



**LLOYD INSTITUTE
OF ENGINEERING
& TECHNOLOGY**

Departmental Technical Magazine

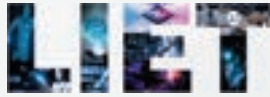
ELECTRONOVA

Volume -1, Issue: 01

Department of ECE & EEE

Session - 2022-23

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 – IQAC, LIET

Prof. (Dr.) Arun P. Srivastava



It gives me great pleasure to share my thoughts through the Computer Science & Engineering Department Magazine of Lloyd Institute of Engineering and Technology. Such publications serve as an important platform to showcase the academic achievements, research initiatives, creative ideas, and technological innovations of our students and faculty members.

At LIET, the Internal Quality Assurance Cell (IQAC) is committed to fostering a culture of continuous improvement, academic excellence, and quality enhancement in all institutional activities. We believe that quality education is not limited to classroom learning but extends to research, innovation, technical activities, and knowledge sharing. Initiatives like departmental magazines encourage students to express their ideas, share their technical knowledge, and develop creativity alongside academic learning.

The CSE department plays a significant role in shaping future technologists by engaging students in emerging domains such as Artificial Intelligence, Data Science, Cyber Security, and Cloud Computing. I appreciate the efforts of the editorial team, faculty members, and students who have contributed to this magazine and made it a reflection of the department's vibrant academic environment.

I congratulate the entire CSE department for this initiative and wish the magazine continued success in inspiring knowledge, innovation, and excellence.



Bridging Academia with Industry Insights

The Lloyd Institute of Engineering & Technology organized an engaging Industry Expert Talk aimed at bridging the gap between academic learning and real-world industry practices. The session offered students valuable insights into current trends, professional workflows, and practical applications of their studies.

The highlight of the event was the felicitation of the guest speaker, who was honored with a certificate of appreciation for sharing their expertise and experience. Faculty members and organizers joined in acknowledging the speaker's contribution.



Exploring Innovation at India Mobile Congress

The inauguration of the India Mobile Congress 2023 marked a significant moment in the nation's rapidly evolving digital landscape. Held at Bharat Mandapam, the event brought together industry leaders, innovators, and technology enthusiasts from across the country.

The ceremony was graced by Narendra Modi, who emphasized the importance of innovation, connectivity, and digital transformation in shaping India's future. The grand setup and enthusiastic participation reflected the growing momentum of India's tech ecosystem.

With discussions, exhibitions, and collaborations at its core, the event showcased cutting-edge advancements in mobile technology and digital infrastructure, reinforcing India's vision of a digitally empowered future.



Electrathon 1.0

Electric Mobility Championship

Electrathon, a remarkable event on Electric Vehicle Sustainability in the Indian Perspective, created waves in the technology realm! The event attracted passionate individuals from the fields of sustainable technology and automotive innovation, who showcased their skills and zeal for a greener future. Prominent media outlets like Noida NCR captured the essence of this extraordinary event. With cutting-edge technology and groundbreaking initiatives, Electrathon has left an everlasting impression on the tech community of Delhi NCR. We take immense pride in organizing such a spectacular event, showcasing our commitment to shaping a sustainable engineering education. Stay tuned for more thrilling events coming your way at the Lloyd Institute of Engineering and Technology



The poster for the Electrathon 2023 E-Mobility Championship is a vibrant yellow and blue design. At the top, it features the Lloyd Institute of Engineering & Technology logo and the tagline "Empowering Through Skills". The central image shows a group of cyclists racing. The event title "ELECTRATHON - 2023" is prominently displayed in large, bold, black letters. Below the title, it specifies "E-Mobility Championship (A Proud Initiative of Lloyd Skills Center)" and the dates "June 15th, 2023 to June 21st, 2023".

Chief Guest

Mr. Rakesh K Rai
Director-MSME
Former Secretary, BEE, Ministry of Power
Govt. of India

Guest of Honour

Mr. Rajeev K Sharma
Associate Vice President
JBM Group

OUR DISTINGUISHED GUESTS

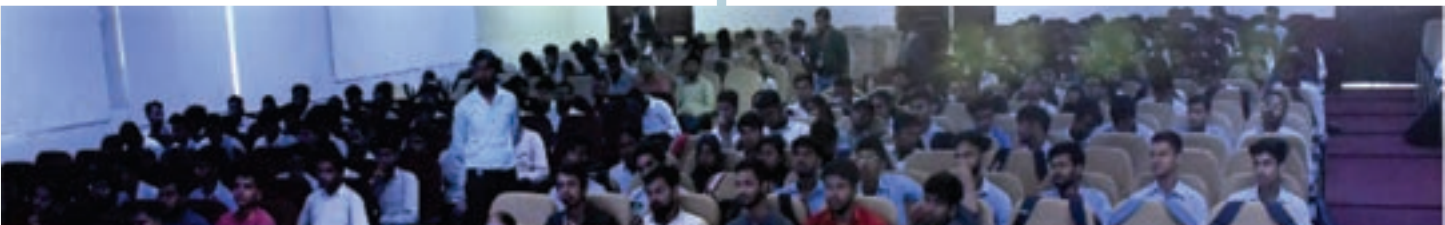
Expert Panelists	Expert Panelists	Expert Panelists	Expert Panelists	Expert Panelists
 Mr. Rakesh Kumar Sr. Technical Manager (General) Hindustan	 Mr. Sandeep Singh Khosla CEO General & Senior Mgt. Co. Ltd.	 Mr. Rakesh Khosla Managing Director General & Senior Mgt. Co. Ltd.	 Mr. Pankaj Tiwari Director EOTB Mobility	 Mr. Mahesh Deshpande Group Manager EOTB Mobility

ELECTRATHON TEAM

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Senior Director
- Prof. (Dr.) MANISH SARASWAT
Head - Quality Control Cell
- Mr. Ravi Kumar | Mr. Ashwini Kumar
Mr. Irfan Khan | Mr. Gyaan Dutt

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Electrathon 1.0

Electric Mobility Championship



Electrathon 1.0 - Panel Discussion





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



5G and Beyond Communication Technologies

5G technology represents the latest generation of wireless communication, offering ultra-fast data speeds, low latency, and the ability to connect a massive number of devices simultaneously. It enables advanced applications such as smart cities, autonomous vehicles, remote healthcare, and the Internet of Things (IoT).

Beyond 5G, future communication technologies aim to further enhance speed, reliability, and connectivity. These advancements may include 6G networks, which are expected to provide even higher data rates, near-instant communication, and integration with artificial intelligence for smarter network management.

Key features of these technologies include improved bandwidth, enhanced network efficiency, and seamless connectivity across devices and platforms. They will support innovations like immersive virtual reality, holographic communication, and advanced automation.

SHAZIYA QUAMAR

B.Tech CSE 3rd Year

ARYA SHARMA

B.Tech ECE 2nd Year



Artificial Intelligence in Electronics Design

Artificial Intelligence (AI) is revolutionizing electronics design by improving speed, accuracy, and efficiency in the development process. It enables automated design, simulation, and optimization of electronic circuits and systems, reducing manual effort and design time.

AI techniques such as machine learning are used for tasks like circuit optimization, fault detection, and predictive analysis. In VLSI design, AI helps in layout generation, power optimization, and performance enhancement. It also assists in testing and verification, ensuring reliable and error-free designs.

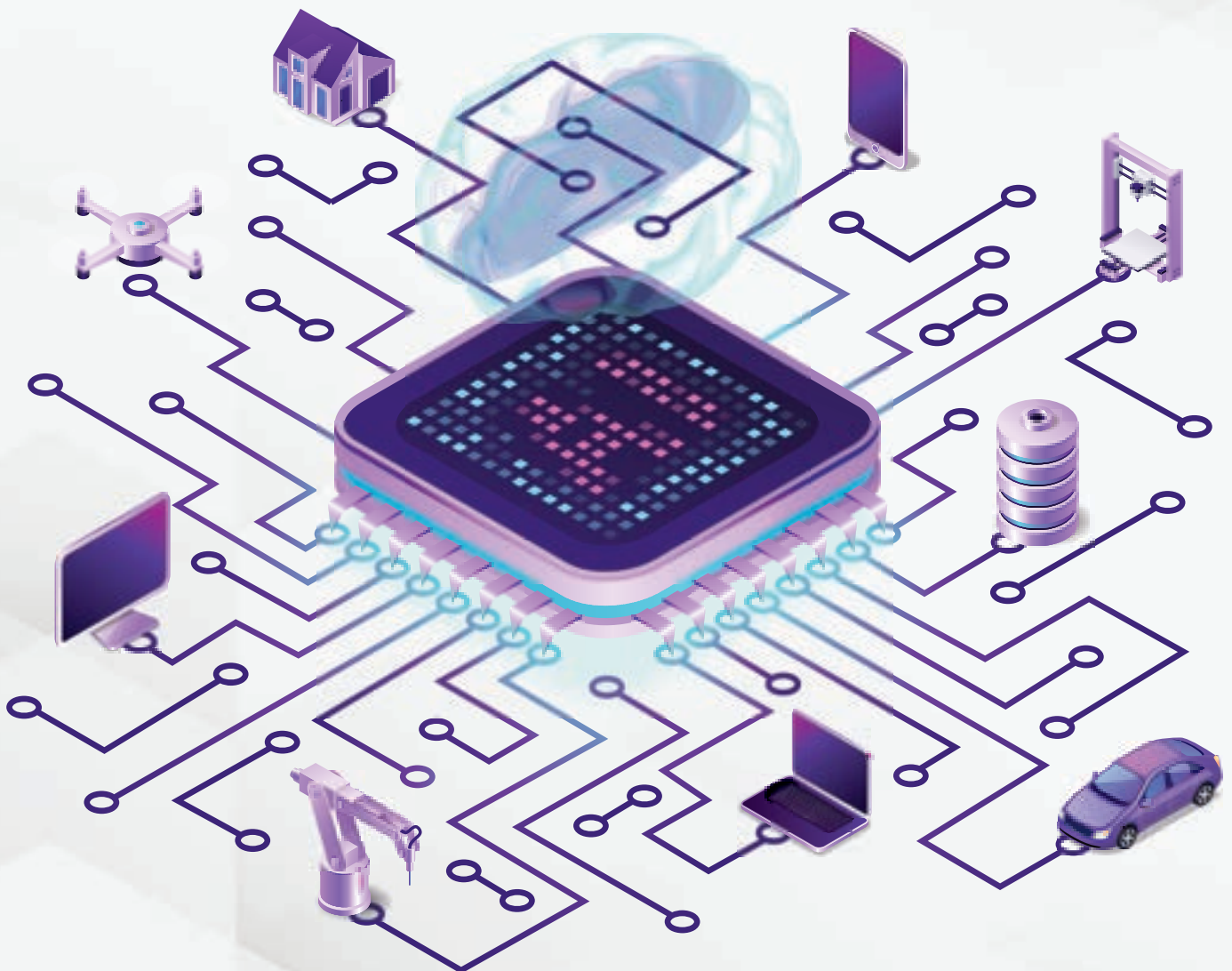
Additionally, AI-driven tools support smart manufacturing, enabling adaptive production and quality control. By integrating AI into electronics design, engineers can create more efficient, intelligent, and innovative systems, driving advancements in modern technology.

YUVRAJ GUPTA

B.Tech CSE 3rd Year

ROHIT SHARMA

B.Tech ECE 2nd Year



Power Generation, Transmission and Distribution

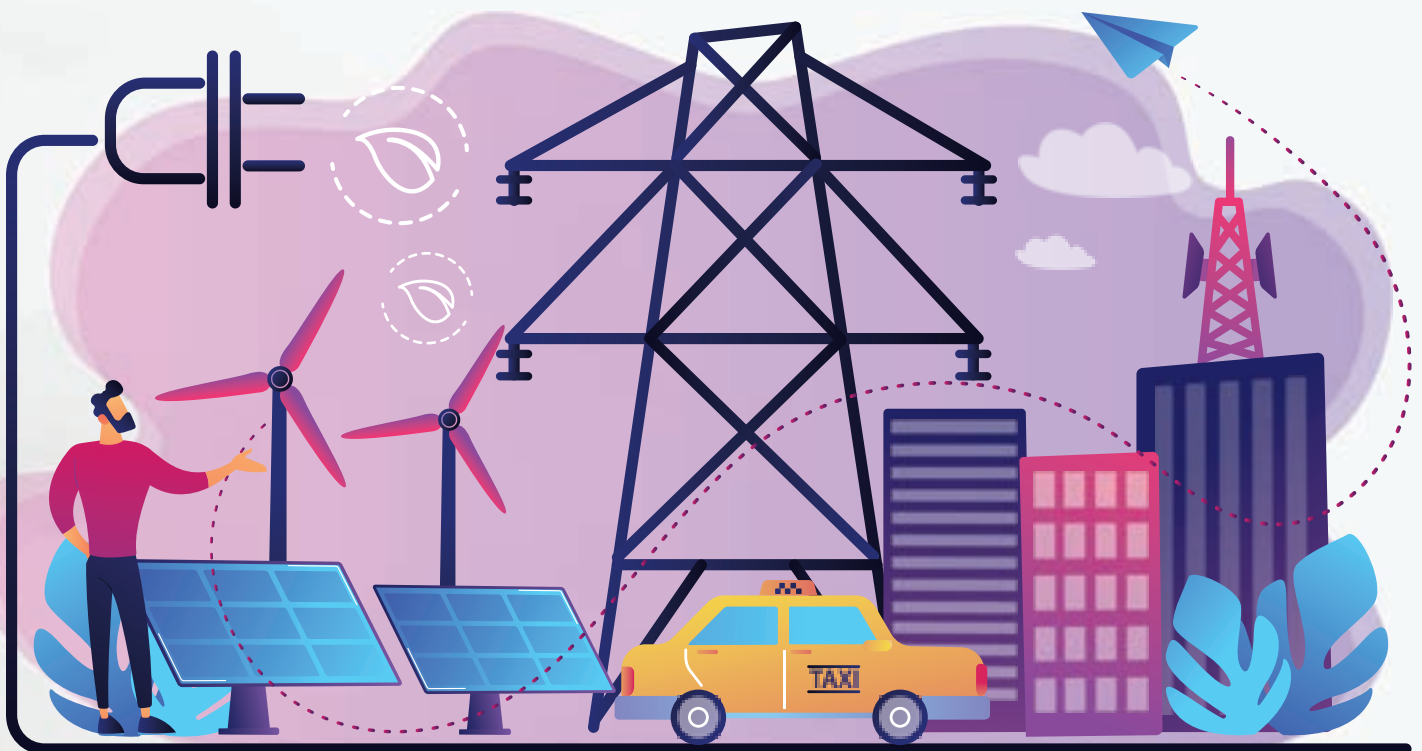
Power generation, transmission, and distribution form the backbone of the electrical power system. Power generation involves producing electricity from various sources such as thermal, hydro, nuclear, and renewable energy sources.

Transmission is the process of carrying high-voltage electricity over long distances from power plants to substations. This is done to minimize energy losses and ensure efficient delivery. Distribution then supplies electricity from substations to homes, industries, and commercial areas at usable voltage levels.

Together, these systems ensure a reliable and continuous supply of electricity. With advancements in technology, modern power systems are becoming more efficient, incorporating smart grids, renewable energy integration, and improved infrastructure for better performance and sustainability.

MOHAMMAD AZIM

B.Tech CSE 3rd Year



Future of Electrical Engineering in Green Technology

The future of electrical engineering is closely linked with the growth of green technology, focusing on sustainable and environmentally friendly solutions. Electrical engineers play a key role in developing systems that reduce carbon emissions and promote efficient use of energy.

Innovations in renewable energy—such as solar, wind, and energy storage systems—are creating new opportunities for cleaner power generation. Engineers are also advancing smart grids, electric vehicles, and energy-efficient devices to optimize energy use and reduce waste.

In addition, technologies like IoT and automation enable real-time monitoring and control of energy systems, improving efficiency and reliability. Green buildings, smart cities, and sustainable infrastructure heavily rely on electrical engineering expertise.

SOURABH

B.Tech ECE 2nd Year



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