

NIT TRICHY

DEPARTMENT OF PLACEMENT AND TRAINING

POST GRADUATE PLACEMENT BROCHURE

2026-27



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NIT TRICHY

Established in 1964, NIT Trichy is a premier technical institute in Tamil Nadu, recognized for excellence in engineering, science, management, and architecture.

It aims to nurture talent and address real-world challenges for societal impact.

MISSION

To be a university globally trusted for technical excellence where learning and research integrate to sustain society and industry.

VISION

- To offer undergraduate, postgraduate, doctoral and modular programmes in multi-disciplinary / inter-disciplinary and emerging areas.

- To create a converging learning environment to serve a dynamically evolving society.

- To promote innovation for sustainable solutions by forging global collaborations with academia and industry in cutting-edge research.

- To be an intellectual ecosystem where human capabilities can develop holistically.

ABOUT NITT



Mahalingam Krishnamurthy
Director of TSM group &
President of IIM, Calcutta
(1985)



Raj Iyer
President of Public Sector
Markets at Tsecond.ai
(1992)



Shyam Srinivasan
MD & CEO
Federal Bank
(1984)



Anantha Radhakrishnan
Executive VP CEO & MD
of Infosys BPM Ltd.
(1988)



Krishnakumar Gopalan
CMD of Bharat Petroleum
Corporation Ltd
(1986)



Revathi Kant
Senior Vice President & CDO
of Titan Company Limited
(1990)



R. Chandrasekaran
Group Chief Executive of
Cognizant (Retired)
(1979)



Sanjay Khanna
Director Refineries Bharat
Petroleum Corporation Ltd.
(1991)



Srinivas K
MD & CEO of Indial
Payments Ltd
(1984)



Saumen Bhaumik
Managing Director
of Caratlane
(1989)



P. Barathi, IAS
Chief Electoral
Officer, Gujarat
(1986)



Srimathi Shivashankar
CVP and Global Head of
HCL EdTech Business
(1990)



N. Kamakodi
MD & CEO of City
Union Bank
(1995)



P T R Palanivel Thiagarajan
Minister of IT and
Digital Services of
TamilNadu (1987)



P Srikar Reddy
Executive Vice Chairman of
Sonata Software
(1980)



R Sridhar
Founder & CEO of
Bloom Energy
(1982)



N Chandrasekaran
Chairman of TATA Sons &
TATA Groups
(1986)



Ravi Viswanathan
Managing Director of TVS
Supply Chain Solutions
Limited India
(1984)



B V Ramanan
CMD of Livia Polymer
Products Pvt. Ltd.
(1981)

And
Many
More..

GLITTERING ALUMNI

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

RANKINGS

NIRF ENGINEERING 2025

#1 NIT AMONG ALL NIT'S IN INDIA



In the NIRF 2025 Engineering rankings, released recently, NIT Trichy secured the 9th overall rank among all engineering institutions in India.

9TH
ENGINEERING

NIRF 2025

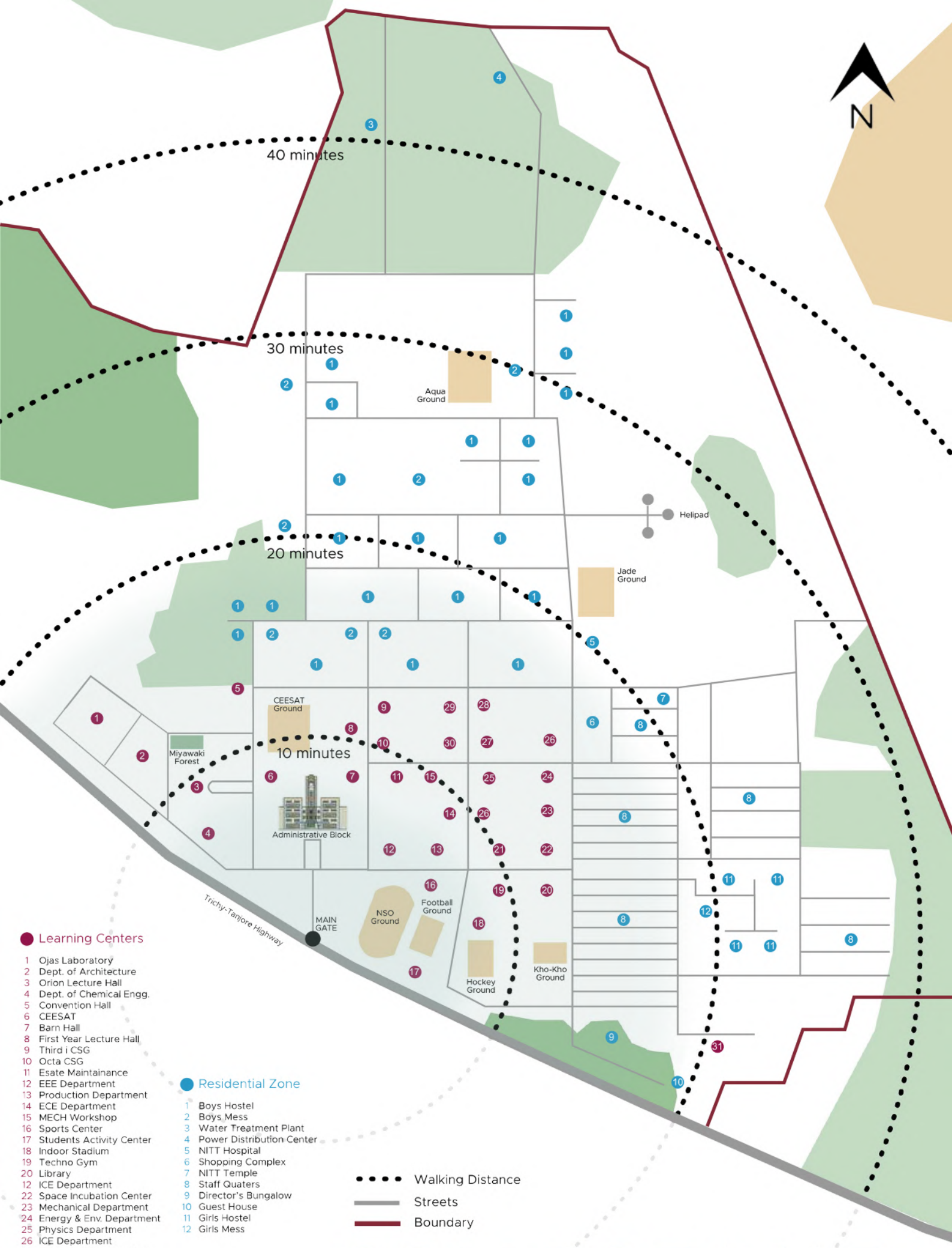
9TH
ARCHITECTURE & PLANNING

33RD
RESEARCH

57TH
MANAGEMENT

HISTORICAL PERFORMANCE

2020	2021	2022	2023	2024	2025
Top 10 Among NITs	Top 10 Among NITs	Top 10 Among NITs	#1 Among NITs	#1 Among NITs	#1 Among NITs



Learning Centers

1 Ojas Laboratory
2 Dept. of Architecture
3 Orion Lecture Hall
4 Dept. of Chemical Engg.
5 Convention Hall
6 CEESAT
7 Barn Hall
8 First Year Lecture Hall
9 Third i CSG
10 Octa CSG
11 Esate Maintainance
12 EEE Department
13 Production Department
14 ECE Department
15 MECH Workshop
16 Sports Center
17 Students Activity Center
18 Indoor Stadium
19 Techno Gym
20 Library
12 ICE Department
22 Space Incubation Center
23 Mechanical Department
24 Energy & Env. Department
25 Physics Department
26 ICE Department
27 Dept. of Computer App.
28 Dept. of Management
29 Dept. of Production Engg.
30 Department
31 SEIMENS Laboratory

Residential Zone

1 Boys Hostel
2 Boys Mess
3 Water Treatment Plant
4 Power Distribution Center
5 NITT Hospital
6 Shopping Complex
7 NITT Temple
8 Staff Quaters
9 Director's Bungalow
10 Guest House
11 Girls Hostel
12 Girls Mess

Walking Distance
Streets
Boundary

COLLEGE MAP

ARCHITECTURE

The Department of Architecture at NIT Tiruchirappalli is a leading centre for architectural education, research, and innovation in India. Established in 1980, it is committed to developing architects with excellence in design and environmental responsibility. Through its undergraduate, postgraduate, and doctoral programmes, the department promotes sustainable design, technological advancement, and research-driven learning to prepare graduates for the evolving challenges of the built environment.

M.ARCH. IN ENERGY EFFICIENT AND SUSTAINABLE ARCHITECTURE



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Arch. in Energy Efficient and Sustainable Architecture at NIT Tiruchirappalli prepares architects to address environmental challenges through innovative, research driven, and performance-oriented design. The programme integrates architectural design, building science, energy efficiency, environmental simulation, sustainability assessment, and passive design strategies. Students gain expertise in climate responsive design, building energy modelling, performance evaluation, thermal and visual comfort, daylighting, and energy auditing through interdisciplinary research and industry-oriented projects, enabling them to design high-performance, resource-efficient, and sustainable built environments.

LABS: Climate Lab, Building Science Lab, Lighting Lab, Acoustics Lab, Strength of Materials Lab, Model Making Lab.

SOFTWARE: Rhino + Grasshopper, Ladybug Tools (Ladybug & Honeybee), IES VE, ANSYS, DesignBuilder, OpenStudio, Revit, ENVI-met.

PROJECTS:

- Building Energy Performance Analysis and Optimization.
- Climate-Responsive and Net-Zero Building Design.
- Thermal Comfort, Indoor Environmental Quality, and Occupant Behaviour.
- Building Energy Modelling and Daylighting Performance Analysis.
- Renewable Energy Integration for Sustainable Buildings.

CHEMICAL ENGINEERING

Rooted in a legacy of nearly six decades, the Chemical Engineering department at NIT Tiruchirappalli stands as one of India's most respected centres for the discipline. Driven by a research-active faculty and strong global collaborations, the department creates a dynamic learning environment that bridges theoretical foundations with real-world challenges, shaping graduates equipped to make a meaningful impact on society.



M. TECH. IN CHEMICAL ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Chemical Engineering at NIT Tiruchirappalli is a postgraduate program built on core and elective coursework, Lab training, an industry internship, and a major research project during the final two semesters. Core subjects include advanced process control, reactor design, separation techniques, process design, and mathematical modelling. Electives cover areas such as computational fluid dynamics, fuel cell technology, and process optimization. The program develops research-oriented engineers capable of addressing complex industrial and societal challenges through innovation, technical excellence, and interdisciplinary thinking.

LABS: Momentum Transfer, Instrumental Analysis and Thermodynamics, Particulate Science and Technology, Heat Transfer, Chemical Reaction Engineering, Mass Transfer, Process Dynamics and Control, and Process Modelling Simulation.

PROJECTS:

- Multibore hollow fiber ultrafiltration and nanofiltration membranes enabled by nanostructured nanomaterials for Environmental applications. (India-Belarus Joint Collaborative Research Project).
- Life cycle assessment of CO2 reduction by energy efficient hybrid biomass pyrolysis and gasification. (DST-BRICS).
- Energy Conservative Approach Towards Sewage Water Treatment Integrated with Power Generation and Desalination using Exoelectrogen and Algal Biocathode.
- Development of Graphene Based Nanomaterials for Bioelectricity Generation Through Tannery Wastewater Treatment Using Microbial Fuel Cell. (DST)

CHEMICAL ENGINEERING

M. TECH. IN PROCESS CONTROL AND INSTRUMENTATION

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Process Control and Instrumentation at NIT Tiruchirappalli is an interdisciplinary postgraduate program jointly offered by the Departments of Chemical Engineering and Instrumentation and Control Engineering. The curriculum covers advanced process control, modern control engineering, industrial instrumentation, computational techniques, and process flow sheeting, supported by hands-on Lab training. Electives include applied soft computing, machine learning, system identification, cyber-physical systems, and embedded systems. A major research project in the final semesters prepares graduates to solve real industrial problems in automation, process optimization, and intelligent instrumentation.



LABS: Biomedical Engineering Lab, Control Engineering Lab, Embedded Systems Lab, Industrial Automation Lab, MEMS Design Centre, Modeling and Simulation Lab, Process Control Lab, Smart Structures Lab, Virtual Instrumentation Lab.

PROJECTS:

- Design and Development of a Low-Cost Multifunctional Lower Limb Exoskeleton for Paraplegic Motion Assistance.
- Development of an Online Oil Debris Monitoring Sensor for Predictive Maintenance.
- Development of a Multi-Axis Actuation System for Sub-Surface Scanning Probe Microscopy.
- Design, Development, and Testing of a Transcranial Focused Ultrasound Stimulation (tFUS) Device for Cognitive Enhancement.
- Development of an Indigenous Anesthesia Depth Monitoring System Using Brain Monitoring Technology.

CIVIL ENGINEERING

Shaping infrastructure with a societal focus since 1964. For six decades, we have advanced infrastructure innovation by combining strong foundations in physical sciences with modern computational tools such as FEM, CAD, and GIS. Our M.Tech. graduates are trained to solve complex engineering challenges through sustainable, ethical, and industry-driven research, preparing them to lead multidisciplinary teams and deliver resilient, data-driven, and environmentally responsible solutions.

M.TECH. IN ENVIRONMENTAL ENGINEERING



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. programme in Environmental Engineering focuses on computational modelling, analytical assessment, and mitigation of environmental impacts through advanced engineering solutions. The curriculum covers solute transport, environmental process chemistry, water and wastewater treatment, hazardous waste remediation, air pollution control, and solid waste management. Integrating environmental biotechnology, numerical methods, and clean technology design, students gain expertise in Environmental Impact Assessment (EIA), sustainable treatment systems, and industrial emission control. With a strong emphasis on research, analytical modelling, and process optimization, graduates are prepared for careers in environmental consultancy, regulatory agencies, infrastructure development, and advanced R&D.

LABS: Ion Coupled Plasma Mass Spectrophotometer (ICP-MS), Atomic Absorption Spectrophotometer (AAS), UV-Visible Spectrophotometer, Gas and Ion Chromatography, and TOC Analyzer. Membrane Bioreactor, Photo-Fenton Reactor, Ultrasonicator, and Automated Cell Counter. Environmental Particulate Air Monitor, Flue Gas Analyzer, Stack Monitoring Kit, Airborne Particle Counter, and Ozone Analyzer. AutoCAD, Visual MODFLOW, ArcGIS, ArcView, ArcInfo, ENVI, RIAM, QUAL2E, EPANET 2.2, and SewerGEMS.

PROJECTS:

- Studies on Condition Assessment & Management Plan (CAMP) for Cauvery River Basin under National River Conservation Plan [NRCD].
- Bio-Mining of the Existing Municipal Solid Waste at Vairapalayam and Vendipalayam Dump Site,Erode City Municipal Corporation.
- Scientific Closure (Capping) of MSW Dumpsite and Sanitary Landfill Development for Salem City Corporation.
- Spatio-temporal Modelling of the Urban Heat Island Effect over Bangalore and Hyderabad using Geospatial Techniques.

CIVIL ENGINEERING

M.TECH. IN GEOTECHNICAL ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. programme in Geotechnical Engineering equips students to address complex subsurface challenges in infrastructure development. The curriculum integrates advanced geomechanics, foundation engineering, soil dynamics, geosynthetics, ground improvement, forensic geotechnics, and numerical modelling using finite element analysis. Students develop expertise in analysing soil and rock behaviour, designing stable foundations, and mitigating geotechnical hazards such as earthquakes and liquefaction. With a strong emphasis on analytical modelling and engineering design, graduates are prepared for careers in heavy construction, geotechnical consultancy, energy infrastructure, and advanced research and development.



LABS: Cyclic Triaxial Apparatus, Bender Element Apparatus, and Dynamic Soil-Structure Interaction Facilities. Ground Penetration Radar (GPR), Spectral Analysis of Surface Waves (SASW), Light Weight Deflectometer, and Earth Resistivity Apparatus. Hydraulic Actuator (Dynamic Loading Plate Load) and Large Scale & Digital Direct Shear Apparatus. PLAXIS 2D & 3D, FLAC3D, and OASYS Geotechnical Software.

PROJECTS:

- Characterization of Lunar Soil Simulant for Chandrayaan Missions (Sponsored by URSC - ISRO, Bangalore).
- Ground Penetration Radar (GPR) Study for Surface Cracks on the Runway at Chennai Airport.
- Soil-Monopile-Wave Interaction Study for Monopile Supported Offshore Wind Turbines [SPARC - PFMS].
- Municipal Solid Waste (soil-like materials) and Geotextile Interaction Study for Pavement Subgrade and Embankment Applications.
- Experimental Investigation on Conventional and Innovative Piles for Offshore Wind Turbines (OWT) Foundation System Subjected to Long-Term Cyclic Loading [SERB]

CIVIL ENGINEERING

M.TECH. IN TRANSPORTATION ENGINEERING AND MANAGEMENT



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. programme in Transportation Engineering and Management equips graduates to design, analyse, and optimize modern transportation infrastructure. The curriculum integrates highway traffic engineering, pavement analysis and design, transportation planning, urban transportation systems, and pavement construction with numerical methods, computational modelling, and data analytics. Students develop expertise in intelligent transport systems (ITS), sustainable mobility, and data-driven infrastructure solutions. With a strong emphasis on engineering analysis and optimization, graduates are well prepared for careers in multinational consultancies, infrastructure development, transportation agencies, and advanced research and development.

LABS: The M.Tech. programme in Transportation Engineering and Management equips graduates to design, analyse, and optimize modern transportation infrastructure. The curriculum integrates highway traffic engineering, pavement analysis and design, transportation planning, urban transportation systems, and pavement construction with numerical methods, computational modelling, and data analytics. Students develop expertise in intelligent transport systems (ITS), sustainable mobility, and data-driven infrastructure solutions. With a strong emphasis on engineering analysis and optimization, graduates are well prepared for careers in multinational consultancies, infrastructure development, transportation agencies, and advanced research and development.

PROJECTS:

- Development of Optimization Models and Decision Support System for National Highways [NHAI].
- Development of Trip Generation Manual for Indian Cities [CSIR-CRRI joint project].
- Evaluation of Pavement Performance of Coir Reinforced Rural Roads in Tamil Nadu (Funded by Ministry of MSME).
- Municipal Solid Waste and Geotextile Interaction Study for Pavement Subgrade and Embankment Applications [MoT-NTTM].
- Laboratory and Field Performance Investigation of Rural Roads Stabilised with RBI Grade-81 [NRRDA].

CIVIL ENGINEERING

M.TECH. IN STRUCTURAL ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. programme in Structural Engineering focuses on the computational analysis, design, and detailing of complex structural systems. The curriculum integrates advanced structural mechanics, finite element analysis (FEA), structural dynamics, earthquake-resistant design, advanced concrete and steel structures, and numerical optimization. Students gain hands-on experience with industry-standard software including ETABS, STAAD.Pro, SAP2000, CSI SAFE, ANSYS, ABAQUS, AutoCAD, MATLAB, and Python. Emphasizing analytical modelling and efficient structural design, the programme prepares graduates for careers in heavy construction, structural consultancy, infrastructure development, and advanced research and development.



LABS: 100-Ton Column Testing Frame, 310-Ton Compression Machine, 50-Ton Vertical Load Capacity Frame, and 5-Ton Dynamic Actuator. Horizontal and Vertical Shake Tables (30kg/Eccentric CAM), Tuned Mass Dampers, and Vibrating Beams. Ultrasonic Pulse Velocity Instrument, Profometer, Rebound Hammer, Rapid Chloride Penetration Test Apparatus, and Corrosion Analysis Instruments.

PROJECTS:

- Development of an Integrated Health Monitoring System for Large Engineering Structures (SERB-IMPRINT).
- Analysis and Design of Large Size HRSG using Limit State Method for Optimization (NITT - BHEL Joint Project).
- Study on the Behaviour of Double Skinned Steel-Concrete Composite Panel (DSCP) under Bullet Impact for Military Safety Shelters (SERB).
- Structural Proof Checking and Design for major industrial facilities, including the Daimler Bus Plant and IOCL Terminal.
- A Novel Moment Resisting Bolted Beam-Column Connection Method for Tubular Steel Concrete Composite Structures (SERB).

COMPUTER APPLICATIONS

The Department of Computer Applications at NIT Tiruchirappalli offers postgraduate programmes in MCA, M.Tech. in Data Analytics, and M.Sc. in Computer Science. As a premier centre for advanced computing education and research, the department fosters strong theoretical foundations, practical training, research-driven learning, and industry collaboration. With an emphasis on technical excellence, innovation, and interdisciplinary research, it prepares graduates to address real-world challenges using cutting-edge computational technologies and contribute to academia, industry, and society through continuous learning and impactful research.

MASTER OF COMPUTER APPLICATIONS



COURSE DURATION : 3 YEARS

COURSE DESCRIPTION: The Master of Computer Applications at NIT Tiruchirappalli is one of India's premier postgraduate programmes, providing advanced training in software development, computational logic, systems management, and enterprise computing. The curriculum combines computer science, mathematics, and management with strong emphasis on programming, data structures, algorithms, operating systems, databases, cloud computing, cybersecurity, machine learning, and software engineering. Students can specialize in Data Science, Artificial Intelligence, Software Engineering, Blockchain, IoT, and Human-Computer Interaction. A dedicated final-year internship and industry-oriented project prepare graduates for leadership roles in software development, IT consulting, research, and emerging technologies.

LABS: NIT Local Area Network (OCTAGON Computer Center), Dell PowerEdge Server R1950, Linux and Solaris-based SUN machines, HP DEC Alpha Ultra Sparc workstations, IBM System Storage DS3500, IBM System 2U Server Rack, and Dell OptiPlex 9020 MT PCs, all connected to the NIT LAN.

PROJECTS:

- Extreme Low Light Image Enhancement using Deep Learning models.
- Human Behaviour Analysis from Video Sequences via Deep Learning approaches.
- Cyber Threat Intelligence Generation utilizing advanced Deep Learning frameworks.
- Emergency Response Support System Deployment and optimization.

COMPUTER APPLICATIONS

M.TECH. IN DATA ANALYTICS

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Data Analytics at NIT Tiruchirappalli is an interdisciplinary programme that equips students with expertise in data science, machine learning, big data analytics, deep learning, and predictive modelling. The curriculum integrates mathematical foundations, advanced algorithms, data engineering, and distributed computing with hands-on applications. Students can specialize in areas such as Natural Language Processing, Data Visualization, Cloud Computing, Blockchain, Federated Learning, and Process Automation, preparing them for careers in data science, AI, business analytics, and advanced research.



LABS: State-of-the-art computing facility at the OCTAGON Computer Center with Core i7 systems, Dell PowerEdge Server R1950 rack-mounted servers.
Linux and Solaris-based SUN machines.
HP DEC Alpha Ultra Sparc workstations, IBM System Storage DS3500, IBM System 2U Server Rack, high-performance computing (HPC) lab.
Natural Language Processing and Text Analytics Lab, Parallel Processing and Machine Learning Lab.
Image and Video Analytics Lab, and CUDA-enabled E-Learning facilities.

PROJECTS:

- Machine Learning and IoT-based prediction and classification of stress using wearable sensors.
- Feature interpretation and classification of genetic mutations leading to tumors and cancer.
- Automated License/Number Plate Recognition and vehicle velocity analytics.
- Large-scale Corpus Generation for advanced processing of natural language.

COMPUTER APPLICATIONS

M.SC. IN COMPUTER SCIENCE

COURSE DURATION : 2 YEARS



COURSE DESCRIPTION: The M.Sc. in Computer Science at NIT Tiruchirappalli provides a strong foundation in computer science with emphasis on software engineering, operating systems, databases, networking, and advanced algorithms. The curriculum integrates artificial intelligence, machine learning, cybersecurity, high-performance computing, and emerging technologies through research-driven learning and extensive laboratory training. Students can specialize in areas such as Computer Vision, Blockchain, Internet of Things, Cryptography, Compiler Design, Big Data Analytics, and Augmented Reality, preparing them for careers in software development, AI, cybersecurity, research, and advanced computing.

LABS: State-of-the-art computing facility at the OCTAGON Computer Center with Core i7 systems, Dell PowerEdge Server R1950 rack-mounted servers supporting Linux and Windows environments. Linux and Solaris-based SUN machines, HP DEC Alpha Ultra Sparc workstations, IBM System Storage DS3500, IBM System 2U Server Rack. Dell OptiPlex 9020 systems and Dedicated laboratories for Information Security, System Security, and Network Security.

PROJECTS:

- Extreme Low Light Image Enhancement via deep layer modifications.
- Human Behaviour Analysis from complex closed-circuit video sequences using Deep Learning models.
- Cyber Threat Intelligence Generation employing automated deep neural networks.
- Emergency Response Support System design, layout, and deployment architecture.
- Digital Health Records secure relational storage, indexing, and predictive validation.

COMPUTER SCIENCE AND ENGINEERING

Established in 1982, the Department of Computer Science and Engineering at NIT Tiruchirappalli is a leading centre for advanced computing education and research, consistently ranked among the top CSE departments in India. Backed by an experienced faculty team, state of-the-art computing infrastructure, and access to the institute's PARAM PORUL supercomputing facility, the department blends rigorous theoretical foundations with hands-on, industry-aligned training. With strong industry-academia collaboration and a focus on emerging technologies, the

M.TECH. IN COMPUTER SCIENCE AND ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: M.Tech. in Computer Science and Engineering is a research-driven postgraduate programme that blends advanced computing fundamentals with emerging technologies such as Artificial Intelligence, Machine Learning, Cybersecurity, Cloud Computing, IoT, and Distributed Systems. Through a strong combination of coursework, hands-on laboratories, industry internships, and intensive project-based learning, the programme equips students with the skills to design innovative computing solutions, drive technological advancement, and excel in both industry and research careers.



LABS: Students have access to specialized M.Tech. Project, Networks, AI/ML, IoT, Hardware, RISE, and Android Security Labs equipped with Core i7 systems, Dell OptiPlex 9020 desktops, and PowerEdge R910

PROJECTS:

- Development of Computer Vision System for an AI Assistant.
- Study of Colluding Android Apps: Mitigating the Threat using Machine Learning Techniques.
- Development of Engine Performance Monitoring Module using Machine Learning Techniques.
- Design and Development of Linux Software Development Kit Optimised for e6500 Processor Architecture.
- Digital Health Records Storage and Analysis for Healthcare Provisioning of Global Patients.

ELECTRICAL AND ELECTRONICS ENGINEERING

Founded in 1964, the Department of Electrical and Electronics Engineering (EEE) is recognized globally for its academic distinction and cutting-edge research. In addition to its undergraduate curriculum, the department offers advanced M.S. and Ph.D. programs designed to tackle core and emerging challenges in the field. Equipped with state-of-the-art laboratory facilities, EEE is a pioneer in green energy integration, electric vehicle technologies, smart grids, and resilient power systems. Driven by a robust R&D ecosystem and a commitment to innovation, the department actively shapes the future of the global energy sector.



M.TECH. IN POWER ELECTRONICS

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. program in Power Electronics is curated to deepen expertise in analyzing, designing, and implementing advanced power electronic systems. Graduates are uniquely equipped for impactful roles across industry and academia—including corporate R&D divisions, circuit design engineering, power conversion specialists, system integration teams, and high-level research positions or doctoral pathways.

LABS:

CORE INSTRUCTIONAL LABS: Power Converter Laboratory, Microprocessor and Microcontrollers Laboratory, Power Electronics and Drives Laboratory, Electrical Machines Laboratory.

SIMULATION & HARDWARE TOOLS: MATLAB / SIMULINK 7.5, PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power World Simulator, PSIM v11.1.5, Proteus v8.9, and Xilinx FPGA kits.

ADVANCED R&D LABORATORIES (M.TECH. & PH.D. RESEARCH): Control Systems Research Lab; Hybrid Electrical Systems Lab, Networking Research Lab, Power Converters Research Lab (partially funded by NaMPET), Power Electronics Research Lab, Power System Automation and Control Research Lab, Solar PV Energy Conversion Research Lab, VLSI Systems Research Lab, Advanced Power Converters Research Lab, Switched Mode Power Converters Research Lab.

PROJECTS:

- Ultra-Low Power SHAKTI RISC-V Based Edge AI Processor for IoT-Enabled Healthcare Applications (Ministry of Electronics & Information Technology)
- Design and Development of Wide Bandgap (WBG) Device-Based High-Current Converters for Industrial Applications (MeitY, Government of India)
- Implementation and Performance Evaluation of Dynamic Wireless Electric Vehicle Charging System (SERB)

ELECTRICAL AND ELECTRONICS ENGINEERING

M.TECH. IN POWER SYSTEMS

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. program in Power Systems delivers the deep analytical and technical competencies required to navigate modern power engineering challenges. The curriculum prepares graduates to step seamlessly into advanced doctoral research, join innovative R&D teams within the power sector, take on specialized roles in utility and energy enterprises, or pursue academic careers at premier institutes.



LABS:

CORE INSTRUCTIONAL LABS: Power Converter Laboratory; HVDC Transmission Line Simulator; Microprocessor-Based Numerical Relays; FACTS Devices; Short / Long Transmission Lines; Electrical Machines Laboratory. Simulation & Computing Tools: MATLAB / SIMULINK, PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power World Simulator, PSIM v11.1.5, and Proteus v8.9.

ADVANCED R&D LABORATORIES (M.TECH. & PH.D. RESEARCH): Power Electronics Laboratory; Power Systems and Smart Grid Lab; Power System Automation and Control Research Lab; Power Converters Research Lab (partially funded by NaMPET); Hybrid Electrical Systems Lab; Power Electronics Research Lab; Solar PV Energy Conversion Research Lab; VLSI Systems Research Lab; Electric Mobility Research Laboratory.

PROJECTS:

- Intelligent Controller for Electric Vehicle Charging through Wind Energy Conversion Systems (SPARC).
- Development of Metal 3D-Printed Lightweight Flywheel and Novel Control Algorithm for Microgrid Energy Storage Applications (SERB).
- Development of a Bi-Directional Battery Charger–Discharge Regulator (BCDR) (ISRO-STIC).
- Development of an Unintentional Islanding Protection Scheme with Low Voltage and Frequency Ride-Through Capability (SERB-ANRF).
- 10 kW Pilot Solar PV Plant with Single-Axis Tracking System (DST).

ELECTRONICS AND COMMUNICATION ENGINEERING

The Department of Electronics and Communication Engineering, established in 1968, is committed to academic excellence and technological innovation. The department continuously updates its curriculum to meet modern industrial standards and encourages research-oriented learning. Areas of specialization include VLSI, Wireless Communication, Signal Processing, Microwave Engineering, Optical Communication, and IoT. With experienced faculty, advanced laboratories, and strong industry interaction, the department provides students with both theoretical knowledge and practical exposure for successful careers in technology and research.



M.TECH. IN COMMUNICATION SYSTEMS

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Communication Systems provides a strong foundation in communication theory, mathematics, and signal processing. The curriculum covers Advanced Digital Communication, High-Speed Communication Networks, Optical Communication Systems, Digital Signal Processing, Cognitive Radio, Microwave Integrated Circuits, ASIC Design, Wireless Technologies, and Photonic Integrated Circuits. Emphasizing analytical thinking, simulation, practical implementation, and project-based learning, the programme prepares students to address modern industrial and research challenges. The final year is dedicated to research and project work in advanced communication system design.

LABS: Devices Lab, Digital Circuits and System Lab, Microprocessor and Microcontroller Lab, Communication Engineering Lab, Signal Processing Lab, Microwave and MIC Lab, Fiber Optics Lab, VLSI Design Lab.

PROJECTS:

- Design and Development of Ferrite Dielectric Based Microstrip Isolator for X - Band Application funded by ISRO.
- LC Band Pass Filter for Space Technology funded by ISRO (Space Technology Incubation Center).
- Deep Learning - Based Reconfigurable and Multifunctional Nanophotonic Interconnects for Hyperscale Data Centers and 6G Backhaul Networks funded by CRG, SERB - DST.
- Modeling and Simulation of Multigate In Sb / AlInSb based High Electron Mobility Transistors (HEMTs) for 5G Applications.

ELECTRONICS AND COMMUNICATION ENGINEERING

M.TECH. IN VLSI SYSTEM

COURSE DURATION : 2 YEARS



COURSE DESCRIPTION: The M.Tech. in VLSI Systems is a two-year postgraduate programme that provides comprehensive knowledge of semiconductor technology, integrated circuit design, and modern VLSI systems. The curriculum covers VLSI Design, Analog and Digital IC Design, Low-Power VLSI, ASIC Design, VLSI Testing, DSP Structures, High-Speed System Design, Graph Theory, Optimization Techniques, and Verilog HDL. Students gain hands-on experience with Electronic Design Automation (EDA) tools, simulation, modelling, and chip design methodologies. With a strong emphasis on research, innovation, and project-based learning, the programme prepares graduates for careers in the semiconductor, VLSI, and embedded systems industries.

LABS: WARP V3 KIT Test Bed for Wireless Systems, Cadence Tools (Virtuoso, Encounter, Spectre, Assura), Synopsys Tools (VCS, Design Compiler, Formality, Prime Power, Astro, Jupiter XT, Hercules, StarRCXT), Mentor Graphics Tools (IC - Station, Leonardo Spectrum, Calibre, Physical Verification Tools, Parasitic Extraction Tools), Advanced FPGA Boards & 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.

PROJECTS:

- Technology Incubation and Development of Entrepreneurs (TIDE) in the Areas of Electronics & ICT- CEDI.
- Machine Learning / Artificial Intelligence (ML/AI) Hardware/Software Framework for Vyomnoids funded by Indian Space Research Organisation (ISRO).
- 4D Trajectory - based Air Traffic Flow Management System using System Wide Information Management (4DADFMS) funded by Airport Authority of India.
- Design of Digital Signal Processor using SCL foundry funded by ISRO - STIC.
- Design & Implementation of Digital Modules of On Chip Speech Recognition System funded by ISRO.
- Design and Implementation of MB - OFDM UWB Transceiver Modules using Asynchronous Pipelining.

ENERGY AND ENVIRONMENT

Advancing sustainable energy solutions through innovation, efficiency, and smart technologies. The department is committed to advancing sustainable energy systems, energy efficiency, and environmental technologies through renewable energy engineering, computational modelling, smart energy management, and industry-oriented research. With a strong emphasis on sustainability, innovation, and applied R&D, the programme prepares graduates to develop intelligent, efficient, and environmentally responsible energy solutions for modern industrial and societal challenges.



M.TECH. IN ENERGY ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The programme focuses on Energy Audit and Management, renewable energy systems, smart energy technologies, and sustainable power solutions. The curriculum covers solar, wind, hydro and hydrogen energy, advanced fuel technologies, energy storage, AI and Data Analytics in Energy Systems, CFD, energy modelling, and environmental engineering. Through simulation tools, smart monitoring systems, and industry-oriented applications, students develop expertise to address modern energy challenges and pursue careers in the energy sector, consultancy, research organizations, and advanced R&D.

LABS: Energy Modelling & Simulation Lab, Smart Energy Systems Lab, Solar Energy Lab, and Environmental Engineering Lab. Software & Computational Tools: ANSYS Fluent, TRNSYS, PVsyst/PV*SOL, HOMER Pro, MATLAB, Python, and Jupyter Notebook. Advanced Instruments: Power Analyzer and Power Quality Analyzer for energy auditing, performance evaluation, and renewable energy system analysis.

PROJECTS:

- Ultrasonic-Assisted Bioethanol Production from Potato Peel Waste (DST-WISE).
- Design and Development of a Biomass-Driven Menstrual Pad Incineration System (Medicare Enviro Systems).
- Development of an Automated Biomass Gasification System for Clean Energy Generation (GAIL).
- Conversion of Medical and Municipal Plastic Waste into Value-Added Products Using Thermochemical Reactors (SERB-TARE).
- Study of Pyrolysis Oil: Feedstock, Manufacturing Technology, and Fuel Performance (BIS).

INSTRUMENTATION AND CONTROL ENGINEERING

The Department of Instrumentation and Control Engineering at National Institute of Technology Tiruchirappalli was established in the year 1993 to cater to the growing needs of control, instrumentation, and automation engineers in industries, R&D organizations, and service sectors. Students are exposed to both academia and industry through industrial lectures, internships, projects, and hands-on laboratory training.

M.TECH. IN INDUSTRIAL AUTOMATION

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Industrial Automation program is designed to provide students with advanced knowledge in industrial control systems, automation technologies, intelligent manufacturing, embedded systems, robotics, industrial communication, and AI-driven automation. The program offers extensive exposure through hands-on training in PLCs, DCS Systems, embedded systems, cyber security, industrial networking, robotics, AI programming, industrial IoT, and process automation systems providing students practical exposure to modern industrial technologies through interdisciplinary coursework, laboratory sessions, internships, industrial projects, and research activities in automation, AI, machine learning, and cyber physical systems.



LABS: Industrial Automation Lab, Process Control Lab, Embedded Systems Lab, Instrumentation and Sensor Design Lab, MEMS Design Centre, Smart Structures Lab, PLC and Distributed Control System (DCS)

PROJECTS:

- Design, Development, and Testing of a Transcranial Focused Ultrasound Stimulation (tFUS) Device for Cognitive Enhancement.
- Development of Physics-Informed Machine Learning Models for Fatigue Prediction in Calf Muscles.
- Development of a Multi-Axis Actuation System for Sub-Surface Scanning Probe Microscopy.
- Development of an Online Oil Debris Monitoring Sensor for Predictive Maintenance.

MANAGEMENT STUDIES

MASTER OF BUSINESS ADMINISTRATION

Established in 1978, the Department of Management Studies (DoMS), National Institute of Technology Tiruchirappalli, is among India's oldest and most reputed B-Schools and was the first among all NITs to introduce an MBA programme. For over four decades, DoMS has been committed to developing leaders who combine managerial excellence with integrity, innovation, and social responsibility.

At DoMS, management education goes beyond academics, blending rigorous learning with practical exposure to prepare students for the dynamic business environment. The department fosters critical thinking, collaboration, and a culture of continuous learning, enabling students to create meaningful impact in organizations and society.



Strong industry engagement and a distinguished alumni network across diverse sectors are integral to the DoMS experience. Through continuous interaction and mentorship, students gain valuable insights and opportunities that help them emerge as future-ready professionals equipped to lead with purpose and create lasting value.

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The MBA programme at DoMS-NIT Trichy is designed to equip students with the knowledge, skills, and mindset required to excel in a rapidly evolving business landscape. Rooted in relevance and innovation, the curriculum combines academic rigor with practical learning through case-based discussions, live projects, simulations, and regular interactions with industry experts.

The programme places strong emphasis on analytical thinking, data-driven decision-making, leadership, collaboration, and adaptability enabling students to address complex business challenges with confidence. Guided by a distinguished faculty with extensive experience in research, consulting, and teaching, students gain a balanced perspective that bridges theoretical concepts with real-world applications, preparing them to become responsible and future-ready managers.

CURRICULUM:

The two-year MBA programme at DoMS-NIT Trichy offers a comprehensive curriculum that combines strong foundational learning with contemporary business practices and industry-relevant electives across diverse functional domains. Some of the key electives offered include Consumer Behavior, Strategic Brand Management, Marketing Metrics, Digital Marketing, Analytics for Strategic Market Planning, Financial Derivatives, Investment Banking, Investment Security Analysis and Portfolio Management, Logistics Management, Supply Chain Management, Project System Management, Production Planning & Control, Talent Management, Personal Growth Programme, Introduction to Business Analysis & IT Consulting, Systems Analysis & Design and CASE, Software Project Management, Basic Data Analytics, and Machine Learning Techniques.

MANAGEMENT STUDIES

MASTER OF BUSINESS ADMINISTRATION

MANAGEMENT EVENTS & CONCLAVES

NISADYA: It is the flagship business fest of the Department of Management Studies, NIT Tiruchirappalli. Unlike massive cultural festivals, it functions as a highly focused corporate meet tailored for aspiring executives and MBA candidates. It provides a platform to showcase leadership, strategy, and business acumen through diverse management events. Nisadya attracts a targeted, national footfall of 200 to 300+ management students representing 15+ elite business institutions across India.

PRABANDHAN: Distinguished Guest Lecture Seriesof the Department of Management Studies, NIT Tiruchirappalli, connects students with eminent industry leaders and experts. Through insightful sessions on emerging business trends and management practices, the series equips future managers to thrive in an evolving corporate landscape.



INACON: It serves as a platform for meaningful collaboration between academia and industry. Through expert sessions, workshops, and networking opportunities, the conclave provides students with valuable insights and practical exposure, preparing them to navigate the evolving demands of the professional world.

PROJECTS:

- Inventory optimization for parts with intermitten and lumpy demand through zero inflated forecasting.
- Intricacies of Forex Trade.
- Brand engagement - Build online entity.

MECHANICAL ENGINEERING

Since 1964, we have been setting the benchmark for engineering excellence in India. As one of the most reputable Mechanical Engineering departments in the country, we are driven by an unrelenting passion for advancing science and technology. We don't just teach, we connect, collaborate and create. Through strong industry partnerships, consultancy services and sponsored research, our work creates an impact far beyond the classroom. Our vision is simple. Produce engineers who are globally competent, industry-ready, and built to lead.



M. TECH. IN INDUSTRIAL SAFETY ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: With roots going back to 1985, this programme has built a strong legacy as one of the foremost postgraduate qualifications in industrial safety engineering in India. Crafted with industry relevance at its core, it prepares students to think critically, act decisively, and lead effectively in high-stakes safety environments. Our experienced faculty are deeply invested in every student's journey fostering technical mastery, professional growth, and the confidence to make a real impact in the field.

LABS:

PERSONAL PROTECTIVE EQUIPMENT LAB: Safety Helmet, Safety Shield, Safety Shoes, Safety Belts, Safety Goggles, Respiratory Masks, Earmuff, Earplugs, Leather Hand Sleeve, Leather Belt Guard.

INDUSTRIAL SAFETY LAB: BAM Friction Tester, Impact Sensitivity Tester, DSC (Differential Scanning Calorimetry), Fume Test Chamber, Airbag Testing Facility. Industrial Hygiene Lab: High Volume Sampler, Personal Air Sampler, Noise dosimetry, WBGT Index meters, LUX meters, ECG & EMG for measuring work capacity.

PROJECTS:

- Development of a New Sustainable Ilmenite Based SMAW Electrode replacing the Conventional Rutile Coated Flux Formulations ANRF SERB – ARG.
- Development of New Electrode using 92% Rutile Grade Flux with Improved Operability and Industrial Applicability - IREL.
- Development of nanocomposite coating of MMAW electrodes for reduction of hazardous constituents in welding fumes (Sponsored by DST - TDT - AMT).
- Development and Thermal Analysis of Non - Azide Gas Generating Compositions for Automotive Airbag Systems (DST - SERB).

MECHANICAL ENGINEERING

M.TECH. IN THERMAL POWER ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: This programme offers students a deep and comprehensive understanding of energy conversion systems, power plant technologies, and the principles of thermal sciences. As the global push for cleaner and more efficient energy solutions intensifies, this course positions graduates at the forefront of that transformation. Through rigorous academic training and practical exposure, students develop the technical strength and industry readiness to distinguish themselves as capable, forward-thinking engineers in the thermal engineering domain.



LABS:

THERMAL LAB: Integrated Thermal Analyzer, Temperature calibration bath, Infrared Thermometer. Turbomachinery Lab, Automobile Lab, Refrigeration & Air conditioning lab, Heat and Mass Transfer lab.

CAD CENTRE: Advanced Modeling and Analysis Packages, AutoCAD 2000, ANSYS, Unigraphics, Catia.

CFD PACKAGES: ANSYS Fluent, Gambit, Phoenix, Online Hue Gas Analyser, Hightech Calorimeters.

PROJECTS:

- Development of ammonia based flexible heat pipe for space application.
- Development of Engine Performance Monitoring Module using Machine Learning Techniques (DRDO).
- Advanced thermal insulation system comprising of Nano Lignin core vacuum insulation panels (VIPs) and Micro Encapsulated phase change materials (MEPCM).
- In-depth investigations on corrosion and tribological characteristics on expendable engine (GTRE - DRDO).
- Environmental and Energy impacts of higher alcohol and biofuel synthesis by thermochemical process (MHRD - SPARC).

METALLURGICAL AND MATERIALS ENGINEERING

Advancing metallurgical innovation and materials excellence since 1967 Since its inception, the Department of Metallurgical and Materials Engineering has evolved as a premier centre of excellence in Metallurgical and Materials Sciences, fostering advanced education, research, and industrial innovation. Moving beyond conventional metallurgy, the department offers specialised postgraduate programmes in Welding Engineering, Materials Science & Engineering, and Industrial Metallurgy.

M. TECH. IN WELDING ENGINEERING



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: M.Tech. in Welding Engineering Offered in collaboration with the Welding Research Institute (WRI), BHEL, Tiruchirappalli, this unique programme blends strong academic foundations with hands-on industrial exposure. Students gain expertise in advanced welding techniques, failure analysis, applied research, and real-world engineering challenges through coursework and research projects guided by WRI-BHEL experts and faculty. Graduates are prepared for impactful careers in industry, research, academia, and technology-driven sectors.

LABS:

WELDING AND JOINING LABORATORY: Hands-on training in conventional and advanced welding technologiesincluding robotic, friction stir, plasma, TIG, SMAW, CMT, and diffusion bonding — for fabrication, process optimization, and industrial research.

MATERIALS CHARACTERIZATION LABORATORY: Advanced facilities for microstructural and metallographic analysis using FESEM, SEM-EDS, optical microscopy, and image analysis for research and industry.

MECHANICAL TESTING LABORATORY: Comprehensive testing for hardness, strength, impact, torsion, and surface performance evaluation using state-of-the-art equipment.

PROJECTS:

- UGC-DAE-CSR sponsored project: Welding of Titanium tube to Steel tube plate/tube by using an improved FWTIPET process
- VSSC/ISRO Project: Friction Stir Welding of Aluminium Alloys for Aerospace Applications
- Royal Academy UK: Application of multiscale modelling for dissimilar welding and improving graduate employability in India. A study on the properties of dissimilar weldments between P92 - S304H materials

METALLURGICAL AND MATERIALS ENGINEERING

M.TECH. IN MATERIALS SCIENCE AND ENGINEERING

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: This programme builds expertise in materials engineering, manufacturing, and advanced materials research to meet modern industrial and technological needs. It blends strong scientific foundations with research-driven learning, emphasizing analytical thinking, problem-solving, sustainability, and modern engineering tools. Graduates are equipped for leadership roles in industry, research, and academia.



LABS:

MATERIALS CHARACTERIZATION LABORATORY: Advanced facilities for microstructural, metallographic, and elemental analysis using FESEM, SEM-EDS, and optical microscopy.

MECHANICAL TESTING LABORATORY: Comprehensive testing for hardness, strength, impact, torsion, and surface performance evaluation.

POWDER & COMPOSITE MATERIALS LABORATORY: Experimental setup for powder metallurgy, composite and polymer processing, and functional materials development.

THERMAL ANALYSIS LABORATORY: Facilities for thermal behavior, phase transformation, and viscosity studies

PROJECTS:

- MoM: Development of Sustainable Recovery Methods for Lithium and Nickel from Spent Lithium-Ion and Nickel-Metal Hydride Batteries.
- ANRF-SERB TARE: Development of High-Performance Bio composite Coating on Magnesium for Orthopaedic Implant Applications.
- CMPDI: Prevention of premature failures and enhancing life of bottom rollers used in bucket wheel excavators
- SERB: Using statistical data-mining techniques to understand the cumulative influence of geomerical and topological features on grain growth.

METALLURGICAL AND MATERIALS ENGINEERING

M.TECH. IN INDUSTRIAL METALLURGY



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Industrial Metallurgy is designed to develop technically proficient metallurgical professionals for manufacturing, service industries, and advanced materials sectors. The programme combines strong academic foundations with practical industrial exposure, enabling students to gain hands-on experience through industrial training at leading organisations such as TATA Steel, Saint-Gobain, UltraTech Cement, Cummins India, Jindal Stainless Ltd., DMRL, and ISRO. With emphasis on multidisciplinary learning, applied problem-solving, industrial practices, and entrepreneurial development, the programme prepares graduates to address real-world challenges in materials processing, manufacturing technologies, quality assurance, and industrial research.

CORE CURRICULUM:

Foundry Technology
Welding Technology
Industrial Heat treatment
Foundry Metallurgy
Metal Forming
Physical Metallurgy
Testing, Inspection and Characterization

ADVANCED LABORATORY & EQUIPMENT:

Materials Characterization & Microstructural Analysis: FESEM, SEM-EDS, optical microscopy, metallography, elemental and defect analysis.
Mechanical Testing & Performance Evaluation: Hardness, strength, impact, torsion, hardenability, and surface performance testing.
Advanced Materials Processing: Vacuum melting, spark plasma sintering, high-energy ball milling, and controlled-atmosphere furnaces for advanced materials research.

PROJECTS:

SERB-ANRF: Improving thermoelectric efficiency of Si-Ge alloys through nanostructuring and band engineering.
SERB: Incremental forming behavior of CP-Ti and Ti-6Al-4V alloy sheets for cranial applications.
ISRO-RESPOND: Advanced materials research project.

NON-DESTRUCTIVE TESTING

Mastering inspection, eliminating risk, empowering industry since 1986. The Department of Physics offers a prestigious M.Tech. in Non-Destructive Testing (NDT), designed to develop industry-ready professionals with a strong foundation in theory and practical training. The four-semester programme includes industrial exposure through visits to BHEL radiography laboratories and participation in national NDT conferences such as the ISNT NDE Conference & Exhibition. With a strong emphasis on technical excellence, industrial relevance, and AI-driven defect detection, the programme prepares graduates for careers in quality assurance, safety, advanced inspection, and intelligent condition monitoring across diverse industries.

M.TECH. IN NON-DESTRUCTIVE TESTING

COURSE DURATION : 2 YEARS

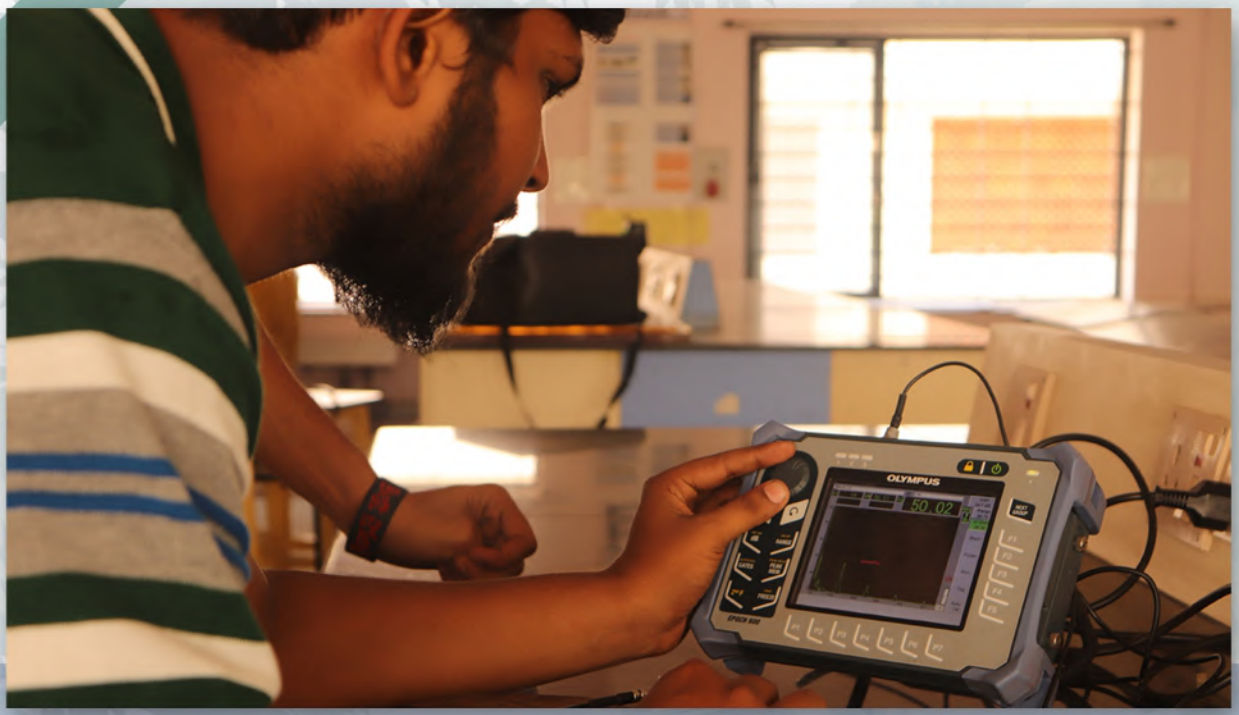


COURSE DESCRIPTION: The M.Tech. in Non-Destructive Testing provides comprehensive training in NDT principles, advanced inspection techniques, and computational methods including COMSOL-based ultrasonic wave simulation and MATLAB-based signal processing. The final year is dedicated to project work at leading organizations such as CNDE IIT Madras, IOCL, ISRO, BHEL, and L&T Heavy Engineering. Students also become members of ISNT and qualify for ASNT NDT Level II certification. The curriculum covers Liquid Penetrant and Magnetic Particle Testing, Eddy Current Testing, Ultrasonic and Phased Array Ultrasonic Testing (PAUT), Radiographic Testing, TOFD, Infrared Thermography, signal and image processing, and computational modelling using FEM simulations.

LABS: Phased Array Ultrasonic Testing (PAUT), TOFD, and advanced defect detection and structural evaluation. Visual inspection, Liquid Penetrant Testing (LPT), Magnetic Particle Testing (MPT), and industrial radiography. Eddy Current Testing (ECT) and Infrared Thermography for surface and subsurface defect detection. FEM analysis, signal processing, and simulations using COMSOL, MATLAB, Abaqus, FLUKA/FLAIR, and Python.

PROJECTS:

- Development of a High-Temperature Bulk Wave EMAR Sensor.
- Non-Contact Laser Ultrasonics for Non-Destructive Evaluation (NDE) of Metals.
- Development of an Elastic Wave-Based Damage Detection Methodology for Aerospace NDT Applications.
- Automating Aerospace Composite Inspection Using the InspectX ADR and Structural Health Monitoring (SHM) Framework.









ADVANCED NDE LAB

PRODUCTION ENGINEERING

The Department of Production Engineering is committed to developing technically proficient, innovative, and industry-ready engineers for modern manufacturing and industrial environments. With a strong foundation in manufacturing systems, industrial engineering, automation, quality engineering, and smart production technologies, the department promotes academic excellence through quality education, applied research, and industry collaboration. The curriculum integrates engineering fundamentals with practical problem-solving, experiential learning, and industry-oriented projects, preparing graduates for leadership roles in manufacturing, research, and technology-driven organizations.

CENTRE OF EXCELLENCE IN MANUFACTURING (COE-M):

Established in 2018 in collaboration with Siemens Industry Software, the Centre of Excellence in Manufacturing (CoE-M) is a premier multidisciplinary facility developed with an investment exceeding ₹190 Crores and spread across 12,000 sq. ft. The Centre serves as a hub for advanced skill development, cutting-edge research, industrial consultancy, and innovation in modern manufacturing technologies.



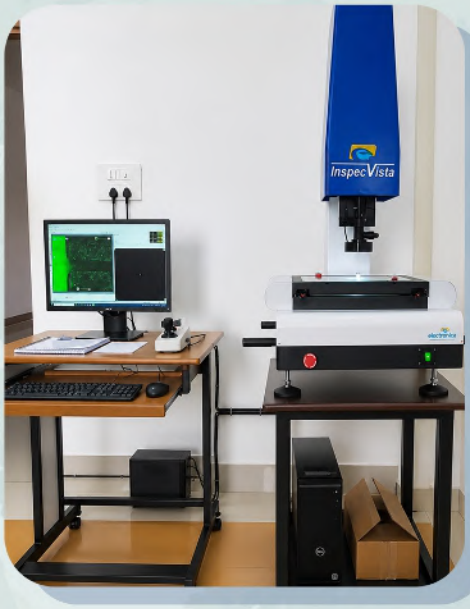
CENTRE HIGHLIGHTS:

- 12 State-of-the-Art Laboratories supporting advanced manufacturing, automation, and digital engineering.
- Industry 4.0 Infrastructure featuring Digital Twin technology, IoT-enabled automation, CNC machining, CAD/CAM/CIM, additive manufacturing, mechatronics, and simulation laboratories.
- Strong Industry Collaboration with Siemens Industry Software, providing exposure to globally recognized engineering tools and technologies.
- Industry-Oriented Learning through certification programmes, internships, sponsored research, and consultancy projects, including a ₹1.2 crore collaboration with BHEL.
- Innovation-Driven Ecosystem fostering technical excellence, research, leadership, and industry-ready graduates.

Together, the Department of Production Engineering and the Centre of Excellence in Manufacturing provide a dynamic ecosystem that nurtures innovation, technical excellence, leadership, and lifelong learning, producing graduates capable of contributing effectively to industry, research, and society.





























CENTER OF EXCELLENCE

PRODUCTION ENGINEERING

M.TECH. IN MANUFACTURING TECHNOLOGY

COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Manufacturing Technology is designed to develop highly skilled engineers capable of addressing modern industrial challenges through advanced manufacturing technologies, automation, and intelligent production systems. The programme integrates strong engineering fundamentals with practical industrial exposure, research-oriented learning, and Industry 4.0 concepts. Students gain expertise in areas such as CNC machining, robotics, additive manufacturing, digital manufacturing, precision engineering, and smart production systems. Through advanced laboratory facilities, industry-sponsored projects, and modern engineering software tools, the programme equips graduates with the technical competence and problem-solving skills required for careers in manufacturing, R&D, automation, and technology-driven industries.



LABS: CAD/CAM/CIM, CNC Machining, Robotics & Automation, Mechatronics, Additive Manufacturing, Welding, Tribology, and Micro/Nano Manufacturing.

SOFTWARES: Siemens NX, CATIA, SolidWorks, Creo, AutoCAD, ANSYS, MATLAB, Mastercam, DELMIA, PLC & Industrial Automation Platforms.

PROJECTS:

- Design and Development of Robotic Based Continuous Fiber Additive Manufacturing System (Sponsored by: DRDO, Ministry of Defence, Government of India).

- Development of Metal 3D Printed Lightweight Flywheel and Novel Control Algorithm for Micro-Grid Energy Storage Applications (Sponsored by: SERB, DST, Government of India).

- Laser Micro-Cladding of Titanium and Nickel-Based Alloy Shafts (Sponsored by: DRDO).

PRODUCTION ENGINEERING

M.TECH. IN INDUSTRIAL ENGINEERING & MANAGEMENT



COURSE DURATION : 2 YEARS

COURSE DESCRIPTION: The M.Tech. in Industrial Engineering & Management is designed to develop professionals capable of improving productivity, operational efficiency, quality, and decision-making in complex industrial systems. The programme combines engineering principles with management practices to optimize manufacturing operations, supply chains, and business processes. Students gain expertise in operations research, production planning, lean systems, quality engineering, industrial analytics, and smart manufacturing through analytical tools, simulation platforms, industrial case studies, and project-based learning.

PROGRAMME HIGHLIGHTS:

Integration of engineering and management principles.
Strong focus on Production Planning & Operations Management.
Exposure to Lean Manufacturing and Six Sigma methodologies.
Exposure to Smart Factories and Digital Transformation.
Training in analytics, simulation, and optimization tools.
Industry-oriented projects and case studies.

ADVANCED LABORATORY & EQUIPMENT:

Laboratories: Industrial Engineering, Ergonomics & Work Study, Simulation & Modelling, Operations Research & Analytics, Manufacturing Systems, Quality Engineering, CAD/CAM/CIM, and Robotics & Automation Laboratories.
Software Tools: Arena, AnyLogic, MATLAB, MINITAB, SPSS, Python, R, Power BI, Tableau, SAP ERP, Primavera P6, and Microsoft Project.

PROJECTS:

1. Digital Twin Modelling and Simulation for Automated Assembly Lines (Industry-Oriented Research Project).
2. Lean Manufacturing Implementation and Value Stream Mapping in Automotive Component Production (Industrial Collaboration Project).
3. Multi-Echelon Supply Chain Optimization and Logistics Routing for

DELTA

Delta, the official web development and programming club of NIT Trichy, develops and maintains the institute's website, oversees web operations for Festember and Pragyan, and organizes annual technical events and workshops.

SPIDER

Spider, NIT Trichy's Research and Development Club, brings together students working on projects in Artificial Intelligence, Electronics, and Computer Technology. Its distinguished alumni have also gone on to establish successful startups across the globe.

GRAPHIQUE

Graphique, NIT Trichy's graphic design club, fosters Design Thinking through its contributions to Festember, Pragyan, and campus development projects. Guided by alumni who are professional designers, members solve industrial and real-world design challenges..

BEYOND ACAD'S

STUDENTS DRIVEN

CLUBS

AT NIT TRICHY

SCIENT

SCIEnT provides students with round-the-clock access to a wide range of tools and equipment, from hand tools and lathes to Intel Galileo boards. It also offers funding, mentorship, and resources to help campus innovators transform ideas into reality.

PSI RACING

PSI Racing, NIT Trichy's automotive engineering club, promotes innovation through hands-on engineering projects. The team has excelled in competitions such as BAJA SAE and ESI, earning numerous accolades, including securing 5th place among 120 teams in 2019.

THE ENTREPRENEURSHIP CELL

The Entrepreneurship Cell of NIT Trichy has been fostering innovation and entrepreneurship on campus and beyond for over a decade. Through events, workshops, and mentorship, its 60-member team supports startups and inspires future entrepreneurs.

180 DEGREES CONSULTING

180 Degrees Consulting, the world's largest university-based consultancy, operates across 140+ branches in over 35 countries. The NIT Trichy chapter empowers students to solve real-world challenges with guidance from experienced mentors.

THE 3RD DIMENSION

The 3rd Dimension, NIT Trichy's aeromodelling club, specializes in electrically powered aircraft, drones, and hovercrafts. Through competitions and projects, members apply electronics, coding, and aerodynamics to develop innovative aerial solutions.

DATABYTE

DataByte at NIT Trichy leverages data science and machine learning to solve real-world challenges. The club empowers students through impactful projects, research initiatives, and knowledge-sharing activities that benefit both campus and society.

SIGMA

SIGMA, NIT Trichy's Business Club, focuses on projects, data analytics, case studies, consulting, and research articles.
It encourages members to build practical skills through guest lectures, workshops, competitions, and event management.

BUILDER'S HIVE

Builders' Hive, NIT Trichy's Social Innovation and Engineering Club, advances sustainable civil engineering through innovation. Recognized with the ACI Outstanding Award in 2021 and 2022, the club delivers impactful solutions through a dedicated student team.

DESIGNER'S CONSORTIUM

Established in 2015, Designers' Consortium is NIT Trichy's official Product Design Club. Bringing together students from diverse engineering backgrounds, the club develops innovative solutions to societal challenges under the guidance of industry mentors.

THE PRODUCT FOLKS

The Product Folks NITT Chapter nurtures future product leaders through guest lectures, workshops, and live product management projects. It equips students with the skills and experience needed to excel in product development and leadership.

PROFNITT

ProfNITT equips students with practical exposure to Finance and Investments through mentorship in Investment Banking, Private Equity, Venture Capital, Hedge Funds, and FinTech. Its activities include guest lectures, workshops, and case competitions.

Student life at NIT Trichy extends far beyond academics. It is about maintaining a healthy balance, forming meaningful connections, and exploring new interests. With its expansive green campus and peaceful atmosphere, the institute provides an environment that encourages students to learn, reflect, and grow both personally and professionally.





Events such as Festember and Pragyan bring the campus to life, fostering creativity, collaboration, and a vibrant sense of community. Combined with a culture of academic excellence and opportunities for recreation and meaningful friendships, these experiences make life at NIT Trichy both enriching and memorable.

The Central Library provides a quiet and resource-rich environment for learning and research, while the sports complex promotes physical fitness and teamwork through facilities for a variety of indoor and outdoor sports. Cafeterias spread across the campus serve as lively social spaces where students come together to share meals, coffee, and conversations.



STUDENT LIFE

CORPORATE NEXUS

The Training and Placement Cell functions as the institute's strategic interface with the corporate world. Serving as the marketing division of NIT Trichy, it has cultivated enduring, purposeful, and mutually beneficial partnerships with industries across the nation. This strong engagement has resulted in an exceptional placement record, reflected both in the high percentage of students placed and the wide spectrum of companies visiting the campus.

PLACEMENT SUPPORT THAT DELIVERS

End-to-end logistics for Pre Placement Talks, tests, group discussions, and interviews coordinated and on schedule.
Flexible AV and online testing setup available on request to match your assessment format.
Seamless travel assistance with pick-up and drop-off from the airport or railway station.
Comfortable on campus hospitality with guest house accommodation and dedicated host services.
Off campus stay coordination for visiting executives, arranged on a company paid basis.



DEPARTMENT OF TRAINING AND PLACEMENT

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

PLACEMENT PROCESS



1 INVITATION

The Department of Training & Placement invites companies for recruitment by sharing a placement brochure and Pre-Visit Response (PVR) sheet. The companies provide job profiles, eligibility, and selection process in the PVR.



2 COMPANY COORDINATION



The company submits the completed response sheet to the T&P Department. Once received, the Placement Officer and PR/Coordinators coordinate with the company to finalize a suitable date for campus recruitment.

3 STUDENTS ARE NOTIFIED

Once the placement date is set, students are informed along with the company's eligibility and job details. Interested candidates register, and the eligible list is sent to the company with clear pre-placement instructions.



4 PRE-VISIT ARRANGEMENTS



Pre-visit arrangements include guest house accommodation (with prior notice), travel assistance, and complete interview logistics, including venues, equipment, and online test facilities.recruitment process.

5 PLACEMENT DAY ACTIVITIES

The recruitment process is carried out as per the company's selection method, which may include tests and interviews. The T&P team ensures seamless coordination throughout, while student attendance and conduct are closely monitored.

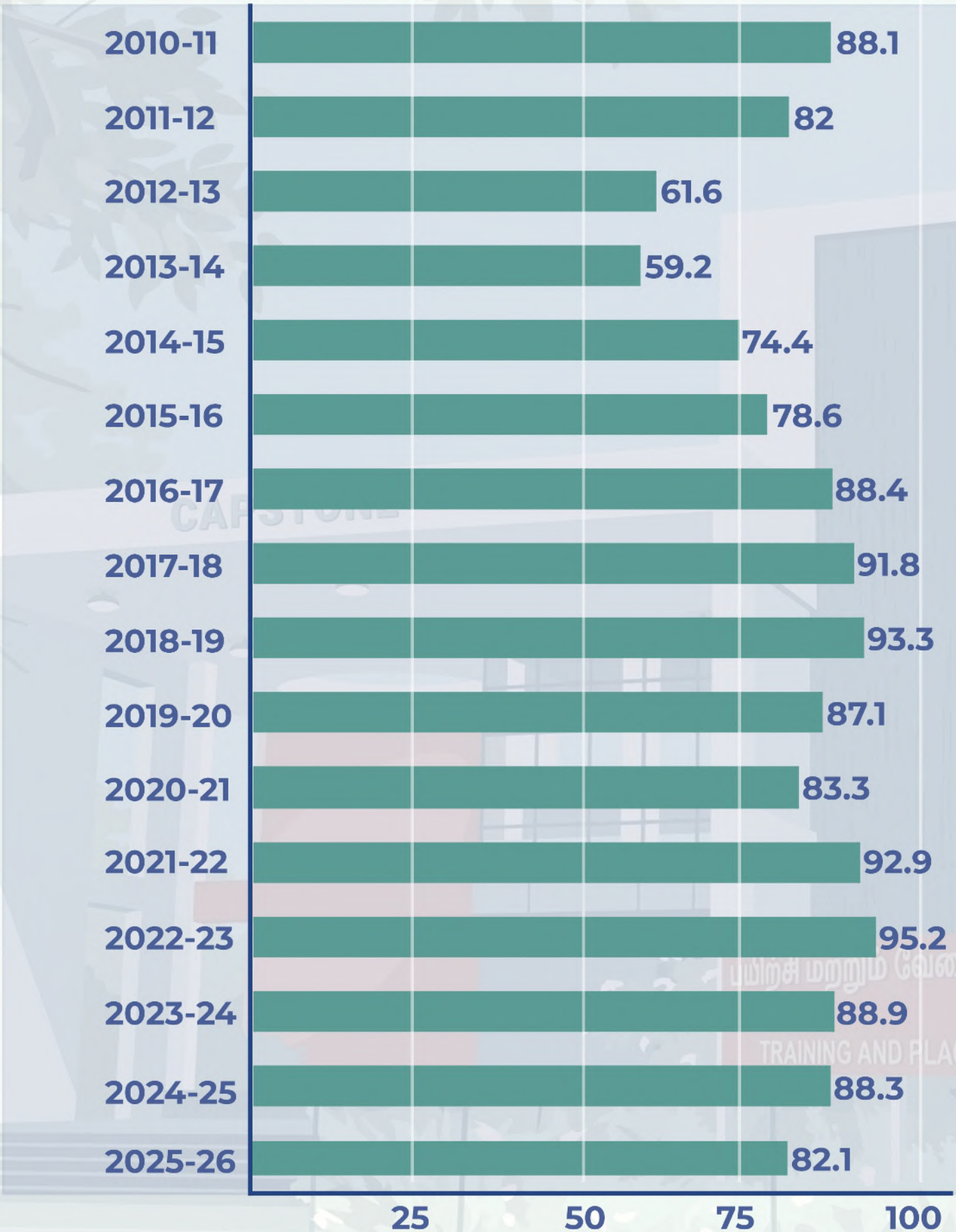


6 RESULTS & OFFER LETTERS



Companies are kindly requested to share the list of selected candidates with the T&P Department on the same day. Offer letters may be sent via email or courier.

PLACEMENT STATISTICS



PLACEMENT PERCENTAGE



PAST RECRUITERS



PAST RECRUITERS

PLACEMENT TEAM

KURIAN BENNY
Department of Architecture

BHAGHYALAKSHMI P V
Department of Chemical Engineering

ABHILASH T
Department of Civil Engineering

PATIL RUSHIKESH YUVARAJ
Department of Civil Engineering

VIBHOR THAKUR
Department of Computer Applications

SUNDRAM PATEL
Department of Computer Applications

NIRVIGHNA DEV SAXENA
Department of Computer Science and Engineering

RIYA RANI
Department of Electrical and Electronics Engineering

PRAGATI KATHURIA
Department of Electronics and Communication Engineering

SOMESHWARAN T
Department of Electronics and Communication Engineering

GUDLA SAI SOWMYA
Department of Energy and Environment

S VENKATARAMANA
Department of Instrumentation and Control Engineering

ABISHRI K R
Department of Management Studies

RASHMIKA V
Department of Management Studies

ANOOP SHAJI
Department of Mechanical Engineering

CHAPPA RAMESH
Department of Metallurgical and Materials Engineering

KRISHNA V
Department of Physics

RAHUL D R
Department of Production Engineering

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

HOW TO REACH NITT



BY AIR



FROM	TO	DEPARTURE	ARRIVAL	FLIGHT NO.
Chennai	Trichy	05:50	07:00	6E-72XX
Chennai	Trichy	07:10	08:10	6E-7298
Chennai	Trichy	09:30	10:40	6E-7191
Chennai	Trichy	12:40	13:50	6E-70XX
Chennai	Trichy	15:00	16:10	6E-71XX
Chennai	Trichy	18:25	19:30	6E-72XX
Chennai	Trichy	20:50	22:00	6E-73XX
Bangalore	Trichy	06:05	07:20	6E-7236
Bangalore	Trichy	07:25	08:25	IX-1204
Bangalore	Trichy	11:00	12:15	6E-7711
Bangalore	Trichy	19:20	20:35	6E-7165
Hyderabad	Trichy	15:45	17:15	6E-2073
Mumbai	Trichy	10:35	12:40	6E-6118

*SUBJECT TO CHANGE BY THE AIRLINES

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

HOW TO REACH NITT



BY RAIL



FROM	TO	TRAIN NAME	TRAIN NO.	DEPARTURE	ARRIVAL	DAYS
Chennai	Trichy	NCJ VANDE BHARAT EXP	20627	05:00	08:55	MTWTFSS
Chennai	Trichy	TEJAS EXPRESS	22671	06:00	09:50	MTWTFSS
Chennai	Trichy	CHOZHAN SF EXP	22675	08:00	15:15	MTWTFSS
Chennai	Trichy	MS GURUVAYUR EXP	16127	11:07	16:15	MTWTFSS
Chennai	Trichy	VAIGAI SF EXP	12635	13:15	18:05	MTWTFSS
Chennai	Trichy	TEN VANDE BHARAT	20665	15:10	19:00	MWTFSS
Chennai	Trichy	PALLAVAN SF EXP	12605	15:40	20:40	MTWTFSS
Chennai	Trichy	MS TCN SF EXP	20605	16:00	23:45	MTWTFSS
Bengaluru	Bangalore	SBC TPJ EXP	16232	19:00	04:00	MTWTFSS
Bengaluru	Bangalore	VB (via Madurai)	20672	13:30	19:20	MWTFSS
Hyderabad	Hyderabad	KCG NCJ EXP	17652*	19:45	15:00	MTWTFSS
Mumbai	Mumbai	NAGERCOIL EXP	16351	20:35	00:25	MTWTFSS

*SUBJECT TO CHANGE BY THE RAILWAYS

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

HOW TO REACH NITT



FROM NITT

FROM	TO	DEPARTURE	ARRIVAL	FLIGHT NO.
Trichy	Chennai	08:30	09:30	6E-7101
Trichy	Chennai	11:00	12:10	6E-7365
Trichy	Chennai	14:10	15:20	6E-7268
Trichy	Chennai	16:35	15:45	6E-7242
Trichy	Chennai	19:55	21:05	6E-7151
Trichy	Chennai	21:50	23:00	6E- 7052
Trichy	Bangalore	06:30	07:45	IX-2420
Trichy	Bangalore	08:55	10:10	IX-2742
Trichy	Bangalore	16:45	18:00	6E-7712
Trichy	Bangalore	20:55	22:10	6E-7166
Trichy	Hyderabad	06:05	07:35	6E-2073
Trichy	Mumbai	13:10	17:15	6E-6119

*SUBJECT TO CHANGE BY THE AIRLINES

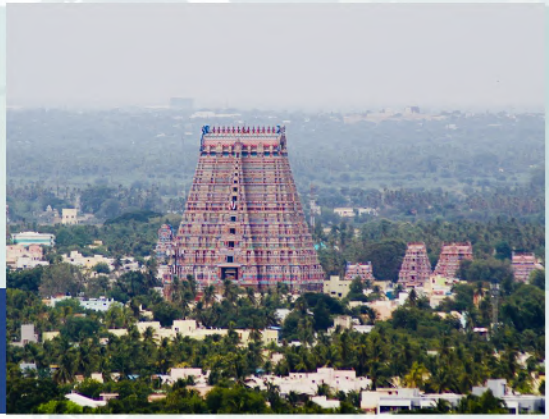
The Thanjavur Periya Kovil, also known as the Brihadeeswarar Temple, is a magnificent example of Chola architecture and a UNESCO World Heritage site. It was built by King Raja Raja Chola I between 1003 and 1010 AD, dedicated to Lord Shiva.

THANJAVUR PERIYA KOVIL 40KM



Sri Rangam's history centers around the Sri Ranganathaswamy Temple, one of the most important temples dedicated to Lord Vishnu. The temple's story also involves Lord Rama, who gifted the idol to Vibhishana, and its eventual establishment on the island of Sri Rangam near the Kaveri River.

SRI RANGAM 23KM



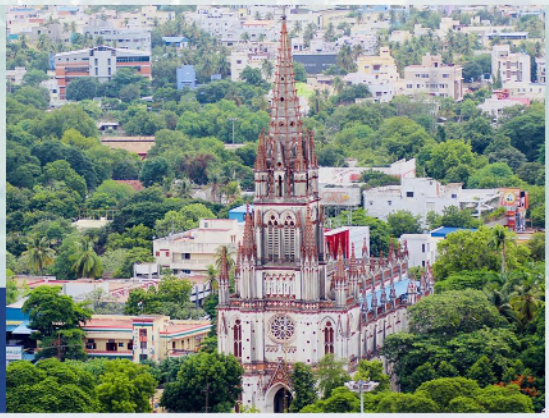
Mukkombu Dam, also known as Upper Anaicut, is a historic dam located in Tiruchirappalli, built between 1836 and 1838 by British engineer Sir Arthur Cotton. It's known for its scenic beauty and role in irrigating the region. The dam also creates the island of Sri Rangam by dividing the

MUKKOMBU 34KM



Our Lady of Lourdes Church in Trichy, modelled after the famous Basilica of Lourdes in France, is a beautiful example of Gothic architecture. This historic church, built in the late 19th century, serves as a prominent pilgrimage site and a symbol of Trichy's rich colonial heritage.

LADY OF LOURDES CHURCH 18KM



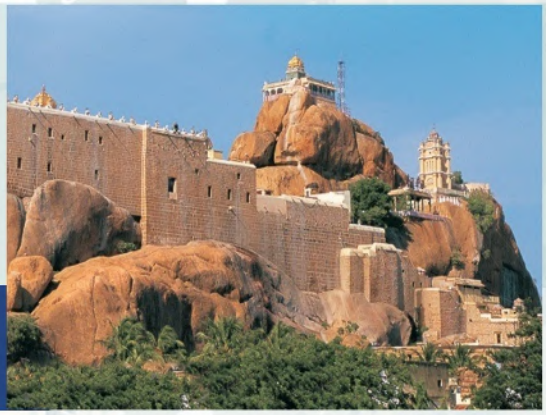
PLACES TO VISIT

Thiruvanaikoil, also known as Jambukeswarar Temple, is a historic Shiva temple in Sri Rangam, built by the Chola king Kochenganan over 1800 years ago. It's one of the five major Shiva temples in Tamil Nadu, representing the element of water (Appu Lingam).



THIRUVANAIKOIL 19KM

The most famous land mark of Tiruchirappalli is the Rockfort Temple. It is also called as Ucchi Pillaiyar Kovil. Halfway up is the Sri Thayumanaswamy Temple, dedicated to Lord Shiva. From its summit tourists can get a fantastic view of the town and other spots such as, Sri Rangam, Cauvery River, Coleroon River etc.



ROCK FORT 18KM

The Kallanai Dam was built during the 2nd century AD by Karikalan, a king of the Chola Dynasty and is also one of the oldest irrigation systems in the world that is still in use. Kallanai Dam is the fourth oldest dam in the world, and first in India. It is a rock-solid project that has survived 2,000 years.



KALLANAI 18KM

Hazrat Nathar Vali Dargah in Trichy is a revered Sufi shrine, attracting devotees from various faiths who seek blessings and spiritual solace. This ancient dargah, dedicated to the Sufi saint Nathar Vali, is known for its serene ambiance and the annual Urs festival, which celebrates the saint's legacy with devotion and festivity.



HAZRAT NATHAR VALI DARGAH 18KM

PLACES TO VISIT

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LOCATION

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