



बी० आई० टी० सिन्दरी, धनबाद, झारखण्ड  
**B.I.T Sindri, Dhanbad, Jharkhand**  
(Higher Technical and Skill Development, Govt. of Jharkhand)



# Potentia

DEPARTMENTAL NEWSLETTER  
**DEPARTMENT OF ELECTRICAL ENGINEERING**

**FACULTY INCHARGE:**

Dr. R. P. GUPTA  
Mr. M. MANI SANKAR

**STUDENT MEMBERS:**

KANISH DUBEY (EE III YEAR)  
ARYA GARG (EE III YEAR)

**PATRON:**

Dr. D. K. SINGH,  
DIRECTOR

**CO-PATRON:**

Dr. D. K. TANTI,  
HEAD, EE

**2** <sup>ND</sup>  
EDITION

DECEMBER - 2019

# FROM THE DIRECTOR'S DESK



Dr. D. K. Singh

**“Almost every way we make Electricity today, except for the emerging renewables and nuclear, puts our CO<sub>2</sub> . And so, what we are going to have to do at a global scale, is create a new system. And so, we need energy miracles. ”**

*I am vainglorious in introducing you all this commendable departmental newsletter of the Department of Electrical Engineering, viz. Potentia. This newsletter describes the details of this ameliorative department of the institution.*

*The Department of Electrical Engineering was established in the year 1949 when the institution was born. It has well equipped laboratories required for undergraduate and postgraduate programs. The vision of the department is to emerge as a globally recognized centre in the field of Electrical Engineering to provide valuable human resource and ambience for innovative research for sustainable development of industry and society.*

*BIT Sindri is an evocative name which projects the image of a pioneer institute that has been acclaimed worldwide for imparting competent technical knowledge and clubbing academic excellence with effective technical skill. The institute has been developing both in infrastructure and academics in order to be capable of catering to this smarter and more technically aware set of graduates. Recently, our institution stood first at national level with our faculty members bagging 21 projects under Collaborative Research Scheme by the AICTE.*

*May all the pupils prove to be assets for the state and the nation as well just the way they are for the institute.*

# Head Of Department's Address



**Dr. D. K. Tanti**

***-A desire can change nothing.  
A decision can change something.  
A determination can change everything.***

***As an institute dedicated to foster technical education, BIT Sindri has uncovered several milestones since its inception back in 1949. We have been nurturing engineers who would eventually shape the innovative front of the nation. For being labelled as an able engineer, one needs excellent expertise, innovative ideas and scientific knowledge of one's chosen domain.***

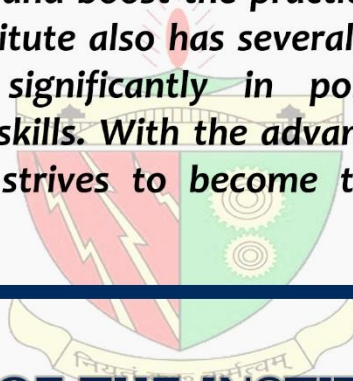
***I feel proud to introduce the departmental newsletter of the department of Electrical Engineering, 'POTENTIA'. As the name advocates for itself, this newsletter will be serving as a platform to communicate the details of every event organised and the activities scheduled by the department to everyone who can in turn contribute their part in the same.***

***I am thankful to the professors and students who took this initiative and made this a successful venture.***

***We hope to conquer many more milestones in the journey towards success by overcoming every challenge that may show up and giving extraordinary performance both in terms of academics and infrastructure.***

# ABOUT THE INSTITUTE

Birsa Institute of Technology, formerly known by the name of Bihar Institute of Technology, is a premier institute under the Department of Science and Technology, Government of Jharkhand. Established in 1949, B.I.T. Sindri boasts of a lush green campus spanning 450 acres and all the amenities to promote the overall development of each student. The college offers Bachelor of Technology (B.Tech) and Master of Technology (M.Tech) programme for the brightest students of the state and aims at the multidimensional grooming of students during their stay. It offers education in ten disciplines of engineering namely- Mechanical, Electrical, Civil, Production, Mining, Metallurgy, Electronics and Communication, Chemical, Information Technology and Computer Science. All the departments are facilitated with laboratories to replenish and boost the practical exposure of students to the theoretical principles. The institute also has several student-run organisations and societies which contribute significantly in polishing students' soft skills, communication and technical skills. With the advancement in placement statistics over the years, B.I.T. Sindri strives to become the Mecca for a multitude of engineers-in-making.



## VISION OF THE INSTITUTE

To provide the valuable human resources for the industry and society through the excellence in technical education and scientific research for the sustainable development.

## MISSION OF THE INSTITUTE

1. To offer the state-of-the-art undergraduate, postgraduate and doctoral programmes.
2. To generate new knowledge by quality research.
3. To undertake the collaborative projects with industries and society.
4. To develop human intellectual capacity with its full potential.
5. To solve problems of society through innovation in technology.

# ABOUT THE DEPARTMENT

The Department of Electrical Engineering was started in the year 1949 when the institute was born. The department offers four years B.Tech. degree course with an annual intake of 100 students. Two years postgraduate program is also offered leading to M.Tech. degree with specialization in Control System and Power System. The annual intake in the postgraduate program is 10. The department is also looking after an electrical sub-station and is maintaining a 14 Km distribution line of BIT campus.

The department has well equipped laboratories required for undergraduate and postgraduate programs. The important laboratories include: Computer Lab, Control System Lab, Microprocessor Lab, Electrical Machines Lab, Instrumentation Lab, Circuit Lab, High Voltage Lab and Electrical Workshop. The prestigious million volt Atkinson High Tension Laboratory of the department is considered as first of its kind in India in the yesteryears.

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## Vision of the Department

To emerge as a globally recognized centre in the field of Electrical Engineering to provide valuable human resource and ambience for innovative research for sustainable development of industry and society.

## Mission of the Department

1. To offer state-of-the-art undergraduate, post graduate and doctorate programmes by providing a conducive environment towards outcome-based teaching learning process with knowledge and skill creation, suitable for contemporary and future needs of industry.
2. To promote creative ambience in order to generate new knowledge by conducting quality research in collaboration with Electrical, Electronics and allied industries.
3. To bridge the gap between industry and academia by framing curriculum and syllabi based on industrial and societal needs so that competency of the students matches the upcoming challenges in education, profession and life.
4. To instil moral and ethical values among the students through holistic personality development so as to ensure human intellectual capacity to its full potential.

# PROGRAM OUTCOMES (POs):

**Engineering Graduates will be able to:**

**PO1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering Fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

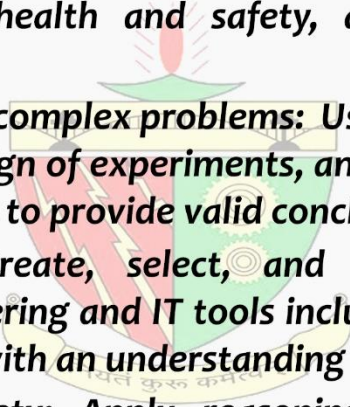
**PO6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.



**PO11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

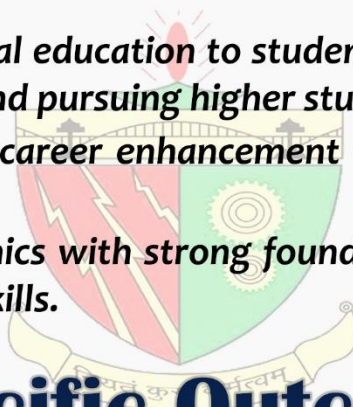
## **Program Educational Objectives(PEOs)**

**PEO1.** To inculcate the attitude to solve real life engineering problems with the implication of the fundamental knowledge based on science and electrical engineering.

**PEO2.** To impart quality technical education to students, which enables them to face challenges in industry, society and pursuing higher studies?

**PEO3.** To envisage expertise in career enhancement with industrial training and to promote leadership skills.

**PEO4.** To foster values and ethics with strong foundation to undertake team work with effective communication skills.



## **Program Specific Outcomes (PSOs)**

**PSO1:** Ability to utilize the knowledge acquired from basic sciences, basic computing and electrical engineering courses to work in multi-disciplinary environment and to cater the diversified needs of industry and academia.

**PSO2:** Ability to identify and solve different technical issues related with electrical engineering by integrating the knowledge acquired from the curriculum and industry-academia interactions.

**PSO3:** Able to demonstrate effective communication and inter-personal skills with management principles for career and professional advancement.

# TECHNICAL ARTICLE

## Smart Meters : Cornerstones of Smart Grids

- Miss Niharika, Asst. Prof., EE Dept.



A smart grid is a new type of power grid under development, which allows unconventional power flow and two-way information flow to create an advanced automatic and distributed energy delivery network. The technology stated is called SMART as it features a number of innovations viz. digital technology, communications, control, better operation of networks and their ability to provide detailed and accurate analytics in real-time or at predetermined intervals, all without a technician. The need for two-way information for the functioning of smart grids forced the researchers to modify the traditional metering system to a smart metering system. Smart meters are an advanced form of meters and differ from electronic meters because of added functionalities. Apart from electricity measurements and automatic meter reading (AMR), they allow the flow of information between the meter and the utility, both ways with the help of advanced metering infrastructure (AMI). Load profiling, pre-payment, remote disconnection and reconnection, power outage notification, tamper detection, and multi-tariffing are also possible with smart meters. Unlike home energy monitors, smart meters can gather data for remote reporting. From an operational perspective, the use of smart meters allows improved management and control over the electricity grid.

### How do smart meters communicate?

Smart meters measure how much electricity has been used and send the data wirelessly to in-home display and also transmit this data to the data and communication company through the local area network (LAN). The company sends this data to the energy company and energy network, where it is further processed using a wide area network (WAN). The energy network manages the wires to distribute electricity and use the data to improve their systems. The energy company shows the amount of energy usage and the cost related to it in the online account and app. This empowers the consumer through the delivery of actual consumption data and allows them to manage it accordingly.



## Architecture of smart metering system:-

The design of a smart meter system is complex and may be classified into three main units, viz. metering unit, processing unit, communication interface.

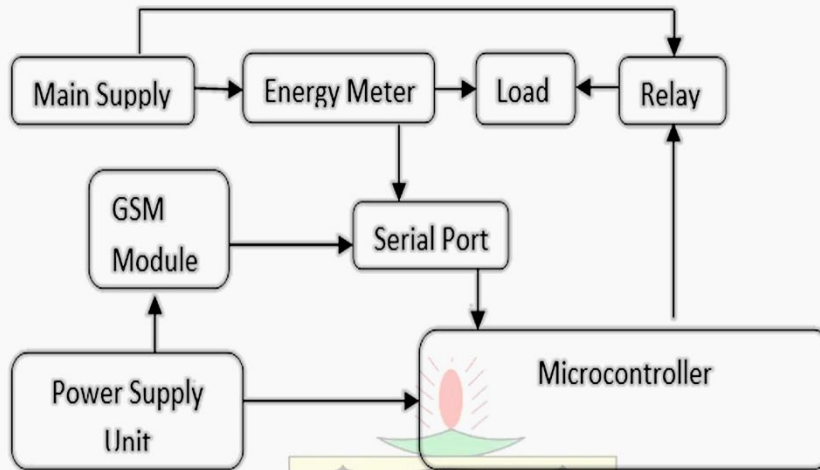


Fig: Basic architecture of smart meter

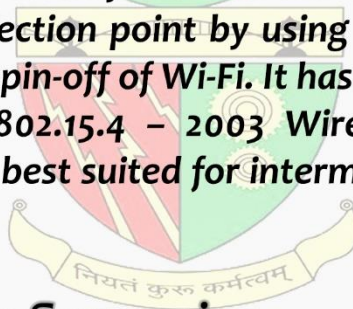
The metering unit majorly consisting of an energy meter, which is responsible for measuring the amount of load connected to the meter. It acts as the interface of the smart energy system to the user's power consumption and measures the amount of power consumed in an hour. The processing unit takes the pulses generated from the metering system and performs calculations on them. It consists of two main subunits: the microcontroller unit and the control unit. The microcontroller is the heart of the device as it controls the entire process of the system using a program written on it. The purpose of the relay in this circuit is to isolate the consumer load from the power grid when either units are exhausted or the generating capacity is low or when the energy meter is being tampered with. The communication unit is solely responsible for sending signals from the energy meter to the utility and to the consumer. It is made primarily of a communication interface such as a GSM modem.

Most electronic devices make use of DC power supplies so it is usually required to rectify the AC input supply, smoothen it and then ensure a steady DC voltage at the output terminals. This is done with the help of the power supply unit that converts mains AC to low voltage regulated DC power.

## Smart Meter Technologies:

The technologies for smart meters are still in the way of exploration but some of the basic technologies used for efficient communication are: Radio Frequency(RF) , Power Line Carrier(PLC), and ZigBee communication. One of these is chosen by the company based on the analysis of the existing needs and the future benefits of the business.

RF smart meter collects the measurement data from the end consumers and then transmits the data by the wireless radio from the meter to a data collector. Then, the data is processed and delivered by several methods to the utility data systems at a central collection location. The utility billing, outage management, and other systems use these data for operational and business purposes. In Point to Point Technology, smart meters talk directly to a collector, usually a tower. The tower collector transmits the data using various methods to the utility central location for processing. In PLC, the data collected by the smart meter can be transmitted from the meter to the utility central collection point by using the utility power lines. ZigBee communication is a low power spin-off of Wi-Fi. It has the specification for small, low power radios based on IEEE 802.15.4 – 2003 Wireless Personal Area Networks standard. ZigBee is simpler and best suited for intermittent data transmissions from a sensor or input device.



## Smart meter in Indian Scenario:

Smart meter technology is critical to India's ongoing power sector reforms. Although, it is still in its early stage but India with its smart meter national program (SMNP), plans to install 25 crore smart meters in the next few years. With the replacement of 25 crore conventional meters with smart meters, billing efficiency can improve from 80% to 100%, and has the potential to increase DISCOM revenues by Rs 1,104 billion. Energy Efficiency Services Limited (EESL) has been spearheading the smart meter deployment in India with the installation of over 6,25,000 smart meters. The government will subsidize smart meters for consumers to be able to buy a single unit for below Rs1,000 from the current Rs15,000 per unit. Some of the major companies in the Indian market involved in this business are Genus Power Infrastructures Ltd, HPL India Ltd., Itron India Pvt Ltd, Larsen & Toubro Limited (L&T), Schneider Electric India Pvt Ltd.

On another note, there are still some challenges faced in this field related to customer's privacy, cyber security risks to users. With the constantly transmitting nature of the device, hackers get an access point and an all-day window for attack. From there, hackers may adjust bills, take payment information and more, often without either party ever knowing. These are one of the major concerns and it is important for energy companies to figure out ways to keep them secure.

Finally, it may be concluded that smart meters will eventually be prevalent everywhere all over the world over the next few decades. Transparency in its usage helps to improve customer relationship and services, encourage decentralization, micro-generation of energy, thus transform the consumer into an energy producer ("Prosumer"). It may be addressed that there are some more hurdles in wholesome implementation but there is no denying that it has the potential to impact the entire electricity system.

## References:

- E. E. Ugonna, A. K. Ademola, A. T. Olusegun, "Design and construction of a smart electric metering system for smart grid applications: Nigeria as a case study," *International Journal of Scientific & Engineering Research*, pp. 798-805, vol. 9, no.7, July-2018.
- J. Zheng, D. W. Gao, L. Lin, "Smart Meters in Smart Grid: An Overview," *IEEE Green Technologies Conference*, pp. 1-8, 2013.
- P. Bansal, and A. Singh, "Smart metering in smart grid framework: A review," *Fourth International Conference on Parallel, Distributed and Grid Computing (PDGC)*, pp. 1-3, 2016.

# ALUMUNI INTERACTION

*An organisations Alumni are the reflection of its past, representation of its present and a link to its future. Department of Electrical Engineering has a high regard for its Alumni and firmly believes that the support and feedback of the Alumni are vital for the all-round growth of the department. In this connection the department periodically arranges interaction of Alumni with students and faculty members. The details of such recent interactions are given here.*

## • Interaction with 1969 batch Alumni:

*Shri A. K. Bose, Shri K. N. Choudhary and Shri H. K. Mishra, 1969 batch Alumni members visited the department on 08/11/2019. Interactive sessions were held with the students and faculty members.*



## • Interaction with 1978 batch Alumnus:

*Shri Janardhan Choudhary, Director (Technical), NHPC, a 1978 entry batch Alumnus has visited the department on 27/11/2019. Interactive session has been held with the faculty members of the department with Shri Choudhary with an agenda to identify the curricular gaps. Shri Choudhary also interacted with the B. Tech. III semester students. During the session he advised the students to improve their soft skills and also stressed on the importance of GATE examination. Shri Choudhary also patiently answered many queries raised by the students regarding preparation of technical interview for core engineering companies.*



# DISTINGUISHED ALUMUNI



## SHRI JANARDHAN CHOUDHARY

*Shri Janardan Choudhary (59 years) holds a degree in Electrical Engineering from Bihar Institute of Technology, Sindri (Jharkhand). He started his professional career in NHPC Limited as Executive Trainee in December, 1984 from Tanakpur Project.*

**Director (Technical),  
NHPC Limited.**

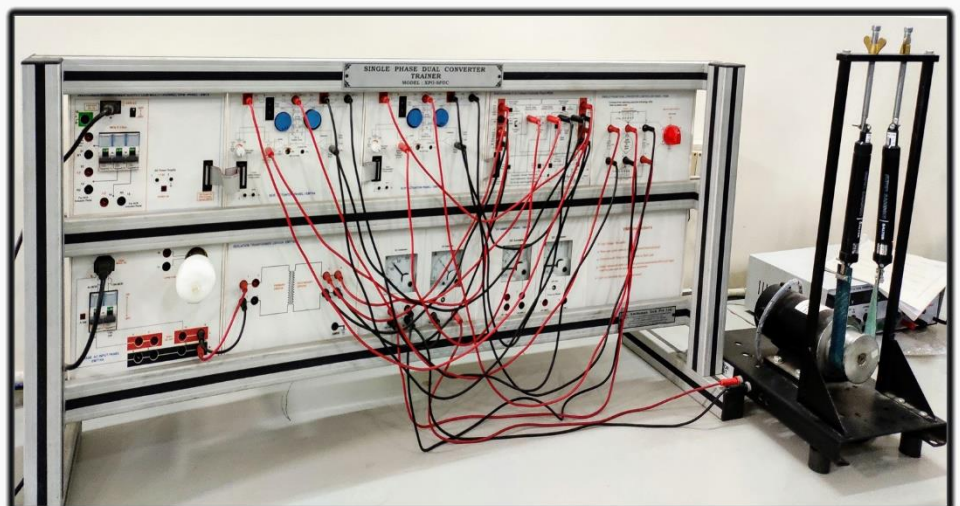
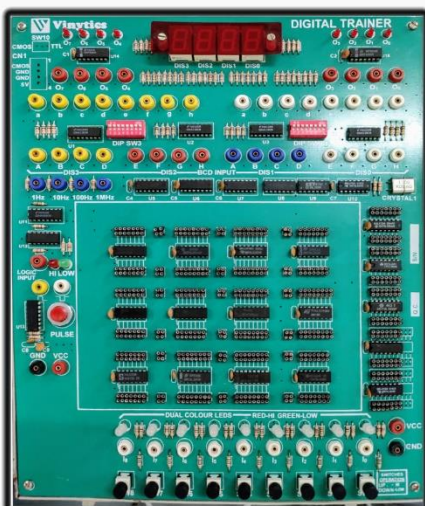
*Shri Janardan Choudhary has over 34 years of rich experience in implementation of hydro projects, encompassing all areas of hydropower development from inception to commissioning and operation and maintenance. Prior to joining NHPC board, he held the position of Executive Director (O&M) and has been instrumental in optimizing the operational performance of the Power Stations within the regulatory framework. He was associated in finalization of DPR for R&M (Life Extension) of Baira Siul and Loktak power stations. Shri Choudhary was actively involved in detailed design & engineering, preparation of power potential & optimization studies, and preparation of Detailed Project Reports (DPRs) for E&M equipment of many projects like Rangit, Parbati-III, Sewa-II, Omkareshwar, Chamera-III, Parbati-II, Subansiri Lower and Dibang. He was involved in erection, testing & commissioning activities of Tanakpur, Rangit and Kurichhu projects and has also been associated with NHPC's consultancy assignments for many projects such as 1200 MW Tamanthi in Myanmar, 720 MW Mangdechhu and 60 MW Kurichhu in Bhutan. He served in various capacities at power stations namely Tanakpur & Uri and as the Head of the Plant at Chamera-I and Chamera-II. Shri Janardan Choudhary joined the Board of NHPC Limited on July 5, 2018.*

# NEW FACILITIES CREATED IN THE DEPARTMENT

- **ETAP software:** ETAP is the most comprehensive analysis platform for design, simulation, operation and automation of generation, distribution, and industrial power systems. ETAP software with 30 users is procured in September 2019 and made available in the Computer lab of the department.

- **Power System Lab:** A state-of-art power system lab has been established in the department. This laboratory helps to demonstrate the operational aspects of power systems for the under graduate students. Three phase power transmission line trainer model, three phase fault analyzer and transformer protection simulation experimental module are the major equipment o the lab.

- **Lab Upgradation:** In a process to modernise the laboratories new equipment/ instruments are procured in power electronics lab, microprocessor and microcontroller lab, BEE lab, Control system lab and Measuring & Instrumentation lab.



# INSTITUTE NEWS

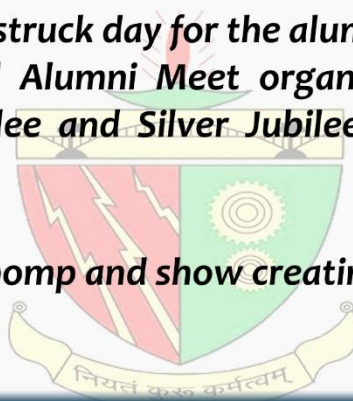
- AIESEC, with its motto, "Activating Youth leadership since 1948" is the world's largest youth-run organisation. It provides an opportunity to live a shared responsibility for the world by sending its student members for foreign internship in countries like Ukraine, Malaysia, Egypt and Vietnam. This year the count of students going for internship was 16.
- One of the oldest cultural clubs of BIT Sindri, Arts Club, strives to preserve the long rich tradition of Art and Culture and allows students to showcase their hidden talents. It registered its participation in the mega cultural fest Ensemble Valhalla of XLRI, Jamshedpur.
- BIT Sindri witnessed a three day long annual mega cultural fest named Sharad Utsav. Under this event, the Arts Club organised its events Sargam, Nrityanjali, Abhinay and Foley along with the enchanting performances at the end.
- Eco Club organised events like Tricky Tree, Tap the Cap, Best from Waste, pehchano toh jaane ending it with a green marathon.
- "Samarpan" was organized by the painting wing along with Graffiti.
- Rotaract Club of Sindri, sponsored by "Rotary International" organised Encore and Chakravyuh.
- Literary Society organised an open mic event called Dhvani, wherein the contest had an open platform for people to present their ideas through poetry, short story, poem, monologue or stand ups.
- Gandhi Rachnatmak Samiti organised "Kislay" during the cultural fest which consisted of segments like General Election and Seedhi baat.
- BIT Cultural Society has been working to encourage the culture of various tribal groups in the institute. This association also gave us an opportunity to have a glimpse at the various indigenous traditions at the Sharadotsav.





- **The oldest functioning club of BIT Sindri, The Photography Club also organised Sparsh'19 including the display of magnificent photographs in its event Glossaruim and dj night.**
- **Leo Club of BIT Sindri, the youth organization of Lions Club International organised the most awaited "Fresher of the year competition" having various segments like Prarambh,Pfoy,180 degrees,Karaoke,Silver Screen and ABCD.**
- **To kindle the very spirit of igniting zeal and inspiration in the populace of our institution, the inauguration of TEDxBITSindri took place on 12th November. It brought together, a stellar line-up of unprecedented speakers like Mr Vinay Singh, Major Mohammad Ali Shah, Mrs.Saira Shah Halim,Mr.Jogesh Jain and Mr.Ashutosh Kumar all having a high degree of knowledge in their respective fields.**
- **The Hackathon and Coding Club of BIT Sindri conducted its first version of hackathon on a national level, "HACKATRON '19", on November 16-17 in the college campus. The 24 hour-long continuous event focused on the solutions and ideas for resolving many real-life problems and this event witnessed a zealous participation of various colleges of India.**
- **Sports Club of BIT Sindri organized the most awaited annual sports extravaganza, the inter-branch Football tournament and inter-branch Kho Kho tournament for the techie lads and lasses.**
- **To promote social values and civic goals,Prayaas India,Leo Club and Rotaract Club organised a blood donation camp.**
- **Start up and incubation cell of BIT Sindri has set up an ecosystem for budding entrepreneurs.It organised it's three day StartUp Conclave inviting eminent guest speakers like Mr.SN Sharma, a US based entrepreneur, Mr.Shashank S Garuryar, Mr. SK Singh, Mr.Amit Roy, Mr.Kamal Nath, Ms.Kumud Sharma, Mr.Amar Kumar Yadav, Mr.Ashok Chaurasia, Mr. Balwant Lal Suman, Mr. Santosh Anshumali along with others like Mr. Saurav Karmakar, Mr.Gaurav Singh, Mr.Ravi singh Choudhary and organising successful events for students like logo designing, poster designing etc.**

- To bring out the technical worth of the young technocrats of the institute the Model Club organised events like Listiquiz, a technical blogging cum quizzing competition along with Techie Of the Year, a platform to show one's technical prowess by practically designing their own ideas.
- IETE, Institute of Electronic and Telecommunication engineers organised Unicorn, an opportunity for the students to unleash the entrepreneurs within them along with a pubg championship to check out the gaming passion among students.
- ISTE Students Chapter BIT Sindri, organised it's completion of Aavishkar, to get the best innovation out of waste and qi festa, a quizzing event.
- It was a jolly and a nostalgia struck day for the alumnis to visit their alma mater after years during the Annual Alumni Meet organised by BITSAA which was celebrated as the Golden Jubilee and Silver Jubilee of 1969 and 1999 batches respectively.
- The event ended with great pomp and show creating a wistful desire in them to return to a former student life.



# PLACEMENT RECORD

(Session 2015-2019)

NAME OF THE STUDENT	COLLEGE ROLL	COMPANY NAME	CTC(IN LPA)
ANKITA CHATTERJEE	1501021	TATA POWER	5.5
KUNAL KUMAR	1501045	TATA POWER	5.5
NAVIN ORAON	1501052	TATA POWER	5.5
NIKESH KUMAR SAHA	1501055	TATA POWER	5.5
RAKESH DUBEY	1501072	TATA POWER	5.5
SATYAM SHUBHAM	1501081	TATA POWER	5.5
SHUBHAM KUMAR	1501088	TATA POWER	5.5
SANJAY KUMAR	1501078	TATA POWER	5.5
NILESH KUMHAR	1501056	TATA POWER	5.5
ASHA KUMARI	1501024	JSW DOLVI	6
ANUJ KUMAR	1501022	JSW DOLVI	6
VIVEK KUMAR	1501019D	JSW DOLVI	6
ABHISHEK BAKSHI	1501004	JSW DOLVI	6
MD. AQUIB ISSA	15010048	JSW DOLVI	6
MUKESH KUMAR MAHATO	15010051	JSW DOLVI	6
BALYA SOREN	1501027	TATA STEEL	10.1




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NAME OF THE STUDENT	COLLEGE ROLL	COMPANY NAME	CTC(IN LPA)
VIJAY LAXMI JHA AMIT KUMAR SINGH PRAJWAL SHARMA	1501101 1501015 1501061	VEDANTA VEDANTA VEDANTA	7.95 7.95 7.95
RAHUL KUMAR ADITYA PRAKASH VIDYANAND YADAV SAURAV KUMAR BARIK	1501065 1501010 1501100 1501082	L&T L&T L&T L&T	6.5 6.5 6.5 6.5
YASH ANAND SHEETAL KUMAR AKASH KUMAR ANUJ TOPPO ABHISHEK KUMAR	1501103 1501085 1501104 1501023 1501006	UTTAM GALVA UTTAM GALVA UTTAM GALVA UTTAM GALVA UTTAM GALVA	3.6 3.6 3.6 3.6 3.6
LOVELY PRIYA SATYAM KUMAR RAVI	1501047 1501080	TCS NINJA TCS NINJA	3.36 3.36

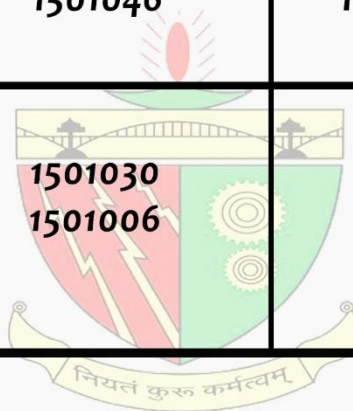
**TATA CONSULTANCY SERVICES**



NAME OF THE STUDENT	COLLEGE ROLL	COMPANY NAME	CTC(IN LPA)
DIKSHA GUPTA VISHAL KUMAR SINGH SHUBHAM RAJ	1501034 1501102 1501091	JINDAL STAINLESS STEEL JINDAL STAINLESS STEEL JINDAL STAINLESS STEEL	6 6 6
NAVIN ORAON ABHISHEK HAZRA RAHUL KUMAR SHWETA KUMARI	1501052 1501005 1501065 1501096	WIPRO WIPRO WIPRO WIPRO	3.5 3.5 3.5 3.5
BARSHA KUMARI ATUL KUMAR	1501028 1501026	CAMFIL CAMFIL	8 8



NAME OF THE STUDENT	COLLEGE ROLL	COMPANY NAME	CTC(IN LPA)
ABHISHEK BAKSHI	1501004	ANALYTICS QUOTIENT	4
SUBHAM BOSE	1501093	TSPDL	5
KUNDAN KUMAR KUNDAN KUMAR	1501046 1501046	ZS ASSOCIATES TCS CODEVITA	6.53 3.36
BINOD KUMAR ABHISHEK KUMAR	1501030 1501006	VIRAJ STEEL VIRAJ STEEL	3.6 3.6



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DISTRIBUTION LIMITED**

# Student Achievements

## **GATE Ranks:**

• Our student **Abhishek Kumar (Roll No:1501007)** secured an exemplary All India Rank of 64 in the Graduate Aptitude Test for Engineers(GATE).

• Another student of the department, **Aditya Raj Barnwal (Roll No: 1501001)** also qualified the GATE examination in 2019 securing an All India Rank of 963, wherein he had appeared for the subject- Computer Science and Engineering.

Aditya proves that the students of this department excel not only in the core subjects, but portray an overall excellence in the every arena of engineering.

## **STUDENT PUBLICATIONS:**

• Archana kumari (1601021): Enhancing Oscillation Damping in a Power Network using EWOA Technique, International Conference on 'Emerging Trends for Smart Grid Automation and Industry 4.0' (ICETSGAI4.0) at BIT Mesra, scheduled on 5-7 Dec 2019.

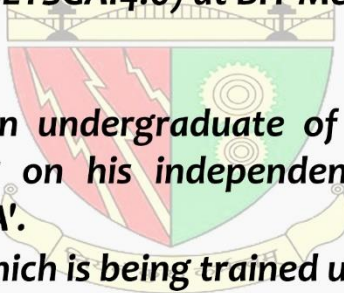
## **ADORA- the AI Robot**

**Abhineet Mishra (1701044)**, an undergraduate of the department of Electrical Engineering has been working on his independent project based on Artificial Intelligence, one he calls, 'ADORA'.

This is currently a biped robot which is being trained using 'Reinforcement Learning'. According to Abhineet, the main objective behind this endeavour is to have real world sensation about Artificial Intelligence. The robot is being trained in the OpenAI simulating environment using Pybullet Physics Engine. The entire department is proud of his work, and extends every support that he might need to continue his work in the robot.

## **Autonomous Drone for Drone Delivery Service-**

**Abhineet Mishra** has also been working extensively on another project centred around autonomous drone. He, along with his team, has developed autonomous drone system for the Drone Delivery Startup. The drone has the capability to identify and track different objects and sense the surrounding which was made possible using Computer Vision. It has got GPS inbuilt technology which helps in going from one place to another without user's intervention and also it has the capability to avoid obstacles in air.



## WOMEN OF METTLE, TATA STEEL-

**Payel Gorai (170159)**, an undergraduate student of the department was selected amongst the top 50 female sophomore students from the country who qualified the first round of Women of Mettle, a country-wide competition organised by TATA STEEL. Payel presented her extensive research project analysis on the topic, 'Study for arresting chronic problems of TSU tripping on no sink fault during NTM jog operation' in the final round of the competition and bagged a Pre Placement Internship at the reputed firm bringing laurels to the department and the institute as a whole.

## MIND OF MATTER, TATA STEEL-

**Jaya Sinha (1601039)**, an undergraduate student of our department participated in the annual innovation challenge, 'Mind Over Matter' organised by TATA STEEL wherein an array of problem statements are floated and the students are expected to come up with the most novel and practical solution to those. Jaya proved her mettle in the national competition and was awarded the second prize in the final round of Mind Over Matter. Jaya successfully completed her summer internship at TATA and was awarded a Pre-Placement Offer from the organisation along with cash prize. The entire department is proud of her and congratulates her on this huge success.

