



**LLOYD INSTITUTE
OF ENGINEERING
& TECHNOLOGY**

Departmental Technical Magazine

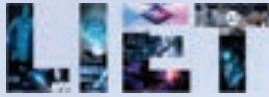
ELECTRONOVA

Volume -2, Issue: 01

Department of ECE & EEE

Session - 2023-24

About



LIET, Lloyd Institute of Engineering & Technology has become a place where dreams are indeed transformed into reality. The institute is affiliated to Dr. A.P.J. Abdul Kalam Technical University (Formerly UPTU) and recognized by the A. I. C. T. E. (Min of HRD), New Delhi, and

Affiliated to



Lucknow

Approved by



New Delhi



VISION

“To emerge as an Institute of academic excellence by empowering young minds through problem-solving skills, knowledge & ethical values and transforming them into professionals of global competence”.



MISSION

M1: To equip the students with state-of-the-art technological advancement and skills.

M2: To create a conducive environment for teaching and learning through continuous engagement with industry for corporate understanding and Professionalism.

M3: To focus on holistic development of students through enhanced learning along with moral and ethical value system.



About Department

The Electronics and Communication Engineering department sparks innovation by blending the Internet of Things, embedded systems, cutting-edge communication technologies, and signal processing, shaping students to lead in the dynamic world of modern technology. The Electronics and Communication Engineering Department at Lloyd is committed to providing a learning environment that blends academic excellence with technological innovation. With a focus on research and practical application, the department prepares students to excel in communication systems, electronics, and signal processing. Located in Greater Noida, Lloyd benefits from proximity to India's growing semiconductor industry. The Indian government's India Semiconductor Mission (ISM) is investing ₹76,000 crore in the sector, offering opportunities for students to engage with the latest advancements in chip manufacturing. This strategic location positions Lloyd students to take advantage of emerging industry trends and career opportunities in the tech field.



"To evolve as an Engineering department imparting Quality Education having Domain Knowledge with Multidisciplinary Skills & Entrepreneur Mind, thriving towards Global Competence with commitment to Ethical values, actions for an inclusive and Sustainable world".



Establish a skilled and innovative teaching- learning environment to create globally competent engineers.

To develop strong partnership with domain specific and other allied industries for current developments and industry needs.

To establish an atmosphere that encourages entrepreneurship and innovation to solve the real problems.





Program Educational Objectives (PEOs)

1. To cater the need of domain specific industries through In-depth Knowledge.
2. To adapt Multidisciplinary technologies and leadership qualities for better Employability, higher Education and Entrepreneurship in Communication and VLSI domain.
3. To sustain with ever changing global technologies through the Life Long Learning.

Program Specific Outcomes (PSOs)

1. Apply fundamental knowledge of electronics, signal processing, communication systems, and embedded systems to solve real-world engineering problems and to design reliable and efficient electronic systems.
2. Demonstrate the ability to design, simulate, and analyze electronic circuits, communication systems, VLSI architectures, and embedded platforms using modern engineering tools and technologies.
3. Utilize electronics and communication principles to develop innovative solutions in automation, wireless communication, IoT, robotics, and industrial electronics, contributing to technology and society.

Electronics and Electrical Engineering

To ensure education and technology self-sufficiency for quality teaching-learning process, research, outreach services to meet the needs and expectations of our stakeholders. The Electronics and Communication Engineering department at LIET, Greater Noida, provides a comprehensive B.Tech program focused on core subjects and practical skills, covering specializations like VLSI and embedded systems. With experienced faculty and well-equipped labs, the department fosters a collaborative research and teaching environment, emphasizing both technical and professional development through workshops and seminars. As per the institute Co-Op program, the department is also providing specialized training in the areas of microelectronics, telecommunication to VLSI Design and fabrication that develop expertise and knowledge of the students to compete in the respective fields of industries and academia.



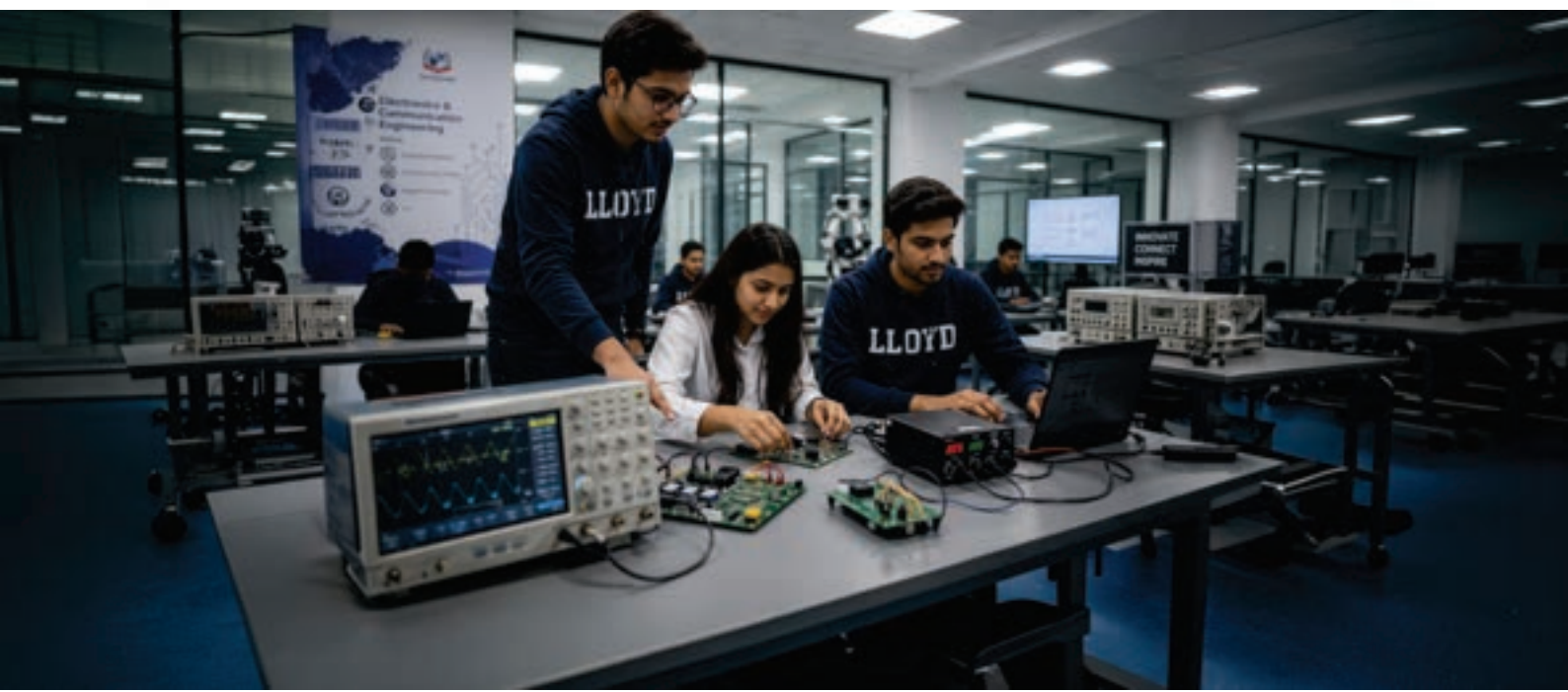
"To be a pioneer in the field of science and technology by providing quality education, and developing technical and professional skills of the students to accomplish societal needs."



To give exposure to the students about recent technologies developed in their respective areas and some inter-disciplinary fields across the globe through in-house training, company visits, and creating projects with advanced technologies.

To impart an exhaustive knowledge of the core subjects to the students in their respective fields of science and engineering.

To build up the ethical and professional skills of the students with the inspiration of innovative ideas, teamwork, and leadership potential.





Program Educational Objectives (PEOs)

1. A reputation as a professional with leadership qualities and excellent communication skills.
2. Apply, analyze and plan the accrued knowledge in mathematics and basic sciences in solving complex electronics and communication engineering problems.
3. Design and test various analog and digital electronics systems for given specifications.

Program Specific Outcomes (PSOs)

1. Apply the fundamental concepts of Electronics and communication engineering in various fields like signal processing, Communication engineering, Embedded Systems and VLSI.
2. Select and apply engineering hardware and software tools to solve complex Electronics and Communication Engineering problems.
3. Analyze and Design various elements of communication systems and signal processing.

President

Mr. Manohar Thairani



It gives me immense pride and satisfaction to witness the remarkable growth and achievements of the CSE & Allied Branches at LIET. In an age where technology drives progress and innovation shapes the future, Computer Science stands at the core of global transformation.

At LIET, we believe that education must evolve alongside technology. Our vision is to create a dynamic academic ecosystem that nurtures innovation, leadership, ethical values, and a spirit of entrepreneurship. The CSE & Allied Branches are playing a pivotal role in realizing this vision by producing future-ready professionals equipped with technical excellence and strong moral foundations.

This magazine is a reflection of the intellectual energy, creativity, research excellence, and innovative mindset of our students and faculty members. It highlights their accomplishments and reinforces our commitment to academic distinction and continuous improvement.

This magazine is a reflection of the intellectual energy, creativity, research excellence, and innovative mindset of our students and faculty members. It highlights their accomplishments and reinforces our commitment to academic distinction and continuous improvement.

I extend my heartfelt congratulations to the entire CSE & Allied Branches team for their dedication and commendable efforts in bringing out this publication. I encourage all students to think big, stay curious, and lead the technological revolution with confidence and integrity.

Together, let us build a future driven by knowledge, innovation, and excellence.

Senior Director

Prof. (Dr.) Rajeev Agrawal



In the era of exponential technological evolution, I extend a warm welcome to all students, faculty members, and readers of the CSE Magazine at LIET. Today, technology is not merely advancing — it is transforming the way we live, learn, and innovate. At LIET, we recognize the importance of staying ahead in this ever-evolving digital landscape.

Our commitment goes beyond conventional education. We strive to nurture future-ready engineers equipped with cutting-edge technical expertise, innovative thinking, and the adaptability required to excel in a fast-paced global environment. The Department of Computer Science & Engineering plays a pivotal role in driving this vision by fostering creativity, research, and industry-oriented learning.

This magazine reflects the intellectual vibrancy, technical achievements, research initiatives, and creative pursuits of our CSE students and faculty. It stands as a testament to their dedication and the institution's progressive academic environment.

I encourage all students to embrace innovation, think beyond boundaries, and continuously upgrade their skills. The future belongs to those who are prepared to evolve with technology and lead with vision.

Embrace the evolution. Shape your future.

Dean (R & D) – LIET

Dr. S.P. Dwivedi



At Lloyd Institute of Engineering and Technology, the Department of Computer Science & Engineering is emerging as a dynamic center of technological excellence and research-driven innovation. As Dean (R&D), I am proud of the enthusiasm and dedication shown by our CSE students and faculty in rapidly evolving fields such as Artificial Intelligence, Machine Learning, Data Science, Cyber Security, Cloud Computing, and the Internet of Things. Our focus is not only on academic achievement but also on nurturing analytical thinking, creativity, and a strong problem-solving mindset that prepares students to lead in the digital era.

The Research & Development ecosystem within the CSE branch is designed to encourage curiosity, experimentation, and collaboration. Through funded research projects, industry-driven problem statements, hackathons, coding competitions, and interdisciplinary innovation initiatives, students are provided with hands-on exposure that bridges the gap between academic learning and industry expectations. We actively promote research publications, patent filing, startup incubation, and participation in national and international technical competitions to strengthen our students' global outlook.

Collaboration remains the cornerstone of our growth. We continuously seek partnerships with technology companies, research organizations, and academic institutions to provide our students with advanced laboratories, expert mentorship, internships, and real-time project opportunities. Our aim is to build a dynamic research culture where innovation thrives and ideas transform into impactful technological solutions.

I firmly believe that the future belongs to those who innovate. Through strong academic foundations, ethical values, and a spirit of continuous learning, the CSE branch at LIET is committed to shaping future-ready professionals who will contribute significantly to society, industry, and the nation. Together, let us continue to explore, innovate, and excel in the ever-evolving world of computing and technology.



Pitch Cypher: Fostering Innovation and Entrepreneurial Thinking

Lloyd Institute of Engineering & Technology (LIET) successfully organized Pitch Cypher—an Idea Pitching Contest—on 24th May 2024 at the Seminar Hall. The event aimed to promote innovation, creativity, and entrepreneurial thinking among students by providing a platform to present ideas addressing real-world challenges and technological opportunities.

The event was graced by Chief Guest Mr. Birendra Satyarthi, Director of S.B Electronics, who delivered an inspiring keynote encouraging students to transform ideas into practical & impactful ventures. Participants showcased innovative concepts, demonstrating strong problem-solving abilities and communication skills.

A panel of distinguished judges evaluated the presentations & offered valuable feedback, helping students refine their ideas and understand the practical aspects of business development. The competition witnessed enthusiastic participation, reflecting a vibrant culture of innovation at LIET.



LLOYD INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT : ECE & EEE
TECHTRONIX CLUB
Presents
Pitch Cypher
Ignite your ideas...

Register Now
[QR Code]
Last Date for Registration
21st May, 2024

Solo or Team of Maximum 4 Members
Presentation Should Not Exceed 10 Minutes
Top 3 Ideas Will be Awarded
Certificates for All Participants

24th May 2024 | 01:00 PM Onward
Venue : Seminar Hall, LIET, Greater Noida

Student Coordinators
Narayan Sudhir : +91 7982335606
Arya Sharma : +91 9634781103

Logos: LLOYD, INSTITUTIONS INNOVATION COUNCIL, TECHTRONIX CLUB, USTAD START INUP



The prize distribution ceremony was a proud and memorable moment, where winners were honored for their outstanding performance and innovative ideas. The awards were presented by the Director, who congratulated the participants and appreciated their dedication, creativity, and hard work.

The ceremony highlighted the importance of recognizing talent and encouraging students to strive for excellence. The Director motivated students to continue pursuing innovation and transforming their ideas into impactful solutions.



Hands-On Learning: 3-Day VLSI Design Workshop (Cadence)

Lloyd Institute of Engineering & Technology successfully organized a 3-day workshop on VLSI Design Tool (Cadence) from 22nd to 24th April 2024, in collaboration with Entuple Technologies Pvt. Ltd. The workshop aimed to provide students with practical exposure to industry-relevant tools and techniques used in Very Large Scale Integration (VLSI) design.

The sessions were conducted by experienced industry professionals who introduced participants to the fundamentals of VLSI design, along with hands-on training using Cadence software. Students gained insights into circuit design, simulation, layout techniques, and verification processes, enhancing both their theoretical understanding and practical skills.

The workshop witnessed active participation from students of Electronics and related branches, who showed great enthusiasm in learning advanced design methodologies. Interactive sessions, real-time demonstrations, and problem-solving activities made the learning experience engaging and impactful.



Expert Talk on Wireless Communication and Renewable Energy

The Department of ECE/EEE at Lloyd Institute of Engineering & Technology organized an insightful expert talk on "Wireless Communication & Renewable Energy" on 11th December 2023 at the institute campus. The session was delivered by Mr. Mohd. Azam, Managing Director of Integrated Green Energy and Automation Systems Pvt. Ltd., New Delhi.

The talk focused on the growing importance of wireless communication technologies and their integration with renewable energy systems in today's rapidly evolving technological landscape. The speaker highlighted advancements in communication networks, energy-efficient solutions, and the role of sustainable energy sources such as solar and wind power in modern infrastructure.





LLOYD SKILLS CENTRE

Empowering Through Skills



TRAINING MODULE-1

I - DRONE TECHNOLOGY

This lab focuses on the design, building and customization of Unmanned Aerial Vehicles (UAVs) or drones for various applications. Catering to diverse needs such as agricultural survey, mapping, reconnaissance and surveillance this incubation centre will create new dimension for students



II-ELECTRIC VEHICLES



III - BATTERY LAB



Sensors and Their Applications

Sensors are devices that detect and measure physical parameters such as temperature, pressure, light, motion, and humidity, converting them into electrical signals for processing. They play a vital role in modern technology by enabling systems to monitor and respond to real-world conditions.

Sensors are widely used in various applications. In industrial automation, they ensure precision and safety in manufacturing processes. In healthcare, sensors are used in medical devices for monitoring vital signs. In smart homes, they control lighting, security, and energy usage. Additionally, sensors are essential in automotive systems, environmental monitoring, and IoT-based applications.

With advancements in technology, sensors are becoming more accurate, compact, and energy-efficient, driving innovation in automation and intelligent systems.

KHUSHI CHAUHAN

B.Tech CSE 3rd Year

NARAYAN SUDHIR

B.Tech ECE 2nd Year



Biomedical Electronics & Medical Devices

Biomedical electronics focuses on the application of electronic engineering principles in healthcare to design and develop medical devices for diagnosis, monitoring, and treatment. It combines electronics, biology, and medicine to improve patient care and medical outcomes.

Medical devices such as ECG machines, blood pressure monitors, imaging systems, and wearable health trackers rely on electronic circuits and sensors to collect and analyze physiological data. These devices help in early diagnosis, continuous monitoring, and effective treatment of various health conditions.

Biomedical electronics is widely used in hospitals, clinics, and home healthcare systems. With advancements in technology, modern medical devices are becoming more portable, accurate, and user-friendly, supporting telemedicine and remote patient monitoring. This field continues to play a crucial role in enhancing healthcare services and improving quality of life.

NIKHIL SINGH

B.Tech CSE 3rd Year

AADI JAIN

B.Tech ECE 2nd Year



Energy Conservation and Efficiency Techniques

Energy conservation and efficiency techniques focus on reducing energy consumption while maintaining optimal performance. These practices are essential for lowering energy costs, minimizing environmental impact, and promoting sustainable development.

Common techniques include using energy-efficient appliances, LED lighting, and proper insulation in buildings to reduce energy loss. In industries, energy-efficient machinery, waste heat recovery, and automation help optimize power usage. Smart systems, such as sensors and IoT-based controls, further enhance efficiency by managing energy consumption in real time.

Adopting renewable energy sources, regular maintenance of equipment, and promoting awareness about responsible energy use also contribute to conservation efforts. Together, these techniques play a vital role in achieving long-term energy sustainability and environmental protection.

RAJAT YADAV

B.Tech ECE 2nd Year



Role of Electrical Engineers in Smart Cities

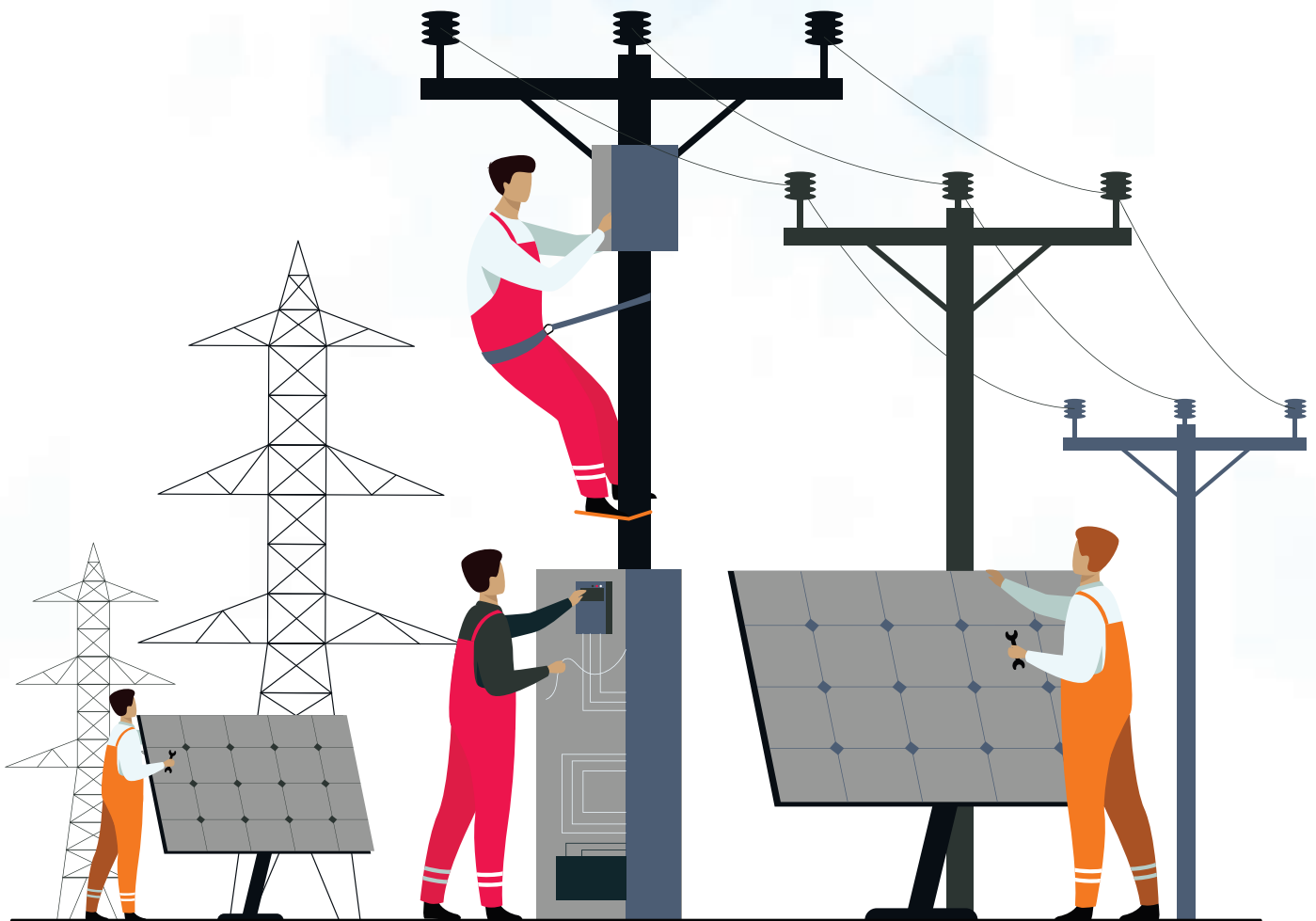
Electrical engineers play a crucial role in the development of smart cities by designing and managing efficient, reliable, and sustainable electrical systems. They are responsible for power generation, transmission, and distribution networks that support modern urban infrastructure.

In smart cities, electrical engineers contribute to the integration of renewable energy sources, smart grids, and energy storage systems to ensure efficient energy management. They also work on intelligent lighting systems, automated traffic control, and advanced communication networks that enhance urban living.

Additionally, electrical engineers develop and implement IoT-based solutions, enabling real-time monitoring and control of utilities such as water supply, waste management, and public safety systems. Their expertise helps improve energy efficiency, reduce operational costs, and create environmentally friendly urban environments.

NITYA VERMA

B.Tech CSE 3rd Year



Latest Trends in Electrical Engineering

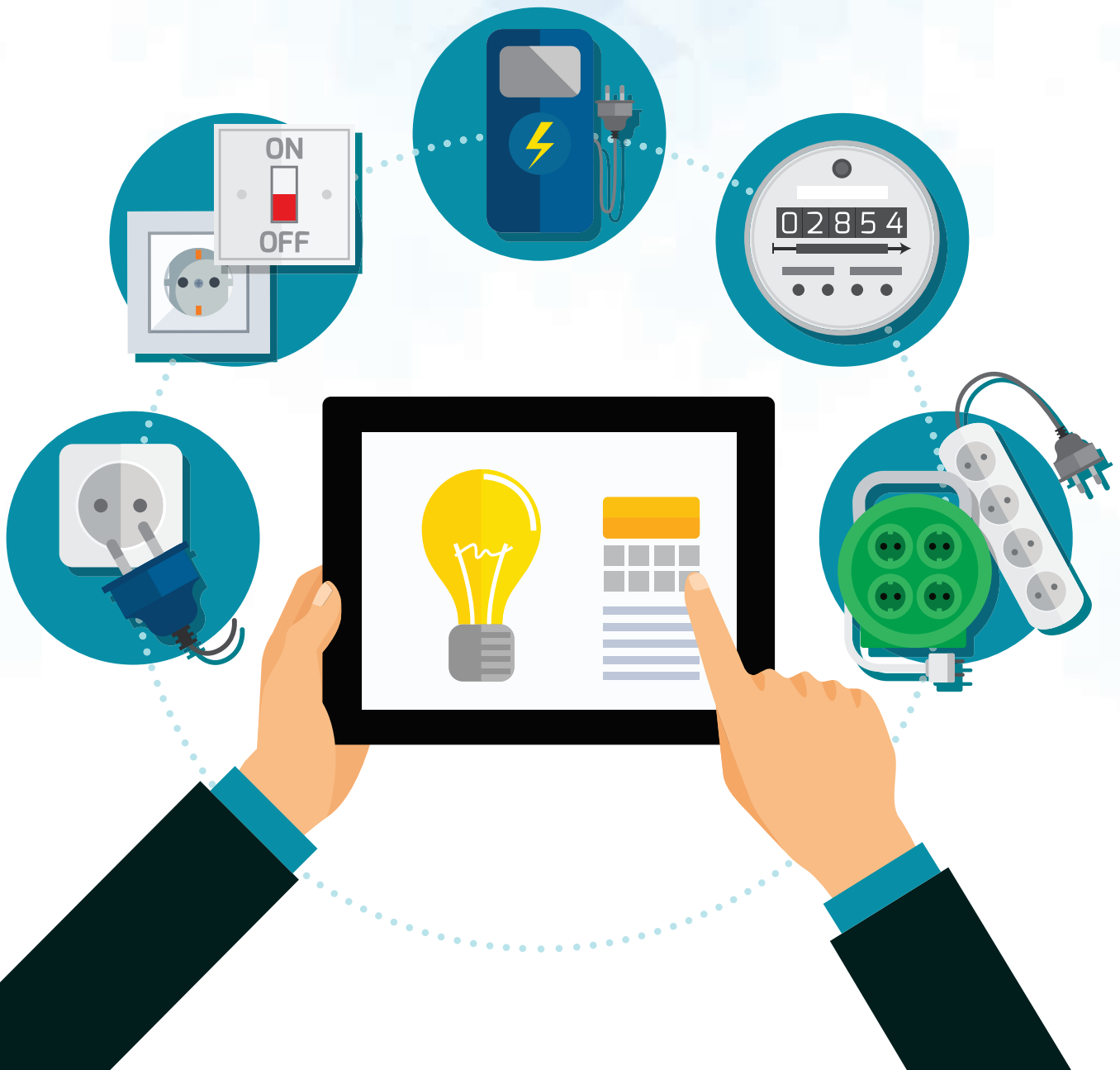
Electrical Engineering is advancing with a strong focus on sustainability and smart technologies. Renewable energy sources like solar and wind are becoming more prominent, leading to the development of efficient and reliable power systems.

Smart grids are transforming traditional electricity networks by enabling real-time monitoring and better energy management. The growth of electric vehicles is also driving innovation in battery technology and charging infrastructure.

Additionally, the integration of Artificial Intelligence (AI) and the Internet of Things (IoT) is improving system performance through automation, predictive maintenance, and data-driven decision-making.

ANSH RATHORE

B.Tech ECE 2nd Year



EDITORIAL BOARD

Editor-in-Chief

Dr. Ravikant Prasad

HoD (ECE & EEE Department)



Editor

Ms. Karabi Kalita

Assistant Professor, ECE



Mr. Ravi Kalra

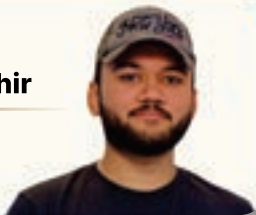
IIC Convener, LIET



Sub-Editor

Narayan Sudhir

2201530310006



Aadi Jain

2201530310001



Rajat Yadav

2201530310010



Content Editor

Khushi Chauhan

B.Tech CSE 5th Semester

Nikhil Singh

B.Tech CSE 5th Semester

Nitya Verma

B.Tech CSE 5th Semester

Aadi Jain

B.Tech ECE 3rd Semester