Vision

International standing of the highest caliber

Mission

To develop high quality technical education and personnel with a sound footing on basic engineering principles, technical and managerial skills, innovative research capabilities, and exemplary professional conduct to lead and to use technology for the progress of mankind, adapting themselves to changing technological environment with the highest ethical values as the inner strength
It is indeed a privilege to write on the occasion of bringing out the brochure of National Institute of Technology Calicut. I am proud to be associated with this eminent institute from August 2015. During my brief tenure as the Director here, I have realized that need of the hour is to take this institute further in its relentless march towards achieving and sustaining excellence.

National Institute of Technology Calicut (NITC) has made a mark as a vibrant entity with proven successes over a broad spectrum. Its talent pool in education and research is well recognized. Technical education in NITC encompasses undergraduate and graduate students along with doctoral scholars, and a wider participation through outreach. It has a core of highly motivated faculty members and committed staff members. The Institute emphasizes the primacy of academic excellence to provide a supply of well-trained engineers and scientists ready to make a positive impact on industry, driving global, national, and regional economic growth. All the institutional stakeholders share a framework of common values that supports superior performance in education, research, and service. Institutional goals transcend internal and external boundaries. Leveraging specific strengths and targeting areas of development where there is opportunity for significant improvement are key areas to work upon.

It goes without saying that achieving excellence is the basic ingredient of positive and sustainable change. The important issue for an institute of national and international importance is not whether to, but how to change. Without change there is no innovation, and as a result, no excellence. Core areas that calls for excellence are - i) Teaching-learning process, ii) Research innovation, iii) Industry partnership, iv) Alumni engagement and v) Infrastructure development. Key initiatives in this context are: i) Creating New Learning Strategies, ii) Conducting Research on Real-Life Topics, iii) Implementing New Instructional Strategies, iv) Developing Expertise, v) Assessing and Evaluating Excellent Achievement and vi) Staying connected through networking and outreach. The initiatives will also be linked to societal issues, where science and engineering can be applied to solve significant real-life problems.

To achieve and sustain excellence it is essential to cultivate an actively engaged NITC community whose students, faculty, staff, alumni, and other partners are committed to the advancement of the Institute. Cultivating a culture of accomplishment and excellence will enhance the profile of the Institute further in the years to come. NITC is committed to - i) encouraging collaboration on major initiatives requiring multidisciplinary and multi-institutional participation, ii) providing support to its students and faculty in the development and application of
new or improved technologies, iii) supporting and expanding relationships with strategically appropriate industrial partners, iv) encouraging alumni engagement for personal and professional growth, donor-funding and career-networking opportunities, service learning, continuing education programs, and special events, v) supporting an educational culture that does not end with a degree and will encourage professionals in the engineering sciences to remain engaged through continuing education opportunities, vi) exposing students and faculty to a wide range of scholars, researchers and practitioners from other universities, industry, government and non-profit organizations, vii) encouraging and facilitating students exploring and pursuing entrepreneurial activities and viii) promoting commercialization of NITC technology.

Key outcome of institutional initiatives would be - i) improvements in the quality and diversity of people that NITC attracts at all levels, ii) the ways in which NITC alumni go on to demonstrate leadership in areas of their choice, particularly those who enter technology-specific fields, iii) the real-world impact of research work, problems solved, lives improved and adverse consequences avoided and iv) recognition by peers in engineering education and research.

Before I conclude it, let me sum it all up by saying that - *NIT Calicut will be in the Nation’s Service and in the Service of All Nations.*

I convey my sincere thanks to all of the NITC fraternity for their outstanding services and full commitment to the institute.

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*Sivaji Chakravorti*  
March 28, 2016
Preamble

National Institute of Technology Calicut (NITC) is one of the 31 institutions of national importance under the NIT Act 2007 and is fully funded by the Government of India. The mandate of the Institute is to provide higher technical education and conduct research in the various branches of Engineering, Science, Technology and Management. Originally established in 1961 as a Regional Engineering College (REC), it was transformed into a National Institute of Technology in the year 2002. Institute offers bachelors, masters and doctoral degree programs in Engineering, Science, Technology and Management. With its proactive collaborations with a multitude of research organizations, academic institutions and industries, the institute has set a new style for its functioning under the NIT regime.

Set in a picturesque landscape at the foothills of the Western Ghats, NITC is located about 22 kilometers north - east of Calicut City. It stretches over a length of about 1.5 Kilometers along the Calicut-Mukkam road, extending over an area of approximately 120 hectares. Being a fully residential institution, the campus houses academic buildings, research labs, hostels, residences and other amenities among its infrastructure. The Institute is presently offering 10 UG programs with a total intake of 1049 and 30 PG programs including MBA with a total intake of 666. Doctoral level research has remarkably increased in the recent times, with over 517 research scholars registered and there has also been a substantial increase in the volume of research papers and patents produced.
Landmarks in our journey...

1961  Established as Calicut Regional Engineering College (CREC) with three undergraduate programmes (civil, mechanical and electrical engineering disciplines) affiliated to the University of Kerala.

1971  Started three postgraduate programmes - structural engineering (civil), instrumentation and control (electrical) and refrigeration & air conditioning (mechanical).

1980  Started bachelors programme in electronics engineering under the department of electrical engineering.

1984  Started postgraduate programme in industrial engineering and management under the department of mechanical engineering.

1985  Started undergraduate programme in production engineering and management under the department of mechanical engineering.

1986  University of Calicut recognises civil and electrical engineering departments as authorised research centres.

1987  Introduced postgraduate programme in power electronics (electrical) and offshore structures (civil).

1988  Started the Master of Computer Application (MCA) programme under the department of electrical engineering.

1989  Started three postgraduate programmes (thermal sciences, manufacturing technology, industrial engineering and management) under the department of mechanical engineering.
1994 Started postgraduate programme in digital systems & communication under the department of electrical engineering.

1997 Department of electrical engineering trifurcated into departments of electrical engineering, electronics & communication engineering and computer science & engineering.

1998 Started postgraduate programme in computer science & engineering under the department of computer science & engineering.

1999 Department of architecture formed and a 5-year bachelor of architecture programme started.

2001 Started postgraduate programme in electronics design & technology under the department of electronics & communication. Accrued lead institution status for the World Bank funded Technical Education Quality Improvement Programme (TEQIP).

2002 Elevated to National Institute of Technology Calicut (NITC) and conferred the status of a deemed university.

2004 The first annual convocation of NITC held on 17th of November.

2006 Formed the department of chemical engineering and started B.Tech. programme in chemical engineering. Started five postgraduate programmes in mathematics & scientific computing (mathematics), computer controlled industrial power (electrical engineering), environmental geotechnology (civil engineering), microelectronics & VLSI technology (electronics engineering) and information security (computer science engineering).

2007 Formed the department of chemical engineering and started B.Tech. programme in biotechnology under the department of chemical engineering. Started postgraduate programme - (M.Sc. (Tech.)) in photonics, polymer science & technology (department of science & humanities), M.Tech. in nanotechnology (mechanical engineering), telecommunication, signal processing (electronics engineering) and PG diploma programme in construction management (civil engineering).

2009 Departments of physics and chemistry created from department of science & humanities. Also, schools of biotechnology, management sciences and nano science and technology established. Postgraduate programme in business administration (MBA) started.

2010 – 2011 golden jubilee year – several national and international conferences and seminars held.

2012 Postgraduate programmes (M.Sc.) in chemistry, mathematics and physics started.

2014 Started three M.Tech. programmes (i) water resources engineering under the department of civil engineering, (ii) high voltage engineering under department of electrical engineering (iii) machine design under department of mechanical engineering.

2015 Started the M.Plan. programme in the department of architecture, and M.Tech programme in chemical engineering, department of chemical engineering.
Administration and Operation

NIT Calicut is an academically autonomous institute governed by the NIT Act 2007. The President of India is the visitor to the Institute under the act. The governance structure includes the national council for NITs as the apex policy making body, while the Institute’s governance is vested with a board of governors. Institute’s senate is the authority in academic matters. Chairman of the board of governors is nominated by the visitor. The broad based governance and administrative system given under the NIT Act ensures participative decision making and assures accountability.

The Director is the executive head of the institute. He is appointed by MHRD for a period of five years. He is also the chairman of the senate. Director is also a member of the board of governors and the NIT Council. The management roles of the Institute are performed by the Deans (academic, planning & development, faculty welfare, research & consultancy and student welfare) and the heads of the departments and schools. Administration wing consists of the registrar, the deputy registrars and other ministerial staff.

Constitution of the senate is prescribed by the NIT Act and members are drawn from the faculty of the Institute as well as from outside. Senate is responsible for the academic administration, including introduction and maintenance of academic courses. Subordinate to the senate, is the Board of Academic Council (BOAC) headed by the Dean (academic) to deliberate on various academic matters and to make recommendations to the Senate. The student hostels are administered by the Chief Warden, with the help of a council of wardens. Student activities are planned and managed by the elected body of student affairs council, which is overseen by the Dean (student welfare) and other faculty coordinators. Campus maintenance and construction are taken care of by the engineering unit and the electrical maintenance unit under the superintending engineer and the assistant engineers.

Our Goals & Objectives

- To be: A world class institution for education, research, training and development in engineering, science, technology and management
- To be: A rendezvous for industry and academia
- To be: A facilitator for continuing education and non-formal training
- To build: A seamless system of learning that touches the frontiers of knowledge
- To build: An interface between technology and the common man
- To deliver: World class technological information and updates to the society
- To network: With national, international and local institutions for academic and research activities
- To provide: Clean hostel, clean mess, clean water, hygienic and wholesome food to the students

Academics at NITC

The programmes and courses offered at NITC are designed to provide a balanced blend of basics of any field and adequate exposure to cutting edge ideas and technology in the area. We offer 10 UG and 30 PG programmes at present. Besides this, all departments have their research programmes as well. As a hallmark of our autonomy, faculty members have freedom to design course curricula and syllabi, subject to approval by the senate before being offered for study. The UG and PG curricula are revised every six years to keep pace with latest trends in technical education. The institute and academic departments are reviewed individually by external experts every year. A credit based academic system ensures a constantly
evolving and dynamic learning, with flexibility for the student to exercise choices based on his/ her interest. The Dean (academic) oversees all the academic programmes.

Academic programmes are offered by 13 departments and schools at NITC.

**Academic Departments**
- Department of architecture
- Department of chemical engineering
- Department of chemistry
- Department of civil engineering
- Department of computer science & engineering
- Department of electrical engineering
- Department of electronics & communication engineering
- Department of mathematics
- Department of mechanical engineering
- Department of physics

**Academic Schools**
- School of bio-technology
- School of management studies
- School of nano science and technology

**UNDERGRADUATE PROGRAMMES**

**B.Tech.**
- Bio-technology
- Chemical engineering
- Civil engineering
- Computer science & engineering
- Electrical & electronics engineering
- Electronics & communication engineering
- Engineering physics
- Mechanical engineering
- Production engineering

**B.Arch.**
- Architecture
POSTGRADUATE PROGRAMMES

M.Plan
Department of Architecture
Urban planning

M.Tech.
Department of Chemical Engineering
Chemical engineering

Department of Civil Engineering
Environmental geotechnology
Offshore structures
Structural engineering
Traffic and transportation planning
Water resources engineering

Department of Computer Science & Engineering
Computer science & engineering
Computer science & engineering (information security)

Department of Electrical Engineering
High voltage engineering
Industrial power & automation
Instrumentation & control
Power electronics
Power systems

Department of Electronics & Communication Engineering
Electronics design & technology
Micro electronics & VLSI design
Signal processing
Telecommunication

Department of Mechanical Engineering
Energy engineering & management
Industrial engineering & management
Machine design
Manufacturing technology
Materials science & technology
Thermal sciences

School of Nano Science and Technology
Nanotechnology

MCA
Department of Computer Science & Engineering
Computer applications
MBA
School of Management Studies
Business administration

M.Sc.
Department of Chemistry
Chemistry

Department of Mathematics
Mathematics

Department of Physics
Physics

DOCTORAL PROGRAMMES
Doctoral programmes are offered in all departments and schools. Admissions are done through open competition based selection for the Institute scholarship, while the guidelines of the respective schemes will be followed for other externally funded scholarships and fellowships. Institute has been awarded fellowships under the Visvesvaraya Ph.D. Scheme of department of electronics and IT of Government of India. Through this scheme 5 regular scholars have been admitted in 2015-16 for research in IT/ITES applied to various engineering applications. This will be continued for the years to come and will scale up the research and development in areas of electronics, embedded systems, information technology applications and so on.

Research and Consultancy
Apart from assimilating and spreading knowledge, emphasis on research is given due importance at NITC. Though research activities were prevalent during REC days itself, organised research and development through externally funded projects started earnestly during the initial years after its conversion to NITC. Being a community of professionals and technologists, NITC faculty and staff are involved in several consultancy projects. These activities are monitored through the office of the Dean (research & consultancy).

NITC community realises that the foundations of a nation’s economic growth and prosperity lies to a great extent in university level research, both basic and application oriented. Over the last few years, institute has registered significant growth in research and consultancy initiatives.

NITC attracts research funding from all major government agencies like DST, DBT, CSIR, MHRD, BRNS and also industries like Hindustan Petroleum Corporation Ltd, NTRC, Tata Steel and so on.

Some Research Initiatives at NITC
- Seed funding for new faculty
- Incentives for faculty publishing papers in peer reviewed journals and for bringing sponsored research projects
- Funding of conference travel and participation through PDA for faculty

For industrial consultancy, the institute faculty provides technical advice to industries and government agencies in the region. Institute laboratories are recognised for quality testing and certification, calibration of Instruments/equipments. NIT Calicut would endeavour to increase its number of sponsored projects and the revenue generated through consultancy in a big way in the forthcoming years.
DEPARTMENT OF ARCHITECTURE

The Department of Architecture is committed to provide an academically strong platform for those aspirants who would leave an enduring impression in the field of architecture and urban planning.

The educational programme in architecture throughout the world shares a common view of the future of mankind and recognises its unpredictability. This calls for an attitude for research, exploration and evaluation to authenticate the work of design. Great are the thoughts that moved the world... greater are the perpetuators of these thoughts. The department of architecture plans and strives to reach these goals by offering an undergraduate (5 Year B. Arch.) degree programme in architecture.

The post graduate degree (2 Year M. Plan) programme in urban planning aims to produce generalist planning professionals of international quality who can adapt to any challenging planning situation with superior capability to use geo-informatics which includes GIS, remote sensing related models and quantitative methods in urban, regional and environmental planning. The programme envisages inculcating scientific, diagnostic and urban management abilities in professional planners to understand planning issues holistically and equip them with predictive ability to analyse the outcome of economic, social, environment and energy impacts using simulation of future scenarios.

UG & PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Arch.</td>
<td>5 years</td>
<td>Architecture</td>
<td>2001</td>
<td>54</td>
</tr>
<tr>
<td>M.Plan</td>
<td>2 years</td>
<td>Urban Planning</td>
<td>2015</td>
<td>13</td>
</tr>
</tbody>
</table>

Ph. D. Programmes (2002 onwards)

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>Completed</th>
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<tbody>
<tr>
<td>10</td>
<td>1</td>
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</tbody>
</table>

Major Areas of Research

- Architectural design of all type of buildings
- Assessment of building performance for thermal comfort
- Environmental planning and impact assessment
- Low cost housing materials / techniques
- Watershed planning
- Transportation planning
Resource mapping for local bodies
Management of building projects
Traditional building materials and construction techniques
Conservation of historic monuments
Traditional architecture
Masonry materials & techniques
Remote sensing and GIS application in planning
Disaster management
Planning information system development
Urban design
Study of acoustics & lighting in buildings
Urban & regional development & planning
Coastal area development planning
Landscape design and interior design
Sustainable architecture urban development
Urban infrastructure planning and impact assessment
Energy efficiency in buildings
Earth architecture & green buildings
Standardisation of traditional construction materials and techniques
Coastal zone planning and management
Community housing and settlement planning
Housing policies & management
Repair, maintenance and retrofit of buildings

Major Facilities / Laboratories
- Building science laboratory
- CAAD laboratory
- Interactive media design laboratory
- Creative arts laboratory

DEPARTMENT OF CHEMICAL ENGINEERING
Chemical engineering is the branch of engineering that deals with the application of physical science and mathematics, to the process of converting raw materials or chemicals into more useful or valuable forms. It largely involves the design and maintenance of chemical processes for large-scale manufacture.
Chemical engineers are also engaged in the development and production of a diverse range of products like fabrics, adhesives, biocompatible materials for implants, prosthetics, gels, etc. as well as in commodity and specialty chemicals. Today, the field of chemical engineering is a diverse one, covering areas from biotechnology and nano technology to mineral processing. The chemical engineering department at NITC offers a B.Tech. programme, M.Tech. programme and a research programme in chemical engineering.

UG & PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Tech</td>
<td>4 years</td>
<td>Chemical Engineering</td>
<td>2006</td>
<td>103</td>
</tr>
<tr>
<td>M.Tech</td>
<td>2 years</td>
<td>Chemical Engineering</td>
<td>2015</td>
<td>13</td>
</tr>
</tbody>
</table>

Ph. D. Programme (2008 onwards)

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<tr>
<th></th>
<th>Ongoing</th>
<th>Completed</th>
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<tbody>
<tr>
<td></td>
<td>40</td>
<td>7</td>
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</tbody>
</table>
Major Areas of Research
- Polymer technology
- Effluent treatment using IFBR
- Waste water treatment
- Mass and heat transfer
- Microwave heating
- Renewable energy
- Ammonia adsorption in activated carbon
- Biochemical engineering
- Air and water quality modeling
- Microfluidics
- Fuel cells
- Energy and environment

Major Facilities / Laboratories
- Fluid and particle mechanics laboratory
- Chemical technology laboratory
- Mechanical operations laboratory
- Heat transfer laboratory
- Mass transfer laboratory
- Environmental & pollution control laboratory
- Chemical reaction engineering & process control laboratory
- Computer applications laboratory
- Environmental research laboratory
- Analytical and instrumentation laboratory

DEPARTMENT OF CHEMISTRY
In education and research, the department of chemistry is emerging as a major centre of excellence, not only on a national but also on international level. The academic activities of the department are supported by highly qualified and experienced faculty who pursue research in the frontier areas of science. The major research areas covered by the department include theoretical and computational chemistry, polymer science and technology, physical chemistry, coordination chemistry, organic chemistry, bio-organic and bio-inorganic chemistry. The department has state of the art instrumentation facilities for thermal, mechanical and spectroscopic characterisation of materials, and other laboratory facilities. The research activities in the department are generously supported by the external national and international funding agencies. The department also has collaborative research programmes with national and international universities / institutes.
**DEPARTMENT OF CIVIL ENGINEERING**

The Department of Civil Engineering is one of the oldest departments in the Institute. It was established at the inception stage of the Calicut Regional Engineering College (CREC), which is the forerunner to the present National Institute of Technology Calicut (NITC) in 1961. Over the years, the department has grown to offer undergraduate, graduate, and research programmes. At present, the department offers one undergraduate programme in civil engineering leading to the B. Tech. degree and five graduate programmes - one each in structural engineering, traffic and transportation planning, offshore structures, environmental geotechnology and water resources engineering leading to an M. Tech. degree from the Institute. In addition to the above, there are a number of scholars pursuing research at the department in various fields of civil engineering leading to Ph.D. degree. The department is a recognised QIP centre of the AICTE for both M. Tech. and Ph.D. programmes. In addition to the above programmes, the department has been regularly conducting a number of short term training programmes for the benefit of the faculty of technical institutions and working professionals.

The department is also actively engaged in R&D, testing and consultancy activities. A number of R&D projects sponsored by various departments and organisations including the Ministry of Human Resources Development (MHRD) and the Department
Centre for Transportation Research (CTR) is set up under the scheme “establishment of 50 centre of excellence for training and research in Frontier Areas of Science and Technology (FAST)” of MHRD, Government of India with the objective of carrying out research, education, training and outreach activities in various aspects of transportation engineering.

The department has offered and continues to offer testing and consultancy services to various government departments and organisations in both the public and private sectors. The Government of Kerala has approved the department as an authority for checking and scrutinising designs of public works. Government of India has approved the department for scrutinising the detailed project reports of Pradhan Mantri Gram Sadak Yojana (PMGSY) scheme. Consultancy services are also being offered in all fields of civil engineering interest.

The laboratories of the department are well equipped. A major modernisation of various laboratories in the department was taken up under the Technical Education Quality Improvement Programme (TEQIP) of MHRD, Government of India, during 2002-2006.

**UG & PG Programmes**

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Tech.</td>
<td>4 years</td>
<td>Civil Engineering</td>
<td>1960</td>
<td>154</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Structural Engineering</td>
<td>1971</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Traffic and Transportation Planning</td>
<td>1985</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Offshore Structures</td>
<td>1987</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Environmental Geotechnology</td>
<td>2006</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Water Resource Engineering</td>
<td>2014</td>
<td>12</td>
</tr>
</tbody>
</table>

**Ph. D. Programme (2002 onwards)**

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<thead>
<tr>
<th></th>
<th>Ongoing</th>
<th>Completed</th>
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<tbody>
<tr>
<td></td>
<td>64</td>
<td>62</td>
</tr>
</tbody>
</table>

**Major Areas of Research**

- Structural engineering - seismicity studies, fibre reinforced and geopolymer concrete, retrofitting, fire resistance and bio mechanics.
- Geotechnical engineering - soil dynamics, ground improvement, soil behaviour, foundation engineering, marine geotechniques.
Offshore and coastal engineering - modelling and behaviour of fixed, compliant and floating structures, reliability studies and coastal processes and hydrodynamics

Water resources engineering and management

Environmental engineering – waste water treatment, environmental modelling, pollution control

Transportation engineering – travel demand modelling and forecasting, urban transportation planning, traffic flow modelling, capacity and LoS, road traffic safety, transport systems design & evaluation, pavement materials, design and management

Building sciences and construction management

**Major Facilities / Laboratories**

- Structural engineering laboratory
- Transportation engineering laboratory
- Environmental engineering laboratory
- Geology laboratory and museum
- Water resources engineering laboratory
- Offshore laboratory
- Geotechnical engineering laboratory
- CAD laboratory
- Surveying laboratory
- PG computing laboratories

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

The UG (B. Tech CSE) curriculum pays great attention to theoretical foundations of computer science. Devoted laboratory work is introduced to consolidate the theoretical concepts and extend their applications to solve real-life problems in diverse domains. A set of elective courses addressing advanced topics and applications are also offered at the senior level.

Master of Computer Applications (MCA) programme is a three-year programme with one full semester devoted to project work. In addition to the core courses in computer science covering the basic knowledge areas, there are courses from Mathematics, management and humanities, which enable the students to acquire the required skills for a successful career.

The PG curriculum (M. Tech CSE and M. Tech CSE (IS)) is organised with few core courses and many elective to give the students enough choice to credit courses of their interest. The project work in the final year is intended to equip the students to go deeper into their area of specialisation.
The fast changing scenario in information technology necessitates the department to actively extend its research and development activities. The department also extends technical support to government and non-governmental organisations in community outreach programmes.

**UG & PG Programmes**

<table>
<thead>
<tr>
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<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Tech.</td>
<td>4 years</td>
<td>Computer Science &amp; Engg.</td>
<td>1985</td>
<td>152</td>
</tr>
<tr>
<td>MCA</td>
<td>3 years</td>
<td>Computer Applications</td>
<td>1988</td>
<td>46</td>
</tr>
<tr>
<td>M.Tech.</td>
<td>2 years</td>
<td>Computer Science &amp; Engg</td>
<td>1998</td>
<td>20</td>
</tr>
<tr>
<td>M.Tech.</td>
<td>2 years</td>
<td>Computer Science &amp; Engg</td>
<td>2006</td>
<td>20</td>
</tr>
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<td></td>
<td></td>
<td>(Information Security)</td>
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**Ph. D. Programme (2002 onwards)**

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<th>Completed</th>
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<tr>
<td></td>
<td>37</td>
<td>12</td>
</tr>
</tbody>
</table>

**Major Areas of Research**

- Algorithms – graph algorithms, complexity of security models and verification, string algorithms.
- Architecture - simulators for high performance machines, power efficient caches.
- Bioinformatics - algorithms for sequence alignment, data and text mining for bioinformatics.
- Compilers and programming languages - program analysis and transformation.
- Distributed computing - middleware, adaptation in event based middleware, P2P overlays, self organizing overlays.
- Image processing - data compression, image compression, medical Imaging, personnel identification.
- Networks - routing protocols, congestion control, security protocols, Intrusion detection systems, firewalls, mobile protocols, ad hoc networks, network management.
- Operating systems - file systems for flash memory, multiagent systems, Real time operating systems.

**Major Facilities / Laboratories**

- Software systems laboratory
- Hardware & embedded systems laboratory
- Network systems laboratory
- Computational intelligence laboratory
- Image processing & multimedia laboratory
- Secure computing laboratory

**Central Facilities attached to the Department**

- Central computer centre (CCC)
- Campus networking centre (CNC)
DEPARTMENT OF ELECTRICAL ENGINEERING

Established in 1961, the Department of Electrical Engineering of the National Institute of Technology Calicut offers programmes leading to bachelor’s degree, master’s degree as well as Ph.D. The four years’ undergraduate programme leads to the bachelor of technology (B.Tech) degree in electrical and electronics engineering. Specialisations for the master’s level programmes are i) instrumentation & control systems ii) power systems iii) power electronics iv) industrial power and automation and v) High Voltage Engineering. These programmes are of two year duration and lead to the degree of master of technology (M.Tech) in electrical engineering with respective specialisations specifically mentioned in the degree certificate. The research programme in electrical engineering, control systems and other related areas leads to the Ph.D. degree awarded by the Institute. In addition to these regular programmes, this department is also actively involved in conducting post diploma courses, faculty development programmes, job-oriented short-term training programmes, continuing education programmes for engineering professionals and academic faculty.

The three major research groups in the department are the power & energy systems group, instrumentation and control systems group and the electrical machines & power electronics group. These groups also promote interdisciplinary research that are in the domain of the faculty expertise. The laboratories and research facilities in the department are well maintained and regularly updated. Members of the faculty are actively involved in sponsored research and consultancy works. The R&D projects undertaken in the past were sponsored by the various agencies like MHRD, Government of India, the Department of Science & Technology (DST) Government of India, All India Council for Technical Education, Government of India and the Kerala State Council for Science, Technology and Environment, Government of Kerala. A number of projects are in progress. Rupees ten million worth modernisation work sponsored by the department of science and technology, Government of India to strengthen the research facilities in the area of power and energy systems is nearing completion. The department has a DST-FIST aided lab for energy research.
UG & PG Programmes

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>B. Tech.</td>
<td>4 years</td>
<td>Electrical &amp; Electronics Engineering</td>
<td>1961</td>
<td>154</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Instrumentation &amp; Control</td>
<td>1971</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Power Systems</td>
<td>1983</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Power Electronics</td>
<td>1985</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Industrial Power and Automation</td>
<td>2006</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>High Voltage Engineering</td>
<td>2014</td>
<td>13</td>
</tr>
</tbody>
</table>

Ph. D. Programme (2002 onwards)

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>11</td>
</tr>
</tbody>
</table>

Major Areas of Research
- Power & energy systems
- Electric machines & power electronics
- Control system and instrumentation engineering
- Industrial power & automation

Major Facilities / Laboratories
- Electrical machines laboratory
- Electrical measurements laboratory
- Control systems laboratory
- Electronics circuits laboratory
- Electrical and electronics workshop
- Electrical simulation laboratory
- Power system protection laboratory
- Power electronics laboratory
- Industrial power laboratory
- Energy research laboratory
- Instrumentation centre
- Energy audit cell
- Centre for testing and certification
- Process control and automation laboratory
- Embedded system application laboratory

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

The Department of Electronics and Communication Engineering, National Institute of Technology Calicut, provides quality education in relevant engineering field through its undergraduate (UG), postgraduate (PG) and doctoral programmes. The 4 year UG programme, B.Tech in electronics and communication engineering, began in 1980 under the department of electrical engineering. Later, in 1994, an M.Tech. programme was started in digital systems and communication. The rapid developments in the field of electronics and communication Engineering initiated the inception of a separate department for electronics and communication engineering in 1997, by trifurcating the department of electrical engineering. The department currently offers, in addition to the B.Tech programme in electronics and communication engineering, four PG programmes majoring in i) electronic design and technology, ii) microelectronics and VLSI design, iii) telecommunications and iv) signal processing. The syllabi of the courses are continuously updated and the laboratories are modernized to reflect the rapid change in technology. It also offers high quality research programmes at Ph.D level in the areas of microelectronics, VLSI circuits, signal processing and communication engineering.
UG & PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Tech</td>
<td>4 Years</td>
<td>Electronics &amp; Communication</td>
<td>1980</td>
<td>152</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 Years</td>
<td>Electronics Design &amp; Technology</td>
<td>2001</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 Years</td>
<td>Microelectronics &amp; VLSI Design</td>
<td>2006</td>
<td>20</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 Years</td>
<td>Telecommunication</td>
<td>2008</td>
<td>13</td>
</tr>
<tr>
<td>M. Tech.</td>
<td>2 Years</td>
<td>Signal Processing</td>
<td>2008</td>
<td>13</td>
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</tbody>
</table>

Ph. D. Programme (2002 onwards)

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>34</td>
</tr>
</tbody>
</table>

Major Areas of Research
- Multi-rate signal processing
- Speech & audio processing
- Compressive sampling
- Multiwavelets: theory and construction
- Image & video processing
- Pattern recognition & computer vision
- Communication & networking
- Wireless communication, multiuser detection, MIMO communications
- Estimation problems in communication signal processing
- Next generation wireless networks
- Coding theory & cryptography
- Microelectronics & VLSI
- Semiconductor device modeling
- MEMS
- Optical communication

Major Facilities / Laboratories
- Electronics workshop
- Electronics circuits laboratory
- Integrated circuits laboratory
- Embedded systems laboratory
- DST-FIST laboratory
- Communication engineering laboratory
- Programmable system on chip laboratory
DEPARTMENT OF MATHEMATICS

Right from its inception in 1961, Department of Mathematics, NIT Calicut has been actively engaged in teaching and research in different branches of mathematics. The vision of the department is to become internationally recognisable through high quality research and other academic pursuits. The department has well qualified faculty specialised in various areas of mathematics including computational mathematics, graph theory, fuzzy graph theory, fuzzy topology, operator algebra, operator theory, optimisation techniques, reliability, stochastic modelling and time series. The department has excellent research atmosphere backed up by very good infrastructural facilities. It offers post graduate programmes in mathematics and full-time/ part-time Ph.D. programmes. Also the department supports engineering departments of the Institute by offering core and elective courses to UG and PG students in various semesters. In addition our academic pursuit includes conducting of international and national conference/workshops, faculty development programmes and taking up R&D projects and consultancy.

PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.Sc</td>
<td>2 years</td>
<td>Mathematics</td>
<td>2012</td>
<td>20</td>
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</tbody>
</table>

Ph. D. Programme (2002 onwards)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>Completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Major Areas of Research

- Algebraic graph theory
- Computational fluid dynamics, modeling & scientific computing
- Functional analysis
- Fuzzy graph theory and applications
- Fuzzy optimisation
- Fuzzy topology, multiset theory
- Operator theory
- Stochastic processes, statistical inference
- Time series modeling, statistical methods for quality management
- Queuing theory
- Partial differential equations
- Fractals and chaos
- Numerical analysis/ methods for PDE/ODE
- Bio computational modelling
- Graph theory and applications
- Numerical analysis of singular perturbation problems

Major Facilities / Laboratories

- Soft computing research laboratory
- Scientific computing laboratory
DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering, the largest department in the Institute, offers regular undergraduate, postgraduate and doctoral degree programmes. It also offers part time doctoral degree programmes, meant for those employed in industries and academic institutions. It offers a number of continuing education programmes too, for industry personnel. Summer/winter schools sponsored by the AICTE / ISTE have also been organised by the department. Besides teaching, the members of the faculty are involved in consultancy work (design & development, energy auditing, industrial sickness evaluation, testing etc.), sponsored research work (sponsored by DST, AICTE, MNRE, ARDB, etc.) and product development.

UG & PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
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<tbody>
<tr>
<td>B. Tech. 4 years</td>
<td>Mechanical Engineering</td>
<td>1961</td>
<td>154</td>
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<tr>
<td>B. Tech. 4 years</td>
<td>Production Engineering</td>
<td>1984</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Industrial Engineering &amp; Management</td>
<td>1984</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Thermal Sciences</td>
<td>1989</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Manufacturing Technology</td>
<td>1989</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Materials Science &amp; Technology</td>
<td>2000</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Energy Engineering &amp; Management</td>
<td>2000</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>M. Tech. 2 years</td>
<td>Machine Design</td>
<td>2014</td>
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</tbody>
</table>

Ph. D. Programme (2002 onwards)

<table>
<thead>
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<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>46</td>
</tr>
</tbody>
</table>

Major Areas of Research

- Thermal and fluid science
- Manufacturing technology
- Micro machining
- Industrial engineering and management
- Materials science and technology
- Solid mechanics and design
- Alternative and renewable energy
- Tribology
- Automobile engineering
Major Facilities / Laboratories

- Advanced manufacturing centre
- CAD/CAM centre
- Heat engines laboratory
- Heat treatment laboratory
- Industrial engineering laboratory
- Materials science & technology laboratory
- Metrology laboratory
- Mechatronics and robotics laboratory
- Production engineering laboratory
- Central workshop
- Sophisticated instruments centre
- Solar energy centre
- Thermal science laboratory
- Tribology and vibration laboratory
- Fluid mechanics laboratory
- Fluid machinery laboratory

DEPARTMENT OF PHYSICS

The Department of Physics at NIT Calicut is developing into a major centre for teaching and research in applied physics and technology, with a young and dynamic team of faculty leading a dedicated team of technical staff, project staff and research students. On the academic front, the department offers a B. Tech. programme in engineering physics and a M.Sc. programme in physics. The B.Tech. programme in engineering physics offered by the NIT Calicut is one of the first of its kind in NIT’s and was started in 2009. The programme is modelled on the very successful engineering physics programme running at various Indian Institutes of Technology (IIT). The department has an active and vibrant research programme, with several externally funded projects and publications in peer reviewed journals.

UG & PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
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</thead>
<tbody>
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<td>Engineering Physics</td>
<td>2009</td>
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<td>M.Sc.</td>
<td>2 years</td>
<td>Physics</td>
<td>2012</td>
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Ph. D. Programme (2002 onwards)

<table>
<thead>
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<th>Ongoing</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>6</td>
</tr>
</tbody>
</table>
**Major Areas of Research**

- Atmospheric physics
- Critical point phenomena & polymer dynamics
- Computational condensed matter physics
- Experimental condensed matter physics and material science
- Lasers and non-linear optics
- Molecular photonics and electronics
- Nanophotonics and photonic devices

**Major Facilities / Laboratories**

- Applied optics and instrumentation laboratory
- Computational materials science laboratory
- Critical point phenomena and polymer dynamics laboratory
- Laser and non-linear optics laboratory
- Laboratory for unconventional electronics and photonics
- Organic and nano electronics laboratory
- Photonic materials and devices laboratory
- Laboratory for molecular photonics and electronics
- PG general physics, optics laboratory
- UG laboratories
- Computer centre and computational physics laboratory

**SCHOOL OF BIOTECHNOLOGY**

Biotechnology is one of the most exciting new sciences of this century. The discovery that DNA (deoxyribonucleic acid), the carrier of genetic code for any form of life, can be transferred to any other form of life opens the door to a multitude of possibilities for genetically modified plants, animals and microbes not found on earth until now. A career that is impacted by biotechnology is not just a job. It is an invitation to participate in the development of new products and processes that could improve the quality of human life as much as any other discovery since the industrial revolution. Biotechnology has transformed many parts of the chemical industry, agriculture and medicines. The new discoveries, inventions and innovations can find direct applications. The latest and much beneficial topics are genetic engineering, cell fusion technology, bioprocess technologies, pharmaceutical biotechnology, and molecular design including drug development, drug delivery systems, etc. Biotechnology is also used to recycle and treat waste water. In a nutshell, biotechnology is the application of existing scientific methods and techniques aimed at improving the biological systems which include microorganisms, plant and animals. Scope of employment in this programme lies in placement across industries such as pharmaceutical, biotechnology and genetics, with large companies in India and abroad and in several research institutions.

**UG Programmes**

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
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<td>B. Tech.</td>
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<td>Biotechnology</td>
<td>2008</td>
<td>36</td>
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</tbody>
</table>

**Ph. D. Programme (2009 onwards)**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
SCHOOL OF MANAGEMENT STUDIES

School of Management Studies (SOMS), NITC offers two years full time residential MBA programme. The MBA programme at school of management studies, NITC has been carefully designed keeping in mind needs of the industry. The programme curriculum meets international standards and has been approved by the eminent academicians in the field of management.

School of management studies follows a semester system matching with academic system practiced by NITC for all its programmes. The course includes an internship of 8-10 weeks duration at the end of 1st year. The students go for summer internship in an organisation for a period of eight to twelve weeks. The summer training enables the students to sharpen their knowledge and skills, develop an understanding of business realities and apply the tools and techniques to real life business situations.

The objective of SOMS is to develop professionals for the analytical and managerial skills required for a professional manager and to enrich them with adequate background of universal values that would create an awareness of the social responsibility, necessary to enable him/her to play an effective role as manager for the benefit of the society.

PG Programmes

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
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<td>MBA</td>
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</table>
Ph. D. Programme (2009 onwards)

<table>
<thead>
<tr>
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<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Major Areas of Research
- Business analytics & systems
- Human resources management
- Operations and production management
- Marketing management
- Finance
- General management, humanities & social sciences (economics, communication)

SCHOOL OF NANO SCIENCE AND TECHNOLOGY
The School of Nano Science and Technology at National Institute of Technology Calicut offers higher degree programmes at the master’s and doctoral levels, in various academic streams related to nano science and nano technology. The school also houses sponsored research projects from various funding agencies. The faculty, students and research scholars are involved in dedicated learning and research to explore, understand and improve materials and processes from a fundamental perspective. They pursue academic research leading to the mission to introduce new functionalities into existing materials, and to tailor-make materials with exceptional qualities, which are the two major goals of nano science and nano technology. The varied interests of the school include study of nanoscale physical phenomena, experimental research in nanoscale flow and heat transfer,
nanomaterials and composites, bio-nano technology and targeted drug delivery systems, optical measurements, combustion and nanoparticle fuel additives, synthesis of nanomaterials including carbon nanotubes, and discrete computational studies on nanoscale systems using molecular dynamics simulations. The school conducts a four-semester master of technology programme in nano technology. A centre for characterisation and electron microscopy also exists in the school.

**PG Programmes**

<table>
<thead>
<tr>
<th>Name of the Degree</th>
<th>Duration</th>
<th>Specialisation</th>
<th>Year of commencement</th>
<th>Present intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Tech.</td>
<td>2 years</td>
<td>Nano Technology</td>
<td>2009</td>
<td>13</td>
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</tbody>
</table>

**Ph. D. Programme (2009 onwards)**

<table>
<thead>
<tr>
<th>Ongoing</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>12</td>
</tr>
</tbody>
</table>

**Major Areas of Research**

- Nanoscale and microscale thermophysics
- Nanofluids and their applications
- Biosensors
- Fuel cells, charge storage devices
- Carbon nanomaterials
- Fuel modifications
- Liquid crystal display
- Environmental nano technology
- Simulation of nanoscale phenomena

**Major Facilities / Laboratories**

- Centre for microscopy
  - Scanning probe microscope
  - Atomic force microscope
- Nano science laboratory
- Nano technology laboratory
- Nano display laboratory
- Computational nano technology laboratory
- Scanning probe microscope
- Atomic force microscope
Industry - Institute Interactions

Specific activities other than consultancy, that have strengthened industry – institute interactions over these years include: i) one-year PG projects at industry and subsequent employment by them; ii) invited faculty from industry; iii) workshops by industry for institute; iv) workshops by institute for industry; v) PG and PhD fellowships and UG scholarships from industry; and vi) course labs setup by industry. Several MoUs have been signed by the institute with industry and academia for exchange of students, faculty and experts.

The Technology Business Incubator

NITC has set up a Technology Business Incubator (TBI-NITC) in 2003-04 with the support of National Science and Technology Entrepreneurship Development Board (NSTEDB), Department of Science and Technology, Government of India to incubate startup industries in information technology and electronics. TBI is registered as a society under the society’s registration act XXI of 1860 on 16 Sep 2009. The TBI has extended incubation facility to 47 start up companies so far. The support has been extended to units in different sectors like software/IT, electronics, rubber technology and solar energy. The units incubated in the TBI generate employment opportunities for at least 300-350 people. TBI can claim 87 percent success if the sustenance of the incubated units is considered.

M/s Arbitron Technology Services India (P) Ltd, an enterprise doing media research in the US market is an anchor company of TBI NITC. It is having a centre of excellence set up in the campus to promote the interaction between the industry and academia. The company through this centre provides opportunities to the students and the faculty of the institute to work with them.

TBI has association with ministry of micro small and medium enterprises, ministry of information and communication technology and the technology development board and is implementing the different schemes of these ministries/departments to promote entrepreneurship.

TBI also provides training to the prospective entrepreneurs of the region. With the consultancy of the faculty and staff of the Institute, TBI provides technological guidance to the small scale industries and also provides consulting in market assessment. Thus through TBI the institute is able to fulfill its commitment to the region by employment generation and industrialisation in the rural environment where it exists.

Physical Education

Right from inception in 1962, during early years of REC, the department of physical education has maintained its goal and motto as total fitness on the campus. Even as NITC, this motto is valid and true. Till the year 2002, as Calicut REC under university of calicut, physical education was a voluntary subject with only those students who wished participated. But the cream of sports men and women participated and good teams were prepared and fielded for university, district, state and national tournaments with satisfactory results. However, we were never near our objective of total fitness due to smaller participation level. Our efforts to make the entire campus conscious about sports met with only limited success.

The transformation to NIT Calicut has brought about a vast change with physical education finding its rightful place in the curriculum and students flocking in great numbers to the sports infrastructure. The condition has become so overwhelming that no undergraduate student leaves the institute without once passing through the corridors of physical education. The desired quantum of participation has been achieved and we can proudly boast that we have nearly accomplished our objective.
Co-curricular Programme for UG, PG and Doctoral Students

The major attraction of the campus, the voluntary participation programme goes on irrespective of semesters. Regular practice is the main feature in every major game under faculty guidance and supervision. Institute teams are picked, trained and exposed to various levels of tournaments, namely district, state, invitation, inter-university, inter-NIT and so on.

Official Intramural Interclass tournaments are conducted every year for boys and girls in all major games and athletics. In addition, there are mass-participation open-to-all tournament activities in the campus that attract good student percentage.

All the above programmes go to help in attaining the objective of total fitness in the campus. The OT and credit programmes are seen to inculcate fitness awareness among students and has resulted in enhancing the student participation to above 45%, an all-time high for an education institution

Activities at a Glance

<table>
<thead>
<tr>
<th>Internal Official</th>
<th>Internal Optional</th>
<th>Interscholastic Home &amp; Away</th>
<th>Duration</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural inter-year wise games &amp; athletics. selections of institute teams, coaching &amp; training</td>
<td>Open &amp; mass - participation activities in football, cricket, hockey, volleyball, basketball tennis, badminton table tennis, chess athletics, swimming fitness and yoga</td>
<td>District championships state championships inter university tourneys inter NIT tournaments open &amp; invitation tournaments</td>
<td>Whole year through both winter and monsoon semesters</td>
<td>45% from among B.Tech, B.Arch, M.Tech, MCA, MBA, M.Sc and Ph.D. students</td>
</tr>
</tbody>
</table>

Training and Placement

Department of Training & Placement is the central facility for campus recruitment process for all the students of the institute. Best pay packages and extremely challenging job assignments are offered by some of the world’s leading business corporate to our students. The steady increase in placement of students in core industrial sectors and increase in average salary is a notable achievement of the training and placement department.

Training to the tune of 6 to 8 weeks for UG, 10 months internship for PG and 6 months internship for MCA students in various reputable industries leading to pre-placement offers are arranged by the department. Regular career guidance and soft-skills for the integrated development of the students and training and HR development activities in the Institute are also conducted by the department.

Central Library

The Central Library with a collection of 1,22 lakhs of Books, 193 international and national journals (print) and other resources caters to the knowledge demands of the entire NITC community. It is housed in a spacious, centrally located building. A new building of over 11340 sq. meter area is nearing completion. The central library also houses the NALANDA Digital Library, which has over 4690 online journals, 2117 e-books, 31674 e-databases, 9994 conference proceedings and about 2132 ETDs/ CBTs, etc. NALANDA is one of the earliest digital libraries in the country. A fully air-conditioned reading area with 55 computer terminals provides easy access to e-resources from the digital library, which are also available throughout the campus for 24 hours a day through the network.
Central Computer Centre
The Central Computer Centre (CCC) is a computing facility which caters to the computing requirements of the whole community of this institution. The working hours of this centre is round the clock on all working days. The centre is equipped with three IBM X-series servers, one Dell PowerEdge 6600 quad processor xeon server, six Dell PowerEdge 2600 dual processor server and one sunfire V210 server. The desktops and thin clients are connected to the servers through gigabit switches and CAT6 UTP cables. The centre is connected to the campus-networking centre with backbone of 32Mbps through a Nortel L3 switch and in turn to internet.

Campus Networking Centre
NITC Campus Networking Centre (CNC) provides internet and intranet facilities to all users in the Institute and connectivity to National Knowledge Network (NKN). For the network services, centre has the high end servers on which accounts are given to students, staff and faculty of the departments. NITC has an extensive fibre optic network over the whole campus. The present campus network basically comprise of nearly 21 kms of fibre optic cable backbone with fifty routed internal networks managed by UTM appliances. The Internet connectivity to the campus is through a 162 Mbps Leased Line connection from BSNL (NKN) and Reliance. There are more than 4000 no’s of computers connected to the network and at any time about 1000 of them are connected to the internet.

Centre for Bio-Mechanics
The Centre for Biomechanics, conceived as a centre of excellence, was inaugurated on september 10, 1998. This is a unique centre where R&D work of an interdisciplinary nature is carried out, with adjunct faculty from other institutions (medical college, Calicut and indian institute of technology, madras).

Centre for Value Education
The Centre for Value Education (CVE) was created in 2002 with an objective of spreading the need for value-based education in engineering. The role of the centre was envisaged as creation of awareness in the technical community that skills and human values are essentially complementary. The activities planned were to identify, develop and disseminate techniques by which engineering students and practicing
engineers can be motivated to imbibe human values and appreciate their impact on technology development, professional ethics and human welfare. Specific activities undertaken were

- Introduction of a course on value education at first level for which a field project focused on societal, ethical or professional issues is a main component.
- Developing resource materials for value education in the library.
- Organising workshops and extramural talks with the aim of sensitizing youth towards need for life discipline and commitment to values and ethics in professional life.

**Sophisticated Instruments Centre**

The Sophisticated Instrument centre uses state-of-the-art technology in measurements and metrology and has facilities for carrying out the measurements of industrial products. Most of the instruments like CNC Coordinate Measuring Machine (CMM), CNC surface roughness tester and measuring software have been imported from Japan with financial assistance of the ministry of human resources development, Government of India. It aims to enable small industrialist to obtain certification of quality for their products that are meant for export at a reasonable price. This centre also offers various training, testing and consultancy services to industries and academic institutions.

**Advanced Manufacturing Centre**

Advanced Manufacturing Centre set up in the department of mechanical engineering is one of the finest facilities available in manufacturing. Major equipments available include, 5 axis CNC coordinate measuring machine, 3 axis integrated multipurpose micro-machining centre, 4 axis CNC machining centre, FDM rapid prototyping machine, CNC turning centres, CNC surface roughness tester, six component and mini cutting tool dynamometers, etc. A fully fledged CAD/CAM centre working round the clock and a metrology laboratory with the state of the art facilities are also available.

**Centre for Continuing Education**

The Centre for Continuing Education offers a variety of courses to technical and scientific personnel employed in industry, government institutions and academic institutions. These courses are organised by talented and highly competent faculty of the institute along with experts from the industry and R&D institutions. The participants are given ample opportunities for hands-on-practice, wherever necessary. The centre through aid from MHRD/TEQIP conducts Faculty Development Programmes (FDPs). Self financed short term training programmes too are offered.

**Admission**

The student community of NITC is drawn from all states of the country. The under graduates of NITC are admitted based on AIEEE rank. NITC turns out to be a top destination for the higher rank holders of AIEEE. From year 2013 onwards, the admission of UG students is based on rank in JEE (Main). Foreign nationals, NRI students and DASA students are also admitted as undergraduates.

The M.Tech students are admitted based on GATE scores, the MCAs through NIMCET scores, while M.Sc arrive through an entrance examination conducted by NITC. The Ph.D scholars are interviewed on basis of their GATE / NET / JEST / NBHM qualifications. In all, about 5624 students are on the rolls presently. The admission process is managed by the Institute level UG and PG/Ph.D admission committees. The current student intake is 1715 (1049 UG, 666 PG). There are about 517 research scholars in various departments and schools.
**Student Life**

The students live in hostels on the campus. There are at present 15 hostels in use, out of which 13 are for men and two are for women. Each hostel has an attached dining hall, with different cuisine being offered in different hostels. All hostels have reading room / common room/ mess and internet facility. The students participate in the management of the hostel. Student’s amenities centre offering an eatery, book shop, book works, ice cream shop etc. is also a well utilized facility. Other campus amenities include a main canteen, co-operative store, bank, ATM facility, post-office and well equipped medical centre.

Student activities are organised and managed by the Student Affairs Council (SAC) which is an elected body of students, overseen by the Dean (students welfare). The SAC runs various cultural and technical events and clubs for bringing out the extra-curricular talents in NITC students.

**Sports & Games for Students**

The physical education department manages several sporting facilities mainly for use of students:

- Tennis complex with 3 parallel flood lit clay courts and practice wall, one synthetic tennis court, concrete topped flood lit basket ball court, one flood lit volley ball court, multipurpose indoor court for badminton & table tennis, chess hall.
- 25 station gymnasium
- Exclusive ladies fitness centre attached to ladies hostel with badminton court and table tennis room
- Playfields for foot ball, cricket and hockey
- Cricket net practicing zone and pitch
- Open swimming pool (25 x 13 m)

**Co-curricular and Extra-curricular Activities for Students**

- Student organised cultural fest RAGAM and techno-management fest TATHVA
- Student magazine published annually to showcase the talents of students
- Several student clubs for activities like music, debate, dance, drama, management, entrepreneurship, etc.
- Active SPICMACY chapter
- Film club arranges screening of movies in open air theatre
- National Service Scheme (NSS) for community services (3 Units)
- Inter scholastic- Home & Away- district championship, state championship, inter university tournaments, inter NIT tournaments, etc.
- Membership in professional societies like ISTE, IEEE, CSI, SSI, SAE, etc.
The Faculty

NITC is endowed with a rich faculty community, possessing varied technical and scientific expertise. Our faculty predominantly consists of Ph.D holders, involved completely in teaching and research. We have among our ranks faculty with adequate exposure to a multitude of best practices followed among the top institutions world over. Currently at NITC there are 206 faculty members, spread over cadres of Professor, Associate Professor and Assistant Professor.

- Over the last few years as NIT, NITC has diversified the faculty structure widely, with expertise stretching from Molecular Biology and Genetics to Manufacturing Technology or Economics.
- Research output in the form of papers and patents are encouraged through generous incentives.
- A seed grant is given by NITC to faculty to kick start their research work.
- Faculty are encouraged to send proposals for funding of research projects through various Government funding agencies like DST, DBT, CSIR, NBHM, MHRD, BRNS, etc.
- Portion of the project overhead is given to the investigators as incentives.
- Faculty at NITC has a healthy relationship with Industry through consultancy projects undertaken.
- Faculty has the freedom to propose and conduct courses and design programmes, with adequate discussions amongst peers.

Non Teaching Staff

Supporting staff is an indispensible ingredient of any academic Institution. NITC has a reasonably large contingent of dedicated non-teaching staff, with whose efforts various administrative, laboratory, maintenance and estate units function smoothly. Presently, about 204 staff members are involved in supporting the academic activities of the Institute. They are employed as administrative staff, laboratory technicians and skilled workers, support staff and maintenance crew, library assistants, etc.

Major Facilities for Students and Faculty

- Health centre
- Institute guest house
- Canteens
- Post office
- State bank of India
- ATM of SBI and PNB
- Day care centre
- Engineering unit
- Language lab
- Faculty and staff quarters and appartments
- Recreation- open air theater, auditorium, faculty and staff club
- Nursery school
- Spring valley school- 1 to 12 Std (CBSE)

Alumni Activities

NITC has a vibrant alumni of over 20,000 and Regional Engineering College Calicut Alumni Association (RECCAA) who get back to their alma mater on every occasion. The institute is very proud of its former students now occupying key positions in the country and outside.
CREC/NITC alumni are currently occupying eminent positions in government and leading industrial sectors in India and abroad.

The association got registered as RECCAA in 1993 under Societies Act XXI of 1860.

Alumni chapters in USA, Singapore, Mumbai, Bangalore, Chennai, Cochin and in many other parts of India and abroad.

Silver jubilee endowment trust of NITC, funded by alumni, gives merit scholarships to economically backward students.

SEWA - charitable society started by the 1978 batch, sponsors several activities for the society and to the students of NITC.

National alumni meet was conducted in December 2006 by the parent chapter.

Chennai chapter conducted world RECCAA meet in December 2007.

Silver Jubilee meet of pass out batches is conducted every year in the campus.

Alumni association took a leading role in organizing the golden jubilee celebrations in 2010-2011.

Technical Education Quality Improvement Programme

Institute is the recipient of the world bank assisted programme of Government of India called the Technical Education Quality Improvement Programme (TEQIP), through which government is giving grants for the strengthening of infrastructure and development of human resources. Institute has been able to utilize the funds effectively in both phase I and phase II.
Location of the Campus

The campus of National Institute of Technology Calicut is located about 22 kilometers towards the north-east of Calicut (Kozhikode) city. It stretches over a length of about 1.5 km along the Calicut-Mukkam road, extending over an area of approximately 120 hectares. Campus is green and the ambience is very enjoyable. It is a residential campus with all amenities available in and around the campus. One can reach by car from Kozhikode airport in around 40 minutes. Railway station is 23 kilometers away. Local buses are available for commutation between campus and the main city. The picturesque view of the western ghat from the campus is really memorable. One can take a ride in a car to enjoy the natural beauty of the places nearby and the scenery on the banks of the gorgeous chaliyar river.

Contact Us

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Faculty Books

Mohammed Ameen: Computational Elasticity - Theory of Elasticity, Finite and Boundary Element Methods, Alpha Science International, UK.
Mohammed Ameen: Boundary Element Analysis - Theory and Programming, CRC Press, USA.

Awards and Recognitions

2007 MHRD-NASSCOM Finishing Schools for Engineering Graduates in terms of campus placements - Best performance among NITs.
2007 Dataquest – India’s Top T Schools - All India 15th Rank
2007 India Today – India’s top Engineering Colleges - All India 23rd Rank
2007 India Today – Kerala’s Best Engineering College - No.1
2008 Dataquest – India’s Top T Schools - All India 9th Rank
2008 India Today – India’s top Engineering Colleges - All India 19th Rank
2008 India Today – Kerala’s Best Engineering College - No. 1
2009 Times of India – All India - 10
2009 India Today – All India - 20
2012 India Today – India’s No. 13
2011 India Today – All India - 23
2012 The week – All India - 21
2013 India Today – All India - 19
2013 The week – All India - 24
2013 Education World – All India - 14
2014 India Today – All India - 23
2015 India Today – All India - 13
ABOUT CALICUT

Kozhikode or Calicut is one of the prominent trade and commerce centre in Kerala. It was the capital town of the Zamorins who reigned at this region for a long period. Vasco de Gama landed here in AD 1498 and since then Kozhikode became an important port in the malabar region for the trade of spices, silk and other goods. The name Calicut was given by the british who made it the capital of malabar region. Today it is the headquarters of a district of the same name and the third most populous city in the state of Kerala. This district is famous for its lush green countryside, beaches, wildlife sanctuaries, rivers, hillocks, historical places, etc. The friendly ambiance of the people of Kozhikode is heart touching. The economy of Kozhikode mainly depends on agriculture, fisheries and timber. A large proportion of the population here is working in middle east and their remittance to home plays an important part in the local economy. It is a main centre for the export of coconut, coffee and tea. The other main industries are tile making and saw mills. Kozhikode is well connected by road, rail and air. KSRTC operates bus services from all major cities in the state and there are interstate buses to reach Kozhikode. NH 17 is passes through the city. Kozhikode has a railway station, which connects the city to the rest of the country. Kozhikode international airport is at Karipur, which is 30 kilometers far from the city.