CHANDIGARH ENGINEERING COLLEGE
CGC, LANDRAN, MOHALI

Building Careers. Transforming lives.

Mechnotimes

NEWSLETTER

Department of Mechanical Engineering

Volume X

Issue – II

October-December 2025

VISION OF CHANDIGARH ENGINEERING COLLEGE-CGC, LANDRAN

To become a leading institute of the country for providing quality technical education in a research-based environment for developing competent professionals and successful entrepreneurs.

MISSION OF CHANDIGARH ENGINEERING COLLEGE-CGC, LANDRAN

1. To provide state of the art infrastructure and engage proficient faculty for enhancing the teaching learning process to deliver quality education.
2. To give a conductive environment foe utilising the research abilities to attain new learning for solving industrial problems and societal issues.
3. To collaborate with prominent industries for establishing advanced labs and using their expertise to give contemporary industry exposure to the student and faculty.
4. To cater opportunities for global exposure through association with foreign universities.
5. To extend choice-based career options for students in campus placements, entrepreneurship and higher studies through career development program.

DEPARTMENT OF MECHANICAL ENGINEERING

Vision of the Department

To emerge as centre of quality education for creating competent mechanical engineers catering to the ever-changing needs of industry and society.

Mission of the Department

M1: To provide quality education by constantly updating departmental resources and using effective teaching learning methodology.

M2: To promote research practices in the field of mechanical engineering in pursuit of academic excellence and for the benefit of society.

M3: To establish industrial collaborations for imparting contemporary knowledge to keep pace with the technological challenges in the interdisciplinary and core areas of mechanical engineering.

M4: To provide opportunities to the students for global exposure through international collaborations.

M5: To nurture students through pre-placement training programs to succeed in campus placements and to provide guidance for entrepreneurship and higher studies.

EDITOR'S COLUMN

A newsletter stands as a testament to the vision and mission of a department, serving as a platform to highlight key events, innovative activities, and notable academic achievements. In the ever-evolving field of mechanical engineering, the pursuit of innovation and sustainability remains at the forefront, driving progress to shape a better world and leave a meaningful impact on society. While we honour our past accomplishments, our focus is firmly set on the future, brimming with opportunities and boundless possibilities. The discipline of mechanical engineering holds immense potential to redefine the boundaries of technology and human ingenuity. With unwavering commitment, we aim to prepare the next generation of engineers to tackle the challenges of tomorrow with competence and creativity. This newsletter not only celebrates the remarkable contributions of our students and faculty but also serves as a window into their inspiring journey of growth and discovery. As valued readers and contributors, you are integral to this transformative journey. Your engagement fuels the spirit of progress and innovation that defines our community. We take great pride in sharing these glimpses of our department's dynamic endeavours and trust that this culture of knowledge-sharing will endure, inspiring others to follow in our footsteps. Let this publication be a beacon of excellence and a testament to the unwavering commitment to advancing the field of mechanical engineering.

Dr. NARINDER KUMAR

EDITOR-IN-CHIEF

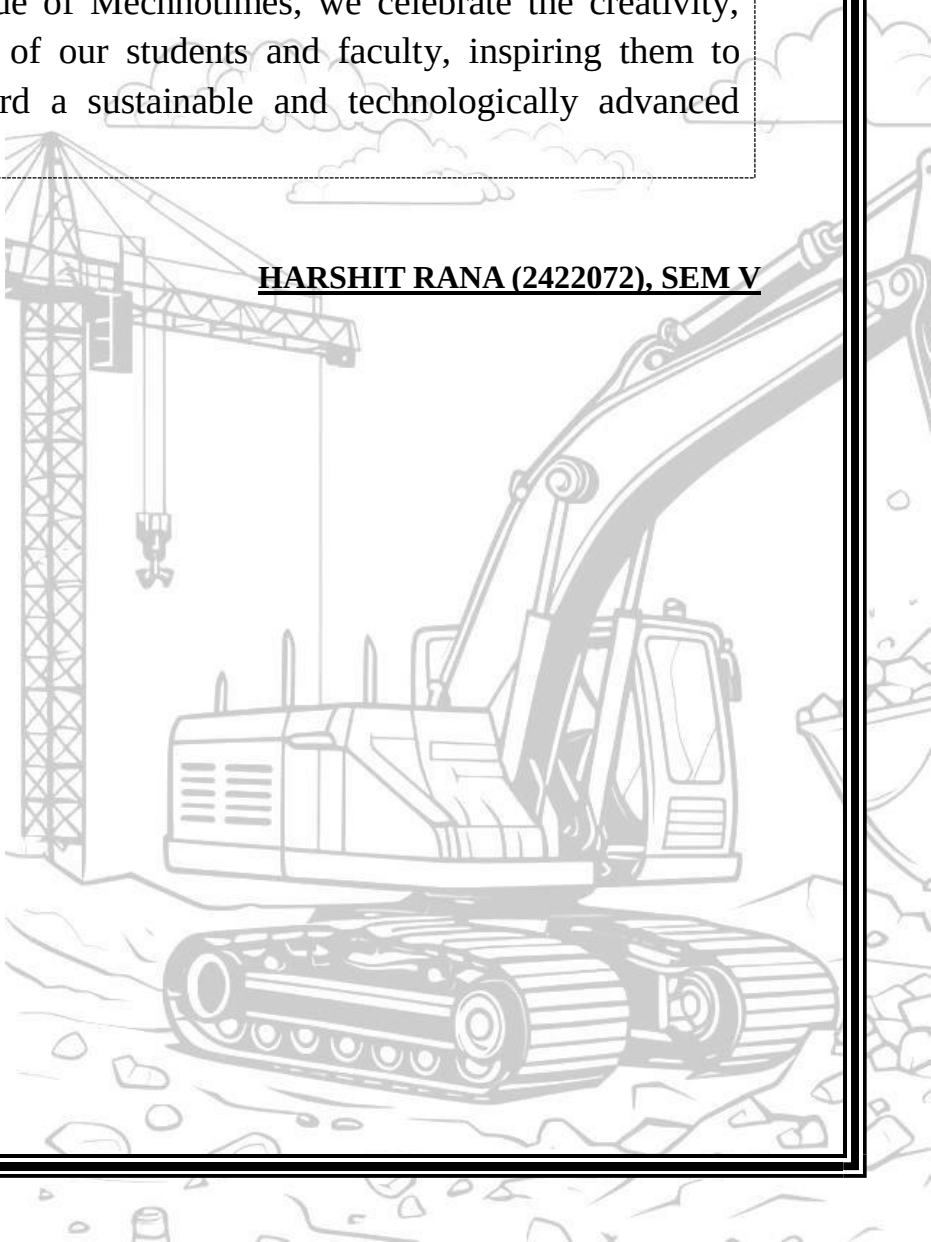
MECHNOTIMES

FROM EDITORIAL'S BOARD

Welcome to the latest edition of Mechnotimes, the official newsletter of the Mechanical Engineering Department at Chandigarh Engineering College (CGC), Landran, covering the period from October to December 2025. As we continue to explore the ever-evolving landscape of engineering and technology, we are reminded of the vast opportunities and responsibilities that accompany this progress. This edition emphasizes the crucial role of innovation and sustainability as key drivers shaping the future of mechanical engineering.

Innovation remains the cornerstone of engineering advancement, acting as a catalyst for transformative change—from the historic invention of the steam engine to modern breakthroughs in electric mobility and advanced manufacturing. As aspiring mechanical engineers, we stand at the forefront of this dynamic evolution, continuously pushing boundaries and redefining possibilities. Through this issue of Mechnotimes, we celebrate the creativity, dedication, and achievements of our students and faculty, inspiring them to contribute meaningfully toward a sustainable and technologically advanced future

HARSHIT RANA (2422072), SEM V



From Idea to impact-Motivational Session by Successful

The Department of Mechanical Engineering, in collaboration with the Institution's Innovation Council (IIC), Chandigarh Engineering College (CEC) – CGC Landran, organized an expert motivational session on October 10, 2025, aimed at inspiring students through the success story of an innovator and entrepreneur. The session was delivered by Er. Sukant Gupta, Founder and CEO of Scrapbuk Services Pvt. Ltd., Mohali, who shared valuable insights on idea generation and implementation, the importance of a structured approach and effective execution, overcoming challenges, and setting clear goals. He highlighted idea generation as a crucial tool for innovators and discussed techniques such as brainstorming, brain writing, sketching, and prototyping. The session was highly interactive, featuring storytelling, engaging discussions, and an informative presentation, where Er. Gupta also shared his entrepreneurial journey and the challenges he overcame. Students actively participated in the Q&A session, gaining practical insights and guidance on startups and innovation..

Figure: Mr. Sukant Gupta interacting with the students during the session

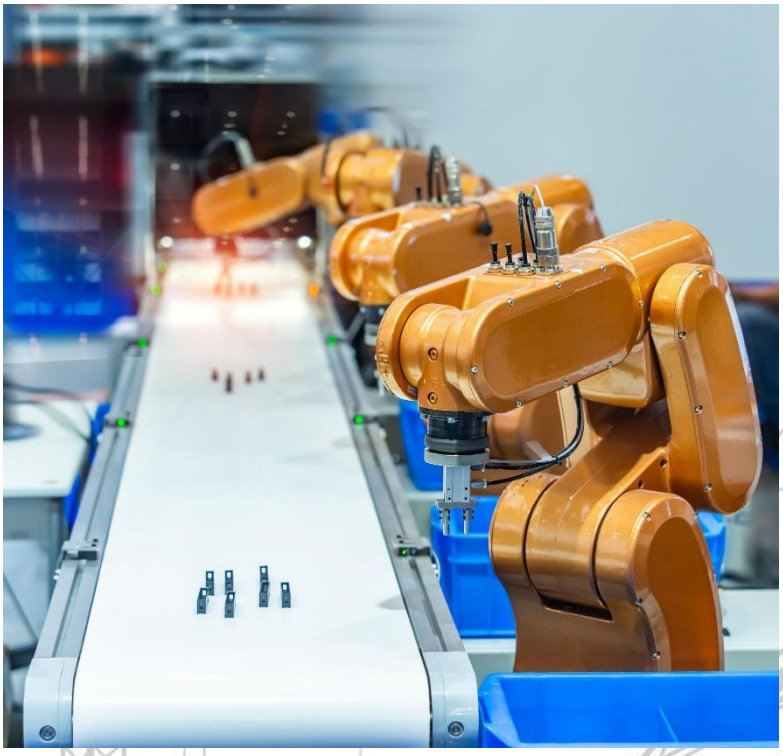
Session on “Problem Solving and Ideation Workshop”

The Department of Mechanical Engineering, Chandigarh Engineering College–CGC, Landran, Mohali, in association with the Institution’s Innovation Council (IIC), organized a *“Problem Solving and Ideation Workshop”* on October 16, 2025, aimed at fostering innovation and encouraging students to develop practical solutions to real-world problems. Conducted from 10:00 a.m. to 4:30 p.m., the workshop witnessed enthusiastic participation from both students and faculty. The programme began with a welcome address by Prof. Dr. Sanjeev Sharma, Faculty Member, IIC, followed by the inaugural session in the presence of the resource person, Mr. Ashutosh Sharma, Product Design and Development Engineer, P2P Analysis & Solutions, Mohali. A total of 14 teams, each comprising up to three members, participated in the event. The workshop commenced with an expert session on bumper design innovation for pedestrian safety, after which teams presented their ideas addressing the given problem statement. A dedicated mentoring session further helped participants refine their concepts and improve their problem-solving approaches. The event concluded with final presentations of CAD models, making it an engaging and enriching experience that enhanced innovation, teamwork, and design thinking skills among participants.

Figure: Mr. Ashutosh Sahrma interacting with the students

Smart Manufacturing and Industry 4.0 in Mechanical Engineering

Smart manufacturing, enabled by Industry 4.0, is revolutionizing traditional production systems by integrating digital technologies with physical processes. Technologies such as the Internet of Things (IoT), artificial intelligence (AI), cloud computing, big data analytics, and advanced robotics allow industries to create highly connected and intelligent manufacturing environments. These systems support real-time monitoring, predictive maintenance, and improved decision-making, leading to higher productivity and reduced operational costs.

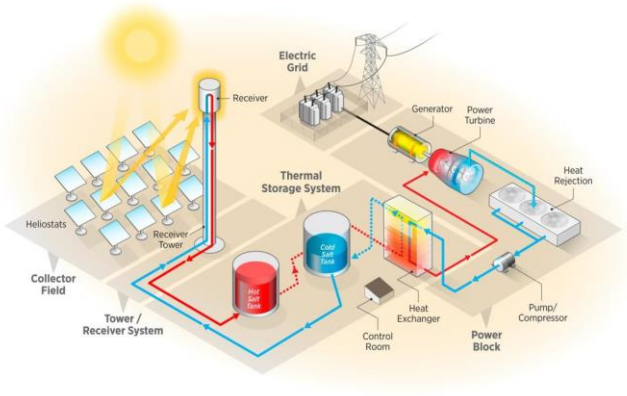


Mechanical engineers play a central role in implementing these advancements by designing automated systems, optimizing machine performance, and ensuring seamless integration between hardware and software. They contribute to the development of digital twins, which replicate physical systems for simulation and analysis, helping industries minimize errors and improve efficiency. Additionally, engineers focus on enhancing product quality, reducing waste, and improving sustainability through energy-efficient manufacturing processes. As Industry 4.0 continues to evolve, it is reshaping the future of manufacturing into a smarter, more flexible, and globally competitive ecosystem.

Written by: Jasmeet Singh (2337672), Sem V

Role of Mechanical Engineering in Renewable Energy Systems

Mechanical engineering plays a vital and expanding role in the development and deployment of renewable energy systems, including wind, solar, and hydropower. Engineers are responsible for designing and optimizing key components such as turbines, generators, heat exchangers, and energy conversion devices to ensure maximum efficiency and durability. In wind energy systems, they work on blade design and gearbox optimization, while in solar applications, they focus on thermal systems and energy capture mechanisms.



In addition to component design, mechanical engineers are actively involved in integrating multiple renewable sources into hybrid energy systems, ensuring a stable and reliable power supply. They also address challenges related to energy storage, system efficiency, and maintenance by applying advanced materials, thermal management techniques, and predictive maintenance strategies. With increasing global emphasis on sustainability and reduction of carbon emissions, mechanical engineers are at the forefront of developing innovative solutions that support clean energy generation. Their contributions are essential in building a sustainable energy future and reducing dependence on conventional fossil fuels.

Written by: Rohit Kumar (2337687), Sem V