CENTRAL FACILITIES AND CENTRES

National Institute of Technology
Tiruchirappalli - 620015
Siemens Centre of Excellence in Manufacturing .......................................................... 1
Student Center for Innovation in Engineering and Technology ................................. 9
Centre for Entrepreneurship Development and Incubation ..................................... 11
Space Technology Incubation Centre (S-TIC) .......................................................... 20
Computer Support Group .......................................................................................... 21
Industry-Institute Interaction Cell ............................................................................ 29
IPR Cell ..................................................................................................................... 31
Counselling and Guidance Cell ................................................................................. 31
Training and Placement ............................................................................................. 33
Library ....................................................................................................................... 36
Hospital ...................................................................................................................... 45
Hostel ......................................................................................................................... 47
Guest House ............................................................................................................... 51
Sports ......................................................................................................................... 52
Siemens Centre of Excellence in manufacturing

Siemens Centre of Excellence (CoE) at NIT Trichy was established in 2018 at a total outlay of Rs. 193 Crores. This CoE is intended to bridge today’s gap between industry requirements and technical education, and provides solution that makes technical institutes be more aligned with industry needs and make engineering graduate students industry ready. There are 12 sophisticated Laboratories spanning over 12,000 sqft through which we offer skill development courses, R&D and consultancy services.

Robotics Lab

This lab is equipped with material handling robot, MIG welding and resistance spot welding robots. Hands on training using Rob CAD and Plant SIM are being given using this laboratory. KUKA material handling robots that are masters in the art of automation are installed. The KUKA material handling robot line assists with moving, selecting and packing of products.
KUKA resistance welding robots use an electrical current to heat two pieces of sheet metal, or other thinner metals, and join them together with a weld. Models in the KUKA resistance welding robot series are more environment friendly than other welding operations, and are a lower cost per weld than any other application.

CNC Machines Lab

CNC Machines Lab consists of a high precision CNC vertical machining centre which is capable of performing multiple machining operations on workpiece in one set up under CNC system. It is used in the production of many complex three-dimensional shapes and used in jobs that need a high level of precision or very repetitive tasks. The programming is done by using G code & M codes. This VMC is equipped with distinct features such as automatic tool changing (20 cutting tool magazine), automatic workpiece positioning and automatic pallet changing facility in order to reduce non-productive time.
Horizontal Turning centre is a machining process used to make cylindrical parts, where the cutting tool linearly moves while the workpiece rotates. The process uses a single-point cutting tool that inserts parallel to the material to cut. These are generally provided with two axes control, Z-axis parallel to the spindle and X-axis perpendicular to spindle. It is also provided with an index table tool turret which can hold 8, 12, or 16 tools of various types. It is capable of performing turning, facing, grooving, reaming, drilling and threading operations.

CNC Controller Lab

CNC Controller lab uniquely comprises of SINUMERIK controllers which provide highly productive automation solution for CNC production. SinuTrain allows NC programs to be done offline at a PC in an environment that is close to reality; these NC programs can then be directly transferred to the CNC.

SINUMERIK 808D control is a panel-based CNC for the basic performance range. It is used for basic turning and milling applications. Sequences can be programmed and simulated offline. Different type of cycles can be used to perform machining operation using 808D Controller. SINUMERIK 828D Controller is the advanced version of 808D controller. The advantage of this controller is that it is possible to simulate the operations prior to actual machining.

SINUMERIK 840D si is the customized version of 828D controller. SINUMERIK 840D si is drive based modular CNC for maximum performance range, along with a high degree of flexibility and 3D simulation of a program. A high-performance hardware architecture and intelligent control algorithms as well as premium class drive and motor technology class ensure the highest dynamic performance and machining precision. The graphic operator and programmer interfaces used for Shop-Mill ensure that everything runs perfectly on the SINUMERIK 840D si.

Advanced Manufacturing Lab

This Lab facilitates factory layout design and optimization through Tecnomatix software.
**Rapid Prototyping Lab**

Equipped with state-of-the-art Stratasys F270 FDM 3D printer capable of printing prototypes for manufacturing, automotive, aerospace, biomedical industries, etc. It is proficient at every stage of prototyping, from concept to validation and further to functional performance. Parts can be printed up to the maximum size of 305 x 254 x 305 mm with an accuracy of +/- 0.200 mm. This printer supports four different thermoplastics such as ABS, PLA, ASA, and FDM TPU 92A (durable elastomer) as base materials and QSR as the support material. Creates complex parts and assemblies without compromising accuracy, detail or repeatability. Slicer software GrabCAD Print supports all CAD file formats and also helps to ensure an efficient workflow to streamline job management in shared offices and model shops. The SCA-1200HT wave wash tank is being used for the removal of soluble support materials on 3D printed parts.

**Test and Optimisation Lab**

Facilitates NVH and acoustic simulation virtually on any product. This lab is capable of performing static and dynamic analysis.


Using Simcenter 3D it is possible to perform Acoustics simulation (Acoustics modeling, Aero-acoustics, Boundary element acoustics, Finite element acoustics, Ray acoustics, Composites simulation, Manufacturing process simulation, Pre-/post-processing for composites, Progressive damage growth, Motion simulation (Co-simulation with control systems, Flexible bodies, Interference checking, Rigid bodies), Multi-physics simulation (Flow Dominated Multi-physics, Structures Dominated Multi-physics), Structural Simulation (Linear analysis, Nonlinear analysis, Structural dynamics), Thermal simulation (Conduction Heat Transfer, Convection heat transfer, Phase change, Radiation Heat Transfer, Thermal Modeling, Thermal stress).

**Design and Validation Lab**

This Lab is equipped with design software like NX CAD/CAM/CAE. Femap with NX Nastran, Teamcenter and Knowledge podium for design, Powerful, flexible and innovative product development solutions in the industry through NX software. Supports every aspect of product development, from concept design through engineering and manufacturing solutions.


The NX for Manufacturing drives efficient end-to-end part manufacturing operations and deliver high-precision parts through digitalization.

Program CNC machine tools, control robotic cells, drive 3D printers and monitor quality using one software system. It has advanced capabilities to perform Mold, Die & Electrode Machining, Prismatic Parts Machining, CMM Inspection Programming, Robotic Automation, Tooling & Fixture Design, Mold Design, Die Design and many more.

**Mechatronics Lab**

This Lab imparts skill and knowledge on Modular Automation Production Systems by implementing the automation skills achieved from Basics of PLC. The MAPS-6S system is a complete and practical demonstration bringing a miniature table top automation system to the laboratory. All the modules are standard modules, grouped together to demonstrate specific processes. The system is supplied with complete PLC control modules, programming software and training materials. Totally five stations associated with MAPS 6S System equipped with Modular Controllers S7-1200 to control the stations are available.

The SIMATIC S7-1200 Basic Controller for small to medium-sized applications are used to control the stations and their processes. Controllers are enhanced with reliable diagnostics and communication for data transfer. PRLs are installed for protecting and regulating the pneumatic components in the system. The Pneumatic actuators are used in the processing station for filling and capping function and they are also used for the material handling. Unidirectional and Bidirectional Restrictors are installed for flow control.

Design and Validation Lab

This Lab is equipped with design software like NX CAD/CAM/CAE. Femap with NX Nastran, Teamcenter and Knowledge podium for design, Powerful, flexible and innovative product development solutions in the industry through NX software. Supports every aspect of product development, from concept design through engineering and manufacturing solutions.


The NX for Manufacturing drives efficient end-to-end part manufacturing operations and deliver high-precision parts through digitalization.

Program CNC machine tools, control robotic cells, drive 3D printers and monitor quality using one software system. It has advanced capabilities to perform Mold, Die & Electrode Machining, Prismatic Parts Machining, CMM Inspection Programming, Robotic Automation, Tooling & Fixture Design, Mold Design, Die Design and many more.
The open architecture of SIMATIC PCS 7 process control system enables full integration of all the automation functions such as alarm management, process safety for measuring temperature, pressure, volumetric and mass flow measurements, level detection, etc. This lab provides a robust stream-analytics engine for immediate actionable intelligence. It is helpful in analyzing data as it comes in, interactively query, visualize IoT data and build predictive models using machine learning techniques. The platform equipped with a high-performance edge gateway with built-in support for connectivity protocols, edge computations, rules and notifications, ML and custom plugins are available. Datonis Edge makes devices intelligent by providing them the ability to connect and exchange information with the Datonis MoT platform. IoT technology has the ability to capture data from multi-brand sensors, data files and functions developed by customers themselves. This is a multi-tenant platform, in Cloud.

**Process Instrumentation Lab**

The purpose of this lab is to impart an adequate knowledge and expertise to handle equipment generally available in an industry. The train ing gained in this area will be of immense help and ease in any industrial establishment. It is to impart practical training in the field of process automation and instrumentation. Process Instrumentation lab comprises of Siemens SIMATIC PCS 7 automation kit and Instrumentation rack for measuring temperature, pressure, volumetric and mass flow measurements, level detection, etc. This lab has unique scalable architecture with powerful engineering tools and a wide variety of additional functions such as alarm management, process safety and asset management.

Siemens SIMATIC PCS 7 is more than a Distributed Control System (DCS). It gives both PLC and DCS functionality. The open architecture of SIMATIC PCS 7 process control system enables full integration of all the automation systems. The PC7 platform is essentially software extensions for the Siemens ST-400 PLC and Siemens HMI running WinCC. These software extensions come in the form of function libraries and software tools that are used to create a high-level software solution that when compiled runs on the same hardware platform as a traditional PLC. SIMATIC PCS 7 can be used to safely automate both manufacturing and process plants.

Instrumentation rack comprises of Mass 6000, Sitrans P300, Sitrans FU060 & FUS3000 (Transmitter), Sitrans P, Mass 2100 & Mag 5000 (Transmitter), Prob LU, Pointec and a Position Actuator. These devices are capable of manually attending to each individual device across a facility, operators can program transmitters from the control room. This reduces the commissioning time in applications requiring functional safety. It is also suited for applications where safety is critical: in industries such as chemical, oil and gas, and power generation.

**Automation Lab**

Extensive training is provided for learning the logics behind the PLCs and how to program and control it using STEP7 software in TIA Portal Equipped with S7-1200, S7-1500 PLCs and HMI panels for control and monitoring the Automation process using SIMATIC WinCC. The Lab is facilitated with SIMATIC S7-1200 and S7-1500 PLCs which are capable of controlling, basic to complex applications.

SIMATIC S7-1200 is designed with integrated input and outputs for standalone operations. SIMATIC S7-1500 is designed for performance with integrated technology functions for complex applications. Both the PLCs are enhanced with reliable diagnostics and safety integration. SIMATIC HMI is engineered to support the increasingly complex processes and optimized to meet specific human machine interface needs using open and standardized interfaces in hardware and software.

**Electrical and Energy Savings Lab**

Electrical and energy savings lab helps users to understand the basic functions and physical properties of electrical components like motor control units and low voltage switchgear components. This Lab includes Speed Control of AC/DC Motors, Power Systems, Switchgear, Programming and commissioning of devices and it comprises of latest products, technology, configurations used in Industries like Power Plants, Sugar Plants, Cement Plants etc. It gives a wide variety of opportunities to practice/simulate operations and failures of various drives.

SINAMICS STARTER Software V4.5.1 is used to configure drive and connect with target devices. The software package consists of alarms, parameters, function diagrams and diagnostic functions. The 6RA80 SINAMICS DC MASTER drive range of DC converters set itself apart as a scalable drive system - for basic as well as demanding drive applications. It converts simple integration into automation solutions. AC induction motors are a preferred choice for industrial applications due to their rugged construction, absence of brushes, and the ability to control the motor speed. Compact, with high-power density, Siemens high-performance induction motors (SINAMICS G120 drive) are almost maintenance-free and feature an optional integrated, high-resolution measuring system for high-end speed and position control.
List of Courses Offered in Siemens CoE

- **Robotics Lab**
  - Material Handling Robot Programming
  - MIG Welding Robot Programming
  - Spot Welding Robot Programming

- **CNC Machines Lab and Controller Lab**
  - CNC Milling and Turning

- **Advanced Manufacturing Lab**
  - Basic Robotic Simulation (Using Process simulate or robcad)
  - Plant simulation Basics
  - Human Ergonomic Simulation

- **Test and Optimization Lab**
  - Test Lab Structures and rotating Machineries

- **Design and Validation Lab**
  - NX CAD Beginner
  - NX CAD Intermediate
  - NX CAD Advanced
  - NX CAE Beginner
  - NX CAE Intermediate
  - NX CAE Advanced
  - NX CAM Beginner
  - NX CAM Intermediate
  - NX CAM Advanced

- **Mechatronics Lab**
  - Mechatronics System Certification Program

- **Internet of Things Lab**
  - Internet of things Certification Program

- **Process Instrumentation Lab**
  - SIMATIC process control system 7
  - Basic Process Instrumentation

- **Automation Lab**
  - Basics of Automation

- **Electrical and Energy Savings Lab**
  - Sinamics DC Master 6RA80 (DR-DCM)
  - Sinamics G120 with starter (DR-G120)
  - Sirius Soft Starter (LV-SS)
  - LV Switch Gear Products, Distribution and Panel (LVS- WPD)
  - Simocode AC - Motor Control (LVSM)
  - Sentron PAC Meter (LV-PAC)

Apart from skill development courses, the CoE supports consultancy, R&D services, internships, projects and other services. For more details and updates, please visit the website [http://siemenscoe.nitt.edu/](http://siemenscoe.nitt.edu/)
SCIEN-T and IoT Labs - Alumni Inspired learning

SCIEN-T and IoT labs are multi-disciplinary innovation centres, providing opportunities to students to delve into the ever expanding world of technology, and discover, hands on, the incredible scope for innovation that the world offers today. They were set up on the campus by the alumni batch of 1990 and 1981 respectively. Students are offered a multitude of tools, machines, consumables and services, and a space in which to work, learn and grow that in turn opens up scope for a variety of inter-disciplinary projects and experimentation. With tools catering to several avenues of research, the labs are open to students pursuing Bachelor, Master or Ph.D. programmes from any department. Students are encouraged to pursue learning and innovation of all kinds, ranging from hobby projects to marketable product prototypes. 24x7 accessibility to facilities ensures that they can experiment and test ideas without the fear of failure, encouraging them to innovate, prototype, and improve their ideas.

Those among the students using the labs are members of various technical clubs that are thriving on campus. For instance, the Aeromodelling club, 3rd Dimension, has created three projects within SCIEN-T - a mid-flight reconfiguration drone, a thrust and rpm measuring device, and a 3-axis test rig for multi rotors. Also, the racing team of the campus, PSI, have begun to use the lab to construct an All-Terrain Vehicle, that participates each year in the BAJA festival.

SCIEN-T has conducted tool and machine training programmes with instructors from the industries, to give students a chance to learn about their usage from a real-world perspective. This, along with first aid training for members, is part of the activities every year.
Entrepreneurship Development and Incubation

Center for Entrepreneurship Development and Incubation (CEDI) is an independent company promoted by the National Institute of Technology, Trichy. CEDI was established in 2008, and is currently registered under Section 8 of the Companies Act. CEDI has set up a comprehensive Entrepreneurial eco-system at NIT, Trichy. CEDI enables youth entrepreneurs to initiate technology start-up companies for commercial exploration of technologies developed by them in the areas of ICT and Electronics.

CEDI is implementing a project Technological Incubation and Development of Entrepreneurs (TIDE) funded by Department of Electronics and Information Technology, Ministry of Communications & Information Technology, Govt, of India to promote start-up companies in the areas of ICT and Electronics. CEDI cultivates a rare breed of entrepreneurs by incubating, accelerating, mentoring and funding innovative start-ups. CEDI facilitates the Incubatee companies to access NITT’s common Infrastructure facilities, departmental laboratories and other resources of NITT for their product development purposes. Incubatee companies have access to brain power of NITT’s high caliber students through internships.

CEDI is dedicated to help the student community and graduate start-ups and, helps entrepreneurs turn ideas into viable businesses. CEDI is located in the Central Library building, NIT Campus which provides access to office space, business advice and other support services to new and budding start-ups, nurturing their developments until they are ready to graduate onto an independent enterprise.

The Centre provides services designed to help the growth of the venture, including:

A Space to grow

R&D and Incubation Facilities: For eligible applicants we provide access to office equipment, including PCs, laptop access points, phones and standard office furniture.

Mentor Network: Quarterly reviews, monitor the progress and ensure you have the right support you need.

Networking: Informative sessions designed to connect the community of entrepreneurs. The sessions provide excellent opportunities to promote the business and gain information about start-up resources.

Access to NITT Intelligence: Establish relationships and gather inspiration from other businesses, students, alumni, and expert technical faculties from NITT.

CEDI provides seed fund up to 25.00 Lakhs for technology-oriented innovative business ideas. All the necessary mentoring and support for mobilizing funds, creating access to markets, augmenting managerial skills etc. are provided by CEDI.

CEDI NIT Trichy and Sonata Software has announced a partnership to promote student innovation and entrepreneurship. In addition to technical and managerial support, Sonata has committed significant funding to CEDI NIT Trichy to support technology business incubation.

CEDI has already incubated 10 innovative businesses in diverse areas in the last three years. Opportunities are provided for seed fund support, incubation of innovative businesses in IT/Electronics domain and majorly focused in the areas of SMAC and IOT.

Dr. Mini Shaji Thomas, Director-NITT and CEO, CEDI (Mentor)

Dr. Thomas was the Founder Director of the Centre for Innovation and Entrepreneurship (CIE), Jamia Millia Islamia, New Delhi. Besides being Director, CIE, she has served JMI as Professor in the Department of Electrical Engineering, Faculty of Engineering and Technology. She was also the Central Public Information Officer (CPIO) of JMI from 2008-2014 and the Head of the Department of Electrical Engineering from 2005-2008.

As the founder Director of Centre for Innovation and Entrepreneurship at Jamia Millia Islamia, Dr. Thomas has created an environment of Innovation and Entrepreneurship which has led to the setting up of a Design Innovation Centre, a Livelihood Business Incubator, doubling the number of patents filed, winning prizes at many innovation competitions and incubating a few student startups.

Dr. Thomas received the ‘Career Award’ for young teachers, Govt, of India, won the IEEE Power and Energy Society Outstanding Chapter Chair award 2013, IEEE Member and Geographic Activities (MGA) Innovation award 2008, IEEE Outstanding Volunteer award 2005, IEEE Outstanding Branch Counselor award 2002 and Power and Energy Society (PES) Outstanding Chapter Engineer award. She is a certified trainer for ‘Capacity building of Women managers in higher education’, by UGC and has conducted many training sessions for Women empowerment.

Dr. Thomas is very active in professional societies and she is among the very few people from Asia Pacific to be on the global boards of IEEE. She is currently a board member of IEEE PESBP (Publication Services and Products Board), a member of PES LRP (Long Range Planning) committee. She was a board member of IEEE EAB and served as the vice chair of IEEE MGA Board and was the Asia Pacific student activities coordinator. She has experience of over a decade in international boards and committees of the IEEE.

Dr. Mini Shaji Thomas is the Director of National Institute of Technology, and CEO, Centre for Entrepreneurship Development and Incubation Tiruchirappalli, an Institution of National Importance, one of the top Technical Institutions in India, offering 10 UG, 28 PG and Ph.D. programmes with around 6400 students in the campus.
Before joining NIT, Dr. Thomas was the Founder Director of the Centre for Innovation and Entrepreneurship (CIE) and Professor in the Department of Electrical Engineering, Jamia Millia Islamia, New Delhi.

Dr. Thomas was a faculty member at Delhi College of Engineering, Delhi (now DTU), and at the REC (now NIT), Calicut, Kerala before joining Jamia. She graduated from University of Kerala (Gold Medalist), completed her M. Tech from NT Madras (Gold Medalist, Siemens prize) & Ph.D. from IIT Delhi, India, all in Electrical Engineering.

Dr. Thomas has set up the first of its kind SCADA laboratory and Substation Automation (SA) Laboratory at JMI, with Industry involvement. She, as the founder coordinator, drafted the curriculum, started a unique, first full-time, M Tech program in the Faculty of Engineering & Technology, JMI, in 2003 in Electrical Power System Management, with industry participation. For these contributions, Dr. Thomas won the Institute of Electrical and Electronics Engineers (IEEE) Educational Activities Board (EAB) Meritorious Achievement Award 2015 for "Design and Development of curriculum and laboratory facilities for professionals and students in the electric utility industry". She is the author of the textbook 'Power System SCADA and Smart Grids' by CRC Press, Taylor and Francis, USA. She is a 'Distinguished Lecturer' of IEEE Power & Energy Society and has 140 Research publications to her credit.

She is a certified trainer for 'Capacity building of Women managers in higher education', by UGC and has conducted many training sessions for Women empowerment.

Dr. Thomas has travelled extensively, delivered lectures in prestigious universities and has interacted with technical experts from all over the world.

Excellence Awards and Best Teacher Award from National Institute of Technology, Tiruchirappalli.

Incubation Eco System

Incubation is a business support process that accelerates the successful development of start-ups and fledging companies, by providing budding entrepreneurs with an array of targeted resources and services. These services are orchestrated by CEDI and offered in the business incubation centre through its pool of technical expertise, in the form of mentorship and financing. We are based out of Trichy, an Ecosystem which is Vibrant in terms of Entrepreneurial, Industrial, Technical and development Talent. CEDI is there to produce successful firms that will leave the incubation program financially viable and freestanding.

These incubator graduates, students of NITT, have the potential to create jobs, revitalize neighbourhoods, commercialize new technologies, and strengthen local and national economies. As a part of their services, CEDI provides access to appropriate rental space and flexible leases, shared basic business services and equipment, technology support services and assistance in obtaining the financing necessary for venture growth along with mentors to guide the company through its initial steps. CEDI also plays an active role in the economy of the region by serving as a focal point of interaction between industries, academicians, university students and government members. This potent collection of stakeholders allows for an intensive exchange of ideas and enables the creation of quick as well as efficient solutions to problems that plague incubatees and their businesses inside NITT. The benefits of this extend not only to the stakeholders mentioned above, but also to the general economy of the region as well.

Board of Governors

Dr. Mini Shaji Thomas,  
Chief Executive Officer, CEDI,  
Director NIT-Trichy

Dr. G. Kannabiran Founder/ Director, CEDI,  
Sr. Professor of Management Studies on lien as Director,  
Indian Institute of Information Technology, Sri City.

Dr. M. Umapathy, Director, CEDI,  
Dean (Research & Consultancy),  
Professor, Department of ICE,  
NIT-Trichy

Dr. B. Venkatramani Director, CEDI,  
Sr. Professor, Department of ECE,  
NIT-Trichy

Dr. G. Lakshminarayanan Director, CEDI,  
Professor, Department of ECE,  
NIT-Trichy

Dr. S.R. Balasundaram Director, CEDI,  
Professor, Department of Computer Applications,  
NIT-Trichy

Dr. R. Leela Velusamy, Director, CEDI,  
Professor, Department of CSE,  
NIT-Trichy
The Talent to access the development of technology ventures is in the person who recognizes an opportunity to utilize the available resources and facilities at CEDI and who is willing to take necessary social, psychological, and financial risks to develop this opportunity into a business.

Certain essential facilities, which are created in CEDI, are also provided. They are:

- Modern work space
- Communication facilities
- Computing facilities
- Equipment labs
- Library & information Centre
- Training and conference facilities

MENTORING

An insightful mentoring initiative forms the core of the learning eco-system which complements classroom learning, while expanding their network. This initiative assists budding entrepreneurs to draw various insights and get real-time feedback on their venture and venture ideas, thus giving them a better foothold in the marketplace. A combination of monthly group mentoring and individualized sessions would be arranged for the participants.

The mentoring team would comprise an alumnus and faculty members. While the incubating companies may assist in running the start-ups setup by entrepreneurs, an extensive and well-connected network is in place to provide mentoring support as per the need and the stage of the start-up. CEDI also provides start-ups with an opportunity to interact one-on-one with accomplished entrepreneurs.

STUDENT INTERNS

CEDI, has to its credit, of incubating several companies across the nation. Students get internship at these incubating companies over different roles. As companies need manpower, they recruit from the NITT Trichy Campus. There's a mutual understanding between the companies and entrepreneurial cell to find fresh talents and innovative minds, who will be best suited for diverse departments in start-ups. The students are also excited to work in a challenging ecosystem where the work culture is flexible and educative. Their comprehension levels are bound to go up.

CORPORATE EXPERTISE

CEDI has a pool of experts from various corporate sectors across all domains. Corporate experts incubate ideas internally from within the organization or from the start-up community depending on the need of the incubatee. Other criteria such as the quality of the founding team as well as foreseeing the students’ ability to fit in with culture of the parent organization also may play an important role in the selection of the incubatee. Our corporate experts have catalyzed the growth of incubates in CEDI. Once the motive for the incubatee is determined, corporate partners develop criteria to determine the type of business to incubate, or consider which profile of external start-ups to support. These criteria include domain, core/non-core business, as well as the stage and source of the incubatee.

SEED FUNDING

CEDI may provide seed funding up to Rs.25 lakhs, subject to the availability of funds/ grants/ schemes meant for this purpose. Seed funding will be sanctioned only to the registered companies and shall be based on merits of each company. Promoters/ founders whose companies are not registered at the time of application shall not be eligible to apply for seed loan until their companies are incorporated. Further, admission to BiCC shall not automatically entitle the companies to seed funding. Though seed funding may be sanctioned, disbursement shall be linked to the milestones.

Whom do we help?

Any innovator, aspiring entrepreneur or early-stage startup can benefit from our support. We provide opportunity to transform knowledge and innovative ideas into successful creations. The aim is to create successful ventures and thus leads to the creation of wealth and social value.

Funding and Support

CEDI under the aegis of TIDE Scheme of Ministry of Communication & Information Technology, Govt, of India offers Incubation facility along with financial and mentoring support to entrepreneurs with potential for commercializing innovative ideas in the areas of ICT (CSE/IT) and Electronics.

Centre for Entrepreneurship Development and Incubation and Incubation (CEDI), is set up under the aegis of Ministry of Communication & Information Technology, Govt, of India to promote innovation and entrepreneurship by converting and translating technology ideas in various disciplines of science and engineering into products, processes and services for commercial exploitation and the benefit of society. To accomplish its goal, CEDI would facilitate incubation of new enterprises with innovative technologies by providing them Business Incubation support with financial, physical, technical and networking supports and services.

Sonata Software joins hands with CEDI- NITT (Incubation centre) to support the activities of CEDI with a significant funding support entrepreneurs to initiate technology start-up companies for commercial exploitation of technologies developed by them in the areas of ICT and Electronics.
## Incubatee Companies

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Company</th>
<th>Technology Area</th>
<th>Year of Incubation</th>
<th>Year of Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Silicic Innova Tech Pvt Ltd</td>
<td>Real-time Embedded systems</td>
<td>2013</td>
<td>2015</td>
</tr>
<tr>
<td>2</td>
<td>Navriti Technologies Pvt Ltd</td>
<td>Learning Management systems</td>
<td>2014</td>
<td>2016</td>
</tr>
<tr>
<td>3</td>
<td>Innovaga Technology Pvt Ltd</td>
<td>Real-time Embedded systems</td>
<td>2014</td>
<td>2016</td>
</tr>
<tr>
<td>4</td>
<td>Blaer Motors Pvt. Ltd</td>
<td>Hybrid Two Wheelers</td>
<td>2014</td>
<td>2016</td>
</tr>
<tr>
<td>5</td>
<td>Kravis Consultancy Services Private Limited</td>
<td>Online Platform for wedding cards and other services</td>
<td>2016</td>
<td>2018</td>
</tr>
<tr>
<td>6</td>
<td>Pomato Technologies Private Limited</td>
<td>On-line platform for vegetable retailing</td>
<td>2016</td>
<td>2018</td>
</tr>
<tr>
<td>7</td>
<td>Bolt3dprinters Private Limited</td>
<td>3-D Printers manufacturing and related Services</td>
<td>2016</td>
<td>2018</td>
</tr>
<tr>
<td>8</td>
<td>Senzwiz Technologies Private Limited</td>
<td>IoT based customer relationship management in healthcare</td>
<td>2017</td>
<td>2019</td>
</tr>
<tr>
<td>9</td>
<td>Crofters Technologies Private Limited</td>
<td>IoT based smart home growing devices</td>
<td>2017</td>
<td>2019</td>
</tr>
<tr>
<td>10</td>
<td>Gmetri Studio Private Limited</td>
<td>Virtual Reality, Visualization, Real Estate</td>
<td>2017</td>
<td>2019</td>
</tr>
<tr>
<td>11</td>
<td>Recubitech Private Limited</td>
<td>Solid waste Management</td>
<td>2018</td>
<td>2020</td>
</tr>
</tbody>
</table>

### CSR Funds obtained from the Industry

CEDI NIT Trichy and Sonata Software in April 2015 formed a partnership to promote student innovation and entrepreneurship. This event focuses on continuing Sonata’s support for innovation and fostering close link between industry and academia. In addition to technical and managerial support, Sonata has committed significant funding for three years, to CEDI NIT Trichy to support technology business incubation and promotion of innovation and entrepreneurship. I am leading this collaboration.

### Collaboration with The Asia Foundation

Business and Management Capacity Development of Rural Women Entrepreneurs of India and Sri Lanka, funded (US $ 55,000) by The Asia Foundation with support from the U.S. Department of State. The project is being implemented in partnership with University of Jaffna and South Eastern University of Sri Lanka. These are achieved in collaboration with the networking partner, Women Entrepreneurs’ Association of Tamil Nadu.

The project focused on a 10-month long mentoring programme for 60 select rural women entrepreneurs in India areas including Marketing, financial management, quality management, distribution, etc. It is g e d that the mentoring programme would help these women to move to next level of growth. As part of the project, an awareness conference was conducted in Sri Lanka. This was followed by a FDP (with experts from EDI, Ahmedabad), and 6-month long mentoring programme for Sri Lankan women entrepreneurs by transferring best practices from India.

CEDI is focusing on awareness creation and training activities with funding and other support from external agencies. Established a meaningful collaboration with Entrepreneurship Development Institute, Ahmedabad. Conducted FDPs on ED and EDP for potential graduates, WEDP and Awareness Camps. CEDI is the Nodal centre for EDI's PG Diploma in Entrepreneurship & Business management.

### Ideation & Innovation

CEDI co-sponsored, Google Start-up Weekend, the annual Innovation hackathon organized by E-Cell of NIT Trichy.

CEDI co-sponsored, Ventura, the annual Business Plan Competition organized by E-Cell with a financial support of Rs.1.00 Lakhs from the promotional budget of CEDI- Sonata Entrepreneurship Fund. This engagement led to few potential applications for support by CEDI.
CEDI co-sponsored, **Pragyan**, the annual Techno-Management Festival of NIT Trichy and became the Incubation Partner.

**Final year Project Competition:**
Project competitions are organized to encourage innovation. A Best Student Project Award competition for final Year B.Tech./MCA Students to exhibit their demonstrable projects in the areas of ICT and Electronics was organized in NIT Trichy with the prize money of Rs.25,000 for the winner and Rs.15,000 for the runner-up. The Centre also encourages identifying potential entrepreneurs for funding through the CEDI-SONATA Digital Entrepreneurship fund sponsored by Sonata Software Ltd Bangalore.

**Collaboration with EDI, Government of Tamilnadu**
Conducted a month-long programme under the NEEDS (New Entrepreneur cum Enterprise Development Scheme) & Innovation and Entrepreneurship Development Programme (IEDP) for EDI, Government of Tamilnadu

**Awards won**
Won the national level High Impact Entrepreneurship Campus award for the institution in March 2015. The award was conferred by National Entrepreneurship Network in collaboration with Ministry of Skills Development and Entrepreneurship, Government of India.

**International Recognition**
**Dr. G. Kannabiran** won the **Commonwealth Professional Fellowship** to stay at Edinburgh Napier University, UK during April-July 2015 on the theme Building competencies for enabling entrepreneurship development through business incubation support in Higher Educational Institutions for best practices sharing through a collaborative work and visited 18 UK universities and attended conferences in the domain.

**ISRO launched the SPACE TECHNOLOGY INCUBATION CENTRE at NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI to enable start-ups to build applications and products that could be used in future space mission. This first-of-its-kind incubation centre in southern India aims at developing innovative indigenous technologies that could be used for ISRO projects and help to significantly cut down the cost. The centre focuses on incubating start-ups to build market ready viable product in tandem with the industry. S-TIC is a novel concept conceived by the ISRO to tie-up with stakeholders spread across academia, industry and research institutions in different regions of the country. S-TIC will provide projects of importance on ongoing and futuristic ISRO programmes to research, post graduate and under graduate students.**

This Centre is expected to inculcate the much-required research culture among the student community. The final year students will be exposed to the challenges faced by ISRO and the proof of concept or prototype developed by them will be validated through partner industries. The centre is also expected to bring the industry, academia and ISRO under one umbrella to contribute towards the research and development (R&D) initiatives relevant to the country’s space programme. The products developed by students will be validated and tested in the ISRO facilities. If qualified, the products will be inducted in the ongoing ISRO projects with a buyback arrangement.

At Large, the centre motivates students to think differently to initiate start-up enterprises, which can generate employment. This Trichy centre will encourage space-related research activities in southern region

**R & D Projects**
The relevant R & D Projects will be initiated by different centres of ISRO to cater the future needs of the country space technology requirement. So far seven projects have been received from various R & D centres of ISRO across the country. For each project, team of faculty members have submitted the proposal and initiated the activities.

**Utilisation of NITT facilities**
The existing facilities, liberties and expert faculties of NITT will be utilized by S-TIC for solving the Projects undertaken in the southern region.

**Funding**
ISRO will provide a Grant-in-aid of Rs 2.0 Cr to NITT as seed Money for setting up of S-TIC. This seed money will be partly utilised for facility augmentation to cater the needs of the projects taken from ISRO. Major part of the seed money will be utilised for carrying out the research activities of the projects undertaken by ISRO.
01 Conception of CSC

The CSG was established in the year 1985 with a small number of hand-picked group of engineers. The objective of this group was to promote the use of computers for solving engineering problems and to achieve automation in office procedures in the campus. The concept of the CSG was novel and unique in the erstwhile REC Trichy at a time when there was not much use of computers and automation in our country. The engineers in this group developed assembled computer systems, developed software in-house, conducted lab classes, and accomplished many more. Initially, the CSG was started with just five computer systems. Then a Computer Center with Remote Job Entry System to the ICL 2905 mainframe system at BHEL EDP Center (interconnected by telephone cables) was set up to serve the computing needs of faculty, students and staff. Today, it has grown to a campus wide High Speed Local Area Network system with over 1600 systems interconnected by Fiber Optic Cable.

In the year 1990, the present Octagon Computer Center was inaugurated by Mr. V. Karthikeyan, I.A.S., Adviser to the Governor, Government of Tamil Nadu. The Octagon Computer Center since its inception has been the center of attraction and pride of our Institute as it offers 24-hours service - Email, Internet, Intranet, printing, assistance in purchase of computers and their associated components to all the departments, staff and students of the institute, supporting counselling and admissions, to name a few - throughout the year. In January 2006 two labs each with 99 computers have been added as an Annex building. At present, a High Speed Campus backbone network of 10 Gigabits per second established at a cost of Rs. 1.34 crores is operational. Since January 2007 three new computer centers in each of the blocks of ladies’ hostel have been established for the girl students to access the information resources from their hostel itself beyond late evenings. Moreover, the CSG has developed various modules towards automation of administrative services and works in unison with the main office.

In the year 2014, all the 27 student hostels have been provided 600 HP Wireless Access Points (WAP) to enable students to access Internet and Intranet from their laptops. These WAPs are health and performance monitored by three HP E5400zl Switch management modules with 9 HP MSM765zl mobility controllers.

1.1 Milestones of the CSC

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>Establishment of Present Octagon Computer Centre with 6 Labs and One server room 24x7 time working principle Establishment of Local Area Network</td>
</tr>
<tr>
<td>1990</td>
<td>Establishment of Wide Area Network</td>
</tr>
<tr>
<td>1991</td>
<td>Conduct of Courses under Continuing Education Programmes for the students of school, college, and Working Professionals.</td>
</tr>
<tr>
<td>1992</td>
<td>Opening of Extension Building in CSE Department</td>
</tr>
<tr>
<td>1999</td>
<td>Opening of Annex Building to Octagon</td>
</tr>
<tr>
<td>2006</td>
<td>Inauguration of Campus wide High Speed (10Gbps) backbone Network</td>
</tr>
<tr>
<td>2007</td>
<td>Implementation of MIS</td>
</tr>
<tr>
<td>2008</td>
<td>Implementation of Network Security through two UTM appliances with failover option.</td>
</tr>
<tr>
<td>2008</td>
<td>Wi-Fi Facility to central Library, Admin Block Entrance, Lecture Hall Complex, Guest House with Single Access Points and 6 Access points for Faculty Quarters.</td>
</tr>
<tr>
<td>2010</td>
<td>1Gbps Internet connectivity as a part of National Knowledge Network (NKN)</td>
</tr>
<tr>
<td>2011</td>
<td>UTM Appliances (SonicWALL)</td>
</tr>
<tr>
<td>2012</td>
<td>Email Security Appliances (SonicWALL)</td>
</tr>
<tr>
<td>2014</td>
<td>HP wireless network for hostels</td>
</tr>
<tr>
<td>2015</td>
<td>STPI Internet bandwidth(1:1) upgraded to 150Mbps</td>
</tr>
<tr>
<td>2016</td>
<td>Providing infrastructure for administering GMAT (Graduate Management Aptitude Test), NSCA (National Strength and Conditioning Association), UKCAT (UK Clinical Aptitude Test), Microsoft Certification and other Tests</td>
</tr>
<tr>
<td>2017</td>
<td>Expansion and upgradation of Campus Network to the newer technology with High Speed Networking Switches. STPI Internet Bandwidth(1:1) upgraded to 300Mbps</td>
</tr>
<tr>
<td>2018</td>
<td>Internet connectivity has been given to Quarters Zone along with Campus Communication Service. The CSG also looking after the Audio and Video facilities for the entire campus.</td>
</tr>
<tr>
<td>2019</td>
<td>The CSG Annex2 Building with 530+ computers is going to be inaugurated shortly</td>
</tr>
</tbody>
</table>
02 Computing Resources

The OCTAGON - Computer Center is the sterling hallmark of this campus and was opened with the theme of "Dare to Dream". This center serves the campus-wide LAN in close association with the user departments. This LAN caters to about 6500 users across the campus (using both wired and wireless networks). It has a 10 Gbps fiber optic backbone interconnecting the departments/buildings. It also acts as a resource centre to supplement classroom instructions with laboratory sessions.

The OCTAGON & Annex buildings accommodate the central computing facilities, including a server room with 40+ high-end servers and 7 laboratories (5 labs in Octagon building and 2 labs in the Annex building) with totally 400 high-end computers. Also, the Octagon accommodates a Library, a Printer Room, and Centralized A/C Units and Power Backup.

2.1 Campus Wide High Speed Network

LAN has been designed with a Full-duplex Gigabit Ethernet backbone offering an aggregate bandwidth of 10 Gbps between different Switches using Single mode fiber. All the switches are linked through OFC.

2.2 Internet Access

NITT is connected to the Internet via 1Gbps shared connectivity by National Informatics Centre (NIC) using Bharat Sanchar Nigam Ltd (BSNL) and Railnet as a part of National Knowledge Network (NKN) and National Mission on Education through Information & Communication Technology (NME-ICT) and 300 Mbps (1:1) leased line from Software Technology Park of India (STPI).

Network security is provided through UTM appliance (Sonic Wall) and two Email Security appliances (Sonic Wall ES8300). User authentication for browsing the Internet is linked with ADS.

Currently Wi-Fi facility is available at Guest House, T&P, Library, Admin block, Dean Academic Office, Lecture Hall Complex, LYCEUM, OJAS, IT Center, Hostel Office, Shopping Complex, Hospital using Ruckus Access Points.

All the 27 Student Hostels have been provided 600 HP Wireless Access Points (WAP) to enable students to access Internet and Intranet from their laptops. These WAPs are health and performance monitored by three HP E5400zl Switch management modules with 9 HP MSM765zl mobility controllers.

There are about 220 switches, chiefly Extreme switches, located in 34 different buildings and 27 hostels. Network expansion still continues and work is on for making the campus Wi-Fi by deploying more number of Access Points.

2.3 Hardware (Rack Servers / Networking Peripherals)

The servers used in the CSG are housed in racks, as shown in picture. These servers are of 1U, 2U, 4U types. At present the CSG maintains more than 40+ servers, classified into various applications as follows.

2.4 Laboratories

The Octagon Computer center has 7 laboratories (5 labs in Octagon building and 2 labs in the Annex building) with totally 400 high-end computers. All the laboratories (except Internet Lab) are open 24 x 7. Labs are used by B.Tech., M.Tech., M.S., and Ph.D. research scholars for their regular laboratory classes, to supplement the classroom lectures, to carry out their projects, and to develop their professional skills.
2.4.1 Internet Laboratory
Internet laboratory consists of 99 Systems. This is the dedicated lab for surfing internet. This lab is closed at midnight and again opened at 06:00 hours in the morning to enable the students to have peaceful sleep for at least 6 hours so that they can participate attentively during daytime in the class hours.

2.4.2 First Year Laboratory
First Year laboratory consists of 99 Systems and is used exclusively by First-Year students for their C, C++ Programming, and Engineering drawing courses.

2.4.3 Utilization of Laboratories
24 x 7 Labs
Labs are being used by departments
Labs are used to conduct training programmes during vacations
Used to conduct events during most of the Institute functions such as, Festember, Pragyan, Symposia, etc.

2.5 Library
The Computer Center Library as shown in Picture is used by the Staff and Students for their Laboratory reference. This library has a collection of 5819 books & manuals, 3639 Software CDs, & Journals, and 200 Project Reports. The magazines being subscribed include Dataquest, PCquest, Digit, and open source for you, and Electronics for you.

2.6 Printer Room
The printer room as shown in is equipped with Network High Speed Laser Printer for and Students. A 50 PPM A3 High Speed Mono Laser Printer and a 60 PPM A4 Mono Laser Printer are installed. Printouts can be collected at nominal charges to cover the operating costs.

2.7 A/C Units and Power Backup UPS
All the laboratories in Octagon are provided with centralized Air conditioning units. All the Computer systems and servers are connected with 180 KVA ups power backups which provide uninterruptible supply of power to ensure 24 x 7 hours of uninterruptible operation. In case of power failure alerts are generated to the concerned technical team to monitor the charging and discharging status. Pictures 14 depict the view of UPS respectively.

2.8. The Centre supports many Licensed Application Software, Licensed Operating System and Management Information System
03 Members of Computer Support Group

3.1 CSC team

The CSG consists of a team of Hardware, CAD/CAM, Software, Network Engineers, Technical Officers, Data Entry Operators, Computer Operators, and ad-hoc System Trainees. These professionals are qualified, skilled, and experienced in managing the systems and network. The specifications for Server, Client, Printer, and other components are drafted by the hardware Engineers for floating tenders/enquiries. On receipt of the ordered consignment these engineers check the systems, install the required licensed system and application software, label the systems, enter in stock register, and transfer the items to the respective departments. The networking requirements are designed by the network engineers and the executions are supervised by them. The software engineers design, develop, test, and maintain automation software required for the Institute. Further, the responsibility of the software engineers includes day-to-day operation of the software and offering the expertise and help in case of any operational difficulty to the users.

The Assistant engineers and Technicians are responsible for maintaining the air-conditioning units. As there are about 1675 systems in our Institute, on an average everyday about 20 service calls are attended by the trainees. The technical assistants and data entry operators are responsible for drafting of office proceedings, file maintenance, etc. The helpers offer their services to maintain a neat and clean environment in the CSG. The activities inside the laboratories in the CSG are completely monitored security cameras. Further, the CSG is guarded by security personnel round the clock.

3.2 Maintenance of Systems

In general, the computer systems (servers, desktop) and network switches are procured with a warranty period and a resident engineer from the supplier/manufacturer maintains these systems. At present, six resident engineers from M/s SonicWALL, M/s Dell, M/s USAM, M/s HP Wireless and M/s Extreme Networks are available with the CSG. Further, maintenance on per call basis is also carried out for those Equipment’s which are not covered by warranty and maintenance.

3.3 Purchase procedure and NIT-T Rate Contract

All the purchases of computers and related items for the entire Institute are made by the CSG through a committee. The CSG arrives at the Rate Contract for several items.

3.4 Audio / Video Facility

For all the Lecture Hall during teaching activity the CSG provides Audio and Video facility. Video conferences are also arranged in Lecture Hall Complex, OOM Room, EEE Auditorium, Barn Hall, A-2, A-11, A-12, and A-13 Halls during Festember, Pragyan, departmental national level students’ symposia, Conferences, Workshops and other Govt./MHRD initiated meetings.

3.5 Continuing Education Programmes (CEP)

The objective of the CEP is to impart professional training in designing and developing software, to generate revenue for the institution, to offer a specialized training programmes to various organizations, and the like. Several programmes conducted in the past. The beneficiaries include professionals working in BHEL, OFT, TNEB, HAP, High Energy Batteries India Ltd., SBI, IOB, CB, SBT, PWD, Govt. School teachers of Trichy district and so on.

04 Future plans

Our vision is to maintain at least 10,000 systems in the campus in the next 5 years. This would eventually result in the state-of-the-art computing facilities at par with the universities in the west. It is decided to start a R&D center, under the supervision of the HoD and the Technical Officers. With a professional R&D center, it is possible to bring out softwares (e.g., the recently developed recruitment software) which can be patented.

Consultancy solutions can be offered for hardware, networking, and web design issues, MoU/MoAs with leading IT companies would lead to accomplish attractive projects on a win-win basis, and professional certification short-term courses/executive programs - general as well as specific - on a regular basis can be conducted.
CSG takes up the initiative of "smart campus" by way of installing (i) complete wi-fi in the institute zone, (ii) surveillance cameras throughout the campus, and (iii) bio-metric identity for all the residents of the campus, (iv) Annex 3 computer center to cater to additional 1000 students. This will act as resource centre to supplement classroom instructions with laboratory sessions with the state-of-the-art facility for offering inter disciplinary courses and hand on training on latest cutting edge technologies (v) State-of-the-art High Performance Computing (HPC) based on a balanced CPU and GPU for the faculty and students of NIT-Trichy.

It is planned to actively participate in the academic projects of all the departments, which in turn (i) increases the publications, (ii) leads to the development of commercial/patented IT/IT enabled products, thereby spreading the visibility of the institute.

The committee after due deliberations decided to obtain a panel of willing experts both from Industry and academia to deliver expert lectures. The guidelines are:

Travel will be limited to 3 visits for a course wherever 25% of the course (8 to 10 lectures) is covered and for a full course it shall not exceed 10 visits. However under special circumstance the HOD may permit the faculty to make one or two more visits to complete the course requirement. There shall not be more than 4 hours of such lecture per day. In some specific instances, full course by external experts offering on turnkey basis can also be explored. To overcome the time constraint it was also decided to have sessions on video conferencing mode.

Some courses from departments and also by external experts have potential to be offered as global / continental (limited to few departments) electives. The possibility of global electives such as Project Management in association with Project Management Institute (PMI), Value Engineering and New Product Development in association with M/s.TCS. (TCS is already doing it at PSG / CIT Coimbatore), and a course on Autotronics in association with M/s. Ashok Leyland can be explored. Special lectures on industrially important topics can be delivered by experts from industries of varied activities and suitable credits can be assigned. Evaluation can be done as written quiz at the end of the lecture also. Suitable amendments to regulations will make such type of evaluation effective. Courses of specific interest to an industry can be considered if there is a possibility of absorption of the selected students by the same industry. Syllabus can be suggested by them and lectures can also be arranged from the same industry.

Whenever a full course is offered by an outside agency, a course coordinator (could be the PAC chair person) is to be nominated from the respective department and the evaluation also if possible can be taken care by the guest faculty.

As per the MHRD Lr. F. No. 33-8/2012/TS-III dt 9.11.2012, 25% of the lectures have to be delivered by Industry experts. In this connection a committee was constituted to look in to the Industry-Institute interaction, to explore the possibility of making this objective a reality. Further, this need was also felt in view of the feedback from Industries and Alumni, our stake holders and to enhance the employability of students. The following members constitute the committee:

1) Dr. N. Anantharaman - Chairman, III cell
2) Dr. A. K. Bakthavatsalam- Member
3) Dr. V. Muthupandi - Member
4) Dr. V. Sankaranarayanan - Member
5) Dr. K. Muthukumaran - Member
6) Dr. S. Manivannan - Member
National Institute of Technology, Tiruchirappalli (NIT Trichy) is dedicated to research, teaching, and extension of knowledge to the public. One of the missions of the NIT Trichy is to develop the human intellectual capability to its fullest potential. Inherent in this responsibility is the need to encourage the production of creative and scholarly works and the development of new and useful materials, devices, processes, and other intellectual property with commercial value. These activities contribute to the professional development of the individuals involved, enhance the reputation of NIT Trichy, provide additional educational opportunities to students, and promote public welfare. In addition to new machines, compositions of matter, and written materials which traditionally have been the subject of patents and copyrights, computer software, video courses, etc. are now normal outcomes of NIT Trichy activities.

The pace of modern science, resulting in new and useful inventions, initiated a need for a central policy in determining the course of the creation, protection, and commercialization of intellectual property at NIT Trichy. This has resulted in the establishment of the Intellectual Property Right (IPR) Cell and the Intellectual Property Policy to encourage creation and protection of intellectual property in the Institute.

In the last one year five workshops have been conducted to create IPR awareness among the faculty, research scholars and students. Forty patent applications have been filed though IPR Cell by the faculty and research scholars and the faculty who have filed patents were awarded during institute day celebration. A global elective entitled MT048 Intellectual Property Rights has been introduced to Under Graduate students and hundred students from all the branches have registered and perusing this academic year.

Institute has provision for improving the academic performance of weaker students through Equity Action Plan. It focuses on student-centered strategies to improve their performance through the appointment of active mentors/counselors in guiding the student, providing the student appropriate assistance, and so on. NITT has taken the lead initiative in establishing ‘Counseling and Guidance Cell’ at the Central Library building to provide Enrichment and Enablement Services through personal attention to the students and also extending the facility to faculty and staff of the institute. Institute had initiated the Cell and for the past four years it is under the maintenance of the Office of the Dean (Students’ Welfare). The Counselling and Guidance Cell also assists students, faculty and staff in learning difficulties, enhancing harmonious relationship, behavioral development and adaptability problems in addition to improving their overall personality and to help them in meeting challenges in their life. A professional counsellor is available on regular basis for eight hours a day at the Central Library building (II Floor) and the students are extensively making use of the facility. If anyone is diagnosed for psychiatric treatment, then the person is referred to a Psychiatrist for medical treatment available at our campus hospital.

Some of the services rendered are:

- Identifying the abilities of students and help them to develop it.
- Helping students to sort out and solve interpersonal, educational and psychological issues.
- Showing ways of developing positive attitude to meet out the challenges.
- Helping them to recognize their strength and overcome the weaknesses.
- Providing strength-based approach in treatment, planning and focused on optimal psychosocial care.
- Help is provided through individual counselling, group therapy, family counselling and crisis counselling.

An online counselling and emotional support platform designed to foster mental wellness has been initiated recently named yourdost.com which was launched on 6th August 2019. It anonymously connects individuals with the right expert consisting of psychologists, psychotherapists, counselors, life coaches, career guides and people with rich and deep life experience, who understand individuals and guide them through completely confidential individual sessions.

The counselling includes:

- Online chats
- Audio Sessions
- Video Sessions
- Awareness Webinars
- Awareness Workshop

There are around 1000 counsellors available round the clock online, and is being used by all the members of the NIT-Trichy community, who have a valid Roll Number.
The Training & Placement Department of NIT Trichy plays an integral part in sprucing up consummate professionalism in the students, besides honing their technical dexterity. The history of this placement department dates back to when NIT Trichy was called REC Trichy and was one of the first institutes in the country to have its own placement department with a dedicated full time Professor for the department. Over the years, the department has developed and maintained harmonious and purposeful relationship with Industries across the country and as a result, has built up an impressive placement record both in terms of placements, as well as the number of companies visiting the campus.

NIT, Tiruchirappalli has been consistently ranked among the top engineering colleges in the placements surpassing even some of the older NTs. With every passing year, the number of recruiting organizations has increased in a constant pattern with close to 250 companies recently - one of the highest in the country. The average compensation during the current year is over 7.1 lakhs with the highest being 36 lakhs per annum. The college enjoys close to 100% job placement and successfully placed students in reputed organizations like Schlumberger, Goldman Sachs, Procter & Gamble, Microsoft, Qualcomm, Oracle etc.

The Placement department also focuses on bridging the gap between the industry and academia by improving the interaction between students and industry by organizing frequent industrial visits, in-plant training and internship projects of industrial relevance.

The Institute was recognized with the National award as the Best Institute for Employability by FICCI in the Higher Education Summit 2016. The department actively drives the Institute Social Responsibility under the banner HumaNITTy which again won twin national awards from FICCI and ASSOCHAM.

CAPSTONE - exclusive premises for career services was inaugurated on 15th March’19, by Mr. Montek Singh Ahluwalia, former Deputy Chairman, of the erstwhile Planning Commission of India. True to its name, the term CAPSTONE derives from the final decorative coping or "cap-stone" used to complete a building or monument. In higher education, the term refers to focus on student outcomes and employability.

The premises designed exclusively for campus placements, houses 12 Interview rooms, 4 Group Discussion Rooms, 2 client rooms, 2 seminar halls for pre-placement talks apart from office space. Capstone has large open corridors for free movement of students and a courtyard with manicured lawns and fish pond intended to soothe the stress of the interview facing students.
STATISTICAL DATA OF THE LIBRARY HOLDINGS AS ON 20.03.2019

- Library Books: 129280
- Journals subscribed: 164
- Back Volumes: 17690
- Daily News Papers: 15
- Reports: 8564
- B.I.S.: 17454
- Video cassettes: 1504
- Audio cassettes: 31
- CD-ROM databases: 3000+
- Thesis & Projects: 790
- No. of Databases Subscribed through INDEST Consortium: 10
- No. of E-Journals Subscribed: 8000+
- E-books titles accessible through Springer (India) Pvt. Ltd. & CUP: 7255
- NPTEL-Video and Web Courses: 260+
Library Space and Ambience:

- Carpet area of Library: 9094 Sq.m
- Reading Space: 400 Sq.m
- No. of seats in Reading space: 300
- No. of users (issue book): 300 per day
- No. of users (reading space): 400 per day

Timings and usage:
- Academic (Working day): 9.00 a.m. to 9.00 p.m.
- Academic (Weekend): 9.00 a.m. to 5.00 p.m.
- Vacation: 9.00 a.m. to 5.00 p.m.

Availability of a qualified librarian and other staff:
- No. of Library staff: 8
- No. of Library staff with Degree in Library Mgmt: 4

Computerization for search, indexing, issue/return record:

Library functions are automated using the LIBSYS Integrated Library Software. OPAC - Online Public Access Catalog has been created and accessible through Intranet Online Access and Networking are also available. Bar-coding has been used for RFID - Technology & Library Security Solution has also been implemented. Library services are available on internet/intranet too. Memberships like INDEST, ESS, DELNET, IASLIC, ILA are available and back volumes of Journals are available as archives.

The Institute has a modern Central Library with more than two and half lakhs of documents including Reports, Standards, Back Volumes of Journals and subscriptions to more than 164 Print periodicals. The Institute Library has a Digital Collection of more than 8000+ full text e-journals through ESS Consortia as well as under Institute arrangement and 7000+ Springer, OUP, Wiley, IETE and CUP e-books on perpetual access model.

The Audio-Visual Section of the Library holds more than 1500 educational Video cassettes and 3000+ CD-ROMs. The Library holds 17,080 books in the Book Bank Scheme. The Digital Knowledge Centre at the Central Library is providing digital knowledge service to the users provided with 70 PCs along with Internet and Wi-Fi facilities. All the functions of the Library have been automated by the integrated Library software called 'LIBSYS'. Faculty and the research Scholars can also borrow books / reprints under Inter Library Loan through INDEST as well as DELNET. RFID Library Security Solutions and the Circulation System have been implemented. 35 Nos. of CCTV Web Cameras have been fixed in all the Stacks and at the Entrance for Surveillance purposes. The Institute holds British Council Library Membership.

Library Automation:

The Library functions are automated using an integrated Library Software called "LIBSYS" with the following main modules for the Library in-house operations:
- Acquisition System
- Cataloguing System
- Circulation System
- Periodicals
- OPAC

RFID Technology:

RFID Technology of Document Identification and Library Security System have been implemented for the library functions and services from 29th March 2013, along with the following facilities:
- RFID Tags for protecting the documents
- RFID Reader for Circulation transactions
- RFID Antenna Alarm Gate

OPAC [ON-LINE PUBLIC ACCESS CATALOG]:

The Online Public Access catalog allows for the access of bibliographic databases of the books, Reports, CD-ROMs and journals available in the central library. The catalog includes a word-based search facility using Boolean operators that can narrow down a search to meet very specific needs. Additional features of this catalog are:
- Periodic list of recent additions to the library.
- Members can find the materials checked out to them.
- Details of the status of the Books can be accessed while browsing and searching for information.

The OPAC can be accessed by using the Intra-net facility available through LAN under the following IP address and options:
1. IP address: http://library.nitt.edu:8080/webopac/
2. http://www.nitt.edu

PHOTOCOPYING FACILITY:

Photocopying/Xerox facility (both colour and normal) is available for the users of the Library with a reasonable charge of 0.50 paise per page for Ordinary copies, and Rs. 25/- per page for getting Color Xerox copies.
LIBRARY FACILITIES & SERVICES

> Web OPAC Service [Online Public Access Catalog (Web OPAC) can be accessed through Intranet IP address: http://10.0.0.132
> RFID oriented automated Circulation Service
> Bulletin Board service
> Current awareness service
> CD-ROM search service
> Audio-Visual service (Educational cassettes)
> Membership to external agencies and individuals
> Holding British Council Library Institutional membership
> Inter Library Loan services thru’ DELNET
> Document Delivery Service (photocopies of articles) from NTs thru’ JCCC
  interface for promoting research & development
> Providing access to more than 8000+ on-line e-journals through ESS Consortia
> and access to more than 700+ Springer, OUP, Wiley, IETE & CUP e-books service
> General and Textbooks Reading services.

DOCUMENT DELIVERY SERVICE
Document Delivery Services are providing through DELNET & JCCC@ INDEST & ESS consortium. Holding British Council Library Institutional Membership.

AUDIO-VISUAL SECTION
The Audio-Visual Section is equipped with a Microfilm Reader, Lingua phone Laboratory, Audio Cassette Players, Color Television Sets, Video Cassette Recorders and over 1500 Educational Audio & Video cassettes. Discs on almost all foreign languages are available in the library. Students use the record players and computers for preparing for TOEFL and GRE examinations.

DIGITAL KNOWLEDGE CENTRE
Digital Knowledge Centre (e-Learning Centre) has been established to facilitate e-Learning. Digital Knowledge Centre (UG & PG) has been equipped with 70 latest model personal Computer systems with DVD-RW Drive, with Internet, Intranet and Wi-Fi facilities.

CD-ROM WORKSTATION
There is a good collection of more than 10 databases and 3000+ CDROMS in the central library. The library has been subscribing to DIALOG ON DISC Compendex Plus (Engineering Index) CD-ROM database from 1987 to date and now it is known as K R INFORMATION ON DISC. Under the Center of Excellence scheme the library has procured McGraw Hill Multimedia Encyclopedia of Science and Technology on CD-ROM. With the introduction of CD-ROM work-station, the world of Engineering literature is at one’ finger tips. The CD-ROM is really a boon for literature survey, especially for research scholars. CD- ROM works on a set of menus which is user friendly.

CCTV - WEB CAMERA SURVEILLANCE
35 Nos. of CCTV Network Cameras have been fixed in all the floors and stacks of the Central Library to avoid Book theft and other mal-practices and the entire building is under CCTV camera surveillance.
### Special Collections

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Details</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TEQIP Collection</td>
<td>11170</td>
</tr>
<tr>
<td>2.</td>
<td>Competitive Examinations Guides and Manuals (GATE, GRE, CAT, AIEEE, JEE, etc)</td>
<td>650</td>
</tr>
<tr>
<td>3.</td>
<td>Book Bank</td>
<td>17500</td>
</tr>
<tr>
<td>4.</td>
<td>British Council Collection (UK-INDIA RECs project)</td>
<td>960</td>
</tr>
<tr>
<td>5.</td>
<td>Educational Audio Cassettes</td>
<td>31</td>
</tr>
<tr>
<td>6.</td>
<td>Educational Video Cassettes</td>
<td>1504</td>
</tr>
<tr>
<td>7.</td>
<td>CD-ROMS</td>
<td>3000+</td>
</tr>
<tr>
<td>8.</td>
<td>Thesis &amp; Projects</td>
<td>790</td>
</tr>
</tbody>
</table>

### Book Bank Scheme:

The Central Library has a Separate Book Bank Section with a good collection of more than 17,500 Text Books Collection for the Reserved Category Students. A maximum of 8 Book Bank Books will be issued to each eligible SC/ST Postmatric Scholars per semester for promoting their studies.

### Total no. of Titles and volumes:

<table>
<thead>
<tr>
<th>No. of titles</th>
<th>No. of Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>99,660</td>
<td>1,29,280</td>
</tr>
</tbody>
</table>

### Scholarly Journal Subscription

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Technical Journals subscribed in Hard copy</th>
<th>No. of total Technical Journals (in original, reprints)</th>
<th>Scholarly Journal titles (in hard copy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016-17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFYm2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018-19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Digital Library

- Availability of Digital Library contents: Yes
- Number of Courses: NPTEL - 260 courses
- Number of e-books: Springer, OUP, Wiley, IETE & CUP e-books (7000+)
- Any other: 3000+ CD-ROMs

### E-Resources Available at NITT for 2018-19

- BIS STANDARDS: [http://rubv.nitt.edu/bis/start.html](http://rubv.nitt.edu/bis/start.html)
- Elsevier’s Science Direct URL: [http://www.sciencedirect.com/](http://www.sciencedirect.com/)
- Springer Verlag’s Link URL: [http://www.springerlink.com/](http://www.springerlink.com/)
- PROQUEST SCIENCE (Formerly ASTP): [http://www.il.proquest.com/pqdauto](http://www.il.proquest.com/pqdauto)
- ACM Digital Library URL: [http://portal.acm.org/portal.cfm](http://portal.acm.org/portal.cfm)
- ASTM Journals: [http://journals.astm.org](http://journals.astm.org)
- J-Gate Custom Content for Consortia (JCCC) URL: [http://jccc-indestr.informindia.co.in/](http://jccc-indestr.informindia.co.in/)
**LIST OF E-RESOURCES ENABLED BY ESS FOR NITT USERS**

**URL:** http://www.inflibnet.ac.in/ess/eres.php?memID=367

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Title of the E-Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACM DIGITAL LIBRARY</td>
</tr>
<tr>
<td>2</td>
<td>American Institute of Physics</td>
</tr>
<tr>
<td>3</td>
<td>American Physical Society</td>
</tr>
<tr>
<td>4</td>
<td>ASCE Journals Online</td>
</tr>
<tr>
<td>5</td>
<td>ASME Journals Online</td>
</tr>
<tr>
<td>6</td>
<td>Economic &amp; Political Weekly</td>
</tr>
<tr>
<td>7</td>
<td>Institute for Studies in Industrial Development (ISID) Database</td>
</tr>
<tr>
<td>8</td>
<td>JGate Plus (JCCC)</td>
</tr>
<tr>
<td>9</td>
<td>JSTOR</td>
</tr>
<tr>
<td>10</td>
<td>MathSciNet</td>
</tr>
<tr>
<td>11</td>
<td>Oxford University Press</td>
</tr>
<tr>
<td>12</td>
<td>Springer Link 1700 Collection + Nature Journal</td>
</tr>
<tr>
<td>13</td>
<td>Web of Science License Access</td>
</tr>
<tr>
<td>14</td>
<td>World e-Book Library</td>
</tr>
<tr>
<td>15</td>
<td>South Asia Archive (SAA)</td>
</tr>
</tbody>
</table>

**E-BOOKS**

**SPRINGER E-BOOKS-500+ TITLES:** http://www.springerlink.com/

**OXFORD UNIVERSITY E-BOOKS:** http://www.oxfordscholarship.com/

**CAMBRIDGE UNIVERSITY PRESS - E-BOOKS (40 TITLES)**

http://ebooks.cambridge.org

**IET E-BOOKS:** http://digitalLibrary.theiet.org

**WILEY ONLINE BOOKS:**


Apart from the above facilities, 168 standard print journals are also subscribed since 2016 for the benefit of the users.
Hospital

The 10 bedded Institute Hospital is equipped with Casualty, OP & IP facilities, 24 hours pharmacy and a clinical laboratory, functioning in the well-established new building from 19.02.2007. The Hospital is working round the clock on all days with 08 Medical Officers and facilities like O2 cylinder, Nebulizer, Suction, ECG, Ultrasonography and Autoclave are available. There are male and female wards, Isolation ward, Minor OT, Physiotherapy & Dental Clinics. The Emergency services are available 24/7, 365 days a year with fully equipped ambulance. Consultation of major specializations is also made available.

Facilities Available in Hospital

Minor Operation Theater (OT)

This Minor Operations theatre in the Hospital is being utilized for Minor surgical procedures by the Orthopaedician and the other doctors. The minor OT has a Boyle's Apparatus for Anaesthesia, a sufficiently large Autoclave Equipment and other surgical instruments to carry out minor surgical procedures. Has instruments to do Incision and drainage of abscesses, suturing of deep wounds under anaesthesia, and excision of small lumps, dressing and suturing. Antiseptic dressing for superficial injuries and suturing for deep soft tissue injuries are done in the outpatient dressing room. There is a facility for the first aid for emergency cases of heart attacks, neurological vascular emergencies.

Dental Dispensary

The Hospital has the facility to handle dental services such as scaling, filling and Extraction

Physiotherapy Unit

The hospital has a Physiotherapy unit. Here Physiotherapist (PT), treat sports injuries like ankle sprains, ACL injuries, shoulder injuries by US, sports taping, IFT, wax and with corrective exercise program with theraband and physio ball workouts. Degenerative pain syndromes are treated with pain relieving modalities and specific exercise program based on individual needs. All patients are discharged from physiotherapy with customized home exercise program with periodical review.
The National Institute of Technology is a residential institute and provides accommodation to students wishing to reside in the hostels. Hostel administration is an independent unit in respect to its internal administration under the overall supervision of the Hostel Administration Committee (HAC) headed by Chief Warden. Hostel administration committee consists of Chief Warden, Additional Chief Wardens & Convener of Hostels. Each hostel is administered by a Warden appointed by the Director and he/she is assisted by Residential Student Councilor (RSC) and Steward in all matters relating to the hostel. The HAC formulates the necessary rules and guidelines pertaining to Hostels and messes.

There are 21 Boys hostels and 6 Girls hostels which accommodate 5200 students approximately every year. Each hostel also has a Hostel Committee which is an advisory body comprising the Warden of the Hostel (as it’s Chairman), RSC and the elected student representatives as its members. The Hostel Committee plans the students’ activities for the year, like sports, recreational, social activities of the hostel and the welfare of the inmates through the respective student representatives.

First year students are accommodated in separate hostels to ensure that there is no ragging in hostel premises.

The Hostel Office is located within the hostel premises and managed by Deputy Registrar Hostels, accountants, and other staffs in matters related to the various activities of the hostel. The Office maintains all the files, registers, records, ledgers, account books, suppliers bills, payment registers etc., pertaining to the hostel residents, mess and the employees. The Hostel Office is functioning on all weekdays and Saturday.

Every student who has been admitted to the institute is required to pay the prescribed hostel rent and establishment charges along with a refundable hostel mess caution deposit. These charges are subject to revision from time to time.

Each room is provided with a cot, table, chair, bookshelf, and ceiling fan. Private cooking in the rooms is prohibited. Smoking, consumption of alcoholic drinks and substance abuse is strictly prohibited.

Every hostel is connected through Wi-Fi internet connectivity. Every Hostel floors are installed with drinking water purifier with cooler and common rooms are provided with AC facility and TV’s for recreational purpose.

A number of recreational, sports and social activities take place in the hostel during the academic year. A few rooms in the hostel are used for common facilities such as the Computer Room, Indoor Sports etc. One of the Common Room houses a Table Tennis (TT) board and Carom board as well. Avid sports enthusiasts can take their sports equipment from the sports Room which is maintained by the Hostel Sports Secretary.

An external security agency is contracted for providing security at the hostels. The services of the security personnel are monitored by the Warden. An external agency is contracted for providing housekeeping services in the hostels and premises monitored by the stewards. The closed-circuit television (CCTV) cameras have been installed at the entrances of all hostels.

The Hostel committee, ensures proper maintenance of the hostel premises and coordinates the activities of the other secretaries. The Mess committee works in conjunction with the mess caterer and planning of the menu and maintenance of hygiene in the kitchen and the mess hall. Procurement of Sports equipment is the responsibility of the student’s council who also plans the schedules of intra-hostel events and appoints Captains for the various hostel teams.
Presently 10 private caterers provide catering services for all inmates of hostels and 10 messes which could accommodate all the students at a time. The messes provide non-vegetarian menu, in north Indian cuisine, Tamil Cuisine, Andhra cuisine and Kerala cuisine. An Exclusive Pure Veg mess is operational for pure vegetarian students and Jain food. Each mess has a separate mess committee, to monitor the quality of the food served and to modify the menu as per the requirements of the students.

Provision is given for every student to opt the mess as per their choices each month with a restriction on maximum number of students per caterers. Apart from this several night kiosks, an exclusive Food court is run in the hostel premises by private catering services.

Hostel zone also consists of other common facilities like ATM, Xerox shop, laundry shops, and Naturals Hair saloon outlet. Mosquito control and pest control is done frequently by the hostel office itself during specified intervals.
NIT, Tiruchirappalli caters to provide accommodation and food to official and personal guests in the two guest houses located in its premises. Guest House -1 has 33 guest rooms inclusive of 3 suites and two dining halls. Guest House -2 has 16 guest rooms inclusive of a suite and a dining hall. All the guest rooms are well furnished, air conditioned and equipped with the basic amenities not limited to Wifi and LED television with DTH services. Both guest houses are maintained through outsourced contract. NIT, Tiruchirappalli is taking efforts to provide three star comforts to its guests.

The sports center is a state-of-art coliseum comprising of a modern Gym, indoor badminton courts, and space for carom boards. The 400m Athletic track along with the hockey and football field is well maintained with separate areas for training. The three cricket pitches in the campus are all equipped for both practice sessions and full-fledged matches. Basketball and tennis courts were built keeping world-class standards in mind. The Student Activity Centre (SAC) is equipped with Table Tennis tables and well-furnished play area for chess. The hostels too are built with recreation halls and sports equipment to promote physical fitness.

The two major events that are conducted in the campus are “Sports-Fete,” and the “All India Inter-NIT meet.” The Sports Fete is conducted to inculcate the spirit of sportsmanship and competitiveness among the different departments of the college every year. The All India Inter NIT Meet is the most sought out event among all of NITs in the nation. NIT Tiruchirappalli boasts of successfully conducting three major events including cricket, basketball, and volleyball last year. With the two way interaction between the unstoppable sports community and the ever-supportive administration, the sky is the limit.

The fitness center which also has wooden flooring houses many exercise machines such as multi-station gym, treadmill, stairs, air walker, rowing machine, excercise and so on. These are used by the students, staff and other residents of the campus.
Outdoor Stadium

The outdoor stadium has a 400M track. The cricket ground here hosts matches for the city league. The campus is dotted with two football grounds, one hockey field, two volleyball courts, two basketball courts, two handball three tennis courts, and two ball badminton courts. Besides each hostel have separate playgrounds and indoor games such as table tennis and caroms: two basketball courts and two Tennis courts of international standards worth 65 lakhs just behind the Swimming pool.

Aqua Sports Complex

Constructed in 2003, this houses a 25 m swimming pool. The 5 lakh liters of water is circulated through a filter once every ten hours with the use of a pump. Separate time slots have been assigned to different segments of users. The swimming pool is maintained by the outsourced contract.

Credit for Sports

In our revised credit-based curriculum, NSO (National Sports Organization) activity carries credits in the undergraduate engineering education. By offering credits on par with academic ones, the students are encouraged to take up sports pursuits. The sports center offers the facilities required to train and evaluate the students.

INDOOR STADIUM

The stadium is comprised of one volleyball court, one basketball court, two badminton courts, and three table tennis courts with the synthetic flooring. One thousand plus students can comfortably sit and watch matches from the balcony. Separate dressing rooms are available for both boys and girls sports contingent.

OPEN GYMNASIUM

An open gymnasium has been inaugurated recently to facilitate a natural picturesque while doing exercise.