



LLOYD
INSTITUTE OF ENGINEERING
& TECHNOLOGY



Departmental Technical Magazine

STRUCTURA

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Department of Civil Engineering

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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

One of the primary engineering departments of the Lloyd Institute of Engineering and Technology (LIET) Greater Noida, the Department of Civil Engineering offers a 4 years B.Tech. Program. B.Tech. course is approved by AICTE, Ministry of HRD, New Delhi (India) and affiliated to Dr.A.P.J.Abdul Kalam Technical University, Lucknow, and Uttar Pradesh. The Civil Engineering department was established in 2009 and since its inception the department has been continuously building a strong theoretical and practical foundation of Civil Engineering to the students. Students are provided here with deep knowledge in the field of structural engineering, geotechnical engineering, transportation and bridge engineering, water resources and hydraulics, surveying, structural design and drawing, environmental engineering, construction technology and management.

The Institute promotes bridging the gap between academia and industry and ensures that its students are extensively trained through active industrial collaborations. The department has an innovative approach to education that integrates professional industry experience into the academic curriculum. We provide a program that balances classroom theory with periods of practical, hands-on experience prior to graduation.



To produce technocrats of universal standards in civil engineering who are academically and professionally strong with the capability to innovate for modern requirements, serve society and face global challenges.



1. To educate the students of civil engineering through innovative technologies and to cultivate a creative and research environment among the students.
2. To create professionals who can design and develop affordable infrastructure for rural and urban growth
3. To make the students conscious of the environment and trained in developing sustainable infrastructure and renewable sources of energy.





Program Educational Objectives (PEOs)

1. To establish a strong base in the fundamental principles of mathematics, science, and engineering for the learner's comprehensive preparation.
2. To equip the learner with the proficiency to adeptly employ contemporary tools for the purpose of addressing practical challenges in real-world scenarios.
3. To inspire and drive learners towards mastering the skill of self-directed learning.
4. To cultivate ethical professionals with strong leadership skills and a commitment to social responsibility.

Program Specific Outcomes (PSOs)

1. Apply the fundamentals of mathematics, science and engineering knowledge to understand, analyze and develop computer based solutions for engineering applications.
2. Apply appropriate techniques and modern engineering hardware and software tools to design cost effective computation tools to solve contemporary challenges for social applications.
3. To use domain expertise for research, higher studies, entrepreneurship, and innovative solutions, guided by ethical leadership and teamwork.

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.



MechXPO 2025

Lloyd's Civil Engineering Departments proudly present MechXPO - 2025, a technical program designed to challenge, inspire, and showcase your skills in the world of sustainability, creativity and engineering. You'll have the chance to compete in exciting competitions that will test your knowledge, creativity, and technical abilities in real-world sustainability & other challenges! Hey future engineers & innovators, we want YOU to be a part of it!

**LLOYD INSTITUTE OF
ENGINEERING & TECHNOLOGY**
Empowering Through Skills Greater Noida



MechXPO 2025 
The Fusion of Creativity and Engineering

**Open to
All Disciplines**

Organized by
Yantriki Club
Department of Mechanical & Civil Engineering
EVENTS



- **Winner**
Cash Prize + Trophy + Certificate
- **Runner-Up**
Trophy + Certificate
- **Other Participants**
Certificates



HANDS-ON ENGINEERING: LIET'S INDUSTRY VISIT TO MOON BEVERAGES

Lloyd Institute of Engineering & Technology is thrilled to share the success of an insightful industry visit to the Coca-Cola Bottling Plant (Moon Beverages Limited), organized by the Mechanical & Civil Engineering Departments on May 26, 2025.

This experience gave our students a close-up look at real-world industrial processes with automation application in action. From high-speed bottling lines to sustainable packaging technologies, the tour bridged the gap between classroom learning and industrial practice. The students learnt the manner in which the plant combines the concentrates with still and/or sparkling water, and/or sweeteners, depending on the product, to prepare, package, sell and distribute finished beverages



Hands-On Learning: Innovation & Experimentation

Students engaged in practical, hands-on activities that bridged the gap between theoretical concepts and real-world applications. Through innovative experiments, they explored core engineering principles, enhanced their problem-solving abilities, and developed a deeper understanding of technical processes. This experiential approach encouraged creativity, teamwork, and critical thinking, empowering students to transform ideas into tangible outcomes.



Role of Civil Engineers in Infrastructure Development

Civil engineers play a vital role in developing the infrastructure of a nation. They are responsible for planning, designing, constructing, and maintaining structures such as roads, bridges, buildings, and water systems. Their work ensures safety, durability, and efficiency in construction projects.

They also focus on sustainable practices, using eco-friendly materials and technologies to protect the environment. From urban development to rural connectivity, civil engineers contribute to economic growth and improved quality of life. Overall, they are key contributors to building a strong and modern society.

They also play an important role in disaster management by designing structures that can withstand natural calamities. With the use of modern tools and technologies, they improve construction quality and efficiency. Their work supports smart city development and future-ready infrastructure.

HARSHIT CHATURVEDI

B.Tech CE 2nd Year



Eco-Friendly Construction Materials

Eco-friendly construction materials are sustainable building materials that minimize environmental impact and promote efficient use of natural resources. These materials are designed to reduce pollution, conserve energy, and support long-term environmental balance.

Examples include bamboo, recycled steel, fly ash bricks, reclaimed wood, and low-VOC paints. These materials are not only durable but also help in reducing carbon emissions and improving indoor air quality.

The use of eco-friendly materials plays a vital role in green building practices and sustainable development. They contribute to energy efficiency, reduce waste, and ensure healthier living spaces, making them an essential part of modern construction.

NISHA GUPTA

B.Tech CSE 2nd Year



Importance of Site Management in Construction

Site management is essential for the smooth execution of any construction project. It involves organizing, monitoring, and controlling all activities at the construction site to ensure work progresses as planned. Proper site management helps maintain quality standards, efficient use of materials, and clear coordination among engineers, supervisors, and workers. It also ensures safety by implementing necessary precautions and reducing workplace hazards.

Effective management leads to timely completion of projects, better productivity, and controlled costs, making it a key factor in project success. In addition, good site management helps in handling unexpected challenges, improving decision-making, and ensuring compliance with legal and environmental standards. It also enhances teamwork and ensures that resources are utilized in the best possible way.

Furthermore, it supports proper scheduling of tasks and efficient use of manpower and machinery. It also helps in maintaining proper records and documentation of site activities. Overall, strong site management improves project efficiency and ensures successful delivery of construction projects.

PUSHPENDRA YADAV

B.Tech CSE 2nd Year



Bridge Engineering: Design and Challenges

Bridge engineering is a vital branch of civil engineering that focuses on the design, construction, and maintenance of bridges. Bridges play a crucial role in transportation by connecting regions, reducing travel time, and supporting economic development.

The design of a bridge requires careful analysis of factors such as load, span length, material strength, environmental conditions, and safety requirements. Engineers must choose suitable types of bridges—such as beam, arch, suspension, or cable-stayed—based on site conditions and project needs.

One of the major challenges in bridge engineering is ensuring structural stability under heavy traffic loads and natural forces like wind, earthquakes, and floods. Selecting durable materials and maintaining cost efficiency are also key concerns.

Additionally, construction in difficult terrains, environmental impact, and long-term maintenance add to the complexity. Engineers must also ensure proper inspection and repair to extend the lifespan of bridges.

Overall, bridge engineering requires a balance of innovation, safety, and sustainability to develop strong and reliable structures for modern infrastructure.

ISHITA

B.Tech CE 2nd Year



High-Performance Concrete and Its Applications

High-Performance Concrete (HPC) is a specially designed type of concrete that offers superior strength, durability, and resistance compared to conventional concrete. It is made using high-quality materials, chemical admixtures, and controlled mixing techniques to achieve enhanced performance.

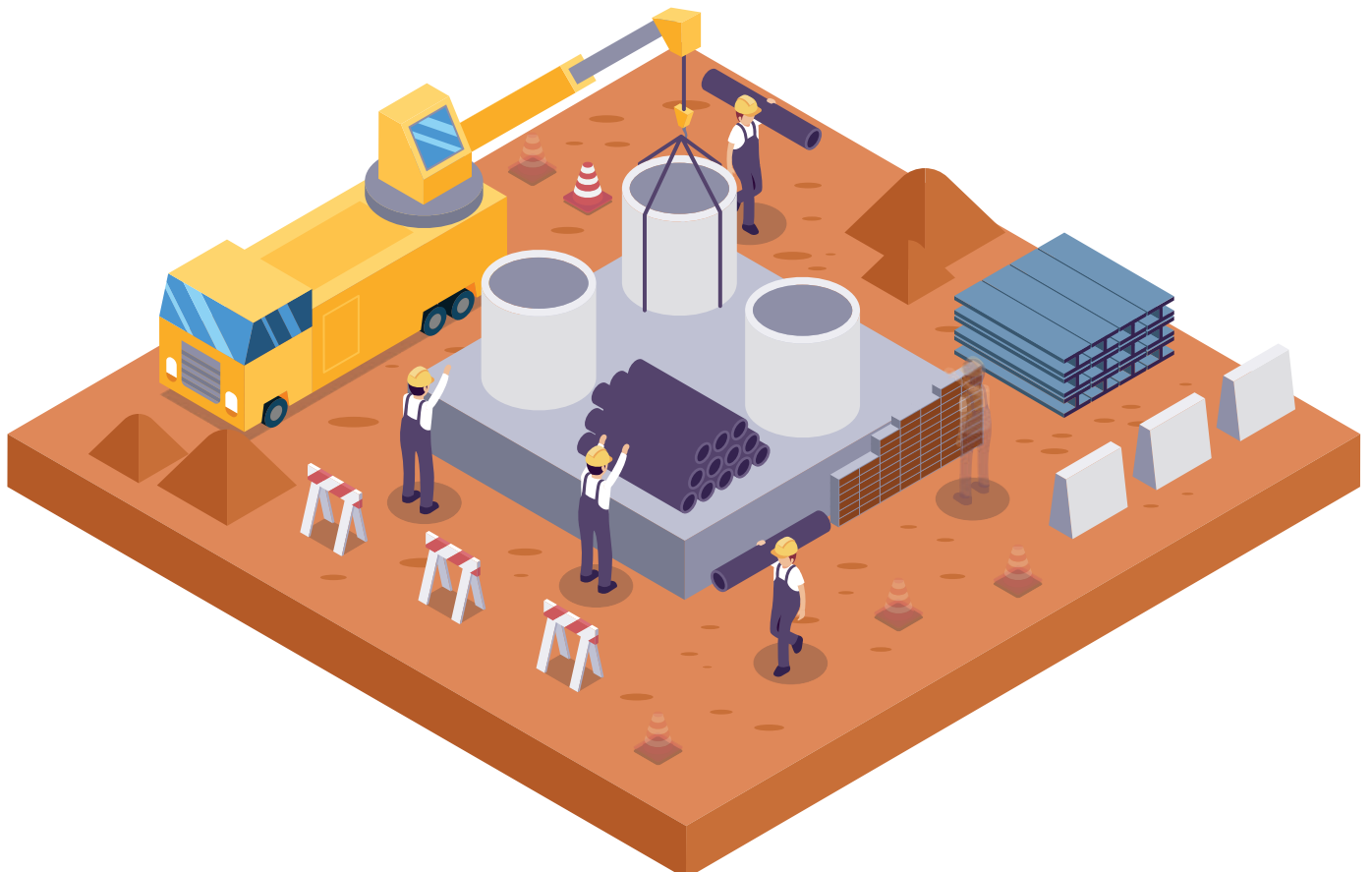
HPC is known for its high compressive strength, low permeability, and better resistance to environmental factors such as corrosion, chemical attacks, and extreme weather conditions. These properties make it ideal for long-lasting and reliable structures.

It is widely used in the construction of bridges, high-rise buildings, highways, dams, and marine structures where strength and durability are critical. HPC also helps in reducing maintenance costs and increasing the lifespan of structures.

Despite its advantages, challenges such as higher cost, careful handling, and skilled labor requirements must be considered. Overall, high-performance concrete plays a key role in modern construction by improving quality, safety, and sustainability.

AYUSH KUMAR GOND

B.Tech CE 2nd Year



Project Management Techniques in Civil Engineering

Project management techniques are essential in civil engineering to ensure that construction projects are completed efficiently, on time, and within budget. These techniques involve proper planning, scheduling, execution, and monitoring of all project activities.

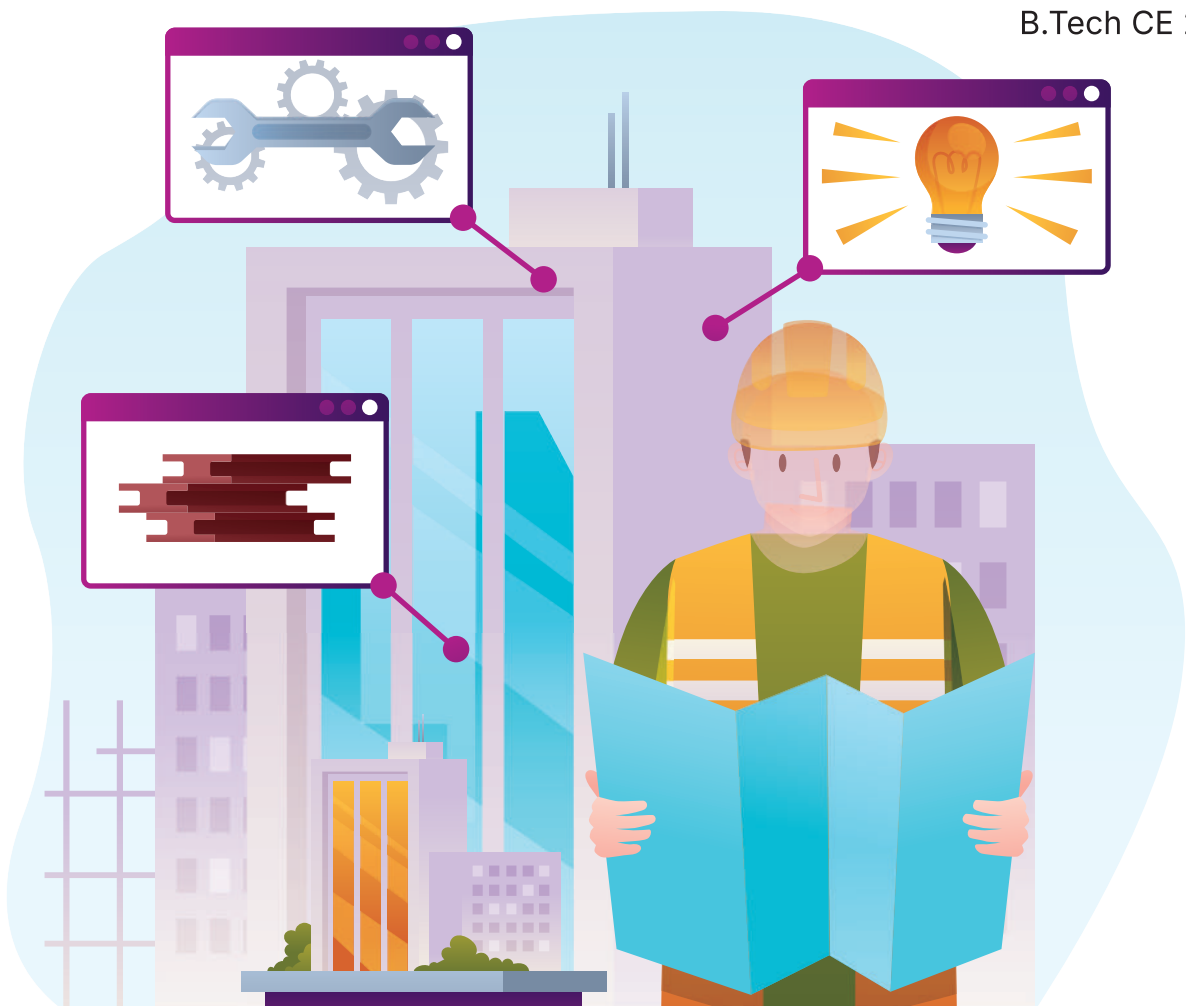
One of the key techniques is project planning, where objectives, resources, and timelines are clearly defined. Tools like Gantt charts and Critical Path Method (CPM) help in scheduling tasks and identifying important activities that affect project completion.

Another important technique is resource management, which ensures the efficient use of manpower, materials, and equipment. Proper allocation and utilization help in reducing wastage and improving productivity. Risk management is also crucial, as it helps in identifying potential problems and preparing solutions in advance. This reduces delays and ensures smooth project execution.

Additionally, quality control and cost management techniques are used to maintain construction standards and keep expenses within limits. Effective communication and coordination among team members further enhance project performance. Overall, these techniques help civil engineers manage complex projects successfully while ensuring safety, quality, and efficiency.

NIKHIL BHATI

B.Tech CE 2nd Year



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