a national level symposium and workshop in NDT for various young talents and scientists to present their research work.

COURSE PROFILE

Non-Destructive Testing (NDT) plays a vital role in ensuring reliability and quality of the products of various engineering industries. The first two semesters are devoted to theory, practical and field work and the final two semesters are exclusively meant for carrying out project work at industries & research institutions such as CNDE(IITM), NML, IGCAR, ISRO, IOCL, DMRL, HAL and NDTL-BHEL. Core faculty of institute and senior experienced engineers of NDTL-BHEL handle the subjects. Students are exposed to trade through visits to various laboratories and workshops in BHEL. They learn many advanced techniques such as Phased Array, Real Time Radioscopy, TOFD, LINAC systems and many more during their field work in industries. Students concurrently get qualified for ASNT level II, from ISNT Trichy Chapter and get registered to ISNT as student members.

CURRICULUM

- LPI and MPI methods of testing
- Eddy current testing
- Radiography methods of testing
- Ultrasonic methods of testing
- Radiation safety
- Basic metallurgy and fracture mechanics
- Fabrication technology
- ISO-9000 and ISO-14000 series and quality
- Boiler auxiliaries and performance evaluation
- Digital image processing and Digital signal processing
- Fiber optic sensors
- Nano science and technology
- Thin film technology
- Design of weldments

LAB FACILITIES

- Acoustic emission technique
- Advanced optical inspection
- Leak testing
- Magnetic resonance imaging
- Optical and acoustical holographic techniques
- Photo elasticity

ONGOING PROJECTS

NDTL-BHEL

- Defect detection in AISI 304 Plate using Thermography.
- Ultrasonic signal detection of defects using Helbert Huang Transform.
- Non linear Ultrasonic Studies of Mild Steel.
- Radiography testing – X-ray and gamma ray sources
- Magnetic particle testing
- Leak testing, Optical holography, and Acoustic emission technique





DEPARTMENT PROFILE

The department of Electrical and Electronics Engineering in National Institute of Technology Tiruchirappalli has grown from a modest beginning in 1964 into a large, fully equipped teaching and research department. The department has highly qualified faculty and is equipped with state-of-the-art computer systems and library facilities. The Department shares its research experience through technical symposia.

COURSE PROFILE

This course is designed to provide sound knowledge on the various aspects of modern Power Systems with more thrust on the key concepts of power electronics and automation of power systems. It deals with sophisticated techniques in power system forecasting, analysis, planning, stability evaluation, flexible AC transmission, high voltage DC transmission, reliability and security to keep up with the ever increasing demand in electrical power.

CURRICULUM

- Advanced power system analysis
- Power system operation and control
- Power system stability
- Advanced power system protection
- Flexible AC transmission systems
- High Voltage DC Transmission systems
- Power conversion techniques
- Industrial control electronics
- Power electronics drives
- Renewable power generation sources
- Optimization technique
- Digital signal processing and applications
- Analysis and design of Artificial Neural Networks
- Fuzzy systems

LAB FACILITIES

- Electrical Machines Laboratory
- Power System Simulation Laboratory
- Power Electronics Laboratory
- Software Packages like MATLAB / SIMULINK 7.1, PSCAD 4.2, ETAP 4.0, Mi Power 4.0, POWER WORLD SIMULATOR.

ONGOING PROJECTS

- Stability Studies of Wind Driven Induction Generators under various Power System Faults.
- Design Methodology for Autonomous Operation of a Radial Distribution network.
- MPPT Controller using Interleaved Dual Boost Converter and Line Commutated Inverter for Grid Connected PV systems.
- Speed Estimation of Wound Rotor Induction Machine using Sensor-Less Control scheme.
- Analysis, Design and Control of Solar Powered UPS Inverter.





DEPARTMENT PROFILE

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COURSE PROFILE

This course emphasizes on the foundation and technologies of modern power electronics and automation of power system. It deals with state-of-the-art techniques in design and development of power modules and power conversion. It also covers subjects on Power electronics drives, Flexible AC transmission, High voltage DC transmission, Industrial control electronics and advanced topics in microprocessors and microcontrollers application in power converters which are very much needed to meet the growing challenges in the field of electrical engineering.

CURRICULUM

- System theory
- Power Converters
- Power Electronic Drives
- Switched mode power conversion
- Microcontroller applications in power converters
- Industrial control electronics
- Advanced power system analysis
- Flexible AC transmission systems
- High Voltage DC Transmission systems
- Renewable power generation sources
- Digital signal processing and applications
- Optimization techniques
- Fuzzy systems
- Analysis and Design of Artificial Neural Networks

LAB FACILITIES

- Power Converters laboratory
- Microprocessors and microcontrollers laboratory
- Electrical Machines Laboratory
- Power modules laboratory
- Simulation laboratory software like
MATLAB / SIMULINK 7.5, MP LAB IDE, PROTEUS
VSM (LAB CENTRE)

ONGOING PROJECTS

- Neural controller for integrated Wind / Solar system for Battery Charging
- Development of Neuro Fuzzy Controller for High Performance Voltage Controlled Induction Motor Drive
- Application of Genetic Algorithm for High Performance Power Converters Unified Power Flow Controller
- Control of Hybrid Wind Driven Induction Generator and PV Array Distributed Generator for Isolated and Grid connected Operations.
- An Investigation of Power Factor Improvement in Compact Fluorescent Lamps.





DEPARTMENT PROFILE

Since its inception in 1968, the department has been the premier center for excellence in the field of Chemical Engineering. The department is backed by highly qualified and experienced faculty, most of whom have been involved in various industrial projects and consultancies. The students have been actively participating in various conferences and symposia and presenting many technical papers in India. The students have won several National and International level Design competitions.

COURSE PROFILE

This post graduation course was introduced in 1996 with specific focus on the quality of control and instrumentation which has acquired significant importance in every industry. The course is offered jointly by the Department of Instrumentation and Control Engineering and the Department of Chemical Engineering. Its aim is to train manpower in the area of control and instrumentation to meet the demands arising from various industries and R & D establishments. With students under the constant guidance of a team of young and dynamic faculty and state-of-art lab facilities, the course is made more effective.

CURRICULUM

- Modern Control System
- Advanced Process Control
- Computer Control of Process
- Instrumentation
- Process Modeling and Simulation
- Industrial Communication Systems
- System Identification
- Chemical Process Flow Sheeting
- Instrumentation for Environmental Analysis
- Real Time Embedded Systems
- Computer Networks
- Chemical Process Systems

LAB FACILITIES

- Control and Instrumentation Lab
- Process Control Lab
- Embedded Systems Lab
- Transducer Design Lab
- Electronics and Instrumentation Lab
- MEMS Design Center
- Microcontrollers Lab
- Virtual Instrumentation Lab

ONGOING PROJECTS

- Establishment of new national MEMS Design Center National programme on Micro and Smart Systems
- Design of electrorheological (ER) damper based suspension control system – ARDB, Ministry of Defence, Govt. of India
- Energy harvesting using piezoelectric for self powdered wireless sensor network based precision agriculture under DST / FAST TRACK, Govt. of India
- Modeling and control of process with large process lag and random disturbances - CDAC
- Advanced control of chemical processes involving time delays with application to fermentation - DST / FTP





DEPARTMENT PROFILE

The Department of Civil Engineering has been one of the oldest and finest departments of the institute. Established in 1964, it has been involved in making professional Civil Engineers. The vision of the Department is to shape infrastructure development with societal focus. The highly qualified and experienced faculty along with its Engineering Consultancy Centre has been instrumental in bringing the institute to the forefront of academic and research activities.

COURSE PROFILE

The aim of this course is to fulfill the growing demand for specialists in Structural Engineering. This course is very useful as it will enable the Engineers to update their knowledge in the field of structural behavior and design and will equip them to solve complicated structural engineering problems. The curriculum is designed so as to give exposure on areas of structural analysis, design, detailing and construction. The course also familiarizes the use of general purpose and application oriented software in the field of structural engineering, finite element analysis and optimization.

CURRICULUM

- . Matrix Methods of Structural Analysis
- . Finite Element Methods
- . Structural Dynamics
- . Design of Steel and Composite structures
- . Theory of Elasticity and Plasticity
- . Theory of Plates and Shells
- . Maintenance and Rehabilitation of Structures
- . Analysis of deep foundation
- . Bridge Engineering
- . Advanced Concrete Structures
- . Seismic Design of Structures
- . Smart Structures
- . Non - Linear Analysis
- . Stability of Structures

LAB FACILITIES

- Structural Engineering laboratory is equipped with 100ton capacity UTM, Heavy Testing Floor with loading frame, Load Cells, Hydraulic Jack 200t, 100t Strain Data Logger, Photo Elastic Polariscope.
- Advanced instruments include 80 channel Data log system, ACLVDT, Electro-chemical corrosion measuring instrument, Channel data acquisition system
- NDT Equipments include Schmidt Hammer, Ultrasonic Testing Equipment, Electronic Cover Meter
- Software includes ANSYS II, AutoCAD, STAAD Pro, STRAP, SAP, NASTRAN, NISA 3, GTStrudl 6.0, C & C++.

ONGOING PROJECTS

- Analysis and design of support structure for large scale HRSG using LSM for optimization & bringing out salient features of LSD for future applications - BHEL.
- Evaluation of Geotechnical properties of Lunar soil Simulant for Chandrayaan-2 Mission, sponsored by ISRO.
- Non Linear soil structure investigation on piles on sloping ground, sponsored by DST.
- Geotechnical Investigation for New Plant Area – BHEL and for a transmission line project for TNEB
- Assessing the dynamic behavior of aggregates crushing unit and limiting the dynamic vibration.





DEPARTMENT PROFILE

The Mechanical Engineering department has the reputation of being among the finest in the country since its inception. Keeping itself up to date with the latest developments in the field and with dedicated, highly qualified and experienced faculty members in all streams of mechanical engineering, the department aims at providing world class facilities for education and research. An interactive relationship, maintained between the students and the staff, ensures effective learning.

COURSE PROFILE

This programme is designed to provide a sound and in-depth knowledge in various aspects of design, manufacture, test, control and evaluation of Thermal Power Equipments. Thermal Power Plants have an increasingly dominant role to play in the vital power generation sector. The course content aims at developing the necessary analytical and technical competence among engineers in this area.

CURRICULUM

- Mathematical Methods
- Fuels, Combustion and Emission Control
- Advanced Fluid Mechanics
- Advanced Heat Transfer
- Analysis of Thermal Power Cycles
- Analysis and Design of Pressure Vessels
- Fluid Mechanics and Turbomachines
- Instrumentation
- Computational Fluid Dynamics
- Analysis and Design of Pressure Vessels
- Energy Conservation, Management and Audit
- Advanced IC Engines
- Advanced Refrigeration and Air Conditioning
- Boiler Auxiliaries and Performance Evaluation
- Heat Transfer Equipment Design
- Installation, Testing and Operation of Boilers
- Environmental Pollution Control
- Non-Destructive Testing and Failure Analysis
- Frontier Materials

LAB FACILITIES

- Thermal Lab – Advanced instruments like integrated thermal analyzer, temperature calibration bath and infrared thermometer.
- Other Labs include Metrology lab, Turbo Machines Lab, Dynamics lab, Heat and Mass transfer Lab, Refrigeration and Air conditioning Lab, Automobile Lab.
- CAD Centre – Advanced Modelling and Analysis packages, AutoCAD 2010, Ansys 11, Unigraphics, Pro/E, IDEAS and Catia CFD packages like Fluent / Gambit, Phoenix, Online flue gas analyzer, Ultimate analyzer and Hightech calorimeter .
- Use of nanofluids in liquid block with rotating twist insert for electronic cooling system sponsored by CSIR, New Delhi.
- Flow visualization, heat transfer and pressure drop characteristics of hybrid nanofluids – sponsored by Dept. of Science & Technology, Govt. of India.
- Support system for FBHE coils; back pass surfaces & buckstay system for CFBC boiler for BHEL Trichy.
- Determination of load transfer pattern & stress distribution with large openings in the furnace walls of CFBC boiler for BHEL Trichy.





DEPARTMENT PROFILE

The Department of Civil Engineering has been one of the oldest and finest departments of the institute. Established in 1964, it has been involved in making professional Civil Engineers. The vision of the Department is to shape infrastructure development with societal focus. The highly qualified and experienced faculty along with its Engineering Consultancy Centre has been instrumental in bringing the institute to the forefront of academic and research activities.

COURSE PROFILE

The Post Graduate Programme in Transportation Engineering and Management, started in 1971 with MHRD funds under the erstwhile University of Madras is a pioneering one. The unique feature of this course is that it emphasizes the importance of Transportation Planning. One month In-Plant Training program is arranged for students at the end of the second semester in various Government organizations and companies to get industrial exposure and groom them into competent professionals. The curriculum is modernized with a lot of input on GIS/GPS, Remote Sensing, Intelligent Transport Systems, CAD, etc. Students are trained on live projects such as PMGSY, NHA projects, etc.

CURRICULUM

- . Highway Traffic Analysis and Design
- . Pavement Analysis and Design
- . Computer Simulation Applications
- . Transportation Planning
- . Traffic Flow Theory
- . Road Transport Management and Economics
- . CAD in Transportation Engineering
- . Transportation Systems
- . Geographical Information Systems
- . Intelligent Transportation Systems
- . Bridge Engineering
- . Highway Materials
- . Ground Improvement Techniques
- . Environmental Impact Assessment
- . Project Management

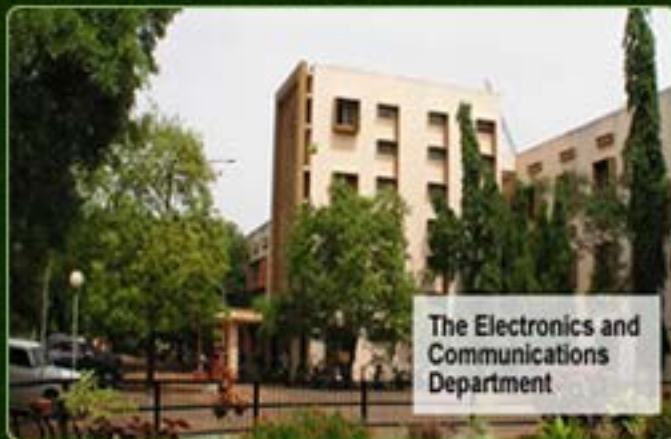
LAB FACILITIES

- Electronic CBR Apparatus
- Dynamic Cone Penetrometer, Radar Speed Gun
- Portable Axle / Wheel Weigh Pad, Geogauge
- Global Positioning Systems, Benkelman Beam
- CO / HC Exhaust Gas Analyser, Noise Dosimeter
- Pavement Core Drilling Machine
- Fatigue Testing Machine, Merlin Roughness Indicator
- Automatic Compactor for Bituminous Mixes
- Modified Marshall Stability Apparatus
- Buoyancy Balance

ONGOING PROJECTS

- IIT, Madras collaborative research project on 'Urban Speed Management using ITS'.
- IIT, Madras collaborative research project on 'Urban Pavement Maintenance and Management System'.
- Coir Board sponsored project on 'Pavement Performance Studies on Coir Geotextile Reinforced Rural Roads in Tamil Nadu'.
- Safe path for non-motorised transport and Safe path for pedestrians, sponsored by Ministry of Road Transport and Highways.





The Electronics and Communications Department

DEPARTMENT PROFILE

The department of Electronics and Communication Engineering was established in 1968. Since its establishment, the department strives to maintain its high standard by revising its academic syllabi to suit the industrial standards. The alumni consistently provide input for the improvement of the curriculum and the research facilities.

COURSE PROFILE

Recognizing the need for specialist engineers in the field of Integrated Circuits, the department has introduced VLSI Systems as a post graduate course. The coursework has been designed with curriculum

- laying strong emphasis on designing both analog and Digital Electronics.
- with in-depth analysis on the principles of MOSFET, BiPolar devices and their applications.
- with advanced concepts and recent trends in Digital Signal Processing, ASIC, Low power VLSI.
- with thorough knowledge on testing of Integrated Circuits.

The students also undergo laboratory programmes on the design and implementation of digital modules through Verilog HDL and analog modules through Cadence environments, besides devoting their entire final year to the project work.

CURRICULUM

- Basics of VLSI
- Analog VLSI
- Digital System Design
- Low Power VLSI Circuits
- Electronic Design and Automation Tools
- VLSI System Testing
- Graph Theory and Optimization Techniques
- Architecture of DSPs
- DSP Structures for VLSI
- FPGA Based System Design
- Verilog HDL
- Designing with ASICs

LAB FACILITIES

- Cadence tools (Virtuoso, Encounter, Spectre, Assura)
- Synopsys tools (VCS, Design Compiler, Formality, Prime time, Prime Power, Astro, Jupiter XT, Hercules, StarRCXT)
- Mentor Graphics tools (IC-Station, Leonardo Spectrum, Calibre, Physical verification tools, Parasitic Extraction tools)
- FPGA tools from XILINX and ALTERA (Maxplus II & Quartus II), HDL Designer tool kit, modelSim & ASIC design tools from Mentor Graphics consisting of Analog & Mixed signal ADMS
- FPGA kits from Xilinx and ALTERA

ONGOING PROJECTS

- Complete tapeout of two chips for the following projects
- Analog To Digital Converter & High Speed Interconnects
- Cognitive Radio Implementation
- 2.45 GHz Zigbee Demodulator For Wireless Telemetry and Telecommand Systems In Satellites
- Mixer, Low Noise Amplifier, Pipeleined ADC
- Interconnects For High Speed (4ghz) Applications





DEPARTMENT PROFILE

The department of Metallurgical and Materials Engineering was established in 1967. Since then the department has been one of the premier centers of excellence in the field of Metallurgical and Materials Science. Highly qualified faculty handle the lectures and guest lectures are also delivered by eminent professionals from premier organizations such as DRDO, IISc, WRI - BHEL and IGCAR.

COURSE PROFILE

The Post-graduate programme in Welding Engineering was started in 1978 in collaboration with Welding Research Institute (WRI) BHEL, Tiruchirappalli. This unique course meets the growing demands of technological expertise in metal fabrication industries. Both the regular faculty of the Metallurgical and Materials Engineering department and the experts from WRI handle theory and practical classes. They share their technical expertise and research knowledge.

CURRICULUM

- Physical Metallurgy
- Welding Metallurgy
- Mechanical Behavior of Materials
- Welding Processes
- Welding Codes and Standards
- Non-Destructive Testing
- Design of Weldments
- Metallurgical Failure Analysis
- Welding Application Technology
- Selection of Materials
- Iron and Steel Making

LAB FACILITIES

- Welding Facilities - Shielded Metal Arc Welding, GTAW with AC & DC pulsing, Gas Metal Arc Welding, Diffusion bonding machine, Friction stir welding - Adapted machine
- Students visit fabrication industries like BHEL and G.B. industry and gain practical knowledge
- Tensile testing - Universal testing machine 60 T
- Hardness testing - Brinell, Vickers, Rockwell, Micro hardness testing machines
- Creep testing, impact testing, Rotary fatigue testing machines
- Characterization - Metallographic facility and Image Analyzer, SEM

ONGOING PROJECTS

- Development of Improved Friction Stir Welding Process to weld High Strength Materials - DRDO.
- Friction Stir Processing on Similar-Dissimilar Welds of Aluminium Alloys used in Naval Application - NRB.
- Effect of micro arc oxidation on Corrosion and Fatigue of Al-alloy and its Weldments used in Naval Applications - NRB.
- Evaluation and control of Corrosion Problems in SWC pumps of Lignite mines - Neyveli Lignite Corporation
- Development of Iron based bulk metallic glasses through MA, RST - SERC.





DEPARTMENT PROFILE

The department of Physics is one of the oldest and active organs of the Institute. It has always played a vital role in building a team of fresh technocrats and brilliant researchers. The distinguished faculty members contribute to Science and Technology in various key areas like Laser Instrumentation, Laser and its applications, Crystallography, Ultrasonics, Thin Film Technology, Nanoscience and Technology, Fiber Optic Sensors and many emerging fields.

COURSE PROFILE

The post graduate programme in Physics is designed to offer in-depth knowledge in various aspects of science and technology to match the needs of applied areas such as digital signal and image processing, fiber optics communication, programming skills, thin film technology and latest trends of nanotechnology. The programme curriculum is not restricted to pure physics alone but involves interdisciplinary topics which showcase the possibilities of physics in other fields also.

CURRICULUM

- . Digital Signal and Image Processing
- . Physics and Technology of Thin Films
- . Programming in C and Numerical Methods
- . Sensors and Transducers
- . Microprocessors
- . Laser and its Applications
- . Electronics
- . Mathematical Physics
- . Instrumentation
- . Electromagnetic Theory
- . Atomic and Molecular Physics
- . Thermodynamics and Statistical Physics
- . Fiber Optic Sensors
- . Quantum Mechanics
- . Nanoscience and Technology and Applications
- . Classical Mechanics
- . Nuclear & Particle Physics DSP (Theory & Practical)
- . Non - Destructive Testing
- . Computer applications in Physics

LAB FACILITIES

- . X-ray Diffractometer, Nanomaterials Lab
- . Thin Film Preparation, Robotics Lab
- . Fiber Optic Sensors Lab
- . UV-Visible spectrometer, Holography Lab
- . Advanced Materials Lab
- . Materials Processing Lab
- . Advanced Functional Materials Lab
- . Vibrating Sample Magnetometer Lab
- . Magnetic Materials Lab

ONGOING PROJECTS

- . Development & Characterization of one dimensional Oxide Nano Material for gas sensing applications
- . Codoping & Bandgap engineering in ZnO thin films for Optoelectronic Applications.
- . Nano-Porous Hydroxyapatite Nanocomposite Tissue Engineering Applications.
- . Synthesis & excitation dynamic study on Semi Conductor Quantum dot Nanocomposite Polymer.
- . Development of Magnetic Nano Particles for Detoxification and Drug Delivery.





DEPARTMENT PROFILE

The Department of Chemistry was established in 1964. It possesses excellent facilities and sophisticated equipment for the students during their course of study. The department has five laboratories which are well equipped to meet the demand of the students. Recent achievements include a collaborative investigation study with E.Merck, USA, Virginia Tech., USA and National Cancer Institute, USA towards the development of the new drug discovery.

COURSE PROFILE

The Post Graduate Programme in Chemistry is empowered to satisfy the knowledge of current advancements in the field of Chemistry. The competently designed and regularly reviewed curriculum, synergized with periodical industrial visits, enables the students to cater to the growing needs of industry and the challenging trend of the research laboratories.

CURRICULUM

- Organic Chemistry
- Inorganic Chemistry
- Physical Chemistry
- Analytical Chemistry
- Computational Chemistry
- Spectroscopic Techniques
- Natural products and polymer Chemistry
- Organic Qualitative and Quantitative Analysis
- Inorganic Qualitative and Quantitative Analysis
- Physical Chemistry
- Analytical Chemistry

LAB FACILITIES

- Plasma reactor, Spectrofluorimeter
- Electro-chemical analyzer
- Research lab, Potentiostat
- Pulse polarograph, Sophisticated instruments lab
- Bi-gradient High performance liquid chromatography
- BOD incubator cum analyzer
- Fourier transform IR spectrophotometer
- Thermo gravity / Differential thermal analyzer
- Electronic orbital shaker with incubation hood
- Auto magnetic susceptibility balance
- Wet analysis lab

ONGOING PROJECTS

- Spectroscopic characterization of the acoustic interactions and the co-ordination mode of transition metals in the functionalized multidentate scorpionate ligand.
- Synthesis and characterization of functionalized multidentate Janus scorpionate ligands and their coordination modes in transition metals.
- Silica immobilized Ruthenium and enzyme-catalyzed dynamic kinetic resolution of secondary Alcohols: A novel approach for chiral synthesis.
- Synthetic, structural, DNA-binding and photocleavage studies of Ru(II) and Ru(III) complexes modified benzimidazole ligands.





DEPARTMENT PROFILE

The department of Computer Applications is one of the pioneering departments of the Institution. It is committed to the cause of quality education in mathematics that forms the basis for all the other fields and IT, a field growing in leaps and bounds. It is dedicated to the mission of developing highly skilled professionals who can adapt to the dynamic changes of the IT industry.

COURSE PROFILE

The Master's programme in Operations Research and Computer Applications (OR & CA) was started in 1993-94 and it is a multifaceted course following a three semester theory and one semester project pattern covering topics from Operations Research and Computer Applications. This course provides requisite standards to withstand the emerging challenges of the corporate world. In addition, it generates quality optimizers and potential software professionals with unified foundation in the functional areas.

CURRICULUM

- . Operations Research / Management Science
- . Linear Programming & Simulation
- . Non - Linear Programming
- . Data Analysis
- . Replacement, Reliability and Network Models
- . Data Base Management Systems
- . Data Structures and Algorithm
- . Software Engineering and OOPS
- . Discrete Mathematics
- . Computer Organization and Architecture
- . Programming in C and C++
- . Operating Systems
- . Visual Programming
- . Inventory Theory and Dynamic Programming
- . Probability, Statistics and Estimation
- . Supply Chain Management

LAB FACILITIES

- . NIT Local Area Network (OCTAGON Computer Center)
- . Pentium based servers
- . Platforms such as Linux, Solaris based SUN Machines, HP DEC Alpha Ultra Sparc, Silicon Graphics workstations
- . Pentium based DELL n-series PCs connected to the NIT LAN

ONGOING PROJECTS

- . Graph based classification of geometric shaped objects
- . Approximation algorithm for hard problems in engineering
- . A composite color-texture-object-shape feature using saturation thresholding from the HSV color fuzzy approach for content- based image and video retrieval





INTRODUCTION

The institute has a modern central library with more than one lakh documents consisting of technical books, reports, standards and back volumes of journals. The library subscribes to 224 periodicals (print) plus 5000+ (e-journals) besides a holding of 17000 bound volumes of journals (back numbers). The library also contains 17,432 books in the book bank. Besides the central library, each department has its own library.

The open access system is observed in the library. Our institute is holding membership with many professional bodies, industries, British Council Library - Chennai, DELNET - New Delhi for interlibrary loan. The "LIBSYS" package is being used for various functions.

LIBRARY FACILITIES

Library is a member of Indest - AICTE Consortium (MHRD initiative). NITT library subscribes to access more than 7000 full-text e-journals covering various databases besides online books and standards.

- IEL (113 journals): Access to the full archives of IEEE and IEE publications from 1998 to the present.
- Scencedirect (5 subjects collection journals)
- American Chemical Society's journals
- Cambridge Structural Database
- ASTM Standards and Digital Library
- Springerlinks (498 journals)
- ASTP (160 journals)
- ACM (30 journals)
- ABI / INFORM and Academic Research Library
- JCCC @ Indest

SPECIAL SERVICES

- CD-ROM search service.
- Audio-visual service (educational cassettes).
- Membership with institutions
- Wireless fidelity service.
- Bulletin board service.
- News headlines with weekly update.
- Current awareness service.

STATISTICAL DATA

- Library Books – 111571
- e-books (Springer) – 670.
- Print journals subscribed – 225
- e-journals – 9 Databases
- Back volumes – 17454
- Reports – 7786
- B.I.S. - 12449
- Video cassettes – 1504
- Audio cassettes – 31
- CD-ROM databases - 1524





INTRODUCTION

The sterling hallmark of the campus is the **OCTAGON** computer centre. This centre serves the campus wide LAN which caters to 4000 users across the campus at the same time and has a 10 Gbps fiber optic backbone. The Octagon has a server room with 25 high end servers, 400 high end computers in seven user labs. A printer room equipped with two high speed printers which can print upto 50 ppm, it also has centralized air conditioning and 2x60 kVA redundant uninterrupted power supply with 200 kVA standby Power Generators. The **OCTAGON** is connected to the internet via

45 Mbps leased line from Software Technology Park of India and via 100 Mbps leased line from BSNL.

Arrangements can be made prior intimation to use the computers in the Internet Lab for conducting online tests. The Computer Support Group offers courses under its continuing education programme for the students as well as the local community.

RESOURCES

UNIX Servers/Workstation

- Sun Fire- Solaris Server
- Sangam-Linux File Server
- Platinum-Internet Proxy Server
- Windows Server/Workstation
- Aditya-Network Storage Server
- Agni-Windows 2003 File cum Domain Server
- Recnet-Internet Accounting Server
- Novell Netware Servers
- Vayu-Secondary Netware File Server
- Sakthi- Office Automation Server

- DTP Packages
- Applied EEE
- Control Systems

Operating Systems

- Windows XP Pro /Vista SP2 / Windows 7
- Red Hat Enterprise Linux AS release 5.x
- Fedora 12, 11
- SUN Solaris 10
- Apple MAC OS

Software

- Microsoft C V5.1
- Lisp
- Lotus Notes 2.6
- Microsoft Office 2007
- Matlab R2010a with Simulink
- SQL Server
- Star Office
- Oracle 11i
- Visual Studio .NET 2008/2010
- Lotus Notes
- Power Builder

CAD/CAM Packages

- Pro/Engineer Wildfire 5
- CATIAV 5R20
- UniGraphics
- Solid Works
- AutoCAD 2010
- Maya 8
- Fluent
- Gambit
- Adobe, Corel & Macromedia Products

LAB FACILITIES

Electronic CAD(ECAD) Lab: ORCAD, PSPICE MAXPLUS II, XILINX's FOUNDATION Series, Synopsis Leonardo Synthesizer Model Tech Corporation's MODEL SIM & SABER. It also has the required hardware for programming the Xilinx's FPGA and CPLD.

DSP Design Lab: Texas Instruments TMS32C6X Evaluation Module(EVM), 6X simulator, TMS320C54X5X and 3X Kits and Simulator. This lab is used predominantly for project work . development of EVM TMS320C6X is under progress .





INTRODUCTION

The Department of Training and Placement is the marketing division of the institute. Over the years, the department, acting as an interface between Institute and companies, has maintained symbiotic, vibrant and purposeful relationship with industries across the country. As a result, it has built up an impressive placement record both in terms of percentage of students placed as well as the number of companies visiting the campus. The department hosts companies on campus and ensures that every aspirant is assured of a bright career of his/her choice.

FUNCTIONS AND RESPONSIBILITIES

- Nurtures industry institute interaction, by organizing and coordinating frequent industrial visits, inplant training and projects of industrial relevance for the students, with the sole aim of zeroing down the hiatus between the industry and the academia.
- Organizes and coordinates campus placement program, to fulfill its commitment of a career to every aspirant.
- Helps every student define his/her career interest through individual expert counseling.
- Makes available updated database and job profile of the companies and thus helps each student analyze and choose company of his/her interest. The department has in its active file of nearly 500 companies.
- Works towards continuing education for the employees.
- Receives and forwards the feedback pertinent to curriculum improvement from the visiting companies to the faculty to ensure that the curriculum follows the latest industrial trends.

HOSTING COMPANIES ON CAMPUS

The department provides facilities for the visiting companies to conduct pre-placement talks, written tests, group discussions and interviews. Audio visual aids like laptops, LCD projectors for pre-placement talks and internet facilities for online tests will be arranged upon prior intimation. Conveyance from/to airport or railway station is arranged by the department. Accommodation and food are provided at the institute guest house for the company on prior intimation and the cost of these are borne by the institute. In case the company executives wish to stay outside the campus, all arrangement for their accommodation will be made but the costs are to be borne by the company.



NIT Trichy is situated 20 Kms from the city of Trichy on the Trichy - Thanjavur highway. Trichy, being located at the geometric centre of the state of Tamil Nadu is well connected by rail, road and air. Major highways seamlessly link Trichy with other parts of the state and the country. Flight and Train timings given below are as of July 2011.

TRAIN No	TRAIN NAME	DAYS OF OPERATION	FROM	TO	DEPARTURE	ARRIVAL
12635	VAIGAI EXPRESS	DAILY	CHENNAI	TRICHY	12:04	17:05
16107	MS MANGALORE EXPRESS	DAILY	CHENNAI	TRICHY	22:00	04:45
16127	MS GURUVAYUR EXPRESS	DAILY	CHENNAI	TRICHY	07:05	13:05
16177	ROCKFORT EXPRESS	DAILY	CHENNAI	TRICHY	22:03	05:03
16701	RAMESWARAM EXPRESS	DAILY	CHENNAI	TRICHY	21:04	05:25
12636	VAIGAI EXPRESS	DAILY	TRICHY	CHENNAI	08:05	14:03
12638	PANDIAN EXPRESS	DAILY	TRICHY	CHENNAI	23:35	05:45
16108	MAQ CHENNAI EXPRESS	DAILY	TRICHY	CHENNAI	22:00	05:01
16178	ROCKFORT EXPRESS	DAILY	TRICHY	CHENNAI	22:02	05:03
16702	CHENNAI EXPRESS	DAILY	TRICHY	CHENNAI	22:35	06:25
16231	MYSORE EXPRESS	DAILY	TRICHY	BENGALURU	20:35	05:30
16232	MAILADUTURAI EXPRESS	DAILY	BENGALURU	TRICHY	19:05	04:05

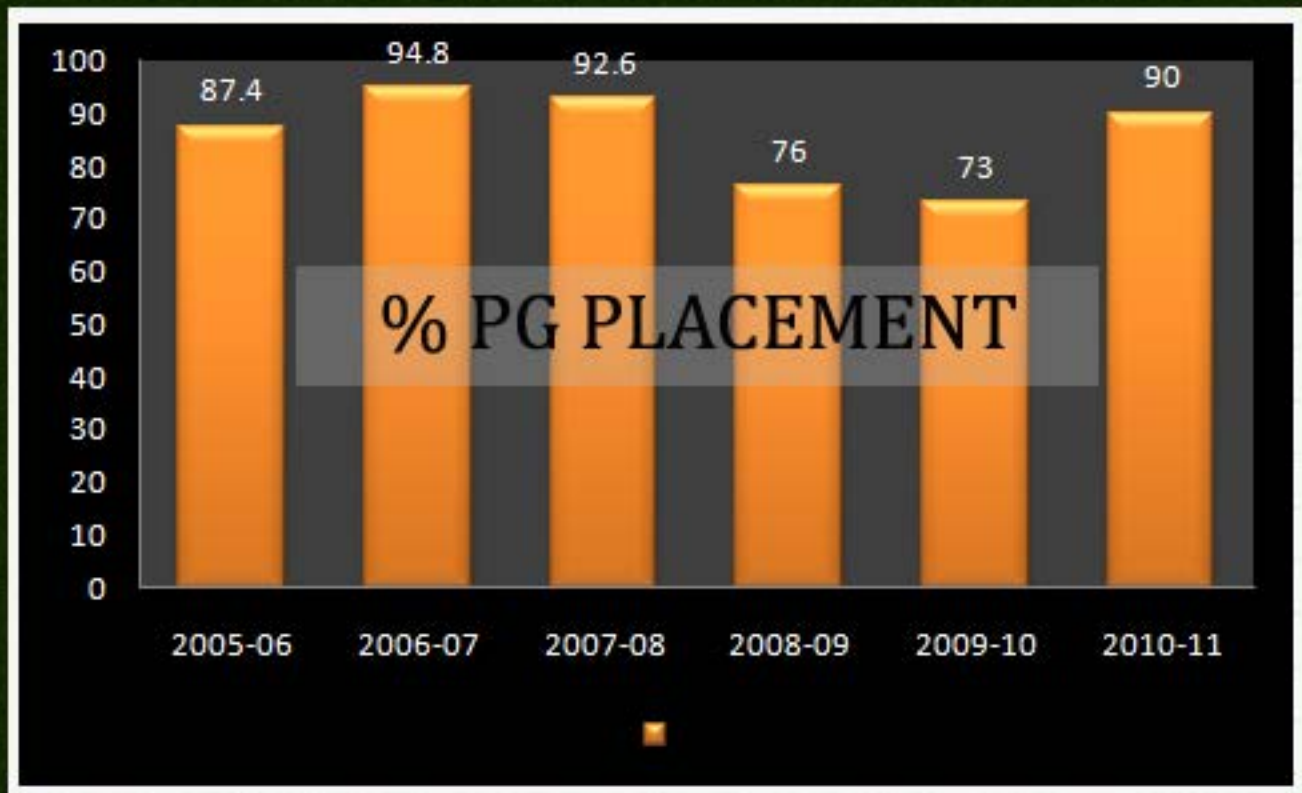
FLIGHT NUMBER	AIRLINE	DAYS OF OPERATION	FROM	TO	DEPARTURE	ARRIVAL
IX-622	AIR INDIA EXPRESS	DAILY	CHENNAI	TRICHY	22:50	23:55
IX-613	AIR INDIA EXPRESS	THURSDAYS & SUNDAYS	CHENNAI	TRICHY	13:15	14:20
IT-2911	KINGFISHER-RED	DAILY	CHENNAI	TRICHY	11:45	13:00
IT-4343	KINGFISHER-RED	DAILY	CHENNAI	TRICHY	21:10	22:05
9W-2727	JET AIRWAYS	DAILY	CHENNAI	TRICHY	12:30	13:35
9W-2737	JET AIRWAYS	DAILY	CHENNAI	TRICHY	19:15	20:15
IX-621	AIR INDIA EXPRESS	DAILY	TRICHY	CHENNAI	11:25	12:30
IX-614	AIR INDIA EXPRESS	FRIDAYS & SUNDAYS	TRICHY	CHENNAI	01:35	02:40
IT-2912	KINGFISHER-RED	DAILY	TRICHY	CHENNAI	13:30	14:35
IT-4344	KINGFISHER-RED	DAILY	TRICHY	CHENNAI	22:30	23:30
9W-2728	JET AIRWAYS	DAILY	TRICHY	CHENNAI	14:05	15:10
9W-2738	JET AIRWAYS	DAILY	TRICHY	CHENNAI	20:45	21:45

N.B: Flights from Bengaluru, New Delhi, and Hyderabad Via Chennai are also flown by the Kingfisher Red Airline on specific Days.

OUR ESTEEMED RECRUITERS



3M	DECIDYN	INTERGRAPH CONSULTANCY	SOBHA DEVELOPERS
AZZ INFOTECH PVT LTD	DECIPHER	INTUIT	SONATA SOFTWARE
ABB	DELL	ISPAT	SONY INDIA SOFTWARE LTD
ACC	DELOITTE	ISRO	SPAN CONSULTANTS
ACCENTURE	DELPHI	ITC LIMITED	SPCL
ADOBE	DIEFFENBACHER	ITIAM	SPECTRUM INFOTECH
AIRTEL	DOLCERA ITES	IVY COMPTECH	SPEL SEMICONDUCTORS
AIRVANA	DOW CHEMICALS	JOHN DEERE	SQL STAR
ALSTOM	DRDO	JSW	SRF
AMADA SOFT	E-FRONTIER	JUNO ONLINE	SRISHTI SOFTWARE
AMAZON	EICHER	KENNA METAL	ST MICROELECTRONICS
AMDOCS	EIL	KIRLOSKAR	SUN MICROSYSTEMS
ANALOG DEVICES	ELECTROLUX	KLA TENCOR	SUNDARAM CLAYTON
ANAND GROUP	ELECTRO STEEL	L & T GROUP	SUNDRAM FASTNERS
ANSYS FLUENT	ELGI EQUIPMENTS	LANCO KALAHASTI	SUZUKI METAL INDIA
ANZ	ELOGI INFOTECH	LEHMAN BROTHERS	SYMANTEC
APC	ENERCON	LG	SYMPHONY SERVICES
APPLIED MATERIALS (AMAT)	ENERGY INFRATECH	LOUIS BERGER INC	SYNERGY
AREVA T&D	ERNST & YOUNG	LUCAS-TVS TECH	SYNGENTA
ARICENT	ESAB INDIA	M & M AUTO SECTOR	SYNOPTIS
ARIS GLOBAL	ESSAR STEEL	MANHATTAN ASSOCIATES	SYNTEL
ASHOK LEYLAND	EXETER GROUP	MARUTHI UDYOG LTD	SYSBIZ TECHNOLOGIES
ASIAN PAINTS	EXIDE	MCAFFEE	TAFE
ATHENA	FCRI	MCDOWELLS	TATABLUESCOPE STEEL
ATHEROS LLC INDIA	FICHTNER (INDIA)	MECON	TATA ELXSI
AURIGO	FMCTECHNOLOGIES	METLIFE INDIA INSURANCE	TATA INFOTECH
BAJAJ AUTO LTD	FORD	MICROSOFT	TATA MOTORS
BALMER LAWRIE & CO	FOSTER WHEELER	MIDHANI	TATA POWER
BANK OF MAHARASHTRA	FOUR SOFT	MINDTREE	TATA PROJECTS
BASF	FREESCALE SEMICONDUCTOR	MISYS	TATA STEEL
BECEEM COMMUNICATION	FROST AND SULLIVAN	MODELYTICS	TATA TELESERVICES LTD
BEL-CRL	FUTURES FIRST	MORGAN STANLEY	TATA TIN PLATE
BEML	GE - JFWTC	MOTOROLA SOFTWARE	TAVANT TECHNOLOGY
BEREO INC	GABRIEL INDIA	MRPL	TCE
BGR ENERGY	GAMMON INDIA	MU SIGMA	TCS
BHARAT FORGE	GB INDUSTRIES	MURUGAPPA GROUP	TECH MAHINDRA
BHARATI TELECOM	GCI SOLUTIONS	NESTLE	TECHNIP ABU DHABI
BHARATI AIRTEL	GE ENERGY	NETAPP	TECHNIP INDIA
BHEL	GENERAL OPTICS	NET KRAFT	TEJAS NETWORKS
BILT	GENPACT GEOMETRIC SOFTWARE	NETLAB	TELCON
BIRLA SUNLIFE	GFT	NMDC	TERRA FIRMA
BLUE STAR	GLOBAL ANALYTICS	NOVELL	TESPN
BMC SOFTWARE	GLOBAL LOGIC	NTRO	TEXAS INSTRUMENTS
BOC	GLOBAL TELESYSTEMS	NVIDIA GRAPHICS	THERMAX INDIA
BOSTON ANALYTICS	GMT	ONMOBILE	THOROGOOD
BPCL	GODREJ GROUP	ONGC	TIN PLATE
BPL	GOLDMAN SACHS	ONIDA	TITAN INDUSTRIES LTD
BRAKES INDIA	GOOGLE	OPEN SILICON	TOSHIBA
BRITANNIA	GRASIM INDUSTRIES	ORACLE	TOTAL ENVIRONMENT
CALSOFT	GRINDWELL NORTON	PATNI	TRANSYS TECHNOLOGY
CAPGEMINI	GUJRAT GAS	PEPSICO INDIA	TRIAD
CARITOR	HAL	PHILIPS	TRIOLOGY
CARRIER AIRCON	HCL	POLARIS	TTK
CASTROL	HDFC	PRAXIAR	TYS MOTORS
CATERPILLAR	HM	PRICOL	TVS SRICHAKRA
CCCL	HNGIL	QUEST GLOBAL	UB GROUP
C-DOT	HONDA	RAMCO	UCAL MACHINETOOLS
C-DOT ALCATEL	HONEYWELL	RECL	UOP
CEAT	HP	REDPINE SIGNALS	UPL
CELSTREAM	HPCL	RELIANCE COMMUNICATION	VEDANTA
CHEMPLAST SANMAR LTD	HSBC	ROBERT BOSCH	VERITAS
CHOLAMANDALAM	HUAWEI	SAI TECHNOLOGY	VERIZON DATA SERVICES
CISCO	HUL	SAINT GOBAIN	VIDEOCON
CITI FINANCIAL	HYUNDAI	SAIPEM INDIA	VIRTUSA
COCO COLA	I2	SAMSUNG	VM WARE
COCHIN SHIPYARD	IBM	SANDISK	VOLTAS
COMPUTER ASSOCIATES	ICICI INFOTECH	SANDS	VOLVO
CONEXANT	ICODE	SASKEN	VSNL
CONVERTEAM	IDBI	SATYAM VENTURES ENGG SERVICES	WAPCOS
COROMANDEL FERTILIZERS	IDEA CELLULAR	SCHLUMBERGER	WATERJET GERMANY
COSMIC CIRCUITS	I-FLEX SOLUTIONS	SCHNEIDER ELECTRIC	WELSPUN
COUTHIT	IGATE GLOBAL SOLUTIONS	SCOOTERS INDIA	WHEELS INDIA
CROMPTON GREAVES	IMBR	SECON PRIVATE LTD	WHIRLPOOL
CSC	INAUTIX	SHARP	WIPRO
CUB	INDO-US MIM TEC	SHAW WALLACE	WS ATKINS
CUMMINS	INFINEON	SHELL TECHNOLOGY INDIA	XILINX
CTS	INFORMATICS INFOSYS	SIDBI	YAHOO
CYPRESS SEMICONDUCTORS	INTEL	SIEMENS	YOKOGAWA
D.E.SHAW (DESIS)	INTELLI GROUP		ZS ASSOCIATES
DAIMLER CHRYSLER			





During NITTFEST, departments square off against each other over two days, on an even keel, to battle over quizzes, debates, music, terpsichorean delights and more. It's a time when heroes emerge in all, heartbreak for some, ecstasy for others, but glory for the institute and a treat for all. It is thus evident that NITTFEST is more than just a fest – it is in effect, a tribute to the creative genius inherent in every Nittian.

The inter-college cultural festival at our institute, FESTEMBER, is spread over four days. FESTEMBER brings to the surface the cultural talents among the youth from over 200 colleges all over the country. The fest incorporates various English, Hindi and Tamil literary events, informals, rock shows, movie-making in addition to music and dance competitions. Our institute also hosts performances by eminent celebrities from the music industry adding glamour and grandiosity to this cultural carnival.

There are about 30 clubs of students in the institute. They range from cultural clubs such as ROTARCT, LEO, UNESCO and WISDOM to social awareness clubs such as SPIRIT-Ed (Student Participatory Initiative for Rural IT Education), NITT for CRY and a chapter of the SPICMACAY movement. There are also special interest clubs for photography, karate and trekking. These clubs organize cultural gatherings and interaction programmes throughout the year.



There are various academic and computing societies, which are dedicated to the goal of sharing technical information and spreading computer awareness among students, notable among these are the GNU-Linux users groups of Trichy (GLUG-T), IEEE, RMI, ACM and the ISA Student Chapters of NITT.

PRAGYAN is the annual international technical extravaganza organized by the students of NIT, Trichy. This mega event aims not only to promote the celebration of the spirit of technology but also to hone the talent and provide a podium to recognize and showcase technology, innovation and creativity on an international scale.

The institute has well developed sports facilities for the students. There are grounds / courts for cricket, hockey, basketball, football, volleyball and tennis, besides indoor courts for badminton and table tennis attached to each hostel and at the sports centre. There is also a fully equipped gymnasium. The 'Semi Olympic' swimming pool adjacent to the sports centre is a favourite to all the campus inmates.





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