

# **BHARAT**

## Institute of Engineering and Technology

Accredited by NAAC, Affiliated to JNTUH



Imparting Value Based Education

EAMCET CODE:  
**BIET**



**BHARAT**  
INSTITUTIONS



5,00,000 sft upcoming Engineering College Block



6,50,000 sft upcoming College Block



## *Imparting value based education with a human touch*

### Core Values

Academic excellence, integrity and ethics, diversity and mutual respect, expand horizons of knowledge, shared governance, environmental responsibility, service.

BIET is a vibrant community teeming students collaborating with experts and specialists: a hub of innovation and creativity. It is an intersection of discipline, a launching pad for a brilliant Career and a unique state of mind. It is a perfect environment in which to pursue your passion. Here, the future is envisioned and remade everyday.

### About the college

Bharat institution was born out of the educational visionary Ch.Venugopal Reddy, a prominent educationist with a deep and steadfast concern for the pride and welfare of humanity. BIET was established in 1992 by the Chinta Reddy Madhusudhan Reddy Educational Society. The society undertook initiatives and introduced a Degree College in the heart of the city of Hyderabad with innovation and modern curriculum, insisting on academic discipline, imparting holistic education and adoption of global higher education practices with the support of creative and dedicated staff.

It now has three complexes, two in the city of Hyderabad and the third a 120 acres campus located in the outskirts in Mangalpally village, Ibrahimpatnam with a lush green ambience cordial for learning. The multi-disciplinary institution which focuses on teaching research and service, offers Bachelors & Masters programmes in Engineering, Management and pharmacy to over five thousand students. A promoter of sports, music and literary activities, it is a nurturing ground towards excellence. BIET is a vibrant, connected community that is home for diverse, ambitious, and creative students. The college, affiliated to JNTU, Hyderabad is accredited by NAAC and has achieved distinguished stature in the state of Telangana in terms of quality teaching, research and placement.

The students of Bharat Institutions are intuitive and the faculties give them ample opportunities to explore inter-disciplinary linkages to gain comprehensive understanding of complex phenomenon in both the natural and human spheres. We, at Bharat institutions reckon that such an approach is necessary because our students upon graduation would have to work in teams of experts from diverse fields to tussle with rapidly changing technological and social advances to solve complex problems of our nation and the World at large.

### Salient Features:

- Our institution aspires to be one of the top ranking institutions in the country with the goal got reach top ten notches among the institutions imparting value bases education

- Our institution is spread over 120 acres of lavish grown green campus with access to solar power at some places
- Our highly qualified and motivated faculty help students to reach the best of their potential; they promote the development of confidence, determination, resilience, critical thinking skills. So that they emerge as creative thinkers and innovative entrepreneurs
- In the course of their stay in this institution they learn good social skills and ultimately contribute to the well being of humanity
- Our highly qualified faculty members and talented academicians-large number of them are PHD holders and some of them post Doctorate researches. Faculties are self-motivated and they are inspirational role models to our students
- In our institution teaching and research Co-exist in the harmony. Many retired senior Directors are from DRDO labs, BDL etc. Some of them are recipients of country and highest awards from our Honourable prime minister of India. Their vast practical experience and domain knowledge is proving to be a boon to students in project execution and laboratory experiments.
- Our infrastructure in the department labs are one of the best and on par with top university institutions like JNTU, Osmania etc.
- The equipment is new and state-of-the-art instruments. The students are encouraged to conduct research in our well equipped futuristic R & D labs.

### VISION OF THE INSTITUTE

To achieve the autonomous & university status and spread universal education by inculcating discipline, character and knowledge into the young minds and mould them into enlightened citizens.

### MISSION OF THE INSTITUTE

Our mission is to impart high quality education, in a conducive ambience, as comprehensive as possible, with the support of all the modern technologies and make the students acquire the ability and passion to work wisely, creatively and effectively for the betterment of our society.





## *Our Institution's Inspirational Leading Illuminaries...*

### **Professor G. Kumaraswamy Rao**, Senior



Director of BIET is the former director and outstanding scientist of Defence Electronic Research Lab, Ministry of Defence. As the Director, he received the Best Performance Award from Dr. Manmohan Singh, the then Honourable Prime Minister of India, at Vigyan Bhavan, New Delhi. He was closely associated with Dr. APJ Abdul Kalam in developing integrated guided missile for India's Armed Forces, was the leader of the group, who designed, developed the electronic guidance systems and successfully test fired India's first short range surface to air/surface missiles like Trishul, Akash and Prithvi. During his directorship, the Honourable President of India, Dr. APJ Abdul Kalam handed over the first batch of integrated electronic warfare system to the Indian Army Chief. Professor Rao has put in 36 years of meritorious service in DRDO and visited all the weapon producing factories across the world. After retirement, he has been with BIET since last 14 years.

### **Dr. B. Prasad Rao**, Director of training and placements and the interface



between the industry and institution. He retired as Director General of Police for the United State of Telangana and Andhra. He is a distinguished IPS Officer who has completed M.Sc and Ph.D in Physics during his service. He effectively and efficiently served in posts of Principal Secretary to Govt. of AP (United), DGP of Anti Corruption Bureau, Commissioner of Police, Hyderabad etc. He is known in Police Service for his administrative skills and meticulous planning. With his passion for academics, he is serving as Visiting Professor of Andhra University, JNTU---- Sri Krishna Devaraya University. He has a vast connection with number of industries because of his rapport and interface with local reputed manufacturing industries. In BIET, the students of this institution are greatly benefited in placement drives.

### **Dr. R. Sreehari Rao**, Director R & D, Professor of ECE, BIET



(Former Director of DLRL and Vice Chancellor & Chancellor of K.L. University), is an eminent scientist with M.Tech from IIT, KGP, and Ph.D from IIT, Madras. He worked as Chief Controller, Research and Development of Electronics and Computer Sciences laboratories of DRDO, Director DLRL, and as Vice Chancellor and Chancellor of K. L. University. He steered three major EW Programmes SAMYUKTA, SANGRAHA and DIVYADRISHTI for successful completion and induction into the services. He launched major technology development programmes for indigenous development of Communication Systems, EW Systems, Laser Systems, Command and Control Systems, Thermal Imaging and Night Fighting Systems.







Felicitation of **Dr. Prahlad**  
Chief Controller of R & D, DRDO,  
Ministry of Defence, New Delhi



Felicitation of **Dr. V. K. Saraswat**  
Chief Architect of Indian Air Defence System  
and Father of Prithvi Missile  
Chief Controller of R & D, DRDO,  
Ministry of Defence, New Delhi

Science & Technology luminaries at BIET campus



## Academic Programmes at BIET







Bharat Institute of Engineering and Technology ("BIET"), the jewel of Bharat Institutions, was started in 2001 to provide access to high quality engineering and technology education and research to both rural and urban youngsters. Expanding scientific and social knowledge and revolutionary advances in technology have touched and dramatically transformed all aspects of human lives. Yet, many challenges remain. The work of creative engineers and technologists will have a decisive impact on the destiny of mankind.

Hence, we at BIET take great pride in being engineers. Our students do not aspire to merely get a degree. They are encouraged and guided to seek the skills, abilities and attitudes that are necessary to go out into the wide world and change it.

Accredited by NAAC, recognized by AICTE and affiliated to JNTU-H, the BIET community pulses with creative energy that fills an academic complex of over six lakh square feet. Our classrooms are smart-tech enabled. Our laboratories satiate the demands of a faculty and student body engaged in advanced research, well beyond the curricular requirements of JNTU-H. Our library space has been conceived to be over 75,000 square feet and acts as a central pivot. Our architecture invites nature to be an adjunct to the learning environment.

The students of BIET cultivate a desire to create solutions for the great technological and social problems of the 21st Century. Their thirst for knowledge is nurtured, tutored and guided by eminent faculty members who have scores of published papers in journals of national and international repute and industry practitioners who have researched and made fundamental contributions to advanced technological systems, including those used in the defence of our nation.

BIET offers a plethora of courses, and at least one Masters level course for every engineering specialization offered at the Bachelors Level.

#### Centre for Scholarly Excellence ("CSE")

CSE at BIET is the platform which enables our students to seek knowledge beyond narrow walls of specialization and test theoretical knowledge

in the crucible of practice. Our students learn about the basics and approaches of fields other than their own specialization by engaging in concrete and practical developmental assignments. Our students combine knowledge of Communications Engineering with Agrarian Sciences and Social Sciences. In developing data analytics tools, our students learn to use principles of analytical philosophy in validating the inferential parameters used.

#### Centre for Advanced Studies (CAS)

The primary task of Centre for Advanced Studies is to expose the students to advances in various fields of human knowledge by conducting lectures, seminars, and conferences. It acts as the repository of faculty publications and coordinates the "Working Papers" series which invites articles from experts from all over the World.

### COURSES OFFERED:

#### B.Tech in:

- Civil Engineering
- Computer Science and Engineering
- Electronics and Communication Engineering
- Electrical & Electronics Engineering
- Information Technology
- Mechanical Engineering

#### M.Tech in:

- Structural Engineering (CIVIL)
- Computer Science and Engineering (CSE)
- Wireless And Mobile Communications (WMC) (ECE)
- VLSI System Design (ECE)
- Power Electronics and Electric Drives (PEED) (EEE)
- Electrical Power Engineering (EPE) (EEE)
- CAD / CAM Engineering (MECH)







## Research at BIET

Bharat Institute of Engineering strives to continue top quality research to achieve the Tier 1 research status in global arena. We are proud to say that we are one of the best institutions in Telangana with research oriented academic program which is an amalgamation of course curriculum and private as well as government based research projects.

Highly qualified and experienced faculty at BIET engages in advanced research topics in state of art research laboratories. Their research ranges over a wide variety of topics such as Advanced Systems of Surface to Air Missiles, Electronic Counter Measures, Satellite Communications, Strategic and Tactical Guided Missiles, Enhanced Image Fusion, Analysis of Emotions in Speech, VLSI Design, Control Strategy for Wind Energy, Energy distribution Automation, Advance Manufacturing Technologies, Industrial Robotics and Automation, Advance Computational Methods for Stochastic Systems, Artificial Intelligence and Robust design technologies to name a few.

### STATISTICS

- No. of research papers published in journals: 170
- No. of papers presented in conferences: 131
- No. of papers indexed : 70
- No. of externally funded ongoing projects : 2
- No. of patents filed : 10
- No. of books Published : 9
- No. of book chapters published : 14
- No. of awards / achievements : 6

### Some of our current industrial partners (National/International)

- Defence Research and Development Laboratory (DRDL)
- Research Centre Imarat (RCI)
- Bharat Dynamics Limited (BDL)
- Defence Electronics Research Laboratory (DLRL)
- International Advanced Research Centre (ARCI)
- Telangana State Road Transport Corporation (TSRTC)
- South Central Railways (SCR)
- Central Institute Of Plastics Engineering and Technology Hyderabad (CIPET)
- Defence Metallurgical Research Laboratory (DMRL)
- Central Institute of Tool Design (CITD)
- Nuclear Fuel Complex, Hyderabad (NFC)
- National Remote Sensing Centre (ISRO)
- SAP India Pvt. Ltd.
- SaNa Software Services Pvt. Ltd
- ITeLearn
- TASK-Telangana Academy for Skill and Knowledge
- NPTEL (National Programme on Technology Enhanced Learning)
- CoCubes Technologies Pvt. Ltd.
- FACE – Focus Academy for Career Enhancement
- Peepal Renewables India Pvt Ltd
- National Thermal Power Corporation (NTPC)
- Bharat Heavy Electricals Limited (BHEL)







Job Fair



## Career Guidance

At Bharat Institutions we believe in comprehensive mentoring and training of the students to fully prepare them to enter the job market, as befitting their innate potential and to pursue further studies or research interests. We start early in their first year; give our students substantial time to develop a real competitive advantage, and we go well beyond the standard preparations for job interviews at other colleges.

### Critical Thinking & Communications Cell

Bharat has deployed a proprietary platform in which students get additional training in communications coupled with a rigorous introduction to Critical Thinking. It is intended to provide a wider exposure to other areas of knowledge, including humanities and social sciences, creative arts, and interdisciplinary zones of overlap. These are explored in structured Debates, Essay Writing, Collaborative Research, Report Writing, Discussions of Contemporary Events and they are also taught analytical philosophy and logic to critically interrogate Engineering, related scientific fields and Social Sciences to assess social impact.

### Career Counseling & Additional Training Cell

Our systems of training are unique and our students are finding placements in leading domestic and foreign firms. Students are encouraged to actively begin researching and thinking about their potential career paths early in their 3rd year. This Cell helps the students to develop a comprehensive over view of the options available to them, evaluate their own abilities and interests and learn to make rational choices.

This module for third and fourth year students includes hands on training from industry trainers and knowledge of

various industry verticals. These would be complemented by TASK, e-LSDM, Company Specific Training, Overview of Applications of Specialization in Industry, exposure to Company Profiles, as well as a number of exercises to hone their personality and build self-confidence.

### Advanced Studies Counseling Cell

Our students pursue advanced degree courses in prestigious institutions across the globe, including BIET. This Cell acts as a well integrated facility to meet their requirements to properly plan further studies. Guidance is provided by faculty members and mentors who have studied in prestigious institutions abroad with regard to modes of preparation for the qualifying exams such as GATE, TOEFL, GRE and GMAT etc. and develop appropriately crafted statement of purpose.







# Placement

The BIET considers the 'Placement Process' sacrosanct and extends all support to ensure that students are given the right opportunity to streamline their career interests with the opportunities available. The placement team continuously endeavors to ensure BIET comes up with the best placements and becomes the most favored destination for recruiters, at Bharat Institutions; we are committed to orient our students in myriad ways to face the challenge of change posed by rapid technological advancements. Having realized that there is a vast difference between the skill sets an employer seeks and that those are available amongst students seeking for jobs, college has introduced Online tests to create competitive edge.

**Campus Recruitment Training** is being organized with the assistance of experts in respective fields to equip students with requisite skills. The aim is to bridge the gap and enhance employability skills.

## Campus Placement services

All our initiatives are designed and being implemented beyond class room teaching.

Students participation in these training programs, will transform his/her personality totally. If self driven. This will facilitate students to face the competition in the open market at ease. In order to reap the benefits of our initiatives, student must attend all the programs on regular basis. It is relevant to mention that Placement Cell is committed to maximize Placements of students of IV year. Our endeavor is to promote the College in the open market and bring companies across spectra on the Campus with an aim to conduct drives from time to time. Our endeavor in this direction has yielded positive results over the couple of years as we could attract best of the best Companies.



|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |





## Student Services & Facilities







## LIBRARY

BIET main library has rich collection of books (which includes reference and text books) 64000+. All the books are bar-coded and the Koha Library software supports the issue and returns. Library subscribes around 170+ print journals for BTech & M.Tech. (This includes National and International).

BIET Library special collection is online database i.e. DELNET, INFOTRAC. It consists of national and international journals and enormous E-Journals in full text. The platform is internet.

BIET Library E-Books services started from December 2018. There are good collection of e books for BTech, M.Tech and MBA text books in PDF format.

BIET Library caters for the faculty fraternity, Board Members, students, staff and JNTU Officials. They are provided with library tickets (cards) for faculty 6 and for students 8.

## DIGITAL LIBRARY

BIET Digital Library facilitates access to Information Technology resources and communications networks amongst the user community within the campus. It provides to augment academic ambience of the institute. Our digital library is Wi-Fi enabled. All the 30 systems are facilitated with multimedia and one hour power back-up.

## PARENT-FACULTY INTERACTION

Every teacher is allotted with 20 students for the purpose of counseling them for better performance. The counselor looks into the academic / personal problems and interacts with parents to help in improving the performance of the students.

## STANDBY GENERATORS

Electrical Power Generators with 100 KVA (2 Nos) and 20 KVA capacities are available for requirements during power failures, ensuring uninterrupted activities.

## TECHNICAL ASSOCIATIONS

Every Department has its own Technical Association which conducts Seminars, Invited Talks, Mini Project Exhibition and Cultural activities. This is managed completely by the students and is aimed to provide a platform for them to enrich their managerial and organizational skills.

## SPORTS AND GAMES

The institute, with a vision to provide facilities for over-all development of the students apart from academics, has prioritized the Physical Education Department with all the required facilities for Sports and Games in the campus. The institute has a sprawling sports campus in an area of around 15 acres to conduct even National Level Sports and Games events.

## TRANSPORTATION

BIET offers transport facility to its students and faculty members on very nominal charges. The buses ply on

different routes of Hyderabad & Secundrabad areas to pick and drop the students. Our Bus drivers are highly qualified and are licensed by the RTO to drive college buses to ensure the full safety of both the students & staff members. The students are spared from the difficulty of commuting to the University by public transport. The transport facility is also a significant contributor of inculcating an element of punctuality among the students. Bus Facility is also available for students & faculty members for industrial visits, field trips and other academic activities.

## ENTREPRENEUR DEVELOPMENT CELL

This cell promotes the spirit of innovation and entrepreneurship amongst students. As a one stop shop, it advises students wishing to enter the world of business, on all aspects of the start up environment, from technical, business, legal and financial perspectives. At present the Cell, with the aid of initial funding from AICTE, is working on development and marketing of devices related to energy conversion, energy storage and advanced instrumentation.

## STUDENT CLUBS

Keeping in view the all-round development of students, various clubs and committees such as Cultural club, literary club, Technical club and Sports club have been formed to help the students build their leadership and team-building skills. These activities hold the most memorable time for students. BIET connects students to a platform where they can exchange knowledge, build awareness and receive recognition.

## CENTRE FOR HUMAN EXCELLENCE (CHFE)

enriches the students with the ideals and teachings of Swami Vivekananda. With inspirational and motivational programs, sessions, workshops, lectures, visit, and tours to and from Centre for Human Excellence, Ramkrishna Math, our students develop a holistic personality and can face the world with equanimity, confront challenges with self-confidence and adversity with courage.

## ANTI-RAGGING CELL

- At the Out-set we are proud to say that our BIET campus is a Ragging Free-Campus.
- We have Separate Anti-Ragging Cell with Committee Chairman as Dr. B. Prasada Rao, (IPS Retd. Ex -DGP & Principal, Secretary, Govt Of A.P).
- The class work timings of the seniors and the juniors have been staggered so that the fresher's and the seniors do not meet.
- Class rooms and Canteen are also maintained separate form Fresher's and seniors.
- All the around the campus our Anti-Ragging committee members keep rounding to monitor the students during college hours.
- Punishment to those who found guilty is according to the ragging prohibition act of Telangana.







# Department of ECE

( Electronics & Communication Engineering )







In this Hi-Tech Era, to meet the challenge of rapidly growing Global Demands for "Professional Electronics and Communication Engineers" the department of Electronics and Communication Engineering been established.

### OBJECTIVE

To develop their expertise in following domains

- Artificial Intelligence
- Wireless Communications and Network
- Internet of Things (IoT) and IIoT
- VLSI and Embedded Systems
- Fiber Optics
- RF, Microwave and Satellite Communication
- Biomedical Engineering
- Automation Technology etc

### KEY FEATURES

Highly experienced scientists from R&D who have headed National reputed laboratories like: DLRL, DRDL, RCI, DRDO, BDL, and ISRO and more than 10 Doctorates from various reputed universities.

### FACILITIES & ASSETS

#### Laboratories

- VLSI & ECAD Lab
- Wireless Communications and Networks Lab
- Digital Signal Processing Lab
- Microwave and Digital Communication Lab
- Basic Simulation / ECA – Lab
- Microprocessors & Microcontrollers Lab
- Electronics Devices and Circuits /ECA.
- Many more labs like Analog Communication Lab, Digital Communication Lab
- IC & PDC Lab, Digital IC Applications Lab, Linear IC Application Lab, Analog Electronics Lab, Basic Electrical and Electronics Engineering Lab, Analog and Digital Electronics Lab, Digital System Design Lab and etc.
- laboratories with more than 150 computers loaded with soft-wares which are relevant for the industry.

**Major Software:** MATLAB along with DSP toolbox, Control System toolbox, Communication toolbox and etc., Active HDL, Mentor graphics, ORCAD and NS-II.

**Major Hardware:** Gunn oscillator, Klystron Microwave bench, latest DSP kits, Embedded-ARM Processor kit, Raspberry pi B+ with various sensors and VLSI pattern generators and etc.

**Research And Development Lab:** R&D Lab established with advanced equipments to facilitate faculty and students to implement their innovative ideas.

**Projects Lab:** Project lab been established to motivate students to undertake in-house projects.

IoT with Raspberry pi 3 B+ kits along with different sensors, Embedded ARM board kits, CDMA, OFDM and various wireless trainer kits, 1GHz Function Generators, Logic analyzer and pattern generators, MATLAB (separate license agreements), Mentor Graphics with all necessary accessories.

### INDUSTRY COLLABORATIONS:

- LoRa Alliance International industry Collaborations and MoUs with Various Industries.
- Frequently arrange industry Visit to :
- Infosys SEZ Campus,
- Thrive Solutions Pvt L.td.
- ACD Communication Pvt,
- National Remote Sensing Center (NRSC) ISRO
- Indian National Center for Ocean Information Services (INCOIS) and etc.

### GUEST LECTURES:

Key speakers from Industries like

- DRDO and DLRL
- ICON Telecommunication,
- Redpine Signals and etc.

### PROFESSIONAL BODIES:

ISTE, IE(I), IETE Chapter, IEEE and etc.

### GATE Coaching for Students

### SUMMER TRAINING IN RECENT TRENDS:

- Embedded & IoT,
- Artificial Intelligence, Machine Learning,
- VLSI with Mentor graphics
- MATLAB with deference toolbox
- Along with C, Communication Skill and etc.

### AWARDS/ACHIEVEMENTS:

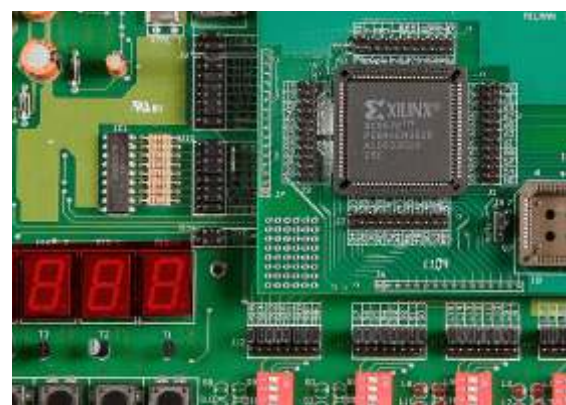
- Two Teams of students selected for AICTE Chhatra Vishwakarma Award (AICTE-ECI-ISTE, (Theme: Agriculture and Food)
- Regional Level: Position 1 (Krishi Sahayatah Pranalee)
- Position 4 (automatic Weed Digger)
- National Convention: Position 4 (Krishi Sahayatah Pranalee)
- Smart-india HACKATHON 2K19 (Hardware Edition)
- AICTE (Smart Vehicle) Electroids
- Oil India Ltd; VMRS Innovators

### STUDENT OUTCOMES

An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability; also to analyze and design complex electrical and electronic devices; software; and systems containing hardware and software components

The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

### DEPARTMENT MOUS







## Department of **EEE** (Electrical & Electronics Engineering)







The department of Electrical and Electronics Engineering has been effectively functioning since the inception of the college in 2001. The department strives to be in the forefront in imparting the quality education to the students in the fundamentals as well as emerging technologies.

#### OBJECTIVE

The objective of the department is to prepare students for the rapidly changing, high-technology world of electrical engineering and also to produce qualified engineers in the areas of:

- Smart Grid Technologies
- Renewable Energy
- Power System
- Power Electronics
- Signal Processing
- Artificial Intelligence based control technique
- Industrial Automation
- Instrumentation
- Software Development.

#### KEY FEATURES

Highly experienced scientists from R&D who have headed National reputed laboratories like DLRL, DRDL, RCI, DRDO, BDL, ISRO and more than 8+ Doctorates from various reputed universities.

#### FACILITIES & ASSETS

The department infrastructure and laboratory are being upgraded to facilitate student's learning skills like problem solving, creative thinking and experience integrated design of the systems, open ended experiments, mini projects and course projects. The details of the laboratories in the department are:

##### Laboratories

- Electrical Machines Lab
- Control Systems Lab
- Electrical Circuits Lab
- Basic Electrical Engineering Lab
- Electrical Measurements & Instrumentation Lab
- Electrical Workshop
- Power Electronics Lab
- Power Systems Lab
- Basic Electrical Simulation Lab
- Power Converters And Drives Lab

##### Major Software:

- MATLAB along with Power System toolbox Control system toolbox, Communication toolbox and etc.
- ORCAD
- labVIEW

**Major Hardware:** Synchronous Machines, Relays, Rectifiers, Transmission Line Simulator, ABC Parameters of the Transmission lines, Firing circuits, Jones chopper, Morgan Chopper, Storage

oscilloscopes, HT Oil Testing Kit CTs, PTs & Phase shifting transformers R,L,C bridges LVDT, Strain Gauge, KVL – KCL Trainer kit, Resonance/ Impedance Trainer kit and DC – AC Motor.

##### • SYSTEM & ENGINEERING TECHNOLOGY (SET) LAB / R&D LAB:

- The main activity of SET laboratory is to gear up the students to get projects from R&D institutes and organizations which demands thorough Testing, Verification and Validation with the State of Art Platform. The Major equipments of R&D lab are 3D Printer, MyDAQ & MyRio from NI Systems.

##### GUEST LECTURES:

- Key speakers from industry like
- DRDO and DLRL
- Intellectual Property & Science Division, Thomson Reuters.
- NITI-AAYOG,
- BHEL
- PROFESSIONAL BODIES: ISTE, IE(I) Chapter
- GATE Coaching for Students

##### SUMMER TRAINING IN RECENT TRENDS:

- Advance Prototype Designing,
- PCB Fabrication,
- Lab-VIEW and ECAD Software
- MATLAB with specific toolbox.
- Along with C Programming, Communication Skill, etc.

##### AWARDS / ACHIEVEMENTS:

###### Students Achievements

- Our Students participated for Chhatra Vishwakarma Award in the Year 2018
- Common Wealth Youth Award 2019 .
- Satya Illa, a dynamic Student of EEE department
- EEE Students Designed a Solar Tree to promote research in the area of renewable energy

##### STUDENT OUTCOMES

- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- An ability to conduct investigations on basic & complex problems in Electrical & Electronics Engineering concepts

##### DEPARTMENT MOUS

- 1 Kumamoto University, Japan
- 2 Azure Software Pvt.Ltd
- 3 Reitz India Limited
- 4 Research Centre Imarat
- 5 Optimal Synthesis Inc.
- 6 Peepal Renewables India Private Limited
- 7 SAP
- 8 TASK







# Departments of CSE & IT

(Computer Science & Engineering and Information Technology)







Serving the high quality educational needs of local and rural students within the core areas of Computer Science and Engineering and Information Technology through a rigorous curriculum of theory, research and collaboration with other disciplines that is distinguished by its impact on academia, industry and society.

#### OBJECTIVES:

To develop experts in the following domains:

- Internet of Things (IoT) and IIoT
- Python
- Object Oriented Programming using C++ & JAVA
- C Programming
- Android
- SAP
- Big Data Analytics
- Advanced Web Technology
- Networking

#### KEY FEATURES

##### Facilities & Assets

##### Laboratories

- Data Structures Through C++ Lab / OOPS through Java Lab / Operating Systems Lab
- Database Management Systems Lab / Compiler Design Lab / Linux Programming Lab / Data Warehousing & Data Mining Lab
- Case Tools and Web Technologies Lab
- M.Tech Laboratory Project Laboratory
- SAP Lab
- Programming for Problem Solving using C
- IT workshop

##### Data Structures Through C++ Lab/OOPS Through Java Lab/operating System Lab

To write and execute programs in C++ to solve problems using data structures such as arrays, linked lists, stacks, queues, trees, graphs, hash tables and search trees & code to implement and modify various concepts in operating systems using Linux.

##### SAP Lab

Modules in SAP are: SAP ABAP, SAP FI, SAP CO, SAP HR, SAP MM, SAP SD

**MAJOR SOFTWARE:** MATLAB, SIMULINK, IOT OS, weka,, informatica, android studio – 3.4.1, R programming R-3.6, Database –mysql-5.7, Java –j2se 1.8, Web technologies-tomcat-9.0, php 7.0, C-GNU C, C++- GNU C++, SHELL PROGRAMMING–BASH

**MAJOR HARDWARE:** All lab is equipped with HP/Dell i3 8th Gen INTEL Core Processor with 4GB RAM and 1 TB HD, 1 server- dell i30 server - Intel® Xeon® processor E3, 16 GB ram, 5TB HD, Raspberry pi B+ with various sensors and VLSI pattern generators and etc.

##### RESEARCH AND DEVELOPMENT LAB:

- R&D is introduced to encourage teachers and students to create innovative projects and publish papers. Few of our publications are:
- International Conference publications : 19
- International Journal publications : 50
- Indexed Publications : 41

**PROJECTS LAB:** Project lab has been established to motivate students to undertake house projects

#### Best Projects:

- Text Mining and Network Analysis of Digital Libraries using R
- A Big Data Analytics using tablu tool for electricity theft inspection
- Remote display with multicasting
- Analysis of Classification performance of data set on various data mining tools

#### INDUSTRY COLLABORATIONS:

##### MoUs with Various Industries.

- SAP India Pvt. Ltd
- TASK
- CoCubes
- FACE
- NPTEL
- ITeLearn
- SaNa Software Pvt. Ltd.

##### Frequently arrange industry Visit to:

- Regional Telecom Training Centre (RTTC)
- Infosys SEZ Campus

#### GUEST LECTURES:

- Key speakers from industry/university like
- JNTUH
- IBM
- Cluster IT Solutions
- Techistan, etc.

#### PROFESSIONAL BODIES: ACM, CSI & ISTE Chapters

##### GATE Coaching for Students

#### SUMMER TRAINING IN RECENT TRENDS:

- Python,
- IOT,
- R Programming
- HTML
- Android
- C Programming
- Along with Communication Skill

#### AWARDS/ACHIEVEMENTS:

**Faculty:** NPTEL Active SPOC Award for JAN-JUN 2018 & JUL-OCT 2018

- NPTEL Active SPOC Award for JUL-DEC 2017
- Young Professor of the year award by ITAP Awards-2018
- IBM TOP PERFORMING COLLEGE AWARD-2015 in TGM-2015 Contest

**Students:** Award A+ in International Decade for the Rapprochement of Cultures (RIO +24 war & Peace)

- Winner in Kabaddi at JNTUH-Inter collegiate Tournaments 2019
- Participated and went upto Grand Finale Smart India hackathon 2019
- SMART-INDIA HACKATHON 2K19: Students Participated and went upto Grand Finale of Smart India Hackathon 2k19

#### STUDENT OUTCOMES:

- More than 70% of our students got placed in MNCs like IBM, Amazon, Tech Mahindra & SAP based companies.
- 30% of the students goes for higher studies every year.







## Department of Mechanical Engineering







In this Hi-Tech Era, to meet the challenge of rapidly growing Global Demands for "Professional Mechanical Engineers" the department of Mechanical Engineering been established. It is to provide education that builds within students a solid foundation in mechanical engineering principles, expanding the reasoning, communication and problemsolving abilities of students, and prepare graduates who have the zeal and ability for lifelong growth in their professional careers.

#### OBJECTIVE:

To Develop Expertise in the following domains:

- Design
- Manufacturing
- Production
- Quality Control
- Thermal Engineering and Fluid Mechanics

#### KEY FEATURES

- Highly experienced scientists from R&D who have headed National reputed laboratories like: DRDL, RCI, DLRL, BDL, and ISRO and more than 5+ Doctorates from reputed universities.
- Laboratories with all latest Software (ANSYS, CREO/ProE, FLEXIM, SAP, MATLAB etc.) and machinery/equipment (CNC Machines, SCADA systems)
- Advanced CAM Laboratory with good simulation Tools to provide real life experience.
- Professional Training, Industry oriented Projects, Industry Visits, Industry Expert Lectures
- Workshops/FDPs/Guest lectures/ Summer Training on a regular basis.
- ICT enabled Teaching and Learning.

#### FACILITIES & ASSETS

##### Laboratories

- **CAD/CAM Lab** - Well equipped with AutoCAD, CREO5, Structural and CFD analysis -ANSYS, SAP and MATLAB which helps to undertake in-house training and R&D.
- **Computer Aided Manufacturing Lab** - Provides training in CNC programming using CREO-5 CAD/CAM, FLEXIM software and practical training on CNC Lathe and CNC Milling machines.
- **Instrumentation and Control System Lab** - Equipped with all instruments, gauge and sensors. The lab is modernized with advanced SCADA systems to inculcate computer aided Automation techniques to students.

- **Thermal Engineering:** Thermal Engineering lab, Heat Transfer Lab and Fuels Lab

- **Manufacturing:** Workshops, Production Engineering, Machine Tools, Metrology Lab

- **The other labs of the department are:** Strength of Material, Kinematics of Machinery, Fluid Mechanics and Material Science lab

**Major Machineries :** Lathe, Milling, Grinding, Induction Furnace, Welding, IC Engine, Metrology Tools, UTM, Hardness testing, Heat measurement and Dynamic balancing apparatus.

- **Research & Development Lab:** established with advanced equipments to facilitate faculty and students to implement their innovative ideas.

- **Projects Lab:** established to motivate students to undertake in-house projects

#### INDUSTRY COLLABORATIONS:

- TSRTC, CITD, SCR

#### GUEST LECTURES:

- Key speakers from industry like DRDL, DMRL, DLRL, RCI, ASL, ANURAG, MIDHANI, NFC, BHEL, BDL, BEL.

#### SUMMER TRAINING IN LATEST TRENDS:

- AutoCAD, CREO/Pro-E, MATLAB & ANSYS

#### AWARDS/ACHIEVEMENTS:

- A team of students of Final Year secured 2nd level at the regional convention and 4th position in national level for AICTE Chatra Viswa Karma Awards , The project title is " Manual and Solar Powered Biomass Pelletization from Forest Waste".
- Two students of 3rd Year, secured 1st Prize in Quiz Competition Conducted during the National seminar on Additive Manufacturing Technology in Aerospace Applications on 15th July 2018 .

#### PROFESSIONAL BODIES:

- Indian Society for Technical Education (ISTE) , The Institution of Engineers (INDIA) (IE) , International Association of Engineers (IAENG), Aeronautical Society of India ;
- Institute of engineers student chapters: 3 & No. of students: 180

#### DEPARTMENT MOUS:

- Signed MOU with Peepal Renewables India Ltd, CITD, CIPET, Hyderabad, M/s Indimech, Bangalore.







# Department of Civil Engineering

Civil Engineers build the world's infrastructure, which encompasses Railways, Highways, Bridges, water-works, Skyscrapers, Canals, Wharves, Industrial Buildings, Rapid Transit Systems, Power plants etc. They deal with design, construction, maintenance, and repair of structures. There are opportunities galore for Civil Engineers, with new players entering the market and more large-scale developments announced around the globe. Civil Engineers play a very important role in improving the living standards of a society in the form of structural Engineers, Transportation Engineers, Water Resource and Environmental Engineers, Hydrologists, Geologists and Geotechnical Experts. Department of Civil Engineering was established in the year 2007. The department lays great emphasis on the aspect of correlating the theoretical knowledge with practical exposure. This is achieved by exposing the students to various laboratory sessions in all the domains of Civil Engineering to meet the challenging needs of the construction sector.

## FACILITIES & ASSETS:

### Laboratories

- Surveying Laboratory
- Soil Mechanics Laboratory
- Fluid Mechanics & Hydraulic Machinery Laboratory
- Strength of Materials Laboratory
- Engineering Geology Laboratory
- Concrete Technology Laboratory
- Advanced Concrete Technology Laboratory
- Transportation Engineering Laboratory
- Environmental Engineering Laboratory
- Project & Research Lab

• **Major Software:** AUTO-CAD, STAAD PRO with advanced tools for Bridge design, Tower design etc., and GIS Software.

**Major Hardware:** UTM, CTM, Los Angel's Abrasion Machine, Ductility Machine, Soil Consolidation Equipment, Triaxial testing machine, Total Station, and many more advanced equipments like UPV equipment, Rebond hammer etc.

• **Project & Research Lab:** Project lab been established to motivate students to undertake house projects.

## GUEST LECTURES:

Key speakers from industry like

- Ultratech
- NITS

## PROFESSIONAL BODIES:

ISTE, IE(I), IETE Chapter

## GATE Coaching for Students

## SUMMER TRAINING IN RECENT TRENDS:

- AUTO CAD,
- STAAD PRO
- Preparation Of Bill of Quantities
- MATLAB
- C
- Communication Skill etc.







# Department of Sciences & Humanities







The department of Sciences and Humanities has been established to meet budding global demands for "Professional Engineers" and to develop practical solution to an engineering problem and, design and analysis engineering solutions which will in turn help them to gain knowledge and skills essential for understanding the world around them.

#### OBJECTIVE:

Teaching and outlining the relevance of Pure science and mathematics to Engineering and Technology, both in the theory classes as well as in the practical labs

#### KEY FEATURES:

- Highly experienced faculty and more than 10 Doctorates from various reputed universities.
- Department has well equipped laboratories
- All the labs are according to AICTE norms

#### FACILITIES & ASSETS:

##### Laboratories

##### Matrix Laboratory (MATLAB)

Provides vast library of mathematical functions for linear algebra, statistics, Fourier analysis, filtering, optimization, numerical integration and solving ordinary differential equations.

##### Computer Assisted Language Learning Lab

Equipped with the facility of 40 systems with software and adjustable microphone boom multimedia headphones, one master console, and LAN facility in each lab to make the teaching-learning experience comprehensive.

##### Interactive Communication Skills Lab

Equipped with audio-visual aids with a System, a smart T. V, a digital stereo-audio and video system to help the student for improving their communication skills.

##### Engineering Physics Lab

Equipped with Melde's Experimental set up, Dispersive power of prism-Spectrometer, Wavelength of different colors from spectrum using grating & Spectrometer, LCR circuit experimental set up, Numerical aperture of an Optical fiber, Bending losses in an Optical fiber, Laser characteristics kit, Coupled Oscillator set up, Torsional Pendulum set up, Newton's Rings set up.

##### Applied Physics Lab

Equipped with Solar Cell Kit, Energy Band gap Kit, Photo electric effect set up, Hall effect set up, LED Characteristics Complete set up, LASER characteristics Kit, LCR circuit set up, RC circuit kit, Numerical aperture and bending losses in an optical fiber transmitter and receiver kit, Stewart and gees experimental set up.

##### ENGINEERING CHEMISTRY LAB

Equipped with Glassware - Beakers, burettes, pipettes, conical flasks, Separating funnels, Reagent bottles, TLC chambers, volumetric flasks and Condensers, Ostwald Viscometer, Stalagmometer, Digital Conductivity Meters, Digital pH Meters, Digital Potentiometers, Digital Colorimeters, Electrical Digital Balance, Water baths, Hot plates, Hot Air Ovens, Heating Mantles, Water Distillation Unit, Magnetic Stirrers, UV Chamber, Physical balances.

##### INDUSTRY VISIT:

IICT, Hyderabad  
ARCI, Hyderabad

##### GUEST LECTURES:

Key speakers from industries like

- ARCI, Hyderabad
- IIT, Hyderabad
- IICT, Hyderabad
- Osmania University, Hyderabad

##### STUDENT PROJECTS:

IOT laser light security system made by 1st year students.







# Events







All the students and faculty are part of the following events, which would benefit them for their personal and professional growth.

- Invocation
- Independence Day
- Women's Day
- Induction Programme
- Orientation Programme
- Technical Fest
- Fresher's Day
- Science Day
- Mathematics Day
- Republic Day
- Swami Vivekananda Birthday Celebration
- Cultural Day
- Annual Day
- Project Day
- Alumni Meet
- Farewell Celebration
- Graduation Day
- National Conference on Emerging Trends in Engineering & Technology







# BHARAT

## Institute of Engineering and Technology

Accredited by NAAC, Affiliated to JNTUH

Administrative Office: 2-1-444, Nallakunta, O.U. Road, Hyderabad - 500 044.

Phone: (040) 2767 6372, 2764 5849 Fax: (040) 2767 7892

Admissions Phone: 6309 448 896, 9963 479 773

Premises: Mangalpally (V), Ibrahimpatnam (M), Ranga Reddy District - 501510, A.P.

Phone: (08414) 252313, 252399, 252647 Fax: (08414) 252648