COGNIZANCE

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DEPARTMENT OF MECHANICAL ENGINEERING

(HALF YEARLY NEWSLETTER)

VISION OF THE INSTITUTE

Strive continuously for academic excellence by providing best contemporary, functional education and endeavoring to attain supreme engineering educational excellence, through sincerity of motive and focused efforts.

MISSION OF THE INSTITUTE

To prepare students to succeed in information-directed and technology-driven global economy to become global citizens through effective teaching and learning process with strong practical exposure.

VISION OF THE DEPARTMENT

To achieve the transcendence standard quality education in mechanical engineering with sound technical knowledge, practical skills and to develop the technocrats to cater the needs of socio-economical development of the country.

MISSION OF THE DEPARTMENT

M1: Facilitate budding mechanical engineers to learn with passion & gain sound technical knowledge and practical skills.
M2: Provide maximum exposure to interdisciplinary technologies such as Industry 4.0 and encourage innovation.
M3: Develop real world problem solving skills, entrepreneurship aptitude through industry-institute interactions and collaborative team activities.

ABOUT THIS ISSUE

Department of Mechanical Engineering, PIEMR is proud to announce the second issue of its periodical newsletter. This newsletter covers recent activities held within the department, research work and projects. It also highlights future events that are planned by the department.

INSIDE THIS ISSUE

NEWSLETTER COMMITTEE

Editor: Prof. Chinmay Saraf
Student Editor: Mr . Abishek Arihwar

CONTACT INFORMATION

Prestige Institute of Engineering, Management and Research
Department of Mechanical Engineering
Prestige Vihar, Scheme No. 74-C, Sector-D, Vijay Nagar, Indore-452010(MP)
Phone: 0731-4013348
Email: info@piemr.edu.in
hod_me@piemr.edu.in

MESSAGE FROM DIRECTOR

Dr. Manojkumar Deshpande
Director
PIEMR, Indore

As you review this half-yearly newsletter, you will see the tangible results of our collective efforts and the significant progress we've made across various initiatives. This report highlights the dedication, innovation, and teamwork that have been instrumental in our achievements during the first half of the year. Your individual talents and your commitment to our shared goals are the cornerstones of our success, and I am incredibly grateful for your contributions. Looking ahead, let's continue to leverage our strengths, embrace new challenges with enthusiasm, and work collaboratively to achieve even greater success in the remainder of the year. Your ongoing dedication is invaluable to our future.

MESSAGE FROM HEAD OF DEPARTMENT

Prof. Lokesh Kumar Boriwal
HOD, Department of Mechanical Engineering
PIEMR, Indore

With this half-yearly newsletter, we celebrate the collective achievements and the strong collaborative spirit that defines our organization. The updates and stories within these pages showcase the tangible outcomes of your dedication and the power of our unified approach. Your passion for your work and your commitment to our shared objectives are deeply appreciated and are the driving force behind our success. As we look towards the second half of the year, let's continue to foster an environment of open communication, mutual respect, and shared purpose, building on the strong foundation we've established. I am excited about the future and our potential to achieve even greater things together.

COVER STORY

THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENGINEERING

Artificial Intelligence (AI) is revolutionizing mechanical engineering by enabling smarter, faster, and more efficient design and manufacturing processes. Traditionally grounded in physics and material science, mechanical engineering is now embracing AI to solve complex problems, optimize systems, and drive innovation across industries.

One of the key applications of AI in mechanical engineering is predictive maintenance. By analyzing data from sensors installed in machines, AI algorithms can predict failures before they occur, reducing downtime and maintenance costs. This proactive approach ensures higher reliability and efficiency in operations.

AI also enhances design and simulation processes. Engineers use AI-powered tools to generate design alternatives, run simulations, and optimize parameters in real-time. This not only accelerates product development but also results in better-performing and more sustainable designs.

In manufacturing, AI enables smart automation. Robots powered by AI can adapt to new tasks, detect defects, and work collaboratively with humans on the factory floor. Machine learning algorithms further allow systems to continuously improve their performance based on data feedback.

Another exciting area is the integration of AI with additive manufacturing (3D printing). AI helps in optimizing print paths, reducing material usage, and ensuring quality control in real time.

As AI continues to evolve, mechanical engineers must gain skills in data analytics, machine learning, and control systems to remain competitive. The fusion of AI with mechanical engineering is creating a new breed of intelligent systems that are efficient, adaptive, and transformative.

AI is not replacing mechanical engineers—it's empowering them to innovate faster, smarter, and with greater precision than ever before.

ACTIVITIES AND RECENT EVENTS

ALUMIN INTERACTION ON CARRER IN MERCHANT NAVY

We recently hosted an engaging and insightful alumni interaction focused on career opportunities within the Merchant Navy. Our esteemed alumnus, Prashant Devedi, who is currently working as a Mechanical Engg., shared their valuable experiences, challenges, and rewards of pursuing a career at sea. Students and faculty members actively participated in a Q&A session, gaining firsthand knowledge about the required qualifications, training pathways, and the diverse roles available in the Merchant Navy. This interaction provided a unique platform for aspiring individuals to learn from a seasoned professional and gain clarity on this exciting career path. We thank Prashant Devedi for their time and valuable guidance.

WORKSHOP ON 3D MODELING AND 3D PRINTING WITH PROF. SAJAN KAPIL

Our recent workshop on 3D Modeling and 3D Printing, led by the esteemed Prof. Sajan Kapil, was a highly engaging and informative session for our participants. Prof. Kapil, with his extensive expertise in the field, provided a comprehensive overview of the principles of 3D modeling software and the practical applications of 3D printing technology. Attendees gained hands-on experience in creating basic 3D models and understanding the various stages of the 3D printing process. This workshop aimed to foster innovation and introduce participants to the transformative potential of additive manufacturing across different industries. We extend our sincere gratitude to Prof. Kapil for sharing his knowledge and inspiring our participants to explore the exciting world of 3D technology.