



**LLOYD INSTITUTE OF
ENGINEERING & TECHNOLOGY**



DEPARTMENTAL TECHNICAL MAGAZINE

MECHNOVA

VOLUME - 2, ISSUE: 01

DEPARTMENT OF
MECHANICAL ENGINEERING

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

Established in 2002, the Mechanical Engineering Department focuses on quality education, research, and technological innovation. The department equips students with strong fundamentals in mechanics, energy, and materials, preparing them to design, operate, and maintain modern engineering systems. Through industry-oriented learning and problem-solving approaches, students are trained to adapt, innovate, and lead in diverse engineering and industrial careers. The four-year program is AICTE approved and affiliated with Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh.



The Mechanical Engineering Department of Lloyd Institute of Engineering and Technology, will mold their students into technically sound as well as ethically perfect professionals with innovative leadership qualities and a confident attitude for serving the society with global attention.



To impart a thorough knowledge of various core engineering subjects to our entire undergraduate and postgraduate students for ascertaining their fundamental strength in Mechanical engineering.

To expose our students to a curriculum consisting of modern laboratories, interdisciplinary subjects and industrial training in such a way that they get international exposure in world class industries.

To train our students with modern drafting & analysis software for developing their computational capabilities as well as promoting higher studies and research works.





Program Educational Objectives (PEOs)

1. Preparation: To prepare learner with sound foundation in the mathematical, scientific and engineering fundamentals.
2. Core Competence: To prepare Learner to use modern tools effectively in order to solve real life problems.
3. Breadth: To prepare learner for a successful career in Indian and Multinational Organisations and to excel in their postgraduate studies

Program Specific Outcomes (PSOs)

1. Identify, Formulate and Analyze complex Engineering problems in Thermal Engineering, Design Engineering, Manufacturing Engineering and automobile Engineering, and Energy
2. An ability to find out, articulate the local industrial problems and solve with the use of mechanical engineering tools for realistic outcomes.
3. An ability of collaborative learning to find out cost-effective, optimal solution for social problems.

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.



FLYING THE FUTURE: LIET'S FPV DRONE WORKSHOP

Taking the skies by storm, LIET's FPV drone workshop empowered students with hands-on experience in drone design, assembly, and flight control. The session enhanced technical knowledge in aerodynamics and real-time navigation. Participants explored immersive flying through first-person view systems, fostering innovation, teamwork, and practical skills in the rapidly growing field of drone technology.

The workshop also introduced students to industry-relevant tools and simulation software, enabling them to test and refine their designs in controlled environments. Expert mentors guided participants through troubleshooting techniques and best practices in drone safety & maintenance. By the end of the session, students not only built functional drones but also gained confidence in applying theoretical concepts to real-world challenges, preparing them for future advancements in unmanned aerial systems.



DRONE ENGINEERING WORKSHOP: OPERATION TO OPTIMIZATION

Drone Flying and Maintenance Training provides hands-on experience in operating drones safely and efficiently. Participants learn flight controls, navigation techniques, troubleshooting, and routine maintenance practices. The training enhances technical skills, promotes responsible drone usage, and prepares individuals for real-world applications in surveillance, mapping, photography, and industrial inspections. It fosters innovation in modern aerial technologies.



AUTOCAD DRAFTING COMPETITION

The AutoCAD Drafting Competition challenges students to showcase their technical drawing and design skills using AutoCAD. Participants create precise 2D and 3D models based on given problems, highlighting creativity, accuracy, and speed. The event enhances practical knowledge, boosts problem-solving abilities, and prepares students for real-world engineering and architectural design challenges.



WORKSHOP ON IPR AND INNOVATION DEVELOPMENT MODEL

The Workshop on IPR and Innovation Development Model focused on creating awareness about Intellectual Property Rights and their role in protecting innovations. Participants learned about patents, copyrights, trademarks, and innovation strategies. The session encouraged creativity, guided idea commercialization, and highlighted structured models for transforming innovative ideas into successful, market-ready solutions.



FESTRONIX 1.0 – THEME CIRCULAR ECONOMY

Festronix is a vibrant technical and cultural fest that brings together creativity, innovation, and talent on a single platform. It features exciting competitions, workshops, and performances across domains like technology, robotics, coding, and arts. The event fosters teamwork, skill development, and enthusiasm, providing students with opportunities to showcase their abilities and celebrate learning.



ELECTRATHON – 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



Organized By
LLOYD INSTITUTE OF ENGINEERING & TECHNOLOGY
Empowering Through Skills
Campus Delhi NCR

ELECTRATHON - 2023

Electric Mobility Championship Planner

Organized by :
LLYOD Institute of Engineering and Technology
in collaboration with **ARC Global**
June 15th, 2023 to June 21st, 2023

Date of Event
15th – 21st
June 2023
STAY TUNED



ELECTRATHON

Electric Mobility Championship



ELECTRATHON

Electric Mobility Championship



इंजीनियर तैयार कर रहा है लायड : राकेश

काज, ग्रेटर नोएडा। कॉलेज पार्क स्थित लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी में सात दिवसीय इलेक्ट्रोथॉन कार्यक्रम का समापन हुआ। समापन समारोह में मुख्य अतिथि एमएसएमई भारत सरकार के निदेशक राकेश कुमार राय मौजूद रहे।

राकेश कुमार राय ने छात्रों से कहा कि आज के समय में नवाचार को बढ़ावा देने के लिए इलेक्ट्रोथॉन एक बेहतरीन प्रयास है, लगभग निम्न स्तर के छात्रों को बढ़ावा देता है। औद्योगिक उपकरणों के ज्ञान के अनुसार इंजीनियर को तैयार किया जा रहा है। एमएसएमई प्रेसिडेंट राजीव शर्मा ने छात्रों को ई-व्हीकल के उपयोग के बारे में समझाया। समापन इवेंट्स में लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी के निदेशक राकेश कुमार राय, डॉक्टर एलन राय, डॉक्टर जेएम गिरी सहित सैकड़ों छात्र और शिक्षक मौजूद रहे।



लायड इंजीनियरिंग एंड टेक्नोलॉजी के ज्ञान के अनुसार इंजीनियर को तैयार किया जा रहा है। एमएसएमई प्रेसिडेंट राजीव शर्मा ने छात्रों को ई-व्हीकल के उपयोग के बारे में समझाया। समापन इवेंट्स में लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी के निदेशक राकेश कुमार राय, डॉक्टर एलन राय, डॉक्टर जेएम गिरी सहित सैकड़ों छात्र और शिक्षक मौजूद रहे।

इलेक्ट्रोथॉन में एबीईएस इंजीनियरिंग की टीम विजयी

ग्रेटर नोएडा। नॉलेज पार्क स्थित लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी में हुई सात दिवसीय इलेक्ट्रोथॉन प्रतियोगिता में इलेक्ट्रिक साइकिल की कुशल डिजाइन असेंबल करने वाली एबीईएस इंजीनियरिंग कॉलेज गाजियाबाद की टीम विजयी रही। प्रतियोगिता की उपविजेता मेजबान लायड कॉलेज की टीम रही। बुधवार को समापन समारोह में एमएसएमई भारत सरकार के निदेशक राकेश कुमार राय ने कहा कि आज के समय में नवाचार को बढ़ावा देने के लिए इलेक्ट्रोथॉन एक बेहतर प्रयास है। कार्यक्रम में जेबीएम समूह के एसोसिएट वाइस प्रेसिडेंट राजीव शर्मा ने ई-व्हीकल के उपयोगिता के बारे में समझाया। संस्थान के निदेशक डॉ. राजीव अग्रवाल ने बताया कि इलेक्ट्रोथॉन में एबीएस इंजीनियरिंग कॉलेज, आईआईएलम यूनिवर्सिटी, शारदा यूनिवर्सिटी, एकेजी कॉलेज के विद्यार्थियों ने हिस्सा लिया। एसटी माइक्रोइलेक्ट्रॉनिक्स के निदेशक मनोज कुमार, इरफान, रवि कालरा, अभिशांक, अश्विनी, नाजिम का योगदान सराहनीय रहा। डॉन डॉक्टर एलन राय, डॉक्टर जेएम गिरी सहित सैकड़ों छात्र और शिक्षक मौजूद रहे।

लॉयड इंस्टीट्यूट उपविजेता बना

ग्रेटर नोएडा। लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी में सात दिवसीय इलेक्ट्रोथॉन कार्यक्रम बुधवार को संपन्न हो गया। इलेक्ट्रोथॉन 2023 का विजेता एबीएस इंजीनियरिंग कॉलेज गाजियाबाद रहा। उपविजेता लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी की टीम रही।

मुख्य अतिथि केंद्र सरकार में एमएसएमई के निदेशक राकेश कुमार राय ने कहा कि आज के समय में नवाचार को बढ़ावा देने के लिए इलेक्ट्रोथॉन बेहतर प्रयास है।

जेबीएम समूह के एसोसिएट वाइस प्रेसिडेंट राजीव शर्मा ने ई-व्हीकल की उपयोगिता के बारे में समझाया। लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी के निदेशक डॉ. राजीव अग्रवाल ने इलेक्ट्रोथॉन के बारे में बताया। कार्यक्रम 12 सत्रों में आयोजित किया गया।

इलेक्ट्रोथॉन में पहुंचे MSME के निदेशक



एनबीटी न्यूज, देवी। नॉलेज पार्क स्थित लायड इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी में बुधवार को सात दिवसीय इलेक्ट्रोथॉन कार्यक्रम का समापन हुआ। मुख्य अतिथि के तौर पर एमएसएमई के निदेशक राकेश कुमार राय, संस्थान के वाइस प्रेसिडेंट एमएसएमई राजीव शर्मा, निदेशक डॉ. राजीव अग्रवाल ने विजेताओं को सम्मानित किया। संयोजक डॉ. मनोज कुमार, डॉ. एलन राय, डॉ. जेएम गिरी सहित सैकड़ों छात्र और शिक्षक मौजूद रहे।



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



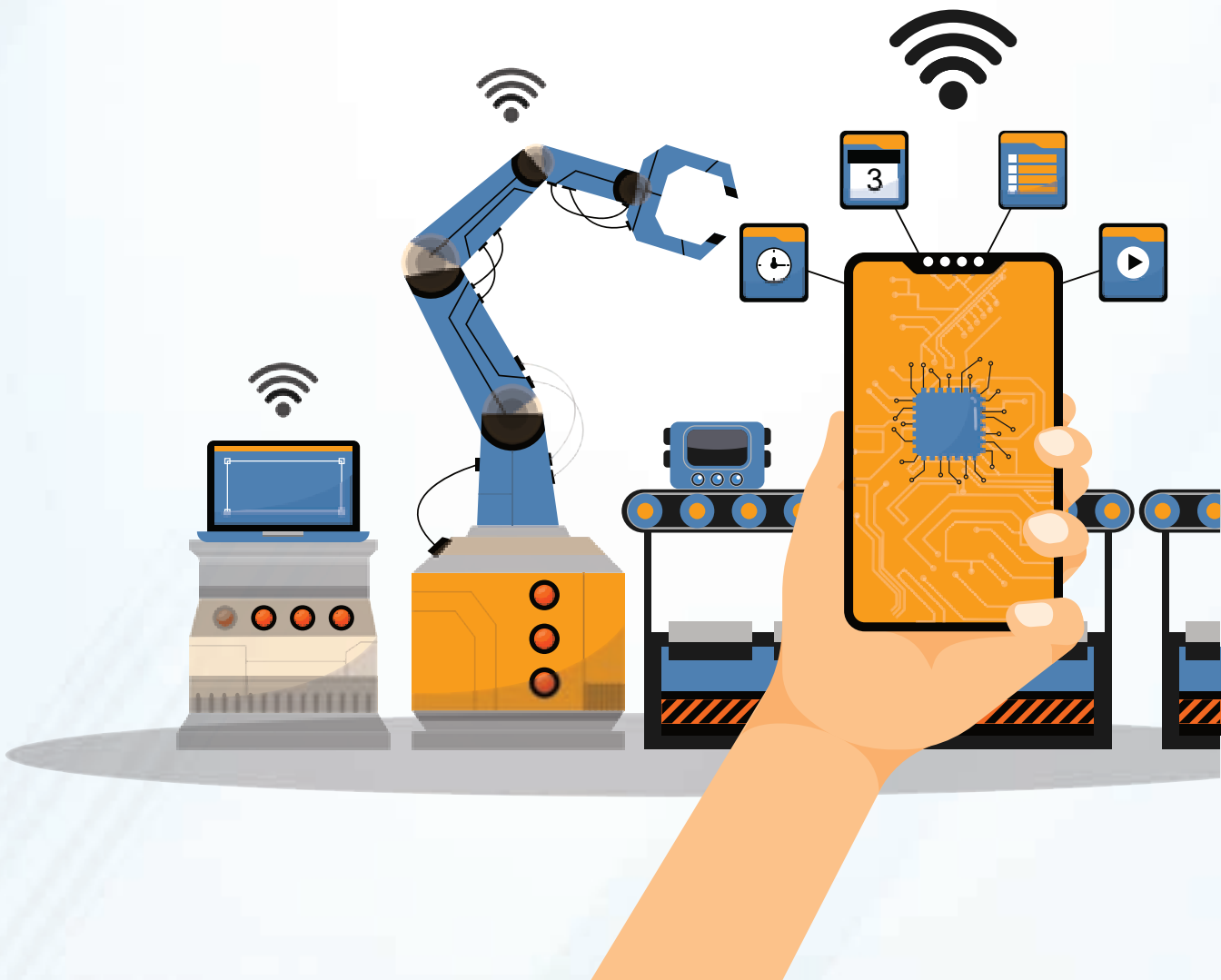
Internet of Things (IoT) in Mechanical Engineering

The Internet of Things (IoT) connects machines, devices, and systems through the internet, enabling them to communicate and share data. Sensors are installed in equipment to collect real-time data such as temperature, pressure, and vibration. This data is analyzed to monitor performance and predict failures before they occur. Mechanical engineers use IoT to improve efficiency, reduce downtime, and enhance system reliability. It is widely used in smart factories, automotive systems, and energy management. As industries adopt digital technologies, IoT is becoming an essential part of modern engineering systems.

Furthermore, IoT enables remote monitoring and control of machines, allowing engineers to manage operations from anywhere. It supports predictive and preventive maintenance, which helps in reducing unexpected breakdowns and maintenance costs. Integration with cloud computing allows large amounts of data to be stored and analyzed efficiently. IoT also improves safety by detecting abnormal conditions and sending alerts in real time. With continuous advancements, IoT is driving the development of smart industries and shaping the future of mechanical engineering.

GOUSH ALI

B.Tech ME 2nd Year



Recycling and Waste Management in Engineering

Recycling and waste management are important aspects of sustainable engineering. Mechanical engineers design machines and systems to recycle materials such as metal, plastic, and paper. Efficient waste management reduces environmental pollution and conserves natural resources. Technologies like shredding, sorting, and reprocessing are used in recycling plants. Engineers also work on minimizing waste generation during manufacturing processes. By promoting recycling and reuse, industries can move towards a more sustainable and eco-friendly future.

In addition, advanced technologies such as automated sorting systems and waste-to-energy processes are improving the efficiency of recycling systems. Mechanical engineers also focus on designing eco-friendly products that can be easily recycled after use. Proper waste management helps in reducing landfill usage and lowering harmful emissions. Public awareness and industrial responsibility play a key role in successful implementation. As environmental concerns continue to grow, recycling and waste management are becoming essential for achieving sustainable development.

MD SHAIK ALI

B.Tech ME 2nd Year



Hybrid Vehicles and Future Mobility

Hybrid vehicles combine internal combustion engines with electric motors to improve fuel efficiency and reduce emissions. Mechanical engineers design systems that manage the interaction between these two power sources. Hybrid technology provides better mileage and lower environmental impact compared to conventional vehicles. It is an important step toward sustainable transportation. As the world moves toward cleaner energy solutions, hybrid vehicles are playing a key role in the transition to fully electric mobility.

Moreover, hybrid vehicles use advanced control systems to switch between or combine power sources depending on driving conditions, ensuring optimal performance and efficiency. They also incorporate technologies such as regenerative braking, which helps in recovering energy and improving overall efficiency. Mechanical engineers focus on improving battery performance, reducing system weight, and enhancing vehicle design. With continuous innovation, hybrid vehicles are becoming more reliable, efficient, and accessible, contributing significantly to a greener and more sustainable future.

MUKESH KUMAR

B.Tech ME 2nd Year



Welding Technology and Its Applications

Welding is a process used to join two or more materials, usually metals, by applying heat and pressure. It is widely used in construction, automotive, and manufacturing industries. Different welding techniques such as arc welding, MIG, and TIG welding are used based on the type of material and application. Mechanical engineers ensure strong and reliable joints while maintaining safety standards. Welding plays a crucial role in fabrication and structural engineering, making it an essential skill in mechanical engineering.

In addition, proper selection of welding methods and materials is important to achieve high strength and durability of joints. Engineers also focus on minimizing defects such as cracks, porosity, and distortion during the welding process. Modern advancements like robotic welding and automated systems have improved precision and productivity in industries. Safety measures, including protective equipment and proper ventilation, are essential to prevent hazards. With continuous development, welding technology is becoming more efficient and plays a key role in modern manufacturing and infrastructure development.

AJAY KUMAR TANWAR

B.Tech ME 2nd Year



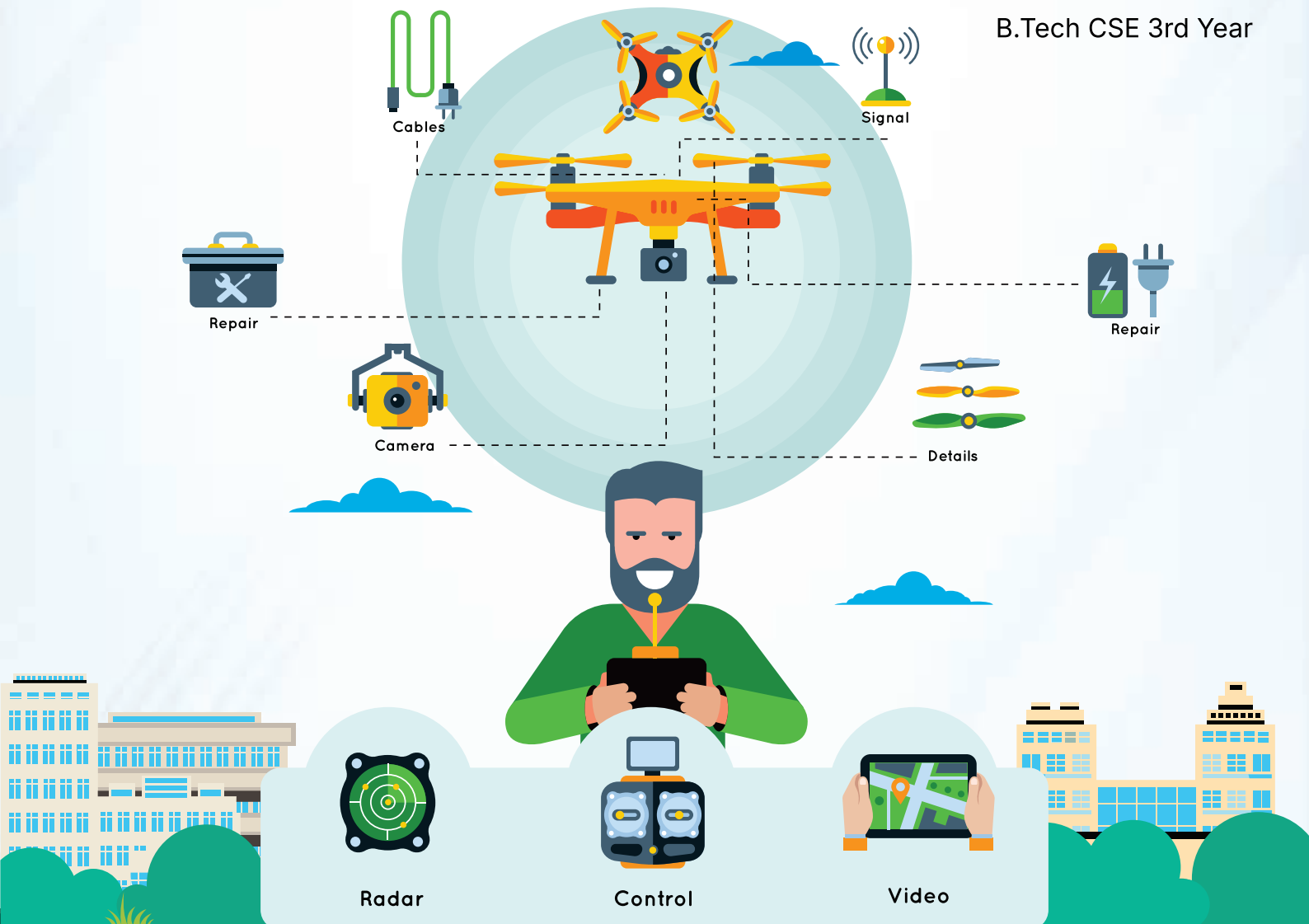
Drones and Their Engineering Applications

Drones, also known as Unmanned Aerial Vehicles (UAVs), are becoming an important part of modern engineering and technology. These flying machines operate without a human pilot on board and are controlled remotely or through programmed instructions. Mechanical engineers play a key role in designing drone structures, propellers, and lightweight materials to ensure stability and efficiency. Drones are widely used in agriculture for crop monitoring, in defense for surveillance, and in industries for inspection and delivery services. Their ability to access hard-to-reach areas makes them highly useful and efficient. With advancements in technology, drones are expected to become more autonomous and widely used in the future.

Furthermore, drones are being integrated with advanced technologies such as GPS, sensors, and artificial intelligence to enhance their performance and decision-making capabilities. They can capture high-resolution images and collect important data for analysis. Mechanical engineers also focus on improving battery life, flight stability, and payload capacity. Drones are increasingly used in disaster management, environmental monitoring, and smart city applications. As innovation continues, drones will play a significant role in shaping the future of engineering and technology.

SHALINI

B.Tech CSE 3rd Year



Electric Vehicles (EVs): The Future of Transportation

Electric Vehicles (EVs) are transforming the transportation sector by offering an eco-friendly alternative to traditional fuel-based vehicles. EVs run on electric motors powered by rechargeable batteries instead of internal combustion engines. Mechanical engineers are involved in designing vehicle structures, battery cooling systems, and motor integration. EVs produce zero tailpipe emissions, reducing air pollution and dependence on fossil fuels. Governments and industries are promoting EV adoption by developing charging infrastructure and offering incentives. As technology advances, EVs are becoming more efficient, affordable, and widely accepted.

In addition, EVs require less maintenance compared to conventional vehicles because they have fewer moving parts. Advanced technologies such as regenerative braking help in improving energy efficiency and extending battery life. Mechanical engineers also focus on improving vehicle range, reducing charging time, and enhancing overall performance. With continuous innovation and growing environmental awareness, electric vehicles are playing a crucial role in building a cleaner and more sustainable future.

MITHILESH CHAUDHURY

B.Tech CSE 3rd Year



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