



# BHILAI INSTITUTE OF TECHNOLOGY

(Seth Balkrishan Memorial)

(An Autonomous Institute)



## PROSPECTUS-2020

*Aspire to excel*

- Approved by AICTE, New Delhi
- Affiliated to CSVTU, Bhilai
- All UG Courses Accredited by NBA
- Accredited by NAAC with "A" Grade
- NIRF-2020 Rank Band 251-300
- An ISO 9001:2015 Certified Institution



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## Inception

Bhilai Institute Technology Durg was founded in the loving memory of philanthropist, industrialist and social activist Late Seth Balkrishan by few stalwarts in the public domain to transform their spirited vision and dream to reality. Established in the year 1986 as the pioneering institution for technical education and research in the "Industrial Heart" of the country, with a vision to be recognized as a world - class learning institution for engineering and technology by providing the highest quality academic programmes that foster students' development and connect knowledge, practice, and out standing scholarly research.

Over the last 34 years, the Institute has not just kept pace with the times it has often taken a lead in technical education of the State and the region of the country. The Institute today offers Undergraduate, Postgraduate as well as Doctoral level programmes in Science, Engineering, Computer Applications and Business Management. A rich heritage of academic excellence, a strong commitment towards creation and constant upgradation of academic infrastructure, an active interaction with industry, an unrelenting endeavor to develop effective teaching skills of its faculty and to provide an environment that promotes productive research have placed BIT amongst the frontrunners in the domain of technical education and research. In the 34 years since it was established, the Institute has graduated more than 14,000 Undergraduate and over 3,300 Postgraduate students with various specializations in Engineering, Computer Applications and Management. Ten departments are approved by CSVTU, Bhilai as Research Centers for Ph.D. programme. Presently 160 research scholars are registered for pursuing Ph.D. in various disciplines.



BIT is a dynamic place with the Institute's Motto "Aspire to Excel". "Educate to Elevate" is the guiding principle in the pursuit of BIT to provide qualitative higher education to the students who can be catalyst to faster and effective social changes. BIT always strives to amalgamate various resources and systems of the Institute with a clear focus on 3 E's: Enrichment, Enlightenment and Employment. Strong commitment to achieve excellence in everything it does has made the Institute a STAR PERFORMER. BIT believes in empowering students by providing thought and igniting action to prepare them to meet exciting challenges.

BIT has a tryst with excellence by ensuring a trinity of superlatives: students, faculty and infrastructure those cohabit in a congenial and conducive environment. Since its inception, BIT has remained committed to creation, archiving and dissemination of knowledge in Science, Engineering and Technology for the service to the humanity. BIT aspires to carry out high quality research in the frontiers of Science, Technology and Management as well as develop professionals with sound knowledge and skill, respect for profession, social and national values and ethics.

BIT's journey of 34 years through the horizon of technical education has culminated in an inclusive expansion into all areas of Engineering, Science and Business Management. Research has been a corner stone of the Institute. Major research projects supported by various funding agencies are underway. At BIT, students are encouraged to fructify their research through entrepreneurship. For this purpose, an Entrepreneur Development Cell has been established with active collaboration and support from AICTE, New Delhi. BIT offers the students a wholesome, enjoyable and fulfilling experience of learning.

To foster allround development of students, a large number of cultural, sports, social and professional activities are organized wherein leaders and motivators from all walks of life are invited to encourage the students and share time and space with them.



## Governance

Established in the year 1986 as the first Engineering College in Private Sector in the erstwhile State of Madhya Pradesh (now in Chhattisgarh), Bhilai Institute of Technology, Durg is managed by a Trust registered under Chhattisgarh Public Trusts Act, 1951. The Trust consists of Industrialists, Philanthropists, Senior Bureaucrats, CEOs of large business establishments in the State and elected Public Representatives (Member of Parliament & Member of State Legislative Assembly).

The Trust set up the second Engineering College at Raipur in 2009 with the name and title "Bhilai Institute of Technology Raipur". Important policy decisions and guidelines formulated by the Trust are executed through duly constituted Boards of Governors. The Trust also keeps a watch on the financial health of the Institutes. Generally, the Trust meets twice or thrice a year.

Separate Board of Governors which monitors the working of the respective Institute is constituted as per directives of All India Council for Technical Education and the affiliating University. The Board consists of the representatives of BIT Trust, AICTE, State Government and nominees of the University. The Board of Governors meets periodically, reviews the working of the College and issues necessary advice/instructions to the Principal. Principal of the Institute reports to the Board of Governors and functions as its Member Secretary.

The Principal is assisted by a team of HODs, Deans, Placement Officer and other functionaries in the day-to-day working of the College. Various Committees appointed to take care of specific areas/activities such as discipline, examinations, grievances/complaints, anti-ragging measures, Women's security, etc. also help Principal to ensure the quality of services extended to students and other stake holders in accordance with the Vision and Mission statements of the Institute.

## BIT has many "FIRSTS" to its credit

It is the very first self-financed Engineering College in the erstwhile Madhya Pradesh.

It is the first foremost Institute in Chhattisgarh to bag

- v Accreditation by National Assessment and Accreditation Council (NAAC) as 'A' grade in cycle 1.
- v Accreditation of all UG Courses at a time from National Board of Accreditation (NBA), New Delhi.
- v Ranked by National Institute of Ranking Framework (NIRF) in the ranking band (150-200).

It is the first self-financed engineering college in the State-

- v To start Post Graduate Programmes in Engineering disciplines.
- v To earn the credit of having 10,000 alumni.
- v To establish a Computerized automated central library
- v To deploy Wi-Fi systems in the college campus including Hostel areas.
- v To start a Management Programme (MBA)
- v To start a MCA programme.
- v To deploy Digital Class rooms.
- v To establish an Academic Alliance with Microsoft.
- v To start B.Voc. courses for skill development.

## Location

The campus is located in an easily accessible location in the heart of Durg City and is only 1.5Km distances from Durg Railway Station and Bus Stand of Durg. The campus is spread over 50 acres of eco-friendly land with greeneries all around. The sprawling campus of the institute encompasses four independent academic buildings with a centrally located building housing the administrative offices in the ground floor and central library in the first and second floors. The buildings are interconnected with bituminous road surrounded by gardens and lawns. Apart from the main buildings other facilities like Central Workshop, Bank, Gymnasium, Canteens, Students store, Dispensary, Sport Office, NSS Office, Alumni Office are housed at separate locations. The main approach to college is a 40 ft. wide central avenue. The residential area is well separated from the academic area. Hostel facilities are provided to outstation students only. Boys' Hostel is situated within the college campus whereas the Girls' Hostel are close to but outside the campus with Convenient Public Transport facilities.



## Courses Offered

The prime focus of the courses being offered is to prepare professionals who would take up techno-leadership positions in organization across industry, government sector and NGOs and at the same time can contribute significantly towards the Research and Developmental programmes of the Nation. The courses have been designed to equip youngsters with the basic set of knowledge, skills and aptitude mixed with human values that would be required for them in corporate/non-corporate organizations. The programmes aim at providing young, thinking minds the power to shape their paths and influence change. Depth of understanding, analytical rigor, independence of thought, commitment, cooperation, competition, integrity and innovation are the core values instilled in each individual who graduates from this Institute. All this is achieved through a well-crafted set of curricular and extra-curricular activities, delivered by a mix of experts from academia and industry. The course are approved by AICTE, New Delhi and affiliated to CSVTU, Bhiali.



### Affiliated Post Graduate Programmes: (2020-2021)

Course	Intake Capacity	Duration	Eligibility	Qualifying examination for Admission
MCA	60	2 Years	Graduation	Pre MCA/NIMCET
MBA	120	2 Years	Graduation	CMAT/MAT/CAT/ATMA
M.Tech (Structural Engineering) Civil	18	2 Years	Engineering Graduate in the relevant discipline	GATE / Sponsored
M.Tech (Production Engineering) Mech.	20	2 Years		
M.Tech (Instrumentation & Control) ETC	20	2 Years		
M.Tech (E-Security) IT	9	2 Years		
M.Tech. (Industrial Drives & Control) EE	18	2 Years		
M.Tech. (Electrical Power & Energy System) EEE	18	2 Years		
M.Tech. (Computer Networks) CSE	18	2 Years		
M.Tech. (Data Sciences) CSE	18	2 Years		
M.Tech. (Environmental Sc. & Engg.) Civil	15	3 Years	Minimum 2 Years working experience after Graduation.	
MBA	30	3 Years		

### Affiliated Under Graduate Programmes : (2020- 2021)

Course	Intake Capacity	Duration	Eligibility	Qualifying examination for Admission
B.Tech. (Civil Engineering)	120	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Mechanical Engineering)	120	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Electrical Engineering)	120	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Electronics & Telecomm. Engineering)	120	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Computer Science & Engineering)	120	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Information Technology)	60	4 Years	10+2 Level	CGPET & JEE (Mains)
B.Tech. (Electrical & Electronics Engineering)	60	4 Years	10+2 Level	CGPET & JEE (Mains)

### Affiliated Under Graduate Vocational Course : (2020- 2021)

Course	Intake Capacity	Duration	Eligibility
B.Voc. (Electronics Manufacturing Services)	25	3 Years	10 + 2 Level
B.Voc. (Software Development)	25	3 Years	10 + 2 Level
B.Voc. (Graphics & Multimedia)	25	3 Years	10 + 2 Level
B.Voc. (Banking Finance Services and Insurance (BFSI))	25	3 Years	10 + 2 Level

**Note:**

Admissions to all the courses are regulated by the Ordinance of the University and guidelines framed by the Admission & Fee Regulatory Committee of the State.

**Tuition Fees Waiver Scheme** - Under this scheme an additional 5% students will be admitted as per the guidelines of the CGPET 2014 Admission Policy framed by the State Government. This intake will be over and above the approved intake. However, TFW will be applicable only if the number of students admitted is exceeding the approved intake.

**Reservation Policy in admission** - The Institute strictly adheres to the reservation policy framed by the State Government vide gazette notification bearing No. F9-02/2012/T.E./42 dated 19.02.2013, which stipulates as under:

“From academic session 2013-14 and onwards, 12%, 32% and 14% of total sanctioned seats in different courses provided by private unaided technical educational institutions shall be reserved for the candidates of Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC) respectively for the purpose of admission in the State’.

### Fee Structure: (Effective for 2020-21 Batch of Students)

Courses	FEES		TOTAL FEES
	1 <sup>st</sup> SEMESTER	2 <sup>nd</sup> SEMESTER	
<b>Bachelor of Technology B.Tech.</b>	<b>T 39,700.00</b>	<b>T 38,050.00</b>	<b>T 77,750.00</b>
<b>Master of Business Administration M.B.A.</b>	<b>T 39,941.00</b>	<b>T 38,291.00</b>	<b>T 78,232.00</b>
<b>Master of Business Administration M.B.A. (Part Time)</b>	<b>T 26,694.00</b>	<b>T 25,194.00</b>	<b>T 51,888.00</b>
<b>Master of Computer Application M.C.A.</b>	<b>T 34,887.00</b>	<b>T 33,237.00</b>	<b>T 68,124.00</b>
<b>Master of Technology M.Tech.</b>	<b>T 37,025.00</b>	<b>T 35,375.00</b>	<b>T 72,400.00</b>
<b>Master of Technology M.Tech. (Part Time)</b>	<b>T 24,900.00</b>	<b>T 23,250.00</b>	<b>T 48,150.00</b>

- Note : 1) 1st Semester Fees Include 1500/- (Caution Money) refundable after completion of Course.  
 2) University Sports Fees 150/- to be paid in every odd semester.  
 3) Fees structure is valid for the entire duration of the course.

### Fee Structure: (Effective for 2020-21 Batch of Students)

Courses	FEES		TOTAL FEES
	1 <sup>st</sup> SEMESTER	2 <sup>nd</sup> SEMESTER	
<b>Under Graduate Vocational Course (B. Voc.)</b>	<b>T 11,500.00</b>	<b>T 10,000.00</b>	<b>T 21,500.00</b>

- 1st Semester Fees Include 1500/- (Caution Money) refundable after completion of Course.
- \* B.Voc. Fees for all Vocational Courses.

**Note :**

- ✓ The above fees structure has been notified by the Admission & Fees Regulatory Committee of the State.
- ✓ Additional fees will be charged from the final year students who are interested to avail the Training & Placement Assistance facilities of the college.
- ✓ The fees are to be deposited only at the designated Bank through Bank Challan /I-Banking Examination and other fees are to be paid as per actuals.
- ✓ College fees are to be paid in full by the date notified failing which a fine of Rs. 10/- per day will be charged. No installment in fees will be permitted.

**Refund of fee on cancellation of admission : As per DTE**

- ✓ The candidates who seek cancellation of their seat during the counselling, must seek it at least 5 days prior to the last date of admission and the amount after deduction of Rs. 1000/- for B.Tech., B. Pharmacy, D. Pharmacy, B. Arch, MCA, MBA, ME/M.Tech courses and Rs. 500/- for Diploma Engineering courses, Diploma in Costume Design & Dress Making (CDDM), Diploma in Interior Design & Decoration (IDD), Diploma in Modern Office Management (MOM) and Diploma in Architecture course, shall be refunded by the concerned institute to the candidate.
- ✓ In case, the application for cancellation of admission is not made five days prior to the last date of admission, than the candidate shall not be entitled to any refund.

Note :- In case of cancellation of admission by the candidate the refund of fees as mentioned in above points, shall be governed by the decision given by Honourable High Court of Chhattisgarh, Bilaspur on the Review Petition No. REVP/70/2017 filed by State Government.

## Research & Development Activities

The Institute has been granted approval as Research Center of the affiliating University, i.e., CSVTU, Bilai and offers doctoral programmes in the following disciplines:

Discipline	Intake
Civil Engineering	Six Research Scholars per supervisor at a time are allowed to register for the Doctoral Programme. The programmes are conducted as per the provisions of Affiliating University. The admission is through the entrance test being conducted by the University followed by Personal Interview.
Mechanical Engineering	
Electrical Engineering	
Electronics & Telecommunication Engineering	
Computer Science & Engineering	
Computer Applications	
Management	
Applied Physics	
Applied Chemistry	
Applied Mathematics	

## Fees Structure for Ph.D Programmes

Faculty	FEES		TOTAL FEES
	1 <sup>st</sup> SEMESTER	2 <sup>nd</sup> SEMESTER	
<b>Science, Engineering &amp; Computer Applications</b>	<b>₹ 32,875.00</b>	<b>₹ 18,996.00</b>	<b>₹ 51,871.00</b>
<b>Management</b>	<b>₹ 24,331.00</b>	<b>₹ 16,107.00</b>	<b>₹ 40,438.00</b>

## Academic Philosophy

All the students are encouraged to meet their academic goals and to work hard to maximize their academic potential. Students, faculty and staff of the Institute play an active role in the educational process, so that students imbibe the spirit of inquiry, discovery, critical analysis, problem handling, decision making and love of life-long learning, creativity, responsibility, generic skills, collaboration, leadership, independent thinking and thereby enhancing avenues open for individuals, organizations and society as a whole. As students progress towards their final levels of study, they are expected to demonstrate an increasingly sophisticated level of understanding, analytical ability and evidence of the synthesis of theory and practice and are expected to be able to:

- v Demonstrate understanding of various aspects of engineering, technology and management.
- v Handle issues from a variety of viewpoints.
- v Understand and evaluate theoretical frameworks.
- v Undertake appropriate independent research.
- v Analyze and suggest appropriate responses to technological and managerial issues.
- v Identify appropriate practical strategies.
- v Construct, analyse and evaluate different forms of arguments and present them in a logical and coherent manner.
- v Develop cooperative spirit.
- v Include positive attitude towards problems and challenges of life.
- v Learn, work and pursue specific objectives in a manner which is both self motivated and responsive to appropriate tasks.
- v Manage their time effectively, thereby achieving their objectives within set deadlines.
- v Take a critical stance with regard to opinion and evidence.
- v Co-operate with and function effectively within a team.
- v Anticipate problems and take on responsibility for devising solutions.
- v Organize and work for social organizations and projects.

The institute strictly adheres to its academic calendar at the beginning of each semester.



## Assessment

Throughout the course of study, assessment methods at BIT are designed to enable students to develop their own potential and permit a close working relationship between the learning experience and individual assessment. The aim of the assessment is to test whether the student has achieved the stated learning outcomes for the programme as a whole and the specific unit in particular. The assessment of the course is governed by a number of principles and the course structure and evaluation scheme framed by the University.

With the exception of the independent study, all units are normally assessed by a combination of take home assessment scheme, class tests and formal examination weighted in each unit and the type of assessment though it may vary from time to time and from course to course.

Each subject incorporates periodic tests, which will be part of the written unit and therefore, prescribed at its commencement.

Appearing for the test and completion of the assessment are compulsory.

- ✓ Regular attendance in the classes plays a vital role to fetch more marks in Internal Assessment.
- ✓ As per the University ordinance, attendance of 85% in each subject is compulsory failing which, the student may not be permitted to appear at the University examinations.
- ✓ Attendance records are displayed on a monthly basis so that students are aware of their attendance.
- ✓ Students are closely watched by the concerned teachers as well as by the Head of the department to assess them in a much practical manner.
- ✓ University examinations are conducted separately and degree is awarded by the University.



## Dress Code

### Dress Code

There is no prescribed uniform for the students even in the first year. They have to come to Institute neatly and decently dressed. Students' outfit should reflect professionalism.

Students are advised to follow the appropriate safety measures in the hazardous laboratories as per the guidelines provided in the concerned laboratories during the the course of their study.



## Rules & Regulations

- v Students must be regular and punctual in attending classes, tutorial classes and submissions of the term work/assignments of various subjects. A student shall not be allowed to appear at the End Semester Examination if his/her progress, conduct and attendance are not satisfactory or has not paid all dues.
- v Ragging of students in any form within or outside the institute and hostel is strictly prohibited. Defaulters will be strictly dealt with as per anti ragging ordinance.
- v Smoking, drinking (alcohol), chewing tobacco, consuming banned syrups, use of drugs are strictly prohibited in the Institute premises and hostel. Any student found in use of such practices will summarily be removed from the Institute.
- v Any change in the address for correspondence must be intimated by him/her in writing to the Institute's office immediately.
- v All day scholars who are not staying with their parents and staying as Paying Guest or in rented house must produce a certificate from the landlord stating that he/she is staying with them along with the details of address.
- v It is mandatory for the students to wear the Identity Card issued to him/her and produce the same whenever asked by the Institute authorities.
- v In case, a student is required to remain absent from classes due to some genuine reasons, he/she will be required to provide prior intimation to the concerned Head of the Department/Prof. Incharge / Teacher Guardian.
- v All students will be bound by the rules and regulations framed by the Institute from time to time. Institute fees are to be paid in full by the due date as declared by the Institute failing which a fine of Rs. 10/- per day will be imposed. No instalment in payment of fees will be permitted.
- v Carrying mobile phones inside the premises during working hours without prior permission is strictly prohibited.





## Discipline

The Institute places a very high emphasis on discipline of students both inside and outside the campus. Students must abide by the Institute rules and agree to conform to the rules and regulations enforced from time to time. They must not do anything either inside or outside the Institute that will interfere with its orderly governance, discipline and image. The students are required to maintain high standards of discipline. Any breach of rules and orders will entail severe disciplinary action. The matter concerning discipline among the students shall be dealt by the Proctorial Board. In case of absence due to unavoidable circumstances, students are advised to take prior permission from the Head of the Department. In case of absence due to illness, students will have to produce a Medical Certificate with an application from their parents or guardians. In such a case, parents/guardians should inform the authorities immediately. However, no benefit of attendance will be granted on Medical or any other casual grounds. The students should attend all theory and laboratory classes from the first day of the academic session. During teaching hours, the main lobby, the library, the corridors of the Institute and the area surrounding the Institute are to be observed as silence zones. Students must not cause any disturbance in these zones. Students should strike a proper balance between extracurricular activities and academic requirements. A student's participation in extra-curricular activities should not be allowed to interfere in his/her academic schedule. Students must not indulge in any kind of misconduct or indiscipline or anti-social activities within or outside the campus. Students must not form a group causing any hindrance to the academic and administrative activities of the Institute. Those found doing so will be punished and strict disciplinary action will be taken by the Authorities. Students must always wear their Identity Card when inside the Institute premises. In case of loss or damage of Identity Card, the concerned authorities should be informed immediately.

**Students are not permitted to use their mobile phones inside the Institute premises during the office hours without prior permission of the concerned authorities. The following are deemed to be considered as acts of indiscipline:**

- i) Disregard of Institute/Hostel rules, orders and notices and tearing-off or tampering with the notices on the notice boards.
- ii) Not maintaining proper decorum in the classrooms and examination hall.
- iii) Not adhering to the rules of Institute's library and departmental library.

- iv) Disregard of orders and instructions of the faculty members, Institute Staff.
- v) Noisy, Loud, Disorderly and unpleasant behaviour.
- vi) Misbehaviour with any of the Institute Staff and ragging junior students.
- vii) Irregular attendance and unauthorized absence from classes and hostels.
- viii) Lack of punctuality in attendance, payment of Institute dues or any other matter where time frames are prescribed.
- ix) Possession of stolen properties, involvements in thefts, consumption of liquor or other intoxicating drinks, gambling and such other activities.
- x) Persistent negligence of studies.
- xi) Recourse to unfair means in test and examination.
- xii) Misuse of Institute's property.
- xiii) Taking part in illegal strikes.
- xiv) Failure to produce Identity Card on demand by a member of staff, warden etc. at any time and place.
- xv) Failure to report the indiscipline cases to the Chairman/Members of the Proctorial Board/Warden etc.
- xvi) Excessive down loading/choking of Bandwidth on internet.
- xvii) Watching porn-sites, pasting of notices on walls and pillars in the campus.
- xviii) Passing filthy/Lecherous remarks/teasing of others.
- xix) Non-observance of industrial discipline, factory rules and other instructions of concerned authorities while on industrial training.
- xx) Possessing or consuming spirits, tobacco products and narcotic drugs either within or outside the campus.



## Important Notes

1. Students shall be responsible for all books, apparatus, tools and instruments material etc. issued to them.
2. Students shall observe all safety precautions. The Institute will not be responsible for accident of whatever nature in the Institute, Hostel, Workshop, Laboratory and Playground due to negligence on the part of the students.
3. No society, association or club shall be formed by the students, without prior permission of the Principal.
4. Admission to the Institute implies acceptance without any reservation by the students and their Parents/Guardians of all provisions given in the Institute information brochure and also any change therein and in the Institute/University rules and regulations, fees, etc that are made from time to time.
5. If any document submitted by the candidate is found to be false at any stage during his/her stay in the Institute, his/her admission will be cancelled forthwith.
6. The clauses/sub-clauses of this brochure/prospectus are only for general information, it could be modified/changed from time to time by the Board of Governors/Principal. The Brochure/Prospectus shall not be treated as Legal Document.
7. At the time of admission, the students will be declared hosteller/day scholar, keeping in view the availability of hostel facilities. The students so declared will deposit the fees accordingly.
8. The students must comply with dates and periods notified in various notices related to academic and Non-academic activities.
9. Ragging in any form inside or outside the campus is prohibited by law. Any students found ragging other students will be summarily expelled from the Institute and dealt with as per directives of Hon. Supreme Court/Hon. High Court.

**Courteous behavior is expected from all Students always**



## The Crime of Ragging

It is a call of every responsible citizen, victims of ragging, Hon'ble Supreme Court of India, University Grant Commission, moral and value systems and All India Council for Technical Education that the root of ragging within the mindsets of the so called seniors, especially in Higher Education, must be weeded out. All students and other stake holders should cooperate for the eradication of ragging.

### WHAT IS RAGGING

**The following activities will be considered in the category of ragging :**

- ✓ If a fresher is forced to do anything, which results in his/her mental discomfort, it will be interpreted as ragging, which is banned by a ruling of the Hon'ble Supreme Court of India.
- ✓ Teasing, taunting, shaggy / strident /unscrupulous comments, mental! physical torture or use of abusive language to another student comes under the definition of ragging.
- ✓ Physical abuse, for example, forcing to drink or smoke, forcing to dress or undress.
- ✓ Verbal abuse, for example sear words and phrases, direct or indirect derogatory references to the person's appearance, attire, religion, caste, family or chosen field of study. Use of vulgar and threatening messages through mobile phones or any other communication means.
- ✓ Forced activities.
- ✓ Chores for seminars e.g. copying of notes, cleaning of rooms etc.
- ✓ Forcing to Attend extra-curricular events to cheer hostel teams. Missing classes, not being allowed to study.
- ✓ Staying awake late or getting up at unreasonable times. Singing or dancing or performing in any other way.
- ✓ Using foul language or shouting or cheering loudly. Misbehaving with strangers, particularly women.
- ✓ Reading or browsing pornographic/objectionable material.
- ✓ Lifestyle restriction, for example not allowing certain kinds of clothing accessories e.g. jeans, belts, etc.
- ✓ Enforcing rules regarding shaving or oiling hair, forcing certain kinds of dresses.
- ✓ Restricting access to parts of the hostel e.g. common room, canteen, TV room, etc.
- ✓ Requiring certain modes of address i.e. seniors should be called Sir or Madam.

- ✓ Movement of the juniors in the streamlined manner on the roads.
- ✓ Requiring a particular waking time.
- ✓ Conversational mind games, particular forms of interaction in which a senior or set of seniors manipulates the conversation so as to humiliate the junior students or make him/her feel stupid or insecure or generally threatened.

## ANTI RAGGING MEASURES

- ✓ Ragging is totally banned within or outside Institute/hostel premises. Any student/ group of students found guilty of involvement in any sort of ragging shall be imposed with the penalty proportionate to the degree of delinquency/crime as under:
- ✓ Detention/stoppage of Merit-scholarship
- ✓ Detention from participation in co-curricular activities within or outside the Institute.
- ✓ Withholding of results
- ✓ Removal from the hostel and mess facilities - to be treated as trespasser once ordered to be out of premises.
- ✓ Rustication from the Institute for one year, two years, three years or for ever.
- ✓ Deduction in general proficiency marks.
- ✓ Detention of scholarship or any financial assistance from any other source.
- ✓ Lodging of FIR.
- ✓ Cash penalty of minimum Rupees Ten Thousand. Stoppage of issue of recommendation letters. Detention from writing the Test / Examination.
- ✓ Detention from participation in Campus Recruitment drives.
- ✓ Debar from participation in Institute Co and extra-curricular activities.
- ✓ Cancellation of job offer letters.

**Be firm and say 'no' to any aggressive behaviour without any fear or hesitation**



## Blueprint of Anti Ragging Measures at BIT-Durg

### Pro-Active Policy

BIT -Durg has Zero Tolerance Policy for Ragging. The Institute views ragging, banned by Supreme Court of India, as an uncivilized and inhuman practice. We do not subscribe to the view that one could wait till something happens in order to initiate punitive measures. Punitive measures in such cases may damage a young career. So we repose faith in averting such eventualities. For this, the Institute pursues proactive policy. Preventive measures had been devised during last few years to eliminate all possibilities of occurrence of such a ghastly incident even in its mildest form. A series of measures have been implemented during last couple of years to rule out any incident of ragging to be attempted by senior students at any place inside or outside the Campus. For making ragging non-gratis at BIT -Durg, all stakeholders viz. Management, faculty, students, parents and employees are involved to create an environment where not only ragging cannot take place, but students do not even think of indulging in such actions.

### Measures to eliminate Ragging

- ✓ A Proctorial Board (PB) is formed every year under the Chairmanship of a senior Professor. This committee functions actively throughout the calendar year maintaining the discipline in the campus as well as off the campus .
- ✓ A separate committee of senior students is formed each year to assist the Ragging Prevention Committee. They act as the eyes and ears of the faculty committee. Besides, they are also involved in educating their colleagues. They are also assisted by senior student volunteers from amongst their own colleagues.
- ✓ During the initial period of new session (over a month and half), all members of the faculty are involved during the day to exercise vigilance in the academic complex .
- ✓ Every teachers and staff members are obliged to do this duty twice a month.
- ✓ Ragging Prevention Committee start working from 9 PM onwards. Members of the team, including the Chairperson, continuously move in the campus to keep a watch. Every day, 4-6 senior student volunteers take rounds with the faculty team in the campus .
- ✓ Principal & Wardens keep on joining this team almost daily for short periods .
- ✓ A care-taker team consisting of faculty members residing at various localities is constituted to keep vigil in their particular locality. Students of the concerned locality are informed about the details of the concerned care-taker faculty member .
- ✓ Separate meetings of senior faculties with first year and second year students are held in the very beginning of the session and then periodically to sensitize them against ragging. Punishment to be meted out to culprits is well publicized through posters both inside and outside the neighborhood of the campus .
- ✓ Undertaking from parents of second year students for non-involvement of their wards in ragging is taken before they are allowed to move into the campus .
- ✓ Student (s) mentor bodies are formed wherein a group of disciplined & meticulous seniors, who can motivate and inspire the fresher, and are entrusted with the task of guiding and helping them navigate the transition phase from school to college and from home to hostel life .
- ✓ Entry of second year students is prohibited in the rooms of first year students .
- ✓ Formal interaction among first year and second year students in the presence of institute authorities is arranged .
- ✓ Sports activities between teams of first year and second year students in the evenings are organized in the presence of authorities .
- ✓ Literary and cultural activities with the joint participation of seniors and juniors, and boys and girls are held periodically under the guidance of faculty.

 Join Hands to make the Campus

Say **No To Ragging**

In case of Ragging  
please make use of:

**24 x 7**

Anti Ragging Helpline



94252 - 42582 98261 - 18175 94241 - 88215 99818 - 92643 94252 - 45294  
95897 - 94177 98279 - 46026 90743 - 08415 94255 - 55770



Proctorial Board  
Bhilai Institute of Technology  
(Seth Bahadur Memorial)  
Bhilai House, Durg (CG)

Toll Free No.: **1800-180-5522**

## Proctorial Board

No organization can sustain and survive without discipline. Discipline is of paramount importance in all spheres of life. Higher education institutions produce scientists, engineers, doctors, politicians, educationists and other various categories of professionals. The progress and dignity of a nation is in the hands of this highly skilled and talented man power. Discipline plays a crucial role in shaping the destiny of a nation. Self disciplined working force contributes significantly to the prosperity of the nation. The seed of honesty, integrity, faithfulness and devotion is inherent in discipline. In order to embolden the students to observe discipline inside and outside the college, a Proctorial Board is in place in the Institute. The Proctorial Board is responsible to reassure the disciplined behaviour of the students in all spheres as well as to prevent ragging among the students. The Proctorial Board formed is as under:



## PROCTORIAL BOARD & ANTI RAGGING / GRIEVANCE REDRESSAL COMMITTEE

Sl.No.	Name	Designation	Contact No.
1	Dr. S. K. Sar	Chairman	94252-42582
2	Dr. Mukesh Dubey	Member	98271-09722
3	Dr. Pawan Kumar Patnaik	Member	94241-88215
4	Shri Shrawan Pandey	Member	94252-45294
5	Dr. Santosh Kumar Mishra	Member	95897-94177
6	Dr. Rajesh Lalwani	Member	98261-18175
7	Shri Alok Kumar	Member	99818-92643
8	Shri Raj Kumar Singh	Member	98263-36931

### Women Grievance Redressal Cell

Women Grievance Redressal Cell in the Institute makes every effort to ensure that the girls feel at home. The cell resolves common problems of girl students and women employees. This cell also takes up individual cases of sexual harassment, if any. The cell has been formed in accordance with the University Grants Commission (Grievance Redressal) Regulations, 2012.

### Objectives :

- ✓ To deal with the cases / complaints of sexual or any other type of harassment of the female students, teaching and non - teaching women staff of the college.
- ✓ To process all the individual complaints and take suitable action thereon in the manner and mode as per the college norms.
- ✓ To provide assistance to the Faculty / Institute for taking preventive steps in the matter of gender discrimination and sexual harassment.



- ✓ To address the complaints of alleged discrimination of students, from the Scheduled Castes, the Scheduled tribes, Other Backward Classes, Women, Minority or disabled categories.
  - ✓ To form / review the guidelines / policy for redressal of the grievance as required from time to time, in accordance with those issued by Supreme Court and Government Agencies.
- If you are being harassed, this is what you can do:**
- ✓ Don't feel a sense of shame. Tell the harasser very clearly that you find his behaviour offensive.
  - ✓ Don't ignore the harassment in the hope that it will stop on its own. Come forward and complain .
  - ✓ Talk to somebody you trust about the harassment. It will not only give you strength but also help others in similar situations to come forward and complain.
  - ✓ Keep a record of all incidents of sexual harassment in a notebook. If you feel the need to register a formal complaint, later, this record will be helpful.
  - ✓ Lodge a written complaint to the W G R Cell either personally or through the suggestion/complaint boxes put at various strategic and prominent locations inside the college buildings as well as in the Hostels.

### The structure of women's grievance redressal cell :

Sl.	Name	Designation	Contact No.
1.	Dr. (Mrs.) Surekha Bhusnur	Presiding Officer	99937-30515
2.	Dr. Monisha Sharma (Principal, SSITM)	External Member	94255-64794
3.	Dr. Jaya Jimnani, MBBS	External Member	98265-82781
4.	Prof. Alka Mishra	Member	88174-08001
5.	Prof. Santosh Kumar Rao	Member	98269-37968
6.	Mrs. Rashmi Mishra	Member	93000-42425



# Civil Engineering

## Courses offered by the Department

Name of the Course	Level	Intake
B.Tech. (Civil Engineering)	Undergraduate	120
M.Tech. (Structural Engineering)	Post Graduate	18
M.Tech. Environmental Science and Engineering)	Post Graduate	15
Ph.D.		



## About the department

The Department of Civil Engineering is one of the first core branches established during the time of inception of BIT in the year 1986. The department of Civil Engineering is excellently suited to meet the ever changing demands of engineers with courses that combine the study of management and computer designs with basic engineering topics. The department ensures not only these courses be updated, but also that they reflect the current needs of industry and society as a whole.

The department has dedicated and qualified faculties and staff who extend an ambience of effective teaching and learning. The department hosts a diverse research portfolio in areas of Structural Engineering, Water Resources Engineering, Environmental Engineering etc and the faculties have good number of publications in reputed international and national journals/ conference proceedings. Faculty members are actively engaged in promoting R & D and consultancy activities.

The department has a student association CEA. The activities of the association include extra and co-curricular activities for students to cater overall personality development. Students of the department have proved their mettle in End Semester as well as Competitive Examinations and have brought laurels to the department and the institute.

The department currently runs the following courses: B.E. (Civil Engineering), M.Tech. (Structural Engineering), M.Tech. (Env. Sc. & Engg.) & Ph.D. The department has conducted various workshops for the faculties and students to permeate advances in Civil Engineering technology.

The Department is accredited by National Board of Accreditation.

### Vision

To create globally competent Civil Engineering professionals by delivering value based quality education to serve the society.

### Mission

To put in honest, sincere and focused efforts to create peace, prosperity and growth for all stakeholders and produce globally competent Civil Engineering professionals who will be able to exhibit teamwork, commitment and the zeal to excel in all areas of civil engineering.

### Under Graduate Programme: B. Tech (Civil Engineering)

#### PROGRAM EDUCATIONAL OBJECTIVES

- PEO1:** To equip the graduates to demonstrate peer recognized technical practices in Civil Engineering.
- PEO2:** To produce skillful graduates competent of analyzing, evaluating, designing and construction of Civil Engineering Structures.
- PEO3:** To equip graduates to be committed to the creative practices of Civil Engineering in a responsible manner towards the socio-economic and technical development of the society.
- PEO4:** To nurture ethical and professional values and inculcate lifelong learning and pursuance of higher education and self study.

#### PROGRAM SPECIFIC OUTCOMES

**PSO 1:** An ability to provide safe, economical and practical solutions to various civil engineering problems.

**PSO 2:** An ability to visualize innovative solutions for certain challenges for which existing solutions may not be acceptable.

**PSO 3:** A commitment to professional ethics with an emphasis on quality, timeliness and continuous improvement.

**PSO 4:** An ability to function effectively as a member or leader of a technical team and effectively manage projects of civil engineering and multidisciplinary nature.

#### Scope for Employment

- Government organizations such as PWD, PHED, Highways, Railways, Airways, Water Resources, SAIL etc.
- Construction Companies such as Larson & Tuburo, Metro Projects, TCS, Infosys, Cognizant, Gammon India Limited, ACC, Ultratech Cement, Gujarat Ambuja Cement etc.
- Research & Development Organizations

#### Programme Content

Department of Civil Engineering has excellent curriculum which is an amalgam of the following core and elective courses:

##### Core courses

Solid Mechanics, Construction Technology, Fluid Mechanics, Surveying, Structural Analysis, Civil Engineering Drawing, RCC Structures, Transportation Engineering, Environmental Engineering, Hydraulic Structures, Water Resources Engineering, Design of Steel Structures, Quantity Surveying & Cost Estimation, Computer Applications in Civil Engineering.

##### Elective courses

Modern Construction Materials, Composite Materials, Advanced Strength of Materials, Modern Surveying Techniques, Remote Sensing and its Applications, GIS and its Applications, Computational Hydraulics, Instrumentation in Fluid Mechanics, Water Power Engineering, Earthquake Engineering, Quality Control and Assurance in Construction, Safety in Construction, Fabrication and Erection of Structures, Construction Equipments and Techniques, Expansive Soils, Geotechnical Processes, Foundation Engineering, Transportation Planning and Management, Advanced Transportation Engineering, Traffic Engineering, Industrial Waste Treatment, Advanced Environmental Engineering, Environmental Pollution and Management, Air Pollution and Control Measures, Prestressed Concrete Structures, Computer Applications in Civil Engineering, Seismic Design of Structures, Open Channel Flow, Water Resources Planning and Management, Water Shed Management.

##### Laboratories

The department has established many laboratories to cater to the needs of the present day syllabus. The department has - Material Testing Lab, Survey, Geology, Geotech, Fluid Mechanics, Structure, Computer, Transportation, Environmental Engineering Lab, CASE Lab.

##### Softwares

- STAAD.Pro
- SAP 2000
- AUTOCAD
- ANSYS
- ETABS

## Post Graduate Programmes

### 1. M.Tech. (Civil) Structural Engineering

#### PROGRAM EDUCATIONAL OBJECTIVES:

1. To impart knowledge to the students about advanced Structural engineering through the use of analytical techniques, experiments, and software.
2. To expose the students to latest design codes, current national and international scenario on Structural Engineering and to motivate them in interdisciplinary involvement in problems related to Structural Engineering.
3. To inculcate habit of critical thinking in analyzing a complex problem in structural engineering.
4. To acquaint the students to research related to Structural Engineering so that they get momentum to pursue research and lifelong learning.

#### Program Specific Outcomes (PSOs)

1. An ability to provide safe and economical design of RCC and Steel structures as per the latest design codes, current national and international scenario on Structural Engineering.
2. Capability to address the societal needs by interdisciplinary approach and through advanced courses such as Finite Element Analysis, Structural Dynamics, and allied courses.
3. An ability to handle latest equipment and software to be industry ready or pursue advanced research.
4. A commitment to professional ethics with an emphasis on quality, timeliness and continuous improvement.

#### Scope for Employment

- Structural engineer in various design organisation
- Structural consultants
- Project managers
- Research organisations
- Contractors/ Builde
- Contractors/ Builders



#### Programme Content

##### Core Courses

Advanced Concrete Technology and Admixtures, Matrix Methods of Structural Analysis, Instrumentation and Experimental Techniques, Advanced Construction Management, Advanced Design of Concrete Structures, Earthquake Effects on Structures, Finite Element Analysis of Structures, Maintenance and Rehabilitation of Structures, Structural Dynamics.

##### Elective Courses

Limit State Design of Steel Structures, Advanced Design of Steel Structures, Theory of Elastic Stability, Applied Fuzzy Logic and Fuzzy sets, Advance Fundamental Engineering, Design of Industrial Structures, Fabrication and Erection of Structures, Composite Construction using Structural Steel, Optimization Techniques, Theory of Plates and Shells, Pre-Stressed Concrete.



## Post Graduate Programme

### 2. M.Tech. in Environmental Science and Engineering

#### Programme Educational Objectives (PEOs)

The educational objectives of the postgraduate programme of PG Environmental Engineering are :

- PEO-1: To equip the students with capabilities required for identifying, formulating and management of environmental issues/problems.
- PEO-2: To introduce the students to the environmental problems at international, national and regional level so that they get exposure to the burning issues.
- PEO- 3: To impart training to the students to prepare them for conducting high value research on environmental engineering and other related issues and also to pursue lifelong learning.
- PEO-4: To impart the knowledge of basic principles and novel techniques with respect to various aspects of Environmental Science and Engineering.

#### Scope for Employment

- Environmental Engineers in various industries
- Environmental Auditors/ Consultants
- CDM (Clean Developments Mechanism) Executives and Energy or Environment Professionals.
- Environmental Scientists and Energy Managers in R & D organisations
- Energy Managers / Auditors

#### Programme Content

##### Core Courses

Principles of Environmental Engineering, Hydraulics of Water and waste water, Optimization Techniques, Environmental Management, Air Pollution Control, Solid and Hazardous Waste Management, Design of Air Pollution Control Systems, Environmental Policies and Legislations, Design of Water and Waste Water Treatment Systems, Industrial Waste Management and Recycling.

##### Elective Courses

Environmental Impact Assessment and Management, Applied Statistics for Environmental Engineers, Ground Water Contamination and Pollution Transport, Environmental Sanitation, Pollution Control in Power Plants, Modern Trends in Environmental Science and Engineering, Instrumentation and Control in Energy Environmental System.

#### Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1	Dr. M. K. Gupta	Professor, Head & Dean	M. E., Ph.D.
2	Dr. S. K. Jaiswal	Professor	M. E., Ph. D.
3	Dr. (Mrs.) Sindhu J. Nair	Professor	M. Sc., MBA, ME, Ph. D.
4	Mrs. Shraddha Sharma	Associate Professor	M. E.
5	Ms. Loveleena Nandy	Assistant Professor	M. E.
6	Mrs. Mallika Jain	Assistant Professor	M. E.
7	Mrs. Madhumati Kumari Yadav	Assistant Professor	M. E.
8	Shri Tushar Saxena	Assistant Professor	M.E
9	Shri Gourav Kumar Saxena	Assistant Professor	M. Tech.
10	Ms. Deepa Sahu	Assistant Professor	M. Tech.
11	Shri Hitesh Sharma	Assistant Professor	M. Tech.
12	Ms. Deepti Hazari	Assistant Professor	M. Tech.
13	Shri Sumit Gupta	Assistant Professor	M. Tech.
14	Shri Gaurav Kesharwani	Assistant Professor	M. Tech.
15	Mrs. Kavya Lalwanti	Assistant Professor	M. Tech.
16	Mrs. Somya Madvariya	Asstt. Prof. (Adhoc)	M. Tech.
17	Shri Shubham Dashore	Asstt. Prof. (Adhoc)	M. Tech.
18	Mrs. Shikha Verma	Asstt. Prof. (Adhoc)	M. Tech.
19	Mrs. Sarita Tiwari	Asstt. Prof. (Adhoc.)	M. Tech.

# Mechanical Engineering

## Courses offered by the Department

Name of the Course	Level	Intake
B.Tech. (Mechanical Engineering)	Undergraduate	120
M.Tech. (Production Engineering)	Post Graduate	20
Ph.D.		



DEPARTMENT OF  
MECHANICAL  
ENGINEERING

**BHILAI INSTITUTE OF TECHNOLOGY, DURG**

उत्कृष्टतम शैक्षणिक द्वारा लागू राष्ट्रीय अधीनस्थ

उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना  
(रेडिंग) का प्रविष्ट अधीनस्थ 2001

### विद्यार्थियों के लिए सूचनाएं

(1) इस अधीनस्थ का उद्देश्य उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(2) इसका उद्देश्य उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(3) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(4) "B.Tech." में प्रवेश के लिए उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(5) "M.Tech." में प्रवेश के लिए उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(6) "Ph.D." में प्रवेश के लिए उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(7) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(8) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(9) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(10) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(11) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(12) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(13) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(14) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(15) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(16) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(17) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(18) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

(19) इस अधीनस्थ में, उत्कृष्टतम शैक्षणिक संस्थाओं में प्रताडना अधीनस्थ अधीनस्थ, 2001 में है।

94252 - 42582 98261 - 18175 94241 - 88215 99818 - 92643 94252 - 45294  
95097 - 94177 98279 - 46026 90743 - 08415 94255 - 55770

Toll Free No.: 1800-180-5522

## About the Department

The Department of Mechanical Engineering was established in 1986 along with the inception of the institute. It is one of the largest departments in the institute and offers B.Tech. in Mechanical Engineering, M.Tech. (Production Engineering) and Ph.D. in several areas of specializations in the discipline. The department also has a reputation of getting cream students of great academic potential in Chhattisgarh region through CGPET admission. B.E. (Mechanical Engineering) programme is accredited by the National Board of Accreditation (NBA), India thrice in 2005, 2012 & 2017. It is also approved as a Research Centre by CSVTU Bilai and an authorized centre for Mechanical Testing of Materials. The Department has patents to its credit on research work. The backbone of the department is excellence in terms of faculties, infrastructure, lab equipments, research, teaching and placements. Departmental library is available to the students apart from Central library with sufficient number of books for the convenience of easy accessibility. Department also houses The Central Workshop as an institute central facility. Modernization and removal of obsolescence in the laboratory/ Workshop/Computing facility to enhance the functional efficiency of department for teaching, training and research purpose is a continuous process.

### Vision

To become a centre of excellence in the field of Mechanical Engineering and to develop an ambience of contemporary learning to produce dedicated professional committed to cater to the growing technological demands of the society thereby contributing towards nation building.

### Mission

To develop the department as a renowned learning centre by

- ✓ Educating, preparing, inspiring and mentoring students to excel as professionals
- ✓ Constantly updating the departmental resources.
- ✓ Developing qualified faculty
- ✓ Promoting participation of industries in academics research and consultancy.

### Under Graduate Programme : B. Tech. (Mechanical Engineering)

#### Program Educational Objectives (PEOs)

- PEO1: To strengthen students to have a comprehensive background in basic sciences and mathematics.
- PEO2: To prepare students in core & interdisciplinary areas leading to design and development of solutions required in complex engineering systems.
- PEO3: To inculcate teamwork, leadership, communication skills & integrate into global workforce to contribute towards the economy of nation.
- PEO4: To groom students in contemporary areas of socio-technological issues so as to achieve professional & sustainable development.
- PEO5: To nurture students to recognize the importance of continuous learning activities to develop professional personality and ethical values that will mold them into responsible citizen & competent professionals

## PSO (Program Specific Outcomes)

**PSO1** - Acquire knowledge and hands-on competence in applying the concepts of thermal science, design of mechanical elements, material science, manufacturing technology and industrial management in the design and development of mechanical systems.

**PSO2** - Acquire knowledge and hand on competence in applying modern computational, analytical, simulation tools and techniques to address the challenges faced in the field of mechanical and allied streams.

**PSO3** - Demonstrate creativeness in designing new systems, components and process in the field of mechanical engineering.

### Scope for employment

Some of the areas:

- |                       |                               |
|-----------------------|-------------------------------|
| ✓ Automobile industry | ✓ Aerospace industry          |
| ✓ Steel plants        | ✓ Power generation industries |
| ✓ Railway departments | ✓ Paper industries            |
| ✓ Chemical industries | ✓ Communication sector        |
| ✓ Computer industries | ✓ Postal departments          |
| ✓ Banking sector      |                               |

### Some of the top firms

- |        |        |        |        |
|--------|--------|--------|--------|
| ✓ ONGC | ✓ SAIL | ✓ NTPC | ✓ BHEL |
| ✓ VSSC | ✓ ISRO | ✓ IOC  | ✓ DRDO |

## Programme Content

### Core Courses

Engineering Graphics and Design, Mechanical Measurements & Metrology, Engineering Mechanics, Engineering Thermodynamics, Material Science, Applied Thermodynamics, Fluid Mechanics, Strength of Materials, Manufacturing Science, Kinematics of Machines, Machine Design – I, Turbo Machinery, Dynamics of Machines, Fluid Machinery, Manufacturing Science – II, Operations Research, Machine Design – II, Energy Systems, Internal Combustion Engines, Heat & Mass Transfer, Production Management, Automobile Engineering, Refrigeration & Air-conditioning, Computer Aided Design & Manufacturing, Machine Tool Technology, Robotics, Finite Element Methods, Industrial Engineering & Management.

### Elective Courses

#### I) Professional Electives

Industrial Hydraulics, Control Engineering, Engineering Economics, Composite Materials, Power Plant Engineering, Maintenance and Reliability, Computer Graphics, Quality Control & Total Quality Management, Energy Management & Audit, Applied Elasticity & Plasticity, Product Design & Development, Numerical Control of Machines Tools, Thermal System Design, Cyber Security/Information Security, Mechatronics, Vibration & noise control, Optimization Techniques, Computational Fluid Dynamics, Soft Computing Techniques, Environment Pollution & Control, Mechanical Handling System & Equipments.

## ii) Open Electives

Enterprise Resource Planning, E-Commerce & strategic IT, Technology Management, Decision Support & Executive Information System, Software Technology, Knowledge Entrepreneurship, Finance Management, Project Planning, Management & Evaluation, Safety Engineering, Bio Informatics, Energy Conservation & Management, Nano Technology, Intellectual Property Rights, Value Engineering, Disaster Management, Construction, Management, Ecology and Sustainable Development, Non Conventional Energy Sources Energy Auditing & Management, Managing Innovation & Entrepreneurship, Biometrics, Information Theory & Coding, Supply Chain Management Internet & Web Technology, Electrical Estimation and Costing, Non-Conventional Energy Sources, Big Data and Hadoop.

## Laboratories

Engineering Graphics and Design Lab, Workshop /Manufacturing process Lab, Computer Aided Machine Drawing Lab, Mechanical Measurements & Metrology Lab, Engineering Thermodynamics Lab, Software Lab, Fluid mechanics Lab, Material Testing Lab, Manufacturing Science Lab, Virtual Lab, Kinematics of Mechanics Lab, Machine Design-I Lab, and Dynamics of machines Lab, Fluid Machinery Lab, Machine Design-II Lab, and Internal Combustion Engines Lab, Production Management Lab, HMT Lab, Automobile Engineering Lab, Refrigeration & Air-conditioning Lab, Computer Aided Design and Manufacturing Lab, Minor Project, Robotics Lab, Finite Element Methods Lab, Industrial Engineering & Management Lab, Major Project.

## Softwares

PTC Creo, ANSYS, CATIA, SOLID WORKS, MD Motion Bundle, CNC Simulation Touch Panel, Simul-8, AutoCAD, MATLAB, SPSS-12.

## Post Graduate Programme :

### M.Tech. in PRODUCTION ENGINEERING

#### Program Educational Objectives (PEOs)

- PEO1:** To impart strong foundation beyond the undergraduate level in production engineering to successfully compete for technical engineering positions in the local, national and global engineering market.
- PEO2:** To prepare students in areas of : CAD/CAM Application, Production and Material Management, Maintenance, Machine Tool, Robotics, Quality Control, Reliability, Measurement System Analysis, Computer Integrated Manufacturing leading to design and development of solutions required in complex engineering system.
- PEO3:** To create a congenial environment that promotes learning, growth and imparts ability to work with interdisciplinary groups in professional, industry and research organizations.
- PEO4:** To broaden and deepen capabilities in analytical and experimental research methods, analysis of data, and drawing relevant conclusions for scholarly writing and presentation.
- PEO5:** To provide guidance to students for their choice in research and professional career outlook and to encourage students to take up research.

#### PSO (Program Specific Outcomes)

- PSO1** – Apply advanced level knowledge, techniques, skills and modern tools in the area of production engineering and in multidisciplinary environment.
- PSO2** – Review and document the knowledge developed by scholarly predecessors and critically assess the relevant technological issues.
- PSO3** – Formulate relevant research problems; conduct experimental and/or analytical work and analyzing results using modern mathematical and scientific methods.
- PSO4** – Design and validate technological solutions to defined problems and write clearly and effectively for the practical utilization of their work.

#### Scope of employment

- v Teaching jobs in universities and colleges.
- v Manufacturing Industries



**Some job titles: -**

- √ Ergonomist
- √ Process Engineers
- √ Industrial Managers
- √ Management Engineer
- √ Quality Control Technician
- √ Plant Engineer
- √ Quality Engineers
- √ Operations Analyst
- √ Manufacturing Engineer

**Programme content****Core Courses**

Advance Manufacturing Engineering, CAD/CAM Applications, Production & Materials Management, Maintenance Engineering, Machine Tool Engineering, Robotics, Quality Control & Reliability, Measurement System Analysis, Computer Integrated Manufacturing , Dissertation & Seminar.

**Elective Courses**

Applied Fuzzy Logic & Fuzzy Sets, Finite Elements Methods, Accounting and Management Control, Advanced metrology and Computer Aided Inspection. Mechatronics, Productivity Management, Advances in Material Processing, Management of Organizational Behavior, Optimization Techniques, Advanced Machine Tools, Product Engineering, Ergonomics.

**Laboratories**

Advance Manufacturing Lab, CAD/CAM Applications Lab, Machine Tool Engineering Lab, Robotics Lab, Seminar based on Dissertation.

**Softwares**

PTC Creo, ANSYS, CATIA, SOLID WORKS, MD Motion Bundle, CNC Simulation Touch Panel, Simul-8, AutoCAD, MATLAB, SPSS-12.

**Faculty List**

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. Arun Arora	Professor & Principal	ME (Hons.), Ph. D.
2.	Dr. S. K. Ganguli	Professor, Head & Dean	M. Tech., Ph. D.
3.	Dr. (Mrs.) Shiena Shekhar	Professor	M. E., Ph. D.
4.	Dr. R. Banchhor	Professor	M. Tech., Ph. D.
5.	Dr. (Mrs.) Shubhrata Nagpal	Professor	M. E., Ph. D.
6.	Dr. Manoj Kumar Pal	Professor	M. Tech., Ph. D.
7.	Dr. Mukesh Dubey	Associate Professor	M. E., Ph. D.
8.	Shri Satish Kumar Sao	Associate Professor	M. Tech.
9.	Dr. (Mrs.) Shabana Naz Siddique	Associate Professor	M. E., Ph. D.
10.	Dr. Devesh Shrivastava	Associate Professor	M. E., Ph. D.
11.	Dr. Santosh Kumar Mishra	Associate Professor	M.Tech., Ph. D.
12.	Dr. Anil Kumar	Associate Professor	M. Tech., Ph. D.
13.	Shri Santosh Kumar Rao	Assistant Professor	M. E.
14.	Shri Jitendra Chauhan	Assistant Professor	M. E.
15.	Shri Prem Shankar Sahu	Assistant Professor	M. Tech.
16.	Shri Yogesh Kumar	Assistant Professor	M. Tech.
17.	Shri Manish Kumar	Assistant Professor	M. E.
18.	Mrs. Anjul Rai	Assistant Professor	M. Tech.
19.	Shri Mayank Modak	Assistant Professor	M. E.
20.	Shri Shekhar Sahu	Assistant Professor	M. E.
21.	Shri Jay Singh Gaharwar	Assistant Professor	M. E.
22.	Shri Khilesh Kumar	Assistant Professor	M. Tech.
23.	Shri Ravi Chugh	Assistant Professor	M. S.
24.	Shri Vinay Kumar Sahu	Assistant Professor	M. Tech.
25.	Shri Neeraj Kumar Bhoi	Assistant Professor	M. Tech.
26.	Shri Pileshwar	Assistant Professor	M. Tech.
27.	Shri Manoj Sao	Assistant Professor	M. Tech.
28.	Shri Devendra Dhole	Asstt. Prof. (Adhoc)	M. Tech.
29.	Shri Sanjay Mishra	Asstt. Prof. (Adhoc)	M. Tech.

# Electrical Engineering

Courses offered by the Department

Name of the Course	Level	Intake
B.Tech. (Electrical Engineering)	Undergraduate	120
M.Tech. (Industrial Drives and Control)	Post Graduate	18
Ph.D.		



## About the Department

The Department was established right at the inception of the Institute in 1986 and is NBA accredited since 2005. It offers a vibrant environment for Undergraduate, Postgraduate education and Research in Electrical Engineering. Faculty members along with their research scholars and students are involved in various research activities. The major areas of faculty expertise includes Control Systems and Computing, Power Systems, High Voltage Engineering, Electrical Machines and Drives, Power Electronics, Instrumentation, Digital Signal Processing, Communication Systems and Optimization. The department is well equipped with modern laboratory facilities and balanced emphasis is laid on both theory and experimental work. The department has well equipped Departmental Library in both physical and digital platform. The student, scholars and faculty has a free access to it during working days. Industrial visits to local industries are helpful in the development of field knowledge of the students.

### Vision

To contribute to the nation, by delivering quality education and creating globally competent professionals to serve the industry and society.

### Mission

To create intellectually stimulating environment for learning, research and promotion of professional and ethical values, to develop a sense of responsibility, discipline and interest amongst students in various activities leading to the welfare of the industry and society at large and to empower the students through lifelong learning for self up-gradation and societal upliftment.

### Program Educational Objectives of B.Tech (Electrical Engineering)

**PEO-1:** To impart sound foundation in Mathematics, Applied Science and Engineering to the graduates, which enables them to formulate, solve and analyze the problems in Electrical Engineering.

**PEO-2:** To develop analyzing skill amongst graduates for technical interpretation, designing and implementation of ideas.

**PEO-3:** To promote students for taking up new responsibilities and challenges in multidisciplinary projects.

**PEO-4:** To equip graduates with integrity and ethical values so that they become responsible technocrats.

### Program Specific Outcomes (PSOs) of B Tech (Electrical Engineering)

**PSO-1:** Apply the knowledge of Mathematics, Science and Electrical Engineering fundamentals for the complex problems of Electric Circuits and Networks, Electrical Measurements and Electronic Devices.

**PSO-2:** Analysis, solve and design complex problems of power systems and protection systems.

**PSO-3:** Use research based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusion in the area of control systems.

**PSO-4:** Create, select and apply appropriate the techniques, resources and modern engineering for the study of electrical machines and drives.

## Scope for Employment

- Government Organizations
- Public Sector Organizations
- State Electricity boards
- Private sector organizations
- Self Employment
- Entrepreneurship
- Start-ups

## Programme Content

Core Courses: The syllabus of Electrical Engineering covers about thirty core subjects. Electrical Machines, Electric Circuits, Network Analysis, Power systems, Electronic devices and circuits, Control systems, Electrical Measurements and Instrumentation, Switchgear and Protection, Electrical Drives, High voltage Engineering, Installation, Maintenance and Testing of equipments, Digital signal processing are few amongst them.

## Elective courses

The syllabus covers one open elective and three professional elective courses. The students can select their elective subject from the list of available electives specified in the university syllabus to enrich their skill and knowledge to meet the current and future demand of the industry and nation as a whole.

## Laboratories

The department has 23 well developed laboratories housed in 15 physical rooms with necessary fundamental set-up and modern equipment for imparting meaningful learning and understanding of student.

1. Basic Electrical and Electronics Engineering laboratory
2. Electric Circuits laboratory
3. Basic Electronics laboratory
4. Analog Electronics laboratory
5. Electrical Workshop
6. Electrical Measurements laboratory
7. Electrical Machines laboratory
8. Control Systems laboratory
9. Power Systems laboratory
10. Power Electronics laboratory
11. High voltage laboratory
12. Switchgear and Protection laboratory
13. Electric Drives laboratory
14. PLC laboratory
15. Instrumentation laboratory
16. Computer Simulation Laboratory
17. Project Laboratory



## Post Graduate Programme : M. Tech (Electrical Engineering)

**Specialization:** Industrial Drives and Controls

### Program Educational Objectives

- PEO1. To prepare students for contributing successfully in higher education and industrial sector meeting their needs and challenges
- PEO2. To design and develop innovative products and services in the field of Industrial drives and controls
- PEO3. To attain intellectual leadership skills to cater to the changing needs of power industry, academia, society and environment
- PEO4. To transform engineering graduates to expert engineers so that they could comprehend, analyse, design and create novel products and solutions to problems in the areas of Industrial drives that are technically sound, economically feasible and socially acceptable.

### Program Specific Objectives: To prepare students

1. Who will be successful professionals in industry, government, academia, research, entrepreneurial pursuit and consulting firms.
2. Who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, research, design and implementation skills.
3. Who will engage in life-long learning through independent study, research and undertake responsibilities for societal, environmental and ethical causes.
4. Who will contribute to society as broadly educated, expressive, ethical and responsible citizens with proven expertise.

### Scope for Employment

- Government Organizations
- Public sector organizations
- State electricity boards
- Private sector organizations
- Research Scientist
- Education Sector

### Programme Content

#### Core Courses

The syllabus of Masters in Electrical Engineering covers about ten core subjects. Modeling and Analysis of Electrical machines, Analysis of AC and DC Converters, Linear Algebra, Modern Control System Theory, Microcontrollers and Embedded System Design, Programmable logic Controllers and Their Applications, Optimal Control systems and Advanced Electric Drives are few amongst them.

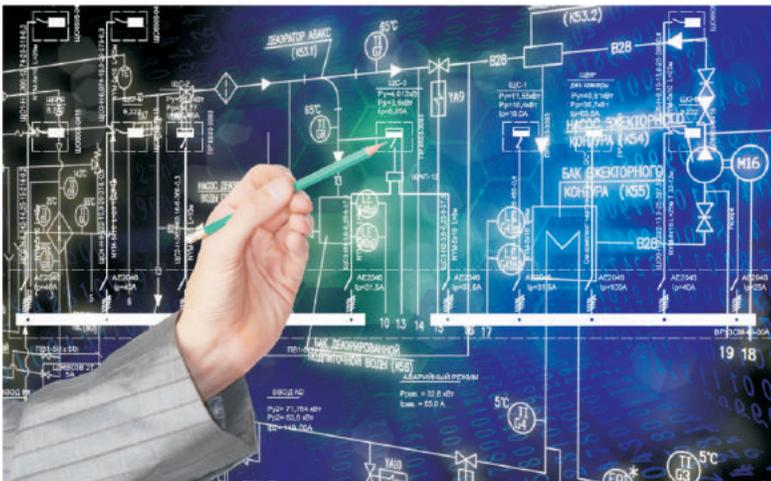
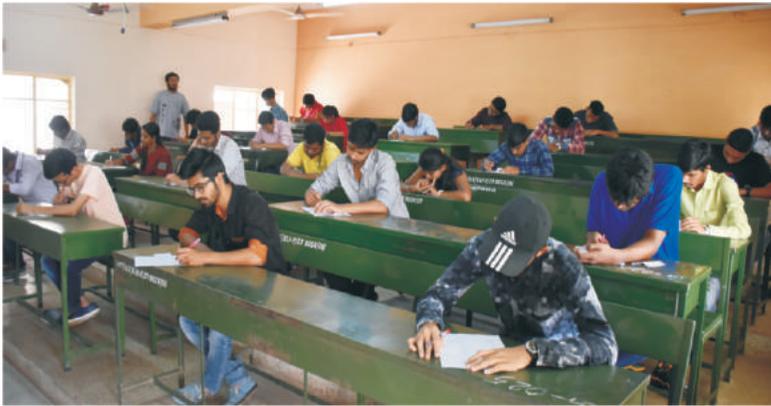
#### Elective courses

The syllabus covers three elective courses. The students can select their elective subject from the list of available electives specified in the university syllabus.

#### Laboratories

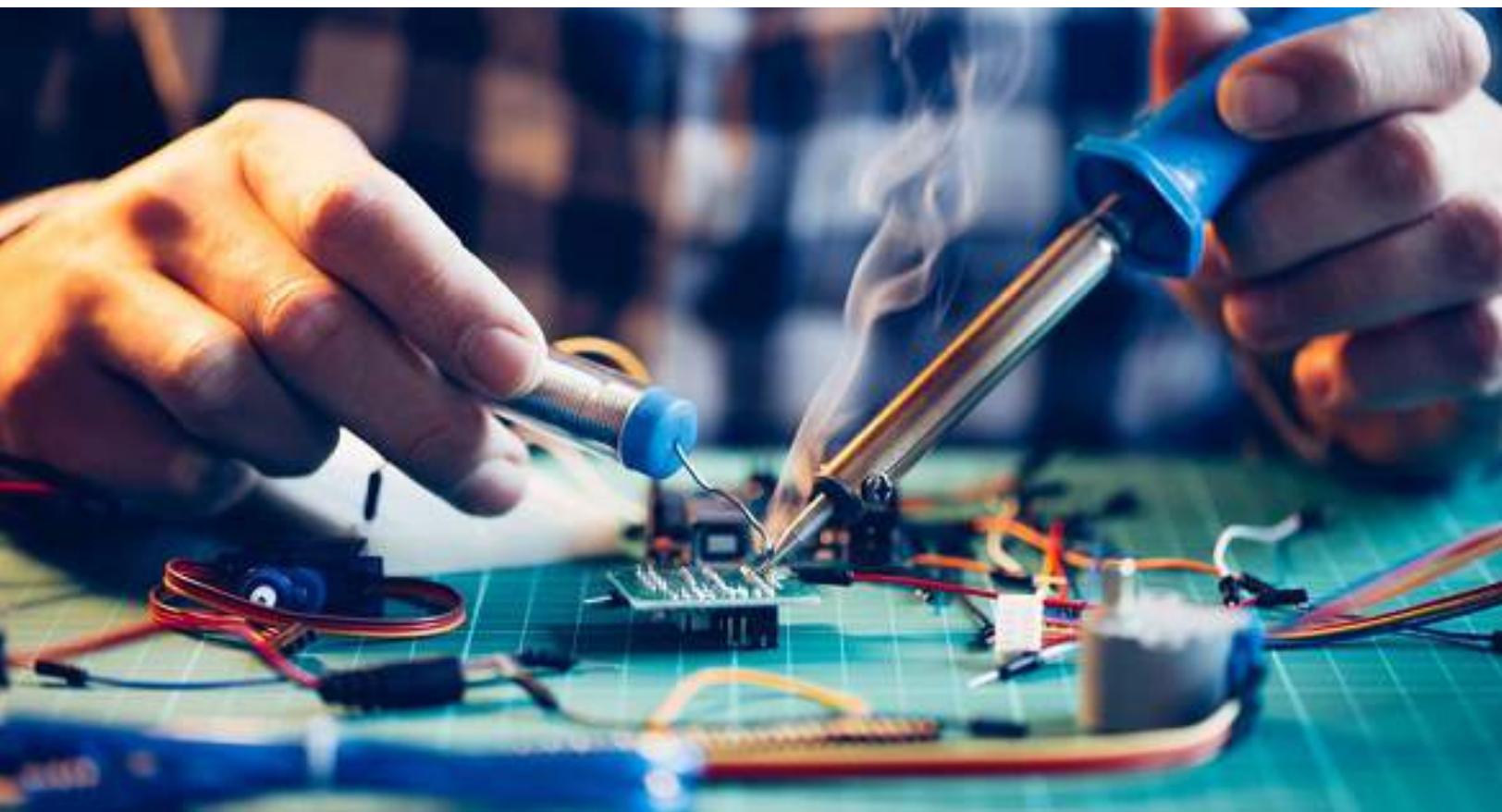
The department has four well developed laboratories with modern equipment to cater to the post graduate programme in Industrial Drives and Controls

1. Control laboratory
2. Electric Drives laboratory
3. Programmable Logic Controllers laboratory
4. Microcontrollers laboratory



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Shashwati Ray	Professor	M. Tech., Ph. D.
2.	Dr. S. P. Shukla	Professor	M. Tech., Ph. D.
3.	Dr. (Mrs.) Anupama Huddar	Professor & Head	M. Tech., Ph. D.
4.	Dr. (Mrs.) Archana Gupta	Professor	M. E., Ph. D.
5.	Dr. Sanjaya Kumar Sahu	Professor	M. Tech., Ph. D.
6.	Dr. (Mrs.) Supriya Tripathi	Professor	M. Tech., Ph. D.
7.	Dr. Nagendra Tripathi	Professor	M. Tech., Ph. D.
8.	Dr. Gouranga C. Biswal	Associate Professor	MA, AMIE, ME, Ph. D.
9.	Shri Gaurav Sharma	Assistant Professor	M. Tech.
10.	Shri Alok Kumar	Assistant Professor	M. E.
11.	Ms. Uma P. Balaraju	Assistant Professor	M. Tech.
12.	Ms. Shraddha Kaushik	Assistant Professor	M. E.
13.	Shri Jitesh Panigrahi	Assistant Professor	M. E.
14.	Shri Gourav Shankar	Assistant Professor	M. Tech.
15.	Miss Jyotsana Kaiwart	Assistant Professor	M. Tech.
16.	Mrs. Sonora Dixit	Assistant Professor	M. Tech.
17.	Shri Shashank Tiwari	Assistant Professor	M. Tech.
18.	Mrs. Pritha Gupta	Assistant Professor	M. Tech.



# Electronics & Telecommunication Engineering

Courses offered by the Department

Name of the Course	Level	Intake
B. Tech (Electronics & Telecommunication Engg.)	Undergraduate	120
M. Tech (Instrumentation & Control)	Post Graduate	20
Ph.D		

Students of BE 4th sem. Electronics and Telecommunication Branch.

Secured 5th Position in the Harvester Bot theme in e- Yantra Robotics Competition IIT- Bombay on March 22-23, 2018



## About the Department

The Electronics & Telecommunication Engineering Department is the oldest department, started since the inception of the college in the year 1986. The Department offers B. Tech Course in Electronics & Telecommunication Engg., M. Tech course in Instrumentation & Control, B. Voc course in Electronics Manufacturing Services and Ph.D. programme. The Department offers excellent infrastructure and resources in the form of knowledgeable faculties, well equipped laboratories and library. The Department is approved by All India Council of Technical Education (AICTE), affiliated to Chhattisgarh Swami Vivekananda Technical University (CSVTU), B. Tech course has been accredited thrice by NBA-AICTE for 2005-2008, 2012-2015 and 2017-2023 and certified by ISO 9001:2015. Department has been recognized by the university as the Research Centre in the State. The department has well qualified faculty with high retention rate. Students of the department are merit holder in the university. Pass percentage of students are high. Texas Instruments Centre of Excellence has been set up in the department. Alumni are placed in reputed organization like ISRO, Intel, Microsoft.

## Vision

To create globally competent Electronics and Telecommunication Engineering professionals by delivering value based quality education to serve the society.

## Mission

To create a Learning Ambience in the department so as to inculcate Innovative and Research skills and an urge for lifelong learning among students for professional skills and ethical values.

## Under graduate Programme: B. Tech (Electronics and Telecommunication Engg.)

### PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

- PEO1:** Knowledge of Basic Science and Engineering: To impart sound technical knowledge and skills in science & mathematics related subjects for solving the challenging problems of Electronics & Telecommunication Engineering.
- PEO2:** Engineering Design and Experimental Skills: To prepare and train the students with practical engineering problem-solving skills for design and development of systems to meet the industrial and societal needs.
- PEO3:** Higher Education and Research: To encourage the students, with appropriate course modules, in preparing for competitive examinations for pursuing higher studies including research in relevant disciplines.
- PEO4:** Professional and Ethical Attitude: To inculcate ability for lifelong self-learning, career enhancement and adapt to evolving environment with professional ethics.

### PROGRAMME SPECIFIC OUTCOMES (PSOs):

- PSO1:** Apply the fundamentals of mathematics, science and engineering knowledge to analyze and evaluate electronic engineering problems of analog and digital circuits, instrumentation and signal processing.

**PSO2:** To demonstrate knowledge and hands on competence to design, develop and test electronics systems in the areas related to communication systems, hardware and software computer systems, VLSI systems and power electronics.

**PSO3:** Exhibit professional and ethical outlook with multi-disciplinary approach, teamwork and effective communication in societal and environmental context

## Scope for Employment

- Core Electronics Devices Sector
- Communication & Broadcasting Sector
- Strategic Electronics Sector
- Chip Designing
- Consumer Electronics
- Process & Manufacturing Industries
- Entrepreneurship
- Research
- Software Companies

## Programme Content (B.Tech)

The curriculum of B.Tech Electronics & Telecommunication Engg. Department is a blend of 56% of Core Electronics subjects, 18% of Inter disciplinary subjects, 14% of Science subjects and 12% of Soft skill subjects.

## Core Courses

- I. Devices: Electronic Devices & Circuits, Analog Electronics, Linear Integrated Circuits & Applications, Electronics Circuit Design
- II. Communication: Probability and Random Variables, Signals & Systems, Analog Communication, Digital Signal Processing, Digital Communication, Information Theory and Coding, Computer Network, Advanced communication
- III. Logic Design & VLSI: Digital Logic Design, Microprocessor & Interfaces, Advanced Microprocessor & Interfaces, Microcontroller & Embedded System, VLSI Design

## Professional Elective Courses:

Elective subjects comprises of core electronic subjects, interdisciplinary subjects and subjects of software field. Internet & Web Technology, Operating System, Biomedical Electronics, Electronic Engineering Materials & Components, Computer Organization & Architecture, Advanced Semiconductor Devices, Digital Circuit Design with Verilog HDL, System Design with ARM, Robotics & Controls, Radar and Navigational Aids, Industrial Automation, Neural Network & Fuzzy Logic, RF Communication Design, VLSI System Design, Digital Image Processing, Cryptography & Secure Communication, MEMS in Communication Engineering, Embedded Systems & RTOS, CMOS Mixed Signal Circuit Design, Microelectronic Devices & VLSI Technology, Biometric Techniques, RISC Microcontrollers & DSP Processors, Artificial Intelligence & Expert Systems, Telecommunication Switching Circuits & Networks, Speech Signal Processing.

### Open Elective Courses:

Enterprise Resource Planning, E-Commerce & strategic IT, Technology Management, Decision Support & Executive Information system, Software Technology, Knowledge Entrepreneurship, Finance Management, Project Planning, Management & Evaluation, Safety Engineering, Bio Informatics, Energy Conservation & Management, Nanotechnology, Intellectual Property Rights, Value Engineering, Disaster Management, Construction Management, Ecology and Sustainable Development, Non Conventional Energy Sources, Energy Auditing & Management, Managing Innovation & Entrepreneurship, Biometrics, Information Theory & Coding, Supply Chain Management, Electrical Estimation and Costing, Non Conventional Energy Sources, Big Data and Hadoop.

### Laboratories:

Department of Electronics & Telecommunication has a good infrastructure with well equipped 17 Laboratories for the undergraduate & Post graduate programme such as: Microcontroller Lab, Electronics Workshop Lab, Microprocessor Lab, Fiber Optic Lab, Analog Circuit Lab, Linear Integrated Circuit Lab, Digital Logic Design Lab, Digital Signal Processing Lab (TEXAS Instruments Embedded Systems Lab), Electronic Circuit Design Lab, VLSI Lab, Basic Electronics Lab, Analog Communication Lab, Digital Communication Lab, Instrumentation Lab, Microwave Lab, Computer Network Lab, Power Electronics Lab. Texas Instruments Innovation Centre.

### Softwares:

The hardware labs of Electronics & Telecommunication Department are supported by Simulation Softwares such as: Keil-8051 Simulator, Ultiboard, Multisim, IDE 8085 Simulator, IDE 8086 Simulator, DIALS Software, MATLAB, LABVIEW, Xilinx, CommSim, Proteus, PCAD Software.

### Post Graduate Programme (M. Tech)

**Programme Content (M. Tech.) :** The curriculum of Post Graduate Programme in Electronics and Telecommunication Engineering with specialization in Instrumentation and Control is a blend of 83.33% of core Electronics subjects, 16.66% inter disciplinary subjects.

### Program Educational Objectives (PEOs):

- PEO1: To analyze, design, develop and maintain instrumentation systems of an industry.
- PEO2: To develop competency to solve industrial problems related to the sector of electronics, control and instrumentation that is technically feasible, economically viable and socially relevant.
- PEO3: Excel in academic and research activities by facilitating the students to explore the state of art techniques to meet the industrial needs.
- PEO4: To exhibit professional and ethical code of conduct, develop multidisciplinary approach in problem solving and lifelong learning so as to use technology for the progress of the society.

### Program Specific Outcomes (PSOs):

- PSO1: To identify suitable sensors and transducers for real time applications.
- PSO2: To acquire knowledge of Instrumentation Engineering with ability to evaluate, analyze and synthesize problems related to process oriented industries.
- PSO3: To apply knowledge and Skills to use innovative technologies and modern engineering tools to carry out projects related to real-life applications like Industrial and Biomedical instruments.

### Core Courses

Control System and Design, Optimal Control System & Adaptive Control System; Instrumentation: Industrial Transducers & Sensors, Bio-Medical Instrumentation, Process Control & Industrial Automation; Power Electronics: Industrial Electronics & Power Control; Digital Measurements and Techniques & Microcontroller & Embedded System.

### Elective Courses

Elective Subjects are comprises of core specialization and inter disciplinary subjects and subjects of software fields, System Optimization, Reliability Engineering & Robotics & Computer Vision, AI & ES in Industrial Systems, Computer Numerical Control & Programming & Fuzzy & Neural Control, Analytical Instrumentation, Real Time System & Programmable Logic Controllers.

### Ph. D Programme

Electronics & Telecommunication Engg. Department of the BIT Durg is an approved Research Centre for pursuing Ph.D programme. The Department has well equipped Laboratories for pursuing research in the area of Communication, Signal Processing, Instrumentation, Controls, VLSI and Embedded Systems. The Department also has a Texas Instruments Innovation Centre for pursuing and performing innovative projects.

The Department has 3 approved supervisors for Ph.D programme. They have to their credit more than 20 SCI/SCOPUS publications in the last three years. They are also reviewers of many reputed national/international Journals.



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Manisha Sharma	Professor, TPO & Dean	M. E., Ph. D.
2.	Dr. Naveen Kumar Dewangan	Professor & Head	M. Tech., Ph. D.
3.	Dr. Arun Kumar	Professor	M. Tech., Ph. D.
4.	Shri R. M. Potdar	Associate Professor	M. Tech.
5.	Shri Anil Kumar Mishra	Associate Professor	M. Tech.
6.	Mrs. Vinni Sharma	Associate Professor	M. Tech.
7.	Mrs. Swati Agrawal	Associate Professor	M. S.
8.	Mrs. K. Uma	Associate Professor	M. Tech.
9.	Mrs. Tanuja Kashyap	Associate Professor	M. E.
10.	Mrs. Kiran Dewangan	Assistant Professor	M. Tech.
11.	Shri Amar Kumar Dey	Assistant Professor	M.Tech.
12.	Mrs. Ekta Tamrakar	Assistant Professor	M. E.
13.	Mrs. Suchitra Pandey	Assistant Professor	M. Tech.
14.	Shri Prabhakar	Assistant Professor	M. Tech.
15.	Ms. Megha Sahu	Assistant Professor	M. Tech.
16.	Shri Duddu Reynolds	Assistant Professor	M. Tech.
17.	Shri Utkarsh Sharma	Assistant Professor	M. Tech.
18.	Shri Pushpendra Singh	Assistant Professor	M. Tech.
19.	Mrs. Neha Singh	Assistant Professor	M. Tech.
20.	Mrs. Dolly Gautam	Asstt. Prof. (Adhoc)	M. Tech.



# Computer Science and Engineering

Courses offered by the Department

Name of the Course	Level	Intake
B.Tech (Computer Science and Engineering)	Undergraduate	120
M. Tech. (Computer Network)	Post Graduate	18
M. Tech.(Data Science)	Post Graduate	18
Ph. D.		



## About the Department

The Department of Computer Science and Engineering was established in 1998. The department offers B.Tech. in Computer Sc. and Engineering, M.Tech (Data Science), M.Tech (Computer Networks) and Ph.D. in various specializations of the discipline. The backbone of the department is quality research, experienced faculty members and latest infrastructure. B.Tech (CSE) programme of the department is accredited by the National Board of Accreditation (NBA), India, first time in 2012 for three years and second time for the academic years 2017-18 to 2019-20 (3 years), which is extended up to 2023-24.

## Vision

To provide cutting edge learning environment and nurture talent to produce world class computer professionals with ethical values who could excel in industry and research.

## Mission

1. Promote peace, prosperity and growth in society by producing competent computer professionals with strong ethics, leadership qualities and entrepreneurial skills.
2. Inculcate professional behaviour, research of international quality and continuous learning skills in students through quality teaching-learning process.
3. Support the professional development of all faculty members in the areas of teaching and research.
4. Infrastructure up gradation in sync with emerging technologies.

## Under Graduate Programme - B.Tech (Computer Science and Engineering)

### Program Educational Objectives of B.Tech (Computer Science and Engineering)

- PEO1:** Engineering Ethos: To provide student graduate with sufficient capabilities to prepare them for industry and higher education.
- PEO2:** Domain prospects: Graduates are prepared to apply technical computing skills with strong logic for successfully executing software /hardware related projects to meet global customer requirements.
- PEO3:** Diversification: To promote among students the ability to gain multidisciplinary knowledge through projects and industrial training leading to a sustainable competitive edge in research and development.
- PEO4:** Learning Environment: To inculcate in students, self-sustained learning capability to serve the society at large.

### Program Specific Outcomes of B.Tech (Computer Science and Engineering)

- PSO1:** Visualization: Visualize the solutions for problems and apply the tools and techniques to design, code, test, debug and implement user friendly systems.
- PSO2:** System Development and Design: Research upon methodologies and apply emerging technologies in order to design new systems or refine the existing systems.

**PSO3:** Societal Impact: Able to exploit managerial skills both at individual levels and as team work to implement systems in multidisciplinary realms for societal development.

**PSO4:** Presentation and Entrepreneurial Skills: Communicate and present systems, research and entrepreneurial efforts effectively to the end users.

## Scope of Employment

- In Software industry in India and abroad as Project Managers, Software Developers, Hardware Engineers, System Designer, System Analyst, Networking Engineers, DBA, Software Testers, Security analyst, HR Managers etc.
- In research organizations
- In Central/State Government Departments as computer professionals
- As Entrepreneurs.

## Programme Content

### Core Courses

**3rd Sem:** Mathematics-III, Principles of Programming Languages, Data Structure & Algorithms, Digital Electronics, Software Laboratory ( SciLab/ MATLAB), Soft Skills & Personality Development

**4th Sem:** Computational Mathematics, Discrete Structures, Data Structures, Computer Systems Architecture, Object Oriented Concepts & Programming using C++, Operating System, Health , Hygiene and Yoga.

**5th Sem:** Microprocessor and Interfaces, Analysis and Design of Algorithms, Programming in Java, Theory of Computation, Unix & Shell Programming, Database Management System.

**6th Sem:** Computer Networks, Compiler Design, Enterprise Resource Planning, Software Engineering & Project Management, Computer Graphics, Managerial Skills.

**7th Sem:** Mobile Computing & Application, Parallel Processor and Computing, Network Programming, Cryptography & Network Security, Innovative & Entrepreneurial Skills.

**8th Sem:** Artificial Intelligence & Expert Systems, Data Mining & Warehousing, Cyber Security, Report Writing & Seminar.

### Elective Courses

**6th Sem: (PE-I)** Digital Signal Processing, Inter-Networking with TCP/IP, Advanced Microprocessors & Micro Controllers, Multimedia & Virtual Reality, Management Information Systems, Advanced Operating System, Advanced Data Base Systems, Object Oriented Modelling & Design.

**7th Sem: (PE-II)** Digital Image Processing, Advanced Computer Architecture, Operation Research, E-Commerce & Strategic IT, Natural Languages Processing, OODBMS, Cloud Computing, Grid Computing.

**8th Sem: (PE-III)** Neural Network & Fuzzy Logic, Distributed Parallel Processing, Distributed Multimedia, Decision Support System, Embedded systems, Real Time Systems, Pattern Recognition, Internet & Multimedia Technology, Software Testing Wireless Networks.

(OPEN Elective-IV) Enterprise Resource Planning, E-Commerce & strategic, Technology Management, Decision Support & Executive Information system, Software Technology, Knowledge Entrepreneurship, Finance Management, Project Planning, Management & Evaluation, Safety Engineering, Bio Informatics, Energy Conservation & Management, Nanotechnology, Intellectual Property Rights, Value Engineering, Disaster Management, Construction Management, Ecology and Sustainable Development, Non-Conventional Energy Sources, Energy Auditing & Management, Managing Innovation & Entrepreneurship, Biometrics, Information Theory & Coding, Supply Chain Management, Internet & Web Technology, Electrical Estimation and Costing, Non-Conventional Energy Sources, Big Data and Hadoop

### Post Graduate Programme - M. Tech (Computer Networks)

The M. Tech (Computer Networks) is a two year program introduced in 2015 with an intake of 18 students. Students spent three semesters are studying different subjects related to computer networks. Preliminary project work starts in the third semester and the fourth semester is completely allocated for project. The project typically has a strong research component.

### Program Educational Objectives of M.Tech (Computer Networks)

- PEO1:** To produce networking engineers who are able to apply knowledge of computer networks and engineering to evaluate, analyze and synthesize existing and new complex networking problems.
- PEO2:** To provide sufficient depth in computer networking, confidence, professionalism, ethics and experience necessary for successful careers in Computer Networks and related fields.
- PEO3:** Students are prepared to pursue research career in advanced areas of Computer Networks, Network Security, Cloud computing and related areas.

### Program Specific Outcomes of M.Tech (Computer Networks)

- PSO1: Professional Skills:** Able to apply concepts of computer networks and communication protocols to all combinations of data communication devices and computer systems.
- PSO2: Multi-dimensional Prospects:** Able to explore diversified scopes of networking solutions in real-time computing environments across the globe.

**PSO3: Continuous Learning:** Able to participate in real business world networking solutions, having incubated with continuous problem and project-based learning skills with increasing confidence levels.

**PSO4: Career Prospects:** Able to groom their research and development career in role of networking professionals.

### Scope of Employment

- In Software industry in India and abroad as Project Managers, Software Developers, Hardware Engineers, System Designer, System Analyst, Networking Engineers, DBA, Software Testers, Security analyst, HR Managers etc.
- In research organizations
- In Central/State Government Departments as computer professionals
- As Entrepreneurs.

### Programme Content

#### Core Courses

**1st Sem:** Big Data Analytics, Statistical Computing, Next Generation Database Prediction analytic.

**2nd Sem:** High Performance Computing, Applied Multivariate Analysis, Machine Learning, Internet of Things.

**3rd Sem:** Data Security, Preliminary Work on Dissertation and Technical Seminar.

**4th Sem:** Dissertation + Seminar + Viva Voce.

#### Elective Courses

**1st Sem:** Data mining & warehousing, Cloud Computer and Virtualization, optimization methods, Probabilistic Graphical model, mobile computing.

**2nd Sem:** Artificial Intelligence, Information retrieval, Image and video analytics, E Technology Social Networking and mining.

**3rd Sem:** Network Language Computing, Web Intelligence, Bio informatics, Social Media Analytics, Deep learning.

### Ph. D (Computer Science and Engineering)

Department is recognized as Research Center For offering PhD program in Computer Science and Engineering by Chhattisgarh Swami Vivekananda Technical University, Bilai. The programme focuses on original research that can lead to publications in premier conferences or journals. Students are required to do some courses in the first semester and then move on completely to research.

#### Laboratories:

The Department has the following laboratories:

**1. Computer Lab 1:** 32 Systems. Lenovo Think centre Desktop 4th Gen/Core I3, 8GB RAM, 1TB HDD, 18.5" monitor.

**Software:** Dual booted with Windows and Linux. Oracle server & client, Net beans, Visual Studio, Visual prolog, MATLAB and all required Open Sources Software installed

**2. Computer Lab 2:** 32 Systems. Lenovo 6th Gen core I5 Processor, 8GB RAM, 1TB HDD, 19.5" monitor, NVIDIA graphics card GT170/GT730 2GB DDR

**Software:** Dual booted with Windows and Linux. Oracle server & client, Net beans, Visual Studio, Visual prolog, MATLAB and all required Open Sources Software installed



3. **Software Technology Laboratory** : 44 systems. Lenovo Think centre Desktop 4th Gen/Core I3 , 8GB RAM, 1TB HDD, 18.5" monitor  
**Software:** Dual booted with Windows and Linux. Oracle server & client, Net beans , Visual Studio, Visual prolog, MATLAB and all required Open Sources Software installed, NET Sim and all required Open Sources Software, NS2, Wireshark and TCP dump
4. **Data & Network Security Laboratory** : 40 laptops. Lenevo Thinkpad core I5/8th Gen/8GB RAM/1TB HDD, IRIS Processor/Radio Boards (XM2110), Prototype/Data Acquisition Boards (MDA100), USB PC Interface Boards (MIB520), Crimping & Punching tools  
**Software:** QualNet Simulator Lan Trainer kit (Wired and Wireless), NET SIM Academic upgrade 35 - user, Qual Net System Level Simulator, LAN Trainer Kit LT-01 (TETCOS).
5. **Computer Hardware Laboratory** : Computer Hardware Trainer, Computer Peripheral Trainer, Notebook Computer Trainer, Motherboard Trainer with CPU, Hard disk Trainer, SMPS Power supply Trainer, Color Monitor Trainer, Digital Multimeter, Pen Drive / Flash Drive Trainer Sigma Make, LCD Monitor Trainer, Keyboard Trainer, Mouse Trainer and 08 systems.
6. Basic Electronics Laboratory(Shared with Elex Deptt.) : Oscilloscope, Scientific power supply multimeter, diode, transistor, FET.
7. Digital Electronics & Logic Design Laboratory: 40 Raspberry Pi Kits, 25 IOT Kits and all types of Sensors.
8. Microprocessor Laboratory (Shared with Elex Deptt.) : IDE 8085 Simulator, IDE 8086 Simulator, Dyna 8085 Kit, Dyna 8086 Kit, HIL 2962 RAM Programmer
9. R & D Laboratory: 03 workstations and 07 systems : workstation server/P410/intel c612 chipset/oct-core processor/1TB HDD/16GB RAM.
10. PG/D-Link Laboratory: 14 systems. Lenovo 7th Gen core I5 Processor , 8GB RAM, 1TB HDD, 19.5" monitor, NVIDIA graphics card GT710/2GB DDR, switches, access points, routers, MATLAB R2018B, HD IR Outdoor Network Camera, 2 Bay Professional Network video recorder, Wireless H.264 Day and Night Pan Camera DCS-5020L.

### Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Arpana Rawal	Professor	M.Tech., Ph. D.
2.	Dr. (Mrs.) M.V. Padmavati	Professor & Head	MCA, Ph.D.
3.	Dr. (Mrs.) Sunita Soni	Professor	MCA, Ph. D
4.	Dr. Partha Roy	Associate Professor	M. E., Ph. D
5.	Shri Deviprasad Mishra	Associate Professor	M. E.
6.	Shri Ashok Kumar Behera	Associate Professor	MCA, M.E.
7.	Shri Sumit Kumar Sar	Associate Professor	M. Tech.
8.	Shri Sudip Kumar Bhattacharya	Associate Professor	M. Sc., ME
9.	Shri Saurabh Singh	Associate Professor	M. E.
10.	Dr. Pawan Kumar Patnaik	Associate Professor	MCA, M.E., Ph. D.
11.	Shri Shankha De	Associate Professor	M. E.
12.	Shri Vivek Parganiha	Associate Professor	M. Tech.
13.	Mrs. Monika A. Arya	Assistant Professor	M. Tech.
14.	Shri Dinesh Kumar Bhawnani	Assistant Professor	M. E.
15.	Shri Kaushal Kumar Sinha	Assistant Professor	M. E.
16.	Shri Kauleshwar Prasad	Assistant Professor	M. E.
17.	Shri Shiv Dutta Mishra	Assistant Professor	M. E.
18.	Shri N. Chiranjeeva Rao	Assistant Professor	MCA, M. Tech.
19.	Mrs. Monika Parganiha	Assistant Professor	M. Tech.
20.	Shri Abhishek Kumar Singh	Assistant Professor	M. E.
21.	Mrs. Chaitali Choudhary	Assistant Professor	M. Tech.
22.	Shri Sargam Gupta	Assistant Professor	M. Tech.
23.	Shri Sunil Kumar Naik	Assistant Professor	MCA, M. Tech.
24.	Mrs. Nikita Ahuja	Asstt. Prof. (Adhoc)	M. Tech.

# Information Technology

Courses offered by the Department

Name of the Course	Level	Intake
B.Tech. (Information Technology)	Undergraduate	60
M.Tech. (E-Security)	Post Graduate	9



## About the Department

The course helps the students to meet the hardware aspects of computers with an in-depth knowledge of the software. The stretch of real time requirements and the technical knowhow has created immense requirements for the professionals in the field of Information Technology. The Department of Information Technology was established in the year 2000. The Four year degree course is accredited by NBA, All India Council for Technical Education. It was earlier affiliated to Pt. Ravishankar Shukla University since 2000, followed by affiliation to Chhattisgarh Swami Vivekananda University since 2005. The Sanctioned intake of 40 candidates in the year 2000 gradually grew into 60 from the year 2001 onwards. The syllabi of the semesters are modified in regular time intervals by a committed team of experts nominated at the University level. The faculty is pursuing doctoral courses in the research realms of Machine Learning, Natural Language Processing, Information Security and Microwave Communications.

The Department has tie-ups with the Raspberry Pi Foundation, UK and the Arduino Crew, UK and conducts Raspberry Jam and Arduino Day events every year, in collaboration with them. Every year the students participate and win positions at national level in Smart India Hackathon by Gov. of India for both Hardware and Software sections. The IEEE Computer Society chapter of IT Department organizes and participates in various conferences in collaboration with IITs at national level. The students have achieved four Copyrights for software from Gov. of India and two Start-up establishments in our Incubation Centre is under process. The erudite faculty members mentor all these projects. The course focuses on outpouring technical competence to students to work in IT sector, to engage them in life-long learning, to make them communicate effectively, and to exhibit leadership skills.

### Vision

To produce efficient, skilled IT engineers and entrepreneurs, contributing to research and development of the nation.

### Mission

To attain academic excellence and entrepreneurship skills through exposure to real time projects and research activities by experienced faculty and good infrastructure.

- **M1** To attain academic excellence for fulfilling local and global changing needs through student-centric learning methodologies.
- **M2** Exposure of students to real time projects and research activities through industry-institute interaction
- **M3** To develop entrepreneurship skills and ethical values

### Under graduate programme: B.Tech. (Information Technology)

#### Programme Educational Objectives (PEOs)

- PEO1:** To enable Graduates to employ Information Technology for Modern Engineering applications in context of Quality, Security and Cost effectiveness.
- PEO2:** Able to correlate Basic Sciences with Engineering and applying the knowledge in Multi-disciplinary Technologies.
- PEO3:** To nurture Professional Ethics and inculcate Lifelong learning according to Environmental and Societal context.

#### Programme Specific Outcomes (PSOs)

- PSO1:** The ability to analyze the problems and develop real time solutions using innovative methods and open-ended programming environments to deliver high quality products.
- PSO2:** To demonstrate the knowledge of computer networks, communications, operating systems, and hardware technologies.
- PSO3:** To inculcate effective communication skills, soft skills and Information Management Techniques.

#### Scope for Employment

- Graduates after doing this program get placed in organizations like Google, Microsoft, Oracle, IBM, Accenture, TCS, Infosys, Cisco, Intel, Honeywell, Deloitte, etc.
- Intellectually capable and imaginatively ready leaders in a varied range of professions requiring creativeness.
- Contribution to development of India and the World by providing valid solutions to real life multifaceted problems.
- Design solutions for complex engineering problems by applying knowledge of Computing, Mathematics, Science and Engineering
- Design easy to use systems that meet the essential needs of individuals with cultural, societal and environmental contemplations.
- Play an effective role as an individual, a team member or a group leader in diverse multidisciplinary teams.
- Communicate effectively on complex engineering activities with the engineering community such as writing effective reports, documentation design and make abstract presentations.
- Demonstrate integrity and awareness of the engineering and management principles and apply these to manage projects.

#### Programme Content

##### Core Courses

The Core Course includes Mathematics-III, Discrete Structures, Basic Electronics & Network Theory, Concepts of IT & Web Technology, Problem Solving & Logic Building using C, Digital Electronics and Logic Design, Computer Networks, Data Structures and Algorithm Analysis, Analog Electronics Circuits, Object Oriented Concepts & Programming using C++, Computer Organization and Architecture, Microprocessor & Interfaces, Principles of Communication system, DBMS, OS, Java, TOC, Web Application Development, Information Theory & Coding, UNIX & Shell Programming, Computer Graphics & Animation, Data Mining & Warehousing, MIS, Artificial Intelligence & Expert Systems, Cryptography & Network Security, ERP, Mobile Computing and Application and Cyber Security.

##### Elective Courses

The Elective Courses includes Neural Network & Fuzzy Logic, Distributed Parallel Processing, Decision Support System, Real Time Systems, Software Testing, Software Technology, Knowledge Entrepreneurship, Project Planning, Management & Evaluation, Energy Conservation & Management, Nanotechnology, Big Data and Hadoop, Internet & Web Technology, Digital Image Processing, Operation Research, OODBMS, Advanced Database Management System and more valuable subject includes in elective courses.

### Laboratories

The Department provides all necessary facilities to its students and faculty like: Well-equipped Computer center with latest IBM Servers & PC's, Scanners, Printers, CD-Writers etc. on a single LAN with broadband internet facility. Various specialized Laboratory like Network Security Lab, Artificial Intelligence & Expert Systems Lab, Android Lab, Mobile Application Development Lab (J2ME), Simulation Lab, Software Technology Lab, Basic Electronics & Network Theory Lab, Digital Electronic and Logic Design Lab, Microprocessor Lab etc. provides opportunities to students to work on projects in the department and industry. Departmental library facility caters to the need of the students.

### Softwares

There are many available software and the location of the lab where the software is installed. Like Windows 2010, Microsoft Office 2010, Ubuntu, .NET, Java, Oracle etc.

### Post Graduate Programme : M.Tech (E-Security)

#### Program Educational Objectives (PEOs)

- To prepare graduates who will be successful professionals in industry, government, academia, research, entrepreneurial pursuit and consulting firms
- To prepare graduates who will contribute to society as broadly educated, expressive, ethical and responsible citizens with proven expertise
- To prepare graduates who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, research, design and implementation skills
- To prepare graduates who will thrive to pursue life-long reflective learning to fulfill their goals

#### Program Specific Outcomes (PSOs)

- PSO1:** An ability to state, design and implement a secure and reliable information communication system by using concepts of computer networks, network security, information theory and parallel algorithm.
- PSO2:** An ability to state, design and implement knowledge based discovery and machine based learning in computer system by using the various concepts of data security, network system architecture, cryptography and security threats in wireless network.
- PSO3:** Ability to analyze and design an efficient information management system which uses the concepts & tools of databases and information coding and deliver technological solutions for the end users.

#### Scope for Employment

- Information system security officer.
- Network security administrator.
- IT auditor, system security engineer.
- Information and communication security specialist.
- IT Security Analyst.

- Information Governance officer.
- Information assurance engineer.
- Information assurance analyst.
- Academician or research person.

### Programme Content

#### Core Courses

The Core Course includes Mathematical Foundation of Information Security, Network System Architecture, Data and Knowledge Security, Coding Techniques for Secure Transaction, Trusted Internet, Business Ethics and Cyber Laws, Advanced Cryptography, Security Threats and Management, Information Assurance & Cyber Security.

#### Elective Courses

The Elective Courses includes Security Issues In Operating System, Distributed Systems, E-Commerce & Web Security, Mobile Wireless Security, Grid Computing, Steganography & Water Marking, Biometrics Security, Security Issues in Wireless Adhoc Network, Cloud Computing.

### Laboratories

The department provides all necessary facilities to its students and faculty like: Well-equipped Computer center with latest IBM Servers & PC's, Scanners, Printers, CD-Writers etc. on a single LAN with broadband internet facility. Various specialized Laboratory like Data & Knowledge Security Laboratory, Network Simulation Laboratory, Secure Operating System Laboratory, Image Processing & Security Laboratory. provides opportunities to students to work on projects in the department and industry. Departmental library facility caters to the need of the students.

### Software

There are many available software and the location of the lab where the software is installed. Like Windows 2010, Microsoft Office 2010, Ubuntu, .NET, Java, Oracle, Net-Sim, Netbeans, etc.



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Ani Thomas	Professor & Head	MCA, Ph.D
2.	Dr. (Mrs.) Jyothi Pillai	Professor	MCA, Ph. D
3.	Shri Vikas Pandey	Associate Professor	M. E.
4.	Shri Rajiv Pathak	Associate Professor	M. E.
5.	Mrs. K. Subhashini Spurjeon	Assistant Professor	M. Tech.
6.	Mrs. Babita Verma	Assistant Professor	M. E.
7.	Shri Amrendra Kumar Singh	Assistant Professor	M. E.
8.	Shri Toshant Kumar	Assistant Professor	M. Tech.
9.	Shri Sarang Pitale	Assistant Professor	M. E.
10.	Shri Raj Kumar Singh	Assistant Professor	M. E.
11.	Shri Padmadhar Mishra	Assistant Professor	M. Tech.
12.	Mrs. Gargi Mishra	Assistant Professor	M. Tech.
13.	Ms. Priyanka Lohe	Asstt. Prof. (Adhoc)	M. Tech.



# Electrical & Electronics Engineering

## Courses offered by the Department

Name of the Course	Level	Intake
B.Tech. (Electrical & Electronics Engineering)	Undergraduate	60
M.Tech. (Electrical Power & Energy System)	Post Graduate	18



## About the department

The Department of Electrical and Electronics Engineering was incepted in the year 2007. The department offers an effective curriculum which is a judicious mixture of Electrical Engineering and Electronics Engineering. This course enables students to imbibe concepts of two vital fields of technology in one course. The course also addresses management related subjects and computer programming based subjects to ensure overall development of the students so as to prepare them to be competent to meet the needs of Industry.

The department currently runs two courses: B. Tech Electrical and Electronics Engineering with an intake of 60 seats and M. Tech in Electrical Power and Energy System with an intake of 18 seats. The department has a dedicated, qualified faculty and staff who extend an ambience of effective teaching and learning. The faculty of the department support R&D activities like paper publications, guidance to post graduate and Ph.D. candidates. The department has well established and equipped laboratories to cater to the needs of the present day syllabus. Software packages viz., MATLAB, Turbo C, C++, MULTISIM, PROTEUS and various simulators are available at the computer center of the department. The department has a good WI-FI connectivity and Internet facility. Apart from the central library, the department has well equipped departmental library.

The department has a student association named Electrical and Electronics Engineering Student Association EEESA. The activities of the association include extra, co-curricular and technical activities to inculcate creativity, 'out of the box' thinking and integrity among students of Electrical and Electronics Engineering. A quarterly departmental News Letter, 'Communique' is also published.

The department of Electrical and Electronics Engineering is one among the NBA accredited departments of the Institute.

### Vision

To impart education and transform students into competent professionals in Electrical and Electronics Engineering to excel in various challenges to serve the society.

### Mission

To provide excellent infrastructure, competent faculty members, disciplined ambience with rich ethical values, to assimilate Engineering knowledge and transform into efficient professionals by inculcating perpetuated learning to cope with the challenges in research and industry.

## Under graduate programme: B.Tech (Electrical & Electronics Engineering)

### Program Educational Objectives (PEOs)

- PEO 1:** Understand and apply the necessary concepts of core subjects in the field of Electrical & Electronics for engineering practice.
- PEO 2:** Perform in multidisciplinary environment and design innovative systems to benefit the needs of R&D and industries.
- PEO 3:** Emerge as a responsible individual with a sense of eco friendliness, social and professional ethics.
- PEO 4:** Prepare for higher studies and flourish technically through life-long learning to adapt new technology in engineering for the development of the society.

## Program Specific Outcomes (PSOs)

- PSO1:** A strong foundation of the fundamentals in mathematics, science, data interpretation, application and analysis of the results in the field of Electrical and Electronics Engineering.
- PSO2:** A capability to comprehend the courses related to electric circuits and networks, Measurements and Instrumentation, Electrical Machines, Electronic circuits and devices, communication systems, Control Systems and Drives, to solve engineering problems with the aid of state of art components and Software tools.
- PSO3:** An ability to identify, architect and analyze power systems that enable generation, transmission and distribution of electrical power efficiently with the aid of modern power electronic devices, computer aided design and soft computing techniques.
- PSO4:** An understanding of architecture, programming of Microprocessors, Micro controllers, Embedded systems and their applications.

## Scope for employment

A Graduate in Electrical and Electronics Engineering can go for jobs in diverse fields whether it is PSU Job, Core Sectors like Construction & Steel industries, oil and natural gas industries, Railways, IT Industry, Electronics Design, Automotive and Control Industries, Electrical Power Generation, distribution and Energy management industries, Manufacturing, Marketing and Business Management Industries and a myriad of Profiles like Business Development Associates, Development Manager, etc. It gives eligibility to Write UPSC IES (Indian Engineering Services), Opt for Electrical Engineering paper or Electronics Engineering in competitive exams like GATE. A graduate of this branch can have opportunities to work with Research and development organizations as well.



### Programme content

Department of Electrical and Electronics has excellent curriculum which is an amalgam of the following core and elective courses

#### Core courses

Electric circuits and Networks, Electromagnetic Theory, Measurements and Instrumentation, Electrical Machines, Electronic circuits and devices, Digital Electronics and design, Integrated Circuits and Applications, Signals and Systems, Digital Signal Processing, Power Electronics, Switch gear and Protection, Communication systems, Control Systems and Electrical Drives, Soft Computing, Power systems, Microprocessor and Microcontrollers, High Voltage, etc.

#### Elective courses

Medical Electronics, Computer Organization and Architecture, Testing & Commissioning of Electrical Equipments, Simulation & Programming, Distributed Generation, Power Apparatus System, Illumination Engineering, Digital Image Processing, Fiber optics, Industrial Automation, Electrical Machine Design, EHV AC & DC Transmission, Power Quality, VLSI Design, Smart Grid Systems, Energy Auditing & Management, Non Conventional Energy Sources, etc.

#### Laboratories

The department has established many laboratories to cater to the needs of the present day syllabus. The department has

- Microprocessor Laboratory
- Microcontroller laboratory
- Linear integrated circuits and applications laboratory
- Digital Electronics laboratory
- Advanced Electronics laboratory
- Analog Electronics laboratory
- Digital signal processing laboratory and
- Computer center
- Power system laboratory
- Electrical machines laboratory
- Electrical measurements laboratory
- Basic Electronics Laboratory
- Control System Laboratory
- High voltage laboratory and
- Power electronics lab etc.,

Many of the laboratories are commonly shared with the department of Electrical Engineering.

#### Softwares

Software packages available in the department are MATLAB/ SIMULINK/ MULTISIM/ Proteus Design Suite/ Turbo C and various simulators for microprocessors and micro controllers are available at the computer center of the department.

The department has Wi-Fi facility and has internet facility at the computer center.

### Post Graduate Programme

#### M.Tech (EEE) Electrical Power & Energy System

Department of Electrical and Electronics has excellent curriculum which is an amalgam of the following core and elective courses

#### Programme Educational Objective (PEO)

- PEO 1:** To apply concepts of basic sciences and engineering to solve problems pertaining to electrical power and energy system and pursue research.
- PEO 2:** To develop optimum solutions to the challenging problems in power and energy sectors with professional and social responsibility.
- PEO 3:** To inculcate ethical attitude teamwork, effective communication skills, multidisciplinary approach and adapt recent trends to cater to the needs of R&D and industries.
- PEO 4:** To excel in entrepreneurship, leadership and demonstrate life-long learning with independent and innovative thinking.

#### Program Specific Outcomes (PSOs)

- PSO 1: To apply basic concepts and fundamental knowledge of electrical power and energy system to identify, investigate and solve relevant real life problems.
- PSO 2: To develop a capability to comprehend the courses related to electrical power and energy system, power system protection, Reliability of electrical energy, distributed system engineering, power system security, Grid integration of wind energy and power system modeling, to design, simulate and analyze various engineering problems with the aid of state of art components and Software tools.
- PSO 3: To analyze, design and assess the performance of Electrical Power Systems that efficiently generate, transmit, distribute, convert and utilize electrical power with the help of modern instrumentation, microcontroller based design.

#### Scope of Employment

- Power and Energy Engineers in various industries
- Energy Auditors
- Research organizations
- Energy or Power Manager Professionals
- Energy Analyst
- Consulting Manager in power Distribution/Utilities Sector
- Energy, power Software Engineer
- Environmental and Social Expert in Renewable Energy Sector
- Project Manager in Power Sector

## Programme Content

### Core Courses

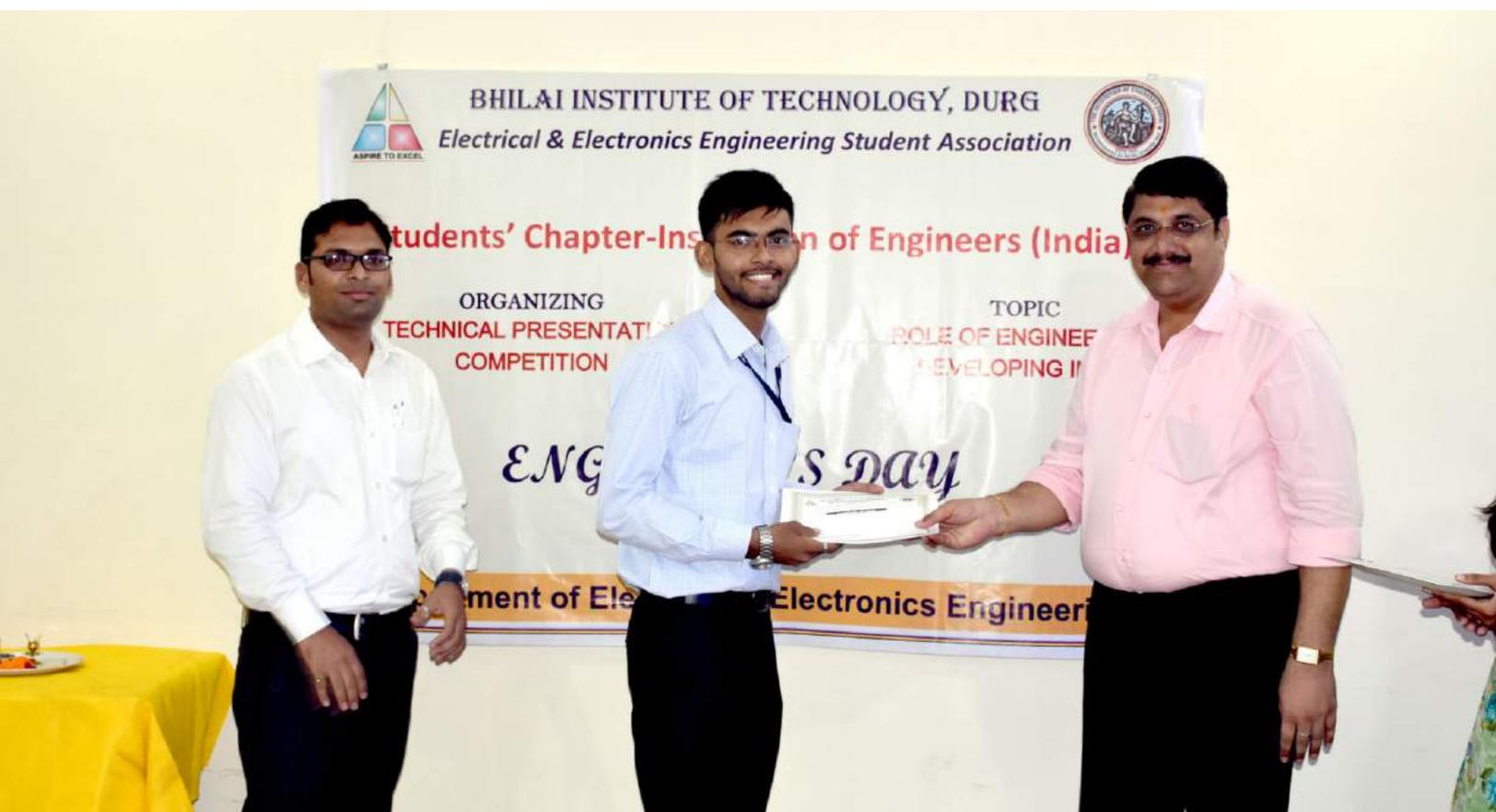
Advanced Power System Protection, Energy Conversion Systems, Advanced Control Systems, Reliability of Energy Systems, Grid Integration of Wind Energy, Microcontroller System Design, Power System Modeling and Analysis, Power System Security, Economic and Planning of Energy System.

### Elective Courses

Distribution System Engineering, Power Plant Instrumentation, Power Sector Restructuring & Management, Power System Deregulation, Switched Mode of Power Controllers, Power System Monitoring, Modern Digital Signal Processing, Smart Grid Technology and Applications, Instrumentation and Control in Energy Systems.

## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. Anup Mishra	Professor & Head	M. Tech., Ph. D.
2.	Dr. (Mrs.) Surekha S. Bhusnur	Professor	M. Tech., Ph. D.
3.	Dr. Abhishek Verma	Associate Professor	M. Tech., Ph. D.
4.	Shri Mousam Sharma	Assistant Professor	MBA, M. Tech.
5.	Shri Mukesh Kumar Chandrakar	Assistant Professor	M. Tech.
6.	Shri Abhishek Kumar Agrawal	Assistant Professor	M. Tech.
7.	Mrs. Alka Mishra	Assistant Professor	M. Tech.
8.	Shri Abhijeet Lal	Assistant Professor	M. Tech.
9.	Mrs. Naushin Anjum	Assistant Professor	M. Tech.
10.	Shri Brahma Nand Thakur	Assistant Professor	M. Tech.
11.	Mrs. Ritu Tripathi	Asstt. Prof. (Adhoc)	M. Tech.



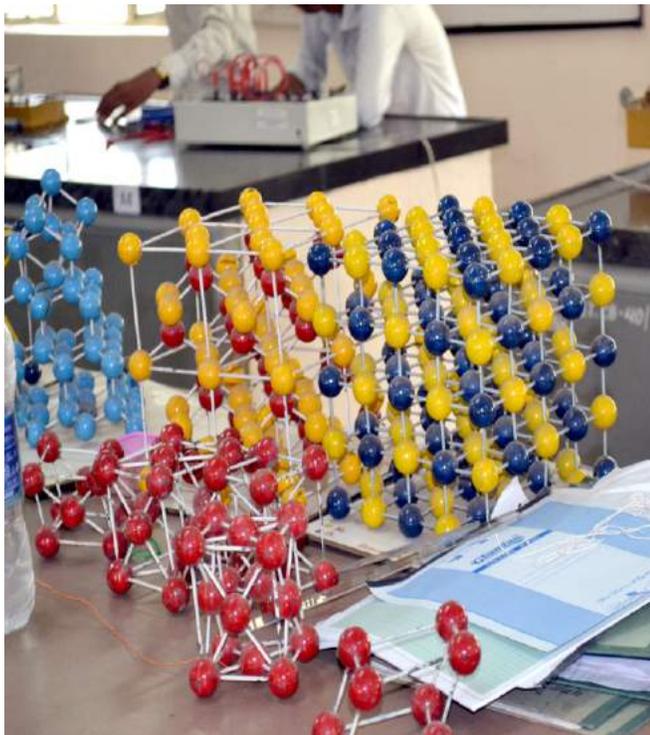
# Department of Applied Sciences & Humanities

Course Offered - Ph. D.

Under this division, we have the following Departments.



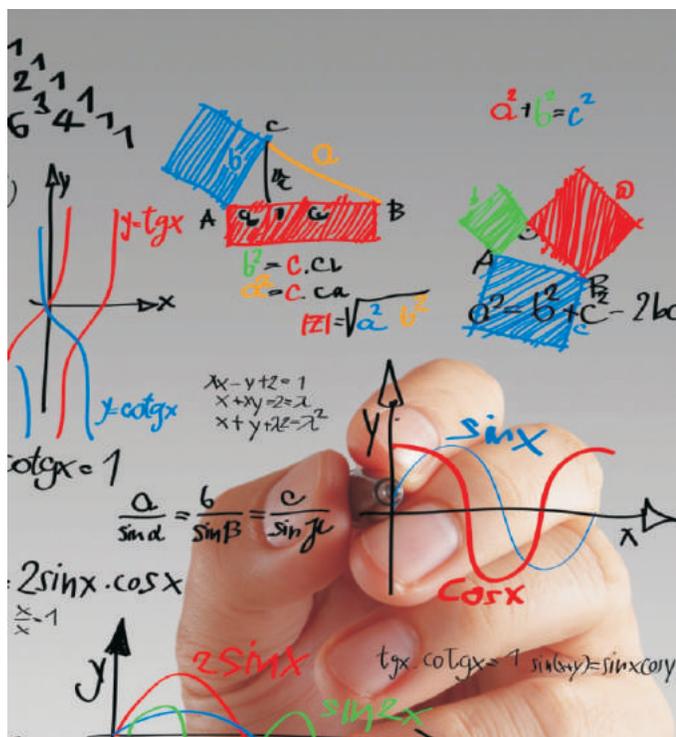
## Department of Applied Physics



## Department of Applied Chemistry



## Department of Applied Mathematics



## Department of Humanities



# Department of Applied Physics

## About The Department

The department was conceived in the year 1986 along with the inception of the Institute with an aim to provide scopes to build the foundation stones for higher studies in Engineering and other allied fields. The department has laboratory equipped with modern experimental kits and computational facilities for general physics lab, modern physics lab and optics lab. In the optics lab, facilities for live demonstration of geometrical optics and wave optics phenomenon are available. The research areas currently in progress in the Department are: (a) Nano materials (b) Synthesis of materials in the form of thin films and powder (c) Structural characterization (d) Optical characterization (e) Photoconductivity measurement (f) Luminescence Studies (g) Electrical properties and (h) Medical Physics.

Faculty members of the department are actively engaged in research, consultancy and project works. All the members also attended academic programmes conducted by national and international level institutes. The department organized many academic programmes and conferences. Besides a large number of research papers which are published in international and national journals, some text books have also been published which are used internationally. Members of the faculty also act as reviewers of reputed journals and resource persons for university activities. They hold responsible positions in the Institute and in the University.

## Objectives

- Quality and continuous improvement. The faculty members of the department are committed towards improving the knowledge, skills, and abilities by availing opportunities for professional development and achievement.
- To promote ethical and responsible behaviour among the students
- To engage in research, consulting services, and related activities that address the needs of the applied physics.

## LABORATORIES :

### Applied Physics lab (For BE students)

Laser optics lab, Optical Fiber Experimental Kit, CRO, Photoconductivity Kit, Function Generator, Spectrometer with imported grating, Lattice Dynamic Kit, Composite Piezo-Electric oscillator, Power Supply, Deflection Magnetometer, Forbidden Energy Gap Kit, Stoke & Poissuielle Method for Viscosity, Callender & Barnes Calorimeter, Logic Gates kit, Carry Foster's Bridge, Meter Bridge, e/m by Thompson's Method Kit, Telescope, Traveling Microscope, Nodal slide assembly, Newton's Ring apparatus, Optical Bench, Bi-Prism assembly, Sonometer, Potentiometer, Vibration Magnetometer, Bar Pendulum, Fly Wheel, Photocell, Transistor & Diode Characteristics, Comparison of E.M.F., Bar Pendulum, Jaeger's Apparatus, Thermal Conductivity Measurement etc.

### Applied Physics Research Lab (For Ph.D. Students)

Spin coating unit for preparation of thin films, Ball Mill apparatus, Centrifuge machine, Electronic Single Pan Balance, Water Bath, Triple Distillation Unit, Ultrasonic Cleaner, Magnetic Rotor, Digital pH Meter & Conductivity Meter, Magnetic Stirrer(With Hot Plate), Slide Boxes, UV Double Beam Spectrophotometer(With Software), , Photoconductivity Measurement Unit , Michelson Interferometer, Lux Meter, Monochromatic Sodium Light Source, Mercury Lamp, Hall Effect Kit, Digital Multimeter, Four Probe Method, Digital Pico Ammeter, DC Regulated Power Supply, Furnace with Digital Temperature controller, Triple Power Supply, Digital Nano Ammeter, Digital Frequency Meter, Digital Multi meter, Photoluminescence study kit, , Dielectric constant measurement, Mechano luminescence study kit, Optical filters.

## Software

- UV-Spectrophotometer Spectra scan software 6.51(Chemito)
- SES-CAMM Computer aided measurement module for Two probe Experiment, TPX -1.1(SES Instruments Private Ltd.)
- KEITHLEY Source meter model: 2450 KickStart startup software (Techno Scientific Co.)

## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Ruby Das	Professor & Head	M. Sc., M. Phil., Ph.D.
2.	Dr. Samit Tiwari	Professor	M. Sc., Ph.D.
3.	Dr. Rajesh Lalwani	Associate Professor	M.Sc., Ph. D.
4.	Shri C.S. Robinson	Associate Professor	M. Sc.
5.	Dr. Prashant Kumar Sahu	Assistant Professor	M. Sc., Ph. D.
6.	Dr. Raunak Kumar Tamrakar	Assistant Professor	M. Sc., M. Phil, Ph. D.



# Department of Applied Chemistry

## About the Department

Chemistry is an incredibly multidisciplinary Science. As a tool the knowledge of Chemistry enable to distinguish, differentiate, analyze and solve engineering problems. Keeping in view Applied Chemistry is included as a full fledged subject with practical in the curriculum of Engineering to support the institute academically. The Department research has been supported by DST, AICTE, CCOST and CG Medicinal Plant Board. The Department has successfully completed six sponsored project and two are ongoing. Doctoral research is carried out actively in the Department. The major thrust is the area of analytical chemistry, environmental chemistry, surface chemistry, drug and chemical characterization of medicinal plant. Twenty research scholars have already been awarded PhD and presently more than five full-time Ph.D candidates are pursuing their PhD from this Department. The Department is a recognized consultant to Chhattisgarh Environmental Conservation Board, Bhilai Steel Plant, ACC Jamul, South Eastern Coalfields Ltd., NECO Steels, Various Bottled Mineral Water producing companies etc.

## Objectives

- To provide a vibrant atmosphere to the undergraduate students to nurture the spirit of scientific inquiry.
- To prepare doctoral candidates to become independent and creative practitioners of Chemistry.
- To motivate the faculty to develop knowledge and skill.
- To develop wide range of research representing interdisciplinary activities.



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Mrs.) Madhurima Pandey	Professor & Head	M. Sc., Ph.D.
2.	Dr. Santosh Kumar Sar	Professor	M. Sc., Ph.D.
3.	Dr. (Mrs.) Sumita Nair	Associate Professor	M. Sc., Ph.D.
4.	Dr. (Mrs.) Yashu Verma	Assistant Professor	M.Sc., Ph. D.
5.	Mrs. Jagrati Khichariya	Asstt. Prof. (Adhoc)	M. Sc.

## Applied Chemistry Lab

- Titrimetric determination of Iron, Hardness, Alkalinity, Chloride, Calcium, Magnesium
- Bomb calorimeter Toshniwal - Determination of calorific value of fuel
- Redwood Viscometer Aditya - Determination of viscosity of oil
- Penskey Martein Apparatus Aditya - Determination of fire point and flash point of oil samples
- Analytical Balance - For weighing compounds

## Research Lab

- **Flame Photometer ESICO** -  
Determination of Na, K, Ca, Li
- **UV-VIS Spectrophotometer Systronics**  
Determination of various metals
- **Conductivity Meter Systronics**  
Determination of Conductivity
- **pH Meter Elico,**  
Determination of pH of various water sample
- **Turbidity meter Systronics** -  
Determination of turbidity of water samples
- **B.O.D. Incubator MAC**  
Used for BOD Test
- **Atomic Absorption Spectrophotometer Varian**  
Determination of Fe, Cu, Cr, Cd, Zn, Ni, Hg, As, Sb, Mn, U, V, Si, Mg in trace level
- **Respirable Dust Sampler Instrumex**  
Collection of suspended and respirable particulates
- **Stack Monitoring Kit Instrumex**  
Collection of flue gas
- **Ion Selective Electrode**  
Determination of F, CN, I
- **DO meter Elico**  
Measurement of DO
- **Gas Chromatography**  
For organic Compound Analysis

# Department of Applied Mathematics

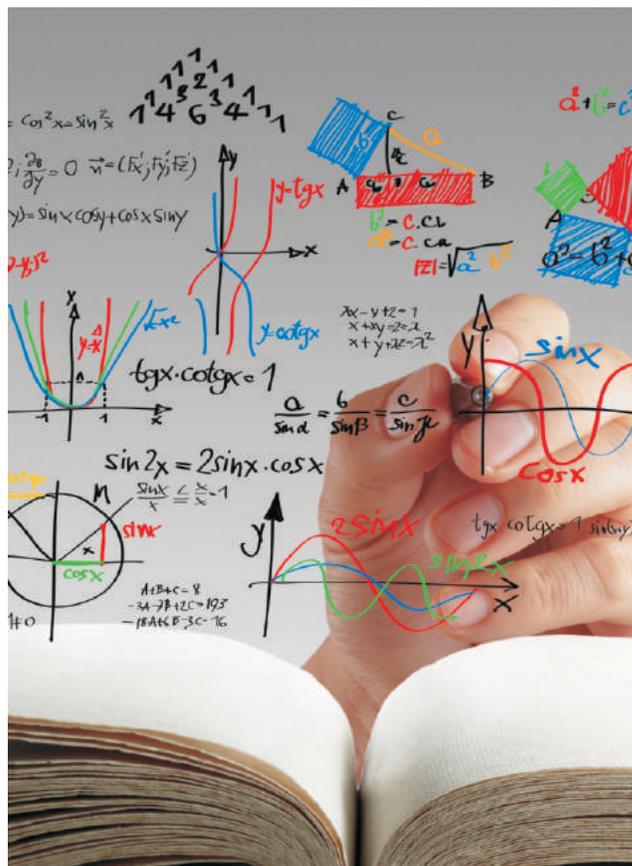
## About The Department

The Department of Applied Mathematics has been carrying out the task of imparting instructions in Mathematics courses in first & second year for B. Tech with a commendable gest. Along with these basic instructions, effort has been put in so that students are more capable in handling competitive exams. The department also teaches the subjects of Mathematics at the Post Graduate level like MBA, MCA and M.Tech programs of the Institute. Highly qualified and dedicated Faculties with reputation for high quality teaching is the good will of the department.

The department has been recognized as a Research Center for carrying out Ph.D Programme. R&D activities under the following topics: Fixed point theory, Celestial Mechanics, General Theory of Relativity, Fuzzy Logic & Operator Theory etc., are undertaken. The faculty members are also engaged in interdisciplinary research activities. The department has a very good number of publications in the form of research papers in International and National Journal of repute and books to its credit.

## Objectives

Committed to provide high quality education in the field of Applied Mathematics through programmed teaching with the state of art implements.



## Faculty List

SI.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. Sanjay Sharma	Professor & Head	M. Sc., Ph.D.
2.	Dr. K. N. Mishra	Professor	M. Sc., M. Phil., Ph.D.
3.	Dr. Nirmal Kumar Singh	Professor	M. Sc., Ph.D.
4.	Dr. Mithilesh Deo Pandey	Associate Professor	M. Sc., Ph.D.
5.	Dr. (Mrs.) Anindita Chakraborty	Associate Professor	M. Sc., Ph.D.
6.	Dr. Anil Kumar Dubey	Associate Professor	M. Sc., Ph. D.
7.	Dr. Gyan Prakash Pandey	Associate Professor	M. Sc., Ph. D.
8.	Mrs. Rupa Rani Dewangan	Assistant Professor	M.Sc., M. Phil., PGDCA
9.	Shri Rajesh Patel	Asstt. Prof. (Adhoc)	M. Sc.
10.	Shri Vaibhav Upadhaya	Asstt. Prof. (Adhoc)	M. Sc.

# Department of Humanities

## About the Department

The department was incepted with an aim to provide strategic inputs to students to face the distinctive challenges of the contemporary era. It was established to orient the relevance and implication of communication skills in the academic and professional environment. The department is unique in that it aims at and aspires to achieve efficiency and efficacy in its purpose. It is devised to infuse methods and measures to the students so that they can draw on to deliver results. The students are offered outstanding educational curriculum in communication skills that takes place in an atmosphere of academic excellence. The educational learning process involves advanced training in theory aided with modern equipments.

The curriculum specifically attempts to equip the students with required conceptual, behavioral and technical skills in connection to various communication situations. Through rigorous training sessions it also offers hands on experience to face and get through various selection procedures like Group Discussions, Personal Interview and other personality tests. The department also finds a place to induce right morals and values in the students that encompass not only work ethics but also the commitment and passion for their profession and society

## Objectives:

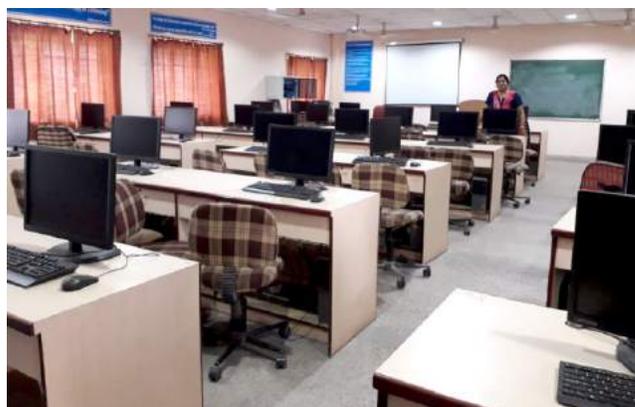
- To provide outstanding educational curriculum in communication skills.
- To familiarize students with the actual implications of the principles and objectives of communication.
- To equip the students with techniques to facilitate effective and constructive communication.
- To orient the students with the conceptual and behavioural skills eventually developing good communication skills.

## Language Lab Software

1. Rosetta Stone Telephoning in English ,Speech Solution, English Mastery from (CLECO, Chennai)
2. Orell Stat-of-the-art fully Computerised Multilingual, Digital Language Lab Licensed Software.

## Language Lab Equipments :

- |                      |      |
|----------------------|------|
| 1. Desktop           | 35+1 |
| 2. Laptops           | 33   |
| 3. LCD Projector     | 1    |
| 4. Webcam            | 1    |
| 5. Mp4 System        | 1    |
| 6. Headsets with Mic | 36   |



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. (Ms.) Anjana M. Sekhar	Associate Prof. & Head	MA, M. Phil., Ph. D.
2.	Dr. (Mrs.) Swarnita Sharma	Assistant Professor	M.A., M. Phil., Ph. D
3.	Mrs. Swapna Sarkar	Asstt. Prof. (Adhoc)	MA, MBA

# Department of Management

## Courses offered by the Department

Name of the Course	Level	Intake
MBA	Post Graduate	120
MBA	Post Graduate	30
Ph. D.		



## About the Department

The Department of Management was established in the year 1999 to offer MBA course as a full time one with an intake capacity of 60 which has been enhanced to 120 in the year 2006. BIT's entire approach to Management education is to create managers with cutting- edge leadership skills and sound knowledge base through effective teaching-learning, training, research, consultancy and networking in the field of management in the most effective manner. The key success factors to become a premier institute in the field of management studies are effective teaching learning process, value based education, R&D activities, consultancy and training.

The attractive features of management programme are semester based system, strict adherence to a time-bound academic calendar and unflinching compliance to AICTE norms, compulsory and comprehensive computer education, strong inputs through case studies.

The department intends to impart education to enhance personality, soft skill, ethical behavior and professional skill by abridging academy-industry gap through industrial visits, guest lectures, networking with institutions and organisations of repute on global basis. The Department offers Ph.D. programme in Management with its liberal multidisciplinary approach, through excellent facilities for research.

### Vision

To create an awareness of complexities of business systems, to provide interactions of the man machine systems, to expose the impact of Economic, Socio and Cultural Factors on organisation and to facilitate the rise of the techno global managers in the present business arena.

### Mission

To develop Professionals & Entrepreneurs for the society and equip them with skill, knowledge, technology so as to manage opportunities and threat in business and industry.

### Program Educational Objective (PEO)

The MBA course is structured to prepare the students to -

- PEO1:** Understand the qualitative and quantitative techniques and tools useful for business analysis and control of national and global environments.
- PEO2:** Explore and develop Economic, Social, Legal and Ethical responsibilities in Business and Society.
- PEO3:** Equip with problem solving skill, knowledge and technology to enhance managerial effectiveness.
- PEO4:** Develop competencies to become researchers, entrepreneurs and management professionals.

### Program Specific Outcomes (PSO)

After the completion of MBA course, the students will be able to-

- PSO1:** Identify the key issues facing a business, utilize qualitative and quantitative methods to explore and solve critical business problems.
- PSO2:** Apply multidisciplinary knowledge gained through research projects, case analysis, and industrial training to emerge as business professionals and entrepreneurs.
- PSO3:** Adapt to dynamic changes in global business environment with an understanding of economic, legal and socio cultural issues relevant to professional managerial practice.
- PSO4:** Demonstrate professional interaction, behavioral qualities, ethical commitment and sense of responsibility towards business and society.

### Scope of Employment

The current economic driven society that we live in today demands the dynamic environment of business and consumerism. To achieve and manage this, all businesses around the world search for MBA. The following basic management functions available and many more for employment:

- **Banking, Finance and Insurance**  
Asset management, Credit Bankers, Risk Management Equity Manager, Treasury management, Insurance Advisors, Hedge Fund Managers etc
- **Information Technology and System Management**  
System Manager, ERP, Project Manager, Quality Testing. Developer etc.
- **Management Consultancy**  
Project Managers, Research Analyst, Planning and Control etc
- **Marketing and Sales**  
Sales manager, Advertising, Media, Retail, Service, Tourism, etc
- **Human Resource Management**  
Personnel Manager, Counsellor- Industrial Relations, Industrial Psychology.
- **Production and Operations Management**  
Production functions, PPC, Supply Chain, Logistic, Inventory management, SQC.
- **Data Analytics**  
Economic Analyst, Data Scientist, Analytics consultant.
- **International Business and Marketing**  
Export Manager, Currency Manager, Foreign Policy Advisor.
- Public Sector Enterprises Management Trainees in all functions
- NGO
- Entrepreneurs and Start-ups

## Programme Content

### Core Courses

The classroom pedagogy involves case study method, group discussion, role-play, business games, and workshops. The students are encouraged to actively participate, and challenge themselves in the learning process. The first year introduces students to the essential models and tools, with a focus on rigorous training in the diverse disciplines in management and the development of a strong foundation of business knowledge and management theory by teaching Behavioral Sciences, Quantitative Techniques, Managerial Economics, Business Communication, Business Legislation, Principles of Management, Business ethics & CSR. The first year concludes with the summer internship program which allows students to explore practical application of management concepts learned through introductory subjects in the field of marketing, finance, human resource management and systems. In the second year, the students decide on their professional development plans by reflecting on their first years learning and summer internship experiences. Our department provides a dual specialization where students can opt among specialization in Finance, Human Resource Management, Marketing Management, Systems Management & Production Management.

### Elective Courses

For each specialization, electives are offered in two groups, namely Group I and Group II. A candidate has to select one elective from Group I and Group II. Specializations as selected in Semester III continues in Semester IV.

Also an applied elective is to be selected among the group of ten applied elective offered namely Hospital Management, Travel and Tourism, Transport and Logistics, Insurance, Banking, Management of SME & Family Business. Media Management, Event Management, Advanced Corporate Communications, Sports Management. Overall sixty combinations of papers are offered in third & combination of papers are offered in fourth as well, with ten applied electives.

### Additional courses

NCCMP, Data Analytics

### Laboratories

Computer Centre: Availability of SAP

PASW Software

### Softwares

PASW 19.0, Statistical Software, NCCMP, SAP



## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. Sanjay Guha	Professor & Head	MBA, Ph. D
2.	Dr. (Mrs.) Urvashi Shrivastava	Associate Professor	MBA, Ph. D.
3.	Dr. Daljeet Singh Wadhwa	Associate Professor	MBA, PGDBA, Ph. D
4.	Dr. Ashok Kumar Chandra	Associate Professor	M.Sc, MBA, Ph.D
5.	Dr. Dharmendra Kr Gangeshwar	Associate Professor	M. Sc., Ph. D., MBA
6.	Shri Kishor Kumar Deka	Associate Professor	M. Com., M.A., MBA
7.	Shri Satya Vardhan Tiwari	Associate Professor	MBA
8.	Shri Saurabh Tomar	Associate Professor	BE, MBA
9.	Dr. (Mrs.) Sheetal Sharma	Assistant Professor	MBA, Ph. D.
10.	Dr. (Mrs.) Minal Shah	Assistant Professor	MBA, Ph. D.
11.	Dr. (Mrs.) Judith Nagar	Assistant Professor	MBA, Ph. D.
12.	Shri Shrawan Pandey	Assistant Professor	MBA
13.	Shri Abhishek Chakraborty	Assistant Professor	MBA
14.	Mrs. Samridhi Mishra	Assistant Professor	MBA
15.	Shri Sunil Kushwaha	Assistant Professor	MBA
16.	Mrs. Aparajita Pattnaik	Assistant Professor	MBA
17.	Mrs. Shraddha Gupta	Assistant Professor	MBA
18.	Shri N. Sudhakar Rao	Asstt. Prof. (Adhoc)	MBA



# Department of Computer Applications

## Courses offered by the Department

Name of the Course	Level	Intake
MCA	Post Graduate	60
Ph.D.		



## About the Department

The Department of Computer Applications was established in 1998. The department offers Master of Computer Applications and Ph.D. in various specializations of the discipline. The department is known for its quality research, Hardworking and experienced faculty members, latest infrastructure and disciplined students.

### Vision

To be a Centre of Excellence in the field of Computer Applications to produce high caliber competitive software professionals enriched with deep knowledge and expertise in modern technology who can contribute to India and the World through excellence in scientific and technical education

and research, and can serve as a valuable resource for industry and society.

### Mission

1. To achieve national/international prominence by preparing post graduate students for productive careers in software industry, academia and government.
2. To Facilitate Quality Scientific and technical education, to Equip and Enrich overall development of students for facing Global challenges in Research & Development, Innovation and Application of Technology in the service of Humanity.
3. To provide knowledge of wide-ranging Computer Science concepts, tools, and mathematical techniques or models.
4. To undertake collaborative research projects which offer opportunities for long-term interaction with academia and industry.

### Post Graduate Course: Master of Computer Applications Program Educational Objectives (PEOs')

**PEO 1:** To prepare students to excel in the computing profession by providing solid technical foundations in the field of computer applications

**PEO 2:** To provide students various computing skills like the analysis, design and development of innovative software products to meet the industry needs

**PEO 3:** To motivate students to pursue lifelong learning and to do research as computing professionals and scientists

**PEO 4:** To motivate students to communicate and function effectively in teams in multidisciplinary fields within the global, societal and environmental context.

### Program Specific Objective (PSO)

1. Enable the students to select the suitable data model, appropriate architecture and platform to implement a system with good performance
2. Enable the students to design and integrate various system based components to provide user interactive solutions for various challenges

## Scope for Employment

After getting an MCA degree, one can enter in to any of the following roles:

- 1 **Software Developer/Programmer:** Software Developers are responsible for designing, installing, testing and maintaining the software systems.
- 2 **System Analyst:** A system analyst is responsible to design innovative IT solutions to drive businesses and increase efficiency.
- 3 **Software Application Architect:** The role of a Software Architect is to make high-level decisions in Architecture and design of IT products or services
- 4 **Software Consultant:** Consultancy is a very popular career option today.
- 5 **Cyber Security Professionals:** Cyber security professionals are vital in today's business world. They help develop new ways to combat cyber threats, and are the main line of defense against spamming, phishing, malware, viruses and other information security threats.
- 6 **Technical Writer:** Technical writing is a good blend of technology and your creative writing skills. A technical writer needs to write technical documents such as product description, User Guides/Manuals, Design specifications, White Papers, Project Plan and so on.
- 7 **Systems Developer/Engineer:** Systems developers are involved in writing codes and designing programs for operating systems and other software.
- 8 **Web Designer and Developer:** A Web Designer / Developer is responsible for designing and developing web sites.
- 9 **Starting a new Venture:** After completing MCA, one can also start his/her own venture after getting some experience in the field of interest

MCA is in Demand!

## Program Content

### Core Subjects

Information and Web Technology / Problem Solving and Program Design With C / Computer Organization & Architecture / Operating System, Database Management System / Data Structures / Computer Networks and Communication / Formal Languages and Automata Theory / Unix Operating System and Shell programming, Object Oriented Methodology and C++ / Artificial Intelligence and Expert System / Compiler Design / Software Engineering / Advance JAVA Programming / Cyber Security / Computer Graphics and Multimedia / Software Project Management.

### Elective Subjects

Neural Network & Fuzzy Logic / Logic & Functional Programming / Network Programming Modeling & Simulation / Design & Analysis of Algorithms / System Programming / Distributed Operating System Cloud Computing / Biometric Security / Data Warehousing and Mining / Natural Language Processing / Mobile Computing Distributed Databases / Robotics & Computer Vision / Parallel Processing, Digital Image Processing / Big data Analytics.

## Laboratories: COMPUTER LAB

### I. Availability of Computer Hardware:

#### Major Facilities

- 60 HP and IBM Systems, with 2GBRAM, 160GB HDD, 3GHz P-IV Processor.
- 100 mbps switched network. All systems are equipped with 10/100 mbps
- Ethernet cards.
- 5 wireless access points are placed in building to serve wireless needs.
- A/V System and LCD Projector for live session.
- Scanner, Laser Printer, CD/DVD Writer, HP CORE I-3 LAPTOP-01



### II. Availability of High-end P/C work stations.

- IBM PC NET VISTA P-IV, 3GHz, 1GB RAM AND COMPAQ PC P-IV, 2GHz, 1GB RAM, IBM PC THINK CENTRE WITH P-IV, 2.6 GHz, 512 MB RAM. - 60

### III. Availability of high speed internet connectivity.



## Ph.D Programme

Department is also running Ph.D Programme for research and Development for benefit of society.

## Faculty List

Sl.No.	Name of the Faculty	Designation	Educational Qualification
1.	Dr. Ramesh Kumar	Professor & Head	M. Tech., Ph. D.
2.	Shri Amit Kumar Biswas	Associate Professor	M. Sc., MCA
3.	Shri Neeraj Kharya	Associate Professor	M. Sc., MCA, MBA
4.	Dr. Sanjeev Karmaker	Associate Professor	MCA, Ph. D
5.	Shri B. Varghese	Associate Professor	MCA
6.	Mrs. Shweta Kharya	Associate Professor	M. Sc., MCA, ME
7.	Mrs. Vinita A. Gupta	Assistant Professor	M. Sc., MCA
8.	Shri Ajay Kumar Mishra	Asstt. Prof. (Adhoc)	M. Sc., MCA
9.	Shri Sanjeev Shrivastava	Asstt. Prof. (Adhoc)	MCA, M. Tech.

## Bachelor of Vocational Courses (B.Voc)

### Courses offered by the Department

Name of the Course	Level	Intake	Courses offered by the Department
B.Voc, BFSI (Banking Finance Services and Insurance)	Undergraduate	25	Department of Management
B.Voc (Graphics and Multimedia)	Undergraduate	25	Department of Information Technology
B.Voc (Software Development)	Undergraduate	25	Department of Computer Science
B.Voc (Electronic Manufacturing Services)	Undergraduate	25	Department of Electronics & Telecommunication





# Entrepreneurship Development Cell

The ED Cell of Bhilai Institute of Technology, Durg will play role to identify entrepreneurial ability of students and direct them establishing of their own enterprise in various sectors. The cell intends to develop the economy scale by promotion of entrepreneurship. Thus EDC aims to create a platform for its members to emerge as successful entrepreneurs by converting students from job seekers to job providers.

## Vision

Promote and sustain entrepreneurship by development of eco-friendly entrepreneurs.

## Mission

To create valuable image among the society as a job provider by sharpening the entrepreneurial skill of students and social being.

## Objectives of the ED, Cell

- To act as a system for providing information on all aspects of enterprise to Professional students for innovative thinking and for the promotion self employment and employment of others.
- To develop the Entrepreneurial culture so that they bind themselves in norms and tradition of providing employment, not to be job seeker.
- To promote and develop the knowledge-based enterprises and promote employment opportunities in the different segment of market.
- To create technology awareness and promote technology based enterprises in existing Small & Medium Enterprises (SMEs) of the region.

## Policies of ED, Cell

### 1. Awareness Program

Every year an interaction session will be organized by the ED cell between the members and entrepreneurs, Alumni and its Association.

### 2. Workshop on Business Communication Skills

Communication is most important among the stakeholder; the cell will take opportunity to strengthen entrepreneurs with proper communication by conducting workshop on communication skill.

### 3. Entrepreneurship Development Programs (EDP)

Successful run of business depend upon the skill of entrepreneurs. The cell takes responsibility to conduct EDP to identify innovative thinking.

### 4. Faculty Development programs (FDP)

The interaction of faculty with outside world will create an environment for learning and so the knowledge provider also will be upgraded to facilitate proper functioning of cell.

### 5. Women entrepreneurship

The cell intends to promote the idea of gender indifference.

## 6. Rural entrepreneurship

The cell will organize program for rural area for educating them the art of earning money by self-employment.

## 7. Start-ups

- 7.1 Product identification
- 7.2 Market survey, tools for market research
- 7.3 Preparation of project reports
- 7.4 Assist them in getting technical feasibility report

## INCUBATION CENTER

The Incubation Center (BIT,DURG) Encourages and felicitates entrepreneurial skills and Ideas across all disciplines and aims to establish collaborations with Industries and entrepreneurs to guide our students and use Incubation Center services to develop and customize products for commercialization.

It aims to transform aspiring student entrepreneurs with vibrant ideas into young entrepreneurs. It helps them to nourish those ideas into effective action plans. It seeks active participation of students, alumni and local entrepreneurs so that they gain knowledge on technical, financial and marketing assistance provided by Government and Non-government agencies.

The Institute has been recognized as Business Incubator (BI) for implementation of the scheme 'Support for Entrepreneurial and Managerial Development of MSMEs through Incubator' –reg. Vide letter detail 4/01/2020 from MSME New Delhi.



## Central Computing Facilities (C C F)

In the present world, which is dynamic and knowledge based, professional institutions have a much wider role to play in creating, preserving, organizing, transmitting and applying knowledge. Modern educational technologies developed from information technology will certainly change in terms of access, interaction, curriculum and instruction etc. The physical locations and facilities have become less important in defining an organization due to the easy on-line access of the educational resources and hands-on practices.

A Computer Committee headed by the Principal of the Institute governs it. The CCF looks after the hardware and software maintenance of around 1070 systems and 200 peripherals in the Institute located at different academic and administrative departments of the Institute. The independent computer centers of various academic departments are connected to the Servers of CCF through Wired/Wireless LAN. CCF itself contains 650 computers that are connected through wired LAN and fulfills the need of computers for Electronics, IT, Computer Science, Mechanical, EEE, Electrical, Civil, MBA & MCA courses. There are nine servers that function 24 hours of the day in the Centre, providing various services to the Institute.

### Responsibilities of the CCF

- Providing networking and computing facilities to users and groups of BIT. State of art facilities to the students of BIT to make them computer wizard and provide internet connectivity to all users of BIT inside the campus and hostel.
- To equip and look after all the computers of BIT for scientific computation, academic activity, administrative and accounting data maintenance.

- To provide training to the faculty and staff of BIT for better utilization of computational resources as well as consultancy to other organizations.
- To organize Continuing Education Program
- To maintain BIT's website.
- To conduct online test as regular practice.

### Features of the CCF

- HP BLADE SERVER 9th generation, HP/COMPAQ PROLAINT ML-370G Servers and four IBM Netfinity Server.
- ACER AT-310 Server for Library – Koha Software. Academic Servers for Moodle, NPTEL Video Lectures, Fileservers, E-Books & Bio Metrics.
- BIT Moodle /Google Meets for online classes.
- Licensed - Microsoft Campus software's.
- 900+ Core i5/ i-3/Dual Core/PIV makeLenovo / HP/Compaq/IBM nodes.
- 115 Laptops including a tablet PC.
- 80+ HP/Canon Laser printers and Color Laser.
- Internet connectivity of 210 Mbps bandwidth through leased line.
- Wi Fi Campus, Hostel Boys & Girls (D-Link, TP-Link – Routers & Access Point).
- Connected with National Knowledge Network (IIT Mumbai & IIT Kharagpur) & State Knowledge Network (CSVTU, Bhilai) used for certification training and computer aided teaching learning materials by students & staffs.
- Surveillance with more than 191 CCTV Cameras.



## Central Library

In the present age of information explosion, Libraries are backbone of any civilized society and heart of any academic institution. Central Library of BIT was established in 1986 to supplement classroom teaching and to boost Research. Since then this center of self-learning has been playing an important role in supplementing academic activities and boosting research in the institute.

It is spread over two floors and housed in the Administrative building located centrally having separate reading hall, periodical section, processing section and a small binding unit. The spacious reading room with 250 capacities is stocked with encyclopedias, dictionaries, handbooks and textbooks numbering around 14,000 titles, Newspapers, weeklies and magazines of diverse fields are subscribed.

The stack room is well stocked with over 74,000 volumes of books and an adequate number of journals of repute in various areas of Engineering and Applied Sciences. The students can avail the facility of the "Book Bank for Meritorious Students" with approximately 5,500 books for the general students and 2,500 for the SC/ST exclusively reserved for them.

In the e-library section, a stock of around 2,500 e-books Downloaded articles of IEEE, ACCE, ASME, SPRINGER and World Scientific, CD/DVD writer, Scanner/OCR are used extensively by its users.

Additional facility of free Internet Surfing Zone with 30 clients through Broad Band services with 210 MBps lased line are available for use. The library has its own LAN system and is

connected to BIT W-LAN. The central library is proud to be a member of DELNET and AIRC. For monitoring the activities . CCTV based monitoring system has been installed. The library is open for 13 hrs. (8.00 AM to 9.00 PM) during the working days. Library staff includes Librarian, Assistant Librarian, Library Assistant, Book lifter and security personnel. Prof. Incharge, Library looks after the effective mobilization of the resources.

- The library house a seminar hall attached to it for academic discussions.
- Full Library Automation, E-library, Separate PG Library, PG Reading Room, Research Scholars' Study space, Teacher's reading rooms have been implemented.
- The library established since the inception of the institute is a well managed one and provides the following categories of service to its readers'
  - Routine issue of books
  - Reference service
  - Reprographics service
  - Reading room service
  - Internet surfing
  - Online accessing of various International journals
  - Adorning of the Departmental libraries
  - SC/ST Book Bank
  - Scholar Book Bank for meritorious students
  - Periodical Service.



These services are provided through the central library and departmental libraries. Keeping in view the fast changes in technology, the knowledge base of the library is updated regularly by way of adding new literature in the form of text books, reference books, reports, proceedings, abstract & indexes encyclopedias, data books, standards (National & International) journals & database on CD-ROM. Apart from adding the new literature, the base literature is also procured for the new programmes along with current one. Some new section and services are also being started to make the library services of ISO 9001:2015 standard.

### Book Bank

The College runs a Book Bank intended to assist students, from the economically weaker sections of society, by giving text books on loan to deserving students for the whole academic semester according to the rules framed for the purpose. The College also run a Book Bank specially meant for scheduled Caste and Scheduled Tribe students who can borrow books from the Bank for the whole academic semester according to the rules framed for this purpose.

### Reference Section

A large number for Encyclopedias, Handbooks, Standards, Reports, Proceedings. / Abstract & Indexes, Data Books, standard, (National & International) are available in the Library.

### Additional Reading Section

The library also has a collection of good books on English and Hindi Literature for leisure reading and on the other important subject like History, Sociology etc.

### Journals/Periodicals Section

Journal being the primary source of information are essential to supplement the research activities and are required regularly. Hence Library has good collections of Indian and foreign journals on various subjects to science & technology.

### On-Line Journals

A number of foreign & Indian journals (2730) are being subscribed on-line to facilitate the one going research activities & to expand the areas of future research activities. The online Journals are being subscribed including ASCE, Springer Link, J-Gate and EBSCO.

### Reprography Section

The facilities like Photocopy, Printing, Scanning, Spiral Binding, Lamination etc. are provided to the students on payment basis within the premises of the library.



### CD-Rom Access to Engineering & Scientific Data Base

Various CD\_ROM database i.e. BIS, ASTM, EI-index etc. are being subscribed, a part from these database library also has a good collection of books on CD-ROM and video recordings.

### Automation of Library & Services

To keep pace with ongoing technological changes the library records have been computerized for making it accessible to the faculty & students at their work place which not only save the time but also make the simultaneous multiple access of information which otherwise is not possible in print formats. Online Public access Catalogue (OPAC) of books, journals CDs and Videos available in the library is accessible to the users on intranet Several useful resources on engineering and technology available on internet have been identified and links are made available on the library Web page of the institute.

### Electronic Resource Centre

The library being the member of consortia on Indian Digital Library of Engineering and Technology (INDEST) and Developing Library Network (DELNET) offers various facilities of member institutions through resource sharing. To provide the efficient management, the constant vigil is kept on the activities of staff and users through Electronic Surveillance system having a 24 hours recording facility and to keep the library services automated, the following work is regularly carried out:

- Data update of Existing Collection/Records Data Entry of New Arrivals.
- Bar Coding of Existing Collection/Records Data Entry of New Arrivals.
- Bar Coding of Membership Cards and Incoming Records/Documents
- Procurement/up gradation of Hardware & Software.
- Continuous Internet search is done for identification of new resources for subsequent development of library home page.



## Training & Placement Cell



### About Training & Placement

The Training and Placement Cell aims to facilitate good career opportunities to the students of the institute. The cell interacts with potential employers and organizes the campus placements and internships for the students. The Cell offers periodic in-house and outsourced training sessions for soft skills, aptitude and technical up gradation aiming at making the student community employable. To bridge the Industry-Institute gap frequent expert lectures and seminars from Industry heads and prominent professionals are organized. The Institute has a dedicated entrepreneurship cell to promote innovation and startup amongst the students. About fifty leading companies participate in the placement process every year. Training and Placement Cell is headed by Dr. Manisha Sharma. She leads a dedicated team of faculties who are actively involved in the activities of Training and Placement Cell.

### Dr. Manisha Sharma (Head, T & P Cell)

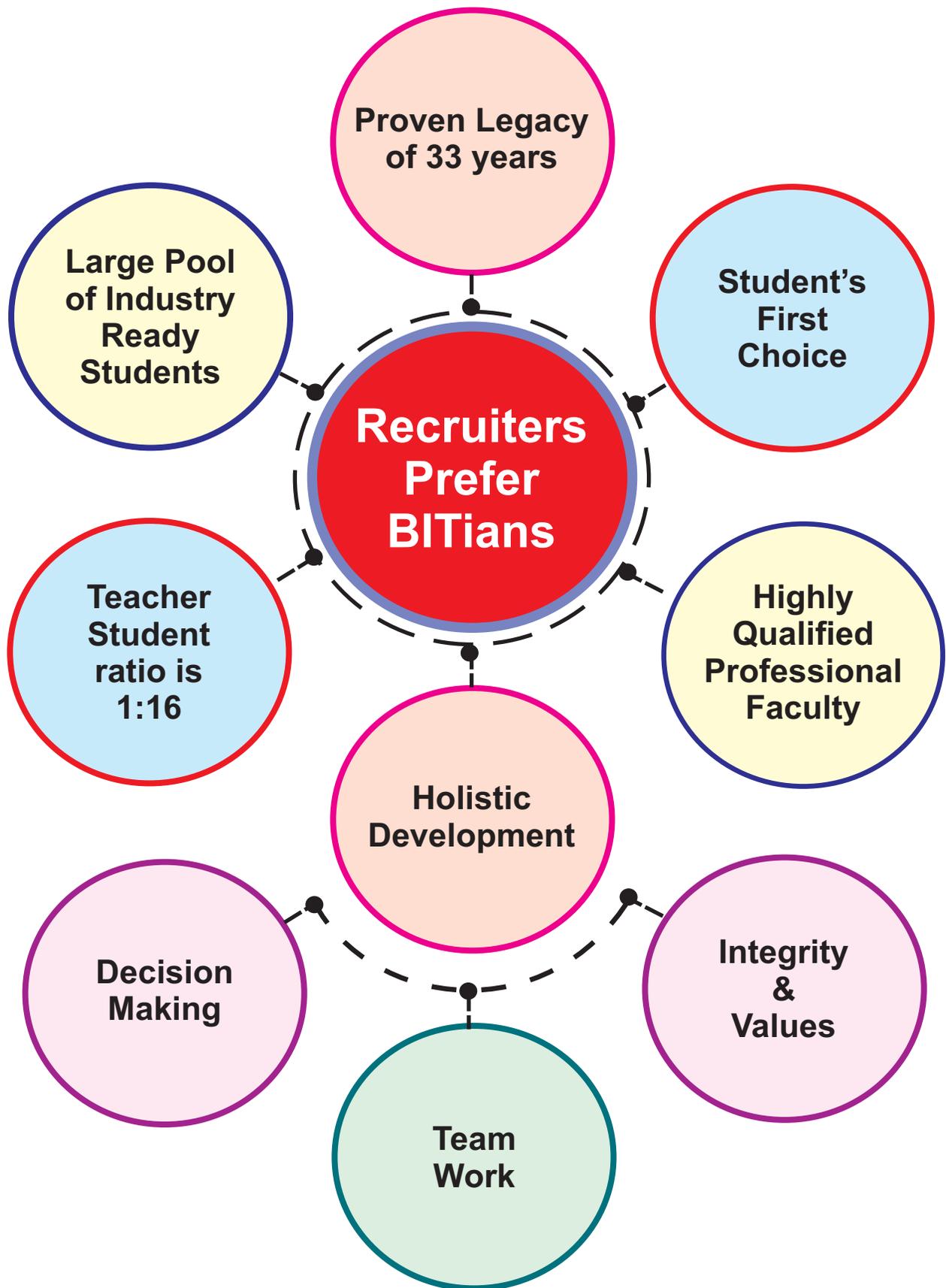
Mobile : 0788-2356790, 9425234261 || email : tpo@bitdurg.ac.in

### Recruiters prefer BITians

Bhilai Institute of Technology(BIT), Durg situated in the steel city of Chhattisgarh is serving the cause of technical education for more than 3 decades. The Institute has unique privilege of being established in the year 1986 34 Years of rich standing under the guidance of visionary industrialist and support of Steel Authority of India Limited (SAIL) Bhilai Steel Plant. Five Undergraduate Programs (Civil Engineering, Mechanical Engineering, Computer Science Engineering, Electronics and Telecommunication Engineering & Electrical Engineering) of the Institute has been thrice accredited by NBA and recently for academic years 2017-20. The Institute has also been accredited by National Assessment and Accreditation Council (NAAC) as "A" grade in cycle 1 i.e. 2017-2022. The Institute has also been ranked by National Institute of Ranking Framework (NIRF) under the Engineering category in the ranking band of 151-200 under NIRF 2017 and NIRF 2018. The Institute is also ISO 9001:2015 Certified Institution.

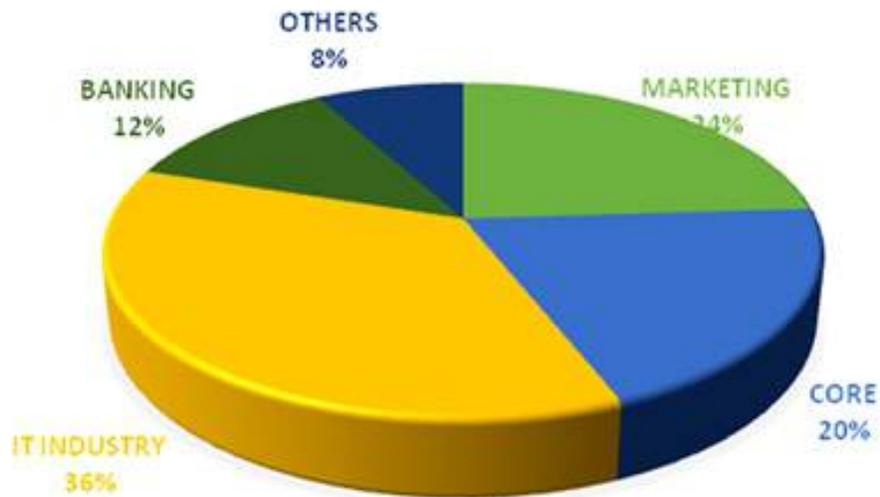
### Notable Mentioned Award 2019 by AICTE & Internshala

BIT, Durg received "Notable Mention Award" 2019 for the best placements and Internship by AICTE and Internshala. Institute received an All India Rank 104.



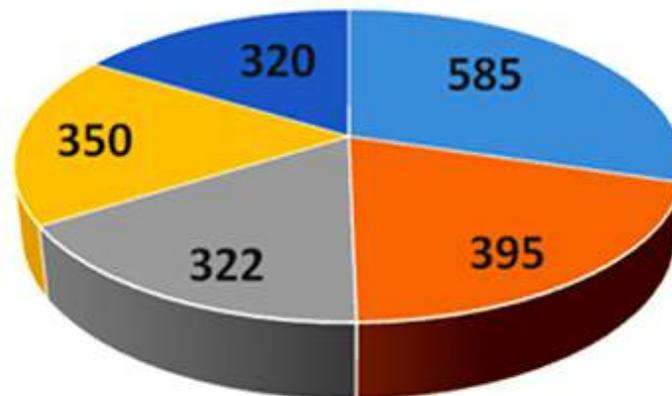
**PLACEMENT STATISTICS:**

**SECTOR WISE SPLIT OF VISTING INDUSTRY**



**NUMBER OF STUDENTS PLACED**

■ 2016 ■ 2017 ■ 2018 ■ 2019 ■ 2020



## PLACEMENT STATISTICS:



BIT, DURG received “Notable Mentioned Award” - 2019 for the best placements and Internships by AICTE and Internshala. Institute received an All India Rank 104

# Central Workshop

## Mission: To create a platform where science is translated into technology

Central Workshop was established in 1986 at BIT as part of Mechanical Engineering department for imparting training to the undergraduate students in the shop floor with a built-up area of 1900 Sq. mtrs. with seven shops. The central Workshop is equipped with the latest machinery and is continually updated with the most recent technology. It has adequate number of technically skilled workers and faculty members workshop superintendent responsible for the mobilization of highly skilled technical hands in the workshop. The students gain hands-on experience in the workshop technology. Central workshop is constantly engaged in providing feasible solution to complex mechanical engineering problems which may include in-house design and development. It supports researchers in making their experimental setups and modification of existing ones. Also a wide range of paraphernalia is being developed indigenously. Among the main activities engaged by the workshop include: Training of students in various trades of the workshop which is compulsory for all branches of Undergraduate courses. Fabrication Work for the Project of U.G./P.G. students, Preparation of test specimens, Internal maintenance work of the Institute and other departmental job works as and when required.

## The various sections of the workshop include :

- Machine Shop contains two machines, Two Shaper, One Drill Machine and heavy duty bench grinder and power saw.
- Turning Shop is equipped with 10 - center Lathe, 1 CNC Lathe, Turret Lathe etc.
- Fitting Shop has been designed beautifully with steel table fitted with bench vices and other necessary equipments.
- Carpentry Shop is provided with indigenously designed table with carpenter's vices, one wood cutting machine.
- Molding Shop has mould boxes and patterns; adequate space is available for working simultaneously 20 students at a time.
- Welding Shop is equipped with most modern machines of welding technology, especially MIG welding, Spot Welding, Rectifier, 3 Phase Transformer and gas welding equipments.
- Black smith Shop is equipped with two furnaces and other relevant equipment for hot working(forging). Proper safety measures are adopted through the use of Apron, Safety Helmets and gloves, Fire extinguishers etc.



## Continuing Education Cell (CEC)

With the rapid pace of growth in technical knowledge and frequent paradigm shifts in technology, continuing education of students to deliver the contents beyond the syllabus is a vital need. The CEC at BIT has been set up to meet the skill development and knowledge up gradation needs of the students' community to equip them with the present day need.

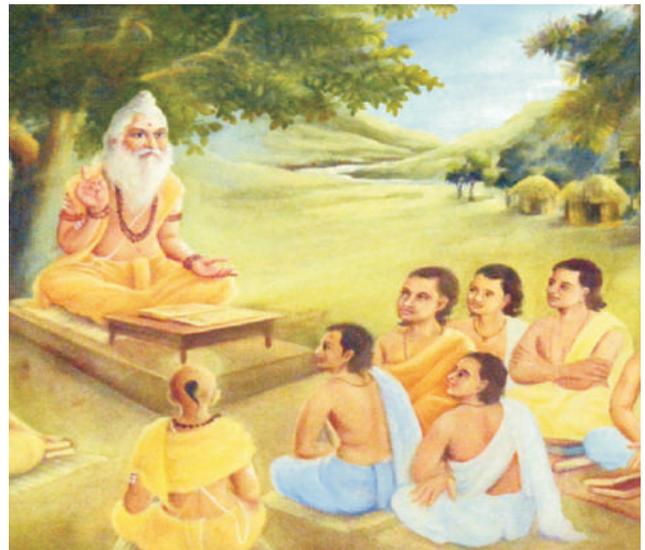
The objective of the CEC is to foster the highest aspirations of our students; our priority is the individual student within the institute. We aspire to create graduates to become the future innovators and protagonists in their respective fields. We seek to instill in our students a mastery of fundamental scientific technological and logical principles sufficient to address the complex problems facing our world today and in the future.

The CEC at BIT caters to the needs of the students in the arenas which help them to get an edge over their counterparts after they dive into professional careers. It is not compulsory for the students to join the CEC, but the trend shows that most of the wise students choose CEC for their professional development outside the class room teaching.

Presently CEC is imparting training in the following areas:

- Crash Course for Placement
- Assemble Language Programming
- High Language Programming
- Open Source -Software
- Oracle Certified Professional

- Oracle Certified Administrator
- NET Technology
- Certificate Courses in AutoCAD, ANSYS, CATEA, Pro-E
- Hands-on training on PSCAD, PSIM
- Short Term Training Programmes on MATLAB, CAD VLSI, MULTISIM, LABVIEW, TINAPRO, DIALS
- Guidance for Industrial Projects.



# HOSTELS

BIT has separate hostels for Boys and Girls. Boys hostel is located within the campus with an accommodation facility of 350 students whereas the girls hostels are outside the campus but at a distance of hardly ½ KM from the college. For the first year, a total of 190 students (Girls) are accommodated on the basis of merit/distance.

Facilities provided to the hostellers are:

- Table, Chair, Almirah, Cot
- Mess Facility (Lunch, Dinner)
- Wi-fi connectivity (Boys Hostel)
- Free Medical Check up
- Canteen
- Gymnasium
- Laundry
- Entertainment room
- Security

**First Semester Fee for the Hostel:**

**1. Girls Hostel Rs. 27000/-**

**2. Boys Hostel Rs. 28,000/-**

Caution Money of Rs. 2000/- will be charged extra from new entrants. Caution money is refundable without interest at the time of leaving the institute.



## Rules & Regulations of Hostel

- No guest shall be allowed without prior written permission of the appropriate authority
- No outsider shall take food in the hostel mess without prior permission of the appropriate authority.
- Meals will not be served in the room without prior written permission of the appropriate authority.
- Any complaint regarding mess shall be given only to the appropriate authority.
- No hosteller can either leave or enter the hostel after 10 PM (Boys Hostel) and 7 PM (Girl Hostel), those reporting after the scheduled time are to surrender their identity cards to the watchman on duty.
- Every student should lock the room while going outside even for a short duration.
- All the hostellers should use the hostel property carefully and any damage shall be recovered as general fine from the students residing in the hostel.
- No hawker should be invited to enter the hostel premises under any circumstances.
- The hostellers should avoid disturbing other or creating nuisance by making noise and such sort of activities which may distract others.
- No student should enter into any argument with the mess contractor/manager/worker of the mess. If there is any grievance against them, it should be brought to the notice of the appropriate authority
- While taking possession of room, every student is required to check all the furniture and fixtures of the room and hand them over to the hostel authority while leaving/vacating the hostel. The concerned occupant will be responsible for any damage or theft of furniture or fixtures.
- Possession of cellular phones is not desirable. However, in case of urgency the same can be hand at the owner's risk.
- In case of non-compliance of the above rules. The student shall be liable for punishment including expulsion from the hostel.
- Hostellers will be responsible for their valuable items like computer, laptop, mobile, jewelries, watch etc.

## The Students

Beyond all the theory, BIT's lifeblood is its students. Coming from diversified cultural backgrounds, they experience a holistic learning environment at BIT. Students of BIT not only possess a mere academic excellence but also are talented with sensitivity to the milieu state of affairs, analytical ability, and a passion for facing challenges individually and in groups. BIT polishes and hones their skills to form the backbone of the society, industry and nation. BIT's constant efforts make its students to become enlightened citizens of our country, to nurture a corruption free society, to pursue their education with dedication and excel in their areas of work.

## Skill Development

The Exhaustive special sessions are organized to train the students to face and get through the tough recruitment procedures like interviews, group discussions etc. with special emphasis on Personality Development and latest techniques of Communication Skills required to achieve success. Many reputed organizations and industries conduct interviews, seminars, assignments and brain storming sessions in BIT, thereby providing a rich resource of advice and information to facilitate placements for the young engineers. Lectures of experts from the industry and reputed personalities are conducted regularly, aimed at the overall development of the students and to make them aware of the present global scenario and to meet their queries. Series of extra-curricular activities are arranged at regular intervals to browse the hidden talents of students and also to bring out best from them.



## Sports & Recreation

The Sports Complex of the Institute includes Cricket ground, volleyball court, badminton court, basketball court, tennis court and modern health club for the students.



## Pedagogy

Diversity and flexibility in teaching methods is the key strength of BIT. The faculty employs a variety of instruction methods consistent with the course content. The teaching methods usually are an astute combination of conventional lecture aids, case discussions, seminars, field trips, educational tours, technical training at industries, group projects and independent research.

A part from the regular classes, special classes on the subjects not included in the curriculum, but found to be worthwhile for students, are also conducted. Guest lectures on advanced topics by experts are arranged regularly to keep the students up-to date. The learning experience at BIT is supported by top quality facilities and equipments including Over Head Projectors, CDs, Multimedia Projectors etc.

The students are constantly evaluated through internal examinations, assignments, oral presentations & viva-voce, quizzes, group discussions etc. The scheme of examination is as per the guidelines laid down by affiliating university.



## For the Fresher

It is quoted "childhood shows the man as morning shows the day". Likewise a student would be decided during his initial years in any institute. Hence, the first year can be said to be one of the vital stages of all the academic years, both for the student and the institute. Realizing this, utmost care is taken to strategies the curriculum and teaching plan, in order to provide the students with a strong foundation on the fundamentals of engineering and to instill in them the significance of our culture and moral values. It is at this stage that the pristine BITians get accustomed to the basic ethos and conduct of the institute, which, along with value-based teaching, provides the inner core to them making the BITians excel in their endeavors.

Being very well aware of the importance of first year the institute has always been striving to provide the best to the students. To further strengthen this objective, a special committee entirely devoted on the activities of the First Year is constituted which places great emphasis in providing the students a virtuous atmosphere for conductive and undisturbed edification.



## Campus Facilities

### Banking

A full-fledged branch of United Commercial (UCO) Bank with ATM and BCS facility is located inside the college campus.

### Vehicle Parking

Parking space is provided for parking of Two Wheeler vehicles and students should park their vehicles at designated places only. Parking will be paid service. Vehicles parked elsewhere are likely to be confiscated and the owner likely to be fined.



### College Gymkhana

The Institute's Gymkhana provides for various games such as cricket, football basketball, volleyball, badminton, table tennis may other indoor games and highly sophisticated multigym facilities. Students are encouraged to attain sportsman's spirit by their activities on the playground. Strict discipline is expected to be maintained on the ground and in the gymnasium. They should see sports notice board regularly. The details of sports and other activities are displayed on the notice board from time to time . Faculty members of the Institute coordinates the activities of the sports. The students are advised to report sports coordinator and participate in various sport activities.



### College Canteen / Coffee Café

BIT provides convenient, hygienic refreshment facilities at subsidized rate in two college Canteens and one Café coffee corner.



### Student Store

A well equipped "Students Store" which satisfies almost all immediate and urgent stationary requirement is situated in a convenient location within the College Campus and functions during the College hours.



## Surfing Zone

Central Library In houses Surfing Zone have 40 Desktop Computers with 210 MBPS 1:1 Leased Connection.

## Wifi Campus

As Chhattisgarh's first hi-tech smart campus, BIT has 210 Mbps Internet Lease Lines from two different ISPs for internet connectivity. All blocks are interconnected through a highly secured Network; where over more than 1,070 PCs are connected to the internet through LAN connections whilst 9 hi-end servers power the BIT network.

- Powerful outdoor Access points DWL-7700 – 16 No
- Indoor Access points – D-Link & TP-Link – 200 Nos.
- Directional Antennas – 02 Nos.
- Supports IEEE-802.11 a,b,g
- Provides Secure Internet Connectivity through Hardware Firewall Fortinet-300A/ Cyber roam
- Wi-fi Connectivity throughout the hours
- Zero Configuration Connectivity for Clients / Users / Students with hotspot

## Dispensary

In-house Clinical consultation and first-aid facility is available to the students. The Institute has a separately appointed Medical Officer for the Boys' Hostel and a Lady Medical Officer for the Girls' Hostels. They are available on regular basis at the Dispensary in the Institute premises for the inmates of the Boys' Hostel and in the Girls' Hostels Offices for the inmates of the Girls' Hostels respectively. Should the need arise; three major hospitals are in the vicinity within 3 kms from BIT campus. They are Shri Shankaracharya Institute of Medical Sciences, 'Jawaharlal Nehru Hospital & Research Center' and 'Chandulal Chandrakar Memorial Hospital'. These hospitals are operative all the 24 hours every day. First aid Kits are available in all the departments, sections and offices of BIT.

## Open Air Theater

Built up Area : 3300 sqft. Seating Capacity : 3000 students.

## Auditorium

Built up Area: 10,000 sqft. Seating Capacity: 500 students.



## Awards and Scholarship

### GATE Scholarship

GATE scholarship is provided to the students who have qualified GATE Scorecard and as per the rules framed by AICTE, New Delhi

**Following awards instituted in the College are given every year:**

- Prize and Merit Certificate to students achieving highest position in the university examination (On foundation day every year.)
- Seth Balkrishan Memorial Gold Medal
- Sardar Inder Singh Jabbal Gold Medal
- Naveen Nair Memorial Gold Medal
- Neeladhari Guha Memorial Gold Medal
- Excel Gold Medal (for all branches [UG/PG] viz Civil, Mechanical, electrical, electronics & Telecommunication, Computer Science, Information Technology, electrical and Electronic, MBA and MCA)
- BIT Annual Scholarship (for even semester examination)
- Preeti Sao Memorial Award
- BIT Alumni Cash Award (For topper in Mechanical & Civil Engg. Branch)
- Smt. Nemani Annapurna Memorial Scholarship
- Smt. Badra Devi Tripathi Excellence Award (for topper in "Element of Electrical Engg. Subject of B.E. 1st year)
- Alumni (1994) Cash Award (for two toppers in B.Tech



## Co-Curricular Activity

### Students' Association

The college has the Student's Association in various departments. Under these associates students successfully organize various programs. Activities mainly involve Inter College as well as Intra College events. Events such as Paper presentations, robotics along with project exhibitions, technical quiz, model making competition, management talks and seminars etc. are being held regularly.

### Literary Club

The Literary Club offers a competing platform for students to learn, develop and express their creative skills; where one can sharpen their creative skills. The publications offered by the Literary Club are:

- ONE TO EVERYONE (Quarterly Student Newspaper)
- PANORAMA (Annual College Magazine)
- PROSPECTUS (For New Admission)



### Robotics Club

Robotics Club is initiated to train students who have the zeal to excel in building and programming miniature robots to take part in both Local and National competitions. The club aims at promoting team spirit, leadership skills and event organizing skills. Students learn the basics of building and programming miniature robots under the instructions of a capable robotics trainer. Students who have the potential to outdo will be selected to take part in national competitions and will undergo further in-depth training so that they can win the national competitions.



### Vista Club

Vista is BIT, Durg's premier cultural club. It was founded in 2015 and has earned remarkable recognition to the college in its one year span. Be it intra or inter college competitions, Vista has put talent on the map. Vista aims to organize various fronts of a cultural club in a systematic manner. It has five wings under its flag namely, elocution, dramatics, dance, music and fine arts.



### E-Yantra Club - Resource Center of E-Yantra Project

Sponsored by MHRD under the National Mission on Education through ICT program. An initiative by IIT Bombay that aims to create the next generation of embedded systems engineers with a practical outlook to help provide practical solutions to some of the real world problems.



### Hacker Rank Programming Club

To culminate the programming skills of the students and induce the team building between students. The club has been founded in the session 2016-17, and currently, has students from computer science and engineering department as its members. The club works under the Training and Placement cell with the Hacker Rank Campus Ambassador as the president of the club and a Vice president. From each section, the club has a student as an administrator who guides the students and keeps them updated about the activities of the club. Club organizes weekly programming challenges in which students solve the problem from various domains. After the challenges end, a meeting is held to discuss the problems and evaluate each other's solution.



### Professional Activity Club

The professional activity committee of the Institute initiated the formation of Professional Activity Club in September 2017. It's a student led club focused on bringing topics on innovation and technical events. PAC offers some of the most memorable, interesting and enjoyable aspects of student experience. There are more than 50 students enrolled & they create important social networks, as well as opportunities to encourage & explore personal interests and develop leadership and management skills.



### Activities in the club include:

1. Organize popular lectures/ talks by eminent speakers.
2. Competitions to develop innovative demonstrations explaining science & technology oriented concepts.
3. Promoting interdisciplinary activities.



## Extra-Curricular Activity

### NATIONAL SERVICE SCHEME (NSS)

BIT is running NSS successfully. Activities under the banner of NSS unit give exposure to the youth to transform themselves with interchanging of ideas and personal development.

It also helps to create social awareness among the students which help them in their career. Activities like Plantation, No Vehicle day, Environment Protection day, Blood donation camp etc. have received high level appreciation in the society.

### SPICMACAY

SPICMACAY means "Society for the Promotion of Indian Classical Music and Culture amongst Youth" was started by Dr. Kiran Seth an Emeritus Professor in Department of Mechanical Engineering at IIT, Mumbai in year 1977. The core objective of this society is to promote and usher the youth who are studying in school and colleges to our wide and vivid range of classical music, at and our rich cultural heritage. BIT Durg Chapter was started in 2001. Several renowned artist of International and National fame have visited our institute and have performed different art forms during "Utsav" and (virasat" series like Padmbhushan awardees Dr. (Mrs.) N. Rajam, Violinist, India's first grammy award winner Pt. Vishwamohan Bhatt inventor of Mohan Veena, Dr. NalbikaMitra an eminent Kathak Dancer, Ms. Bharti Shivaji most promising Mohini-attam dancer, from the folk jhau dance from West Bengal, Kalbeliya Dance from Rajasthan etc. BIT Durg Chapter every year organizes one program in one academic calendar.



### PHOTOGRAPHY CLUB

The Institute has dynamic Photography Club cum organization known as "CLICKS". It was formed in 2010. Today it is sustaining more than 300 members within and outside the college. The main objective of the Club aims at educating, promoting and organizing things related to photography and its various aspects. Clicks take projects like portfolio shoots, profile shoots, event coverage, and conduct photography workshops and outdoor photo sessions with the club members. Members at Click Club are known as "The Clickers". The clicker have not only made their presence in the campus, but also at National and International level by winning various photographic contest. Few amongs them are first prize in AkshayPatra in IIT Kharagpur 2014, 3rd prize in NIT Warangal 2013 and many more.



## NATIONAL CADET CORPS (NCC)

The National Cadet Corps is the Indian Military Cadet Corps with its Headquarters at New Delhi. It is open to school and college students on voluntary basis. National Cadet Corps is a Tri-Services Organization, comprising the Army, Navy and Air Force, engaged in grooming the youth of the country into disciplined and patriotic citizens. The National Cadet Corps in India is a voluntary organization which recruits cadets from high schools, colleges and Universities all over India. The Cadets are given basic military training in small arms and parades. The officers and cadets have no liability for active military service once they complete their course but are given preference over normal candidates during selections based on the achievements in the corps.

### With the motto of Unity and Discipline BIT, Durg has started two Wings of NCC

1. First Army Wing(SD), vacancy 52 cadets, Professor In charge Lieutenant Santosh Kumar Mishra, Mechanical Engineering Department.
2. Second Army Wing(SW), vacancy 54 cadets, Professor In charge Ms.Uma P. Balaraju, Electrical Engineering Department.
3. Ms.Uma P.Balaraju, Assistant Professor Electrical Engineering Department has completed her Pre Commissioned course in March 2020.
4. In Durg Bhilai BIT is the only technical college having both NCC & NSS

## ASTRO CLUB

The Astro Club is a special venture for astronomical popularization and basic sciences and is the 1st Astronomy Club of Chhattisgarh. Started on 1st Aug. 2013 in Bhilai Institute of Technology, Durg is now a family of 320 members and counting formed by Aditya Singh Chauhan and Abhijeet Anand, students of B.E. (IT) under guidance of Prof. C.S. Robinsion (Asso. Prof. Dept. of Applied Physics). The Club aims towards astronomical awareness amongst the youth, and removing superstitions and myths by inculcating a scientific temperament in the society. The celestial bodies had always been objects of anxiety in the minds of the people through olden days. Fortunes & evils were widely associated with the appearance of these bodies in the sky; some of which were looked at with fear that their shadows cause disasters. The Astro Club aims towards removal of all such superstitions ("Andhviswas") and thus enables people to understand their origin & structure and come out of the feeling of trepidation about them. The Astro Club is well equipped with Telescopes, Lasers and various sky observation kits and organizes different events throughout the year, consisting of Workshops, Guest Lecture by eminent speakers, Seminars, Quizes, Excursion Trips and Night Sky Campus etc.

The Astro Club is affiliated to VigyanPrasar, (D.S.T., Govt. of India) and Chhattisgarh VigyanSabha, Raipur. It is also supported by STAR Club, Bhopal



## STUDENTS UNION

- I. Since the formation of Institute in year 1986, an active Student Union has been a regular feature of the institute. The objective of the student union is to (Promote intellectual, cultural and social life of the students)
- II. Foster activities to bring out and develop the creative talent of the students and to promote their welfare.
- III. Develop a tradition of service and to inculcate in the students, the sense of social responsibility.

The student union has four post bearer namely President, Vice-President, Secretary, Joint-Secretary and class representatives for each class.

This year 2014-15 as per the instruction of State Government and the guidelines of Chhattisgarh Swami Vivekanand Technical University, Bilai the Student Union was formed by electoral process. The main objective behind the adoption of the Electoral process for the framing of Student Union area to :-

- I. Promote and reinforce the democratic values and principles amongst the students and to educate them about their duties and right in democracy.
- II. Emerge with value oriented leadership qualities and to inculcate a spirit of discipline and also to foster the spirit of brotherhood.
- III. Promote respect for human rights and dignity for the individuals and to eliminate ragging.
- IV. Promote intellectual, social and cultural activities in the campuses, to encourage participation in literary, cultural, artistic, innovative and sports activities to bring out their leadership and creative talents.
- V. Extend social service through mutual cooperation with a view to shaping a generation dedicated towards social, economic, political issues of the society.
- VI. Nurture a congenial atmosphere of learning and teaching for the development of the instil.

### अध्यक्ष



**एकता केशरवानी**  
एम.सी.ए. पंचम सेमेस्टर

### उपाध्यक्ष



**यश अग्रवाल**  
एम.बी.ए. प्रथम सेमेस्टर

### सचिव



**अमृता सिंह**  
बी.ई. सप्तम सेमेस्टर,  
इलेक्ट्रॉनिक्स एण्ड  
टेलीकम्यूनिकेशन

### सहसचिव



**कीर्ति चौधरी**  
बी.ई. पंचम सेमेस्टर,  
इलेक्ट्रॉनिक्स एण्ड  
टेलीकम्यूनिकेशन

