MECH VISTA

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Department of Mechanical Engineering

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It is a privilege to present the current issue of the Bi-Annual Newsletter of the Department of Mechanical Engineering. This publication highlights the key academic, technical, and co-curricular activities undertaken during the past six months.

The newsletter captures departmental events such as workshops, seminars, expert lectures, industrial visits, student projects, faculty achievements, and outreach activities. These initiatives reflect our commitment to providing quality technical education and practical exposure to our students.Such contributions not only enhance communication skills but also foster confidence, creativity, and professional growth.

I sincerely thank all students, faculty members, and the editorial team for their valuable contributions and continuous support in bringing out this issue successfully. Their dedication and teamwork strengthen the academic culture of the department.

Let this newsletter inspire us to pursue excellence, innovation, and responsibility in shaping the built environment for a better tomorrow.

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Message from the Principal

It is truly heartening to witness the Mechanical Engineering Department of our college publish its annual newsletter“GIACR MechVista” —a compelling testament to its vibrant academic culture, technological foresight, and unwavering commitment to excellence. This publication encapsulates the department’s dynamic engagement with both foundational engineering principles and cutting-edge innovations.

Mechanical Engineering, long regarded as the backbone of industrial progress, continues to evolve and expand its influence across emerging domains such as autonomous mechanical systems, renewable energy technologies, smart manufacturing, and sustainable infrastructure development. These areas not only redefine traditional engineering paradigms but also position mechanical engineers at the forefront of global problem-solving.

In response to the rapidly shifting landscape of science and technology, the department has proactively introduced a suite of initiatives—ranging from interdisciplinary curriculum enhancements and industry-aligned training modules to research-driven student projects and innovation labs. These efforts are strategically designed to cultivate technical proficiency, systems thinking, and a future-ready mindset among students.

This annual newsletter serves as a reflection of the department’s holistic approach to education and innovation. It showcases key academic activities, research achievements, collaborative ventures, and outreach initiatives that collectively foster intellectual growth, technological advancement, and meaningful societal impact.

Message from the Head

Greetings!

I am truly delighted to witness the launch of the Department of Mechanical Engineering's annual newsletter"GIACR MechVista" —a vibrant and insightful platform that fosters meaningful connection among students, faculty, alumni, and stakeholders. This publication serves not only as a chronicle of the department's dynamic activities but also as a celebration of its enduring commitment to engineering excellence.

This edition proudly showcases hallmark initiatives such as the *Project Expo*, where student ingenuity meets real-world application, and the department's ongoing *Research and Development* efforts that push the boundaries of innovation in areas like thermal systems, robotics, materials science, and sustainable design. These features reflect the academic rigor, technical depth, and forward-thinking spirit that define our department.

Equally commendable are the contributions of our dedicated faculty members, whose mentorship and scholarly pursuits continue to elevate the standards of Mechanical Engineering education. The newsletter also highlights best practices in pedagogy, industry collaboration, and experiential learning—reinforcing our mission to produce engineers who are not only technically proficient but also socially responsible.

I extend my heartfelt congratulations to all the students and faculty of the Mechanical Engineering Department for their collaborative effort and unwavering dedication in bringing out this publication. May it continue to inspire innovation, foster excellence, and strengthen the bonds within our academic community.

Vision and Mission of the Institution

Vision

To become a globally recognized, value-driven educational institution committed to excellence in delivering quality education, nurturing students' inherent talents, and developing innovative professionals in technical and managerial fields, thereby equipping them to meet the future challenges of the global economy.

Mission

M_1: To deliver quality education through effective teaching–learning processes that foster academic excellence in technical and managerial disciplines.

M_2: To nurture students' inherent talents by encouraging creativity, critical thinking, innovation, and lifelong learning.

M_3: To develop competent and ethical professionals with strong values, leadership skills, and social responsibility.

M_4: To promote industry-oriented learning and research through collaboration, practical exposure, and adoption of emerging technologies.

M_5: To prepare globally competitive graduates capable of adapting to evolving challenges and contributing effectively to the global economy.

Vision & Mission of Department of Mechanical Engineering

VISION

To be a premier knowledge hub in mechanical engineering education, entrepreneurship, and industry engagement, producing skilled engineers ready to address industrial challenges.

MISSION

M1. To impart strong fundamental and advanced knowledge in mechanical engineering through effective teaching–learning practices and modern pedagogical methods.

M2. To promote innovation and entrepreneurship by encouraging creative thinking, problem-solving, and startup-oriented initiatives among students.

M3. To strengthen industry engagement through internships, industrial training, consultancy, and collaborative projects to enhance practical skills.

M4. To develop technically competent and ethical engineers with leadership qualities, professional integrity, and social responsibility.

M5. To equip graduates with industry-relevant skillsand adaptability to effectively address real-world engineering challenges.

Program Outcomes (POs)

1. Basic and Discipline specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

2. Problem analysis: Identify and analyses well-defined engineering problems using codified standard methods.

3. Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

4. Engineering Tools, Experimentation and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

5. Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

6. Project Management: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

7. Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Program Educational Objectives

PEO_1: To impart science-based engineering education to develop professional skills that will prepare the students for immediate employment in relevant branch of mechanical engineering in industry.

PEO_2: To develop human potential to its fullest extent so that intellectually capable and creatively gifted leaders can emerge in range of professions.

PEO_3: To develops among students the awareness of and the competence to be savvy users of information technology.

PEO_4: To Develop among students the ability to work with others, in professional and social settings.

PEO_5: To develop a global view among students so that they can appreciate diversity in the world and in intellectual pursuits and the desire and ability to keep learning throughout life.

Programme Specific Outcome

PSO 1: Apply the acquired knowledge in design, thermal, manufacturing and interdisciplinary areas for solving industry and socially relevant problems.

PSO 2: To enhance the abilities of students by imparting knowledge in emerging technologies to make them confident mechanical Engineers.

PSO 3: Provide socially responsible, eco –friendly broad base solution to mechanical Engineering related problems adopting professional ethics.

Expert talk by Sri Govind Prasad Rath on Entrepreneurial Development for Mechanical Engineering Department Faculty Members at GIACR Rayagada

The Department of Mechanical Engineering, GIACR Rayagada, organized an Expert Talk on "Entrepreneurial Development" by Sri Govind Prasad Rath on 5th January 2025. He is a renowned entrepreneur and industrial consultant. The session aimed to enhance the entrepreneurial mindset and innovation skills among the faculty members, encouraging them to guide students towards self-employment and start-up culture.

Sri Rath shared his valuable insights on the importance of entrepreneurship in the current industrial scenario, emphasizing how innovative ideas and risk-taking abilities can transform the economic landscape of rural and semi-urban regions. He discussed various aspects of business planning, financial management, and government support schemes available for budding entrepreneurs.

The speaker also highlighted the role of faculty members in nurturing entrepreneurial thinking among students through project-based learning, incubation support, and industry collaborations. The session was highly interactive, with participants engaging in thoughtful discussions and sharing their experiences.

The event concluded with a vote of thanks by the Head of the Department, appreciating Sri Rath's inspiring talk and practical guidance. The session motivated the faculty members to integrate entrepreneurial education into their teaching practices and support students in becoming future innovators and job creators.

Observance of National Youth Day

The Mechanical Engineering Department organized the observance of National Youth Day on 12th January 2025 as a tribute to Swami Vivekananda on the occasion of his birth anniversary. The programme was conducted to inspire students to embrace the values of unity, strength, discipline, and national integrity that Swami Vivekananda strongly advocated throughout his life.

The event commenced with a brief speech highlighting his teachings, vision for youth empowerment, and message of self-confidence and service to the nation. Faculty members and students reflected on his ideals and the importance of character building in shaping a progressive society.

The observance was followed by a mini marathon in which students and staff actively participated with great enthusiasm. The run symbolized energy, determination, and collective spirit among the youth. The programme successfully motivated students to contribute positively to society while promoting physical fitness and national pride.

Republic Day Celebration at GIACR Rayagada

The Republic Day celebration at **GIACR, Rayagada** was organized with great enthusiasm and patriotic spirit on 26th January 2025. The event commenced with the unfurling of the **National Flag** by the Principal, followed by the singing of the **National Anthem** by all students, faculty, and staff members. In his address, the Principal highlighted the significance of Republic Day and paid tribute to the **Constitution makers** who laid the foundation of a sovereign, democratic, and secular nation.

Students from various departments, including Diploma Engineering, showcased their patriotism through cultural performances such as patriotic songs, dances, and skits depicting India's freedom struggle and achievements in science, technology, and infrastructure. The campus was beautifully decorated with tricolour flags and rangoli designs, creating a festive ambiance.

Prizes were distributed to students who excelled in academics, sports, and extracurricular activities. The event concluded with a vote of thanks and the distribution of sweets among the participants. The celebration not only instilled a sense of national pride among the students but also reminded everyone of their duty to contribute towards the progress and unity of the nation. Overall, the Republic Day celebration at GIACR Rayagada was a grand and memorable event.

Cleanliness Drive at Chekkaguda

The Mechanical Engineering Department of GIACR organized a cleanliness drive at Chekkaguda village, located about 5 km away from Rayagada, on 30th January 2025. The programme was conducted with the objective of promoting awareness about hygiene, sanitation, and environmental responsibility among the local residents. Students and faculty members actively participated in cleaning the village roads, public spaces, and surrounding areas. The team collected plastic waste, cleared drainage pathways, and spread awareness about proper waste disposal practices.

The villagers appreciated the efforts of the students and extended their cooperation throughout the activity. The programme also emphasized the importance of maintaining a clean and healthy environment to prevent diseases and ensure community well-being. Such initiatives help students understand their social responsibilities and encourage them to contribute positively to society. The cleanliness drive was a meaningful step towards community engagement and sustainable development.

Soft Skill Classes by Prof. Arun Kumar Das

Soft Skill Classes were conducted by **Prof. Arun Kumar Das, Assistant Professor of English**, for the third-year students on 7th and 8th February 2025. The sessions were organized with the objective of preparing students to confidently face campus interviews and competitive recruitment processes.

During the classes, Prof. Das focused on key areas such as communication skills, personality development, group discussion techniques, resume writing, and interview etiquette. He guided students on how to present themselves professionally, maintain positive body language, and respond effectively to commonly asked interview questions. Special emphasis was given to improving verbal and non-verbal communication, clarity of thought, and confidence building.

Interactive activities, mock interviews, and group discussions were conducted to provide practical exposure. Students actively participated in the sessions and gained valuable insights into the expectations of recruiters. The programme helped them understand the importance of soft skills alongside technical knowledge for career success.

The sessions were highly informative and motivating. Students expressed their appreciation for the practical guidance and constructive feedback provided.

Celebration of International Yoga Day

The Mechanical Engineering Department of GIACR Rayagada celebrated International Yoga Day on 21st June 2025 with great enthusiasm and active participation. The programme was organized to promote physical fitness, mental well-being, and a healthy lifestyle among students and faculty members. The event was conducted in the college premises during the morning hours to encourage maximum participation.

The session began with a brief introduction highlighting the significance of yoga in maintaining harmony between body and mind. Participants performed various asanas, pranayama, and meditation techniques under the guidance of a trained instructor. The importance of regular yoga practice in reducing stress, improving concentration, and enhancing overall health was explained in detail.

Students and faculty members actively took part in the session and demonstrated keen interest in learning proper techniques. The programme created awareness about the benefits of adopting yoga as a daily routine. The celebration of International Yoga Day served as a meaningful initiative to encourage a balanced and healthy lifestyle among the academic community.