

Sakeshwar Gramin Vikas Seva Sanstha's
Adsul's Technical Campus,
Ahmednagar
Department of Mechanical Engineering



Shri Aniruddha Adsul
Chairman



Dr. P.M. Patil
Principal



Mr. Jaware A. R.
Head of Department



Vision of Institute

To be a most preferred Rural Technical Campus in the region by creating competent multifaceted Engineers and Professionals ready to serve the industry and society at large.

Mission of Institute

To establish state-of-the-art facilities and create a conducive environment for transforming the rural minds into competent, skilled, professional, researchers, technically sound, innovative aptitude, and ethics through value-based education to develop the nation for global competitiveness.

Objectives of Institute

- To provide quality education with futuristic trends in engineering and technology
- To ensure continual improvement in quality management system
- To impart innovative teaching and learning

Vision of Department

To be a premier department in Mechanical engineering to serve the need of industry and society

Mission of Department

- M1: To provide state-of-the-art facilities to impart quality education.
- M2: To undertake various value-added and add-on courses to make students technically sound and thorough professionals.
- M3: To collaborate with the industries and strive to instil the research and problem-solving attitude amongst students and faculty.
- M4: To inculcate high moral, ethical values, and spirit of national pride amongst students and faculty.

Program Educational Objectives (PEOs)

PEO1: To prepare Mechanical engineering graduate with standing knowledge of Mathematics, Science, Engineering, Technology, Management, Humanities and various other interdisciplinary subjects for successful career.

PEO2: To equip students with modern tools, technology and advance soft wares for deliberating Engineering solutions.

PEO3: To equip students with broad based knowledge to support the service industry, economic development and to address social and engineering challenges of nation.

PEO4: To inculcate student with leadership skill with high level of integrity and ethical value for team building and team work.

Program Outcomes (POs)

PO-1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering Programs.

PO-2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO-3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO-4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO-5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO-6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO-7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO-8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO-9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO-11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO-12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO1: An ability to design solution for thermal, hydraulic systems, design components and production processes that meet the specified needs with team work and management skill for safety, societal and environmental aspects through lifelong learning..

PSO2: Utilize modern computational tools, software tools & hardware required with the proper understanding of all basic technical skills, soft skills in industry

PSO3: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths. Creating innovative career paths.

Silent features of Department:

- **Supportive learning for placement:** Placement learning is immersive and iterative. Support in the form of formative tasks and activities are crucial for student success, whilst being mindful of the need to ensure parity of student workload between modules of the same credit weighting. Placement assistance can offer students professional guidance and support to help them build successful careers. Students who might feel overburdened by the job search process might greatly benefit from placement assistance services.
- **Value added courses:** Value Added courses are career and market oriented, skill-enhancing courses that empower the students beyond their domain of study. The certificate programmes enable them to enrich their capability and enhance their employability. Value added courses are conducted for one week during the semester breaks by department faculty and external trainers.
- **Career oriented Add-On Courses:** Job-oriented courses are training and academic courses that prepare professionals for a particular career field or role. A traditional academic course may provide an overview of a certain topic or area, but a job-oriented course focuses on the knowledge and skills required for a particular job.
- **Teacher as Mentor:** The role of the Mentor Teacher is a complex blend of modeling, coaching, instructing, collaborating, and encouraging as candidates build competency in program standards. Mentor Teachers are expected to support candidates in developing the skills and knowledge to meet these standards.
- **Report writing and Paper Presentation:** A report is a specific form of writing, written concisely and clearly and typically organized around identifying and examining issues, events, or findings from a research investigation. Reports often involve investigating and analyzing a problem and coming up with a solution.
- **Professional Development for Industrial Engagement:** There are three types of employee engagement: **cognitive**, **emotional**, and **physical**. When employees are cognitively engaged, they're committed to their job, when they're physically engaged, they're invested in their work, and when they're emotionally engaged, they have an emotional connection to their work.
- **Personality Development and Soft Skill Training:** Personality Development teaches us how to communicate and display ourselves as having caring skills. It also emphasizes personal management, grooming, health, and nutrition, as well as soft skills. This course educates students on the numerous aspects of self-development. Soft skills comprise pleasant and appealing personality traits as self-confidence, positive attitude, emotional intelligence, social grace, flexibility, friendliness and effective communication skills.

Poster Presentation Competition

A poster making competition was organized for all Mechanical engineering students at Adsul's Technical Campus Drawing Hall on 15th Sep 2023. The aim behind conducting this competition was to check the creative and artistic skills of the students. The chief guests of the event were Dr. P.M. Patil (Director, Principal of Adsul's Technical Campus).

Objectives

1. Spark lively discussions and collaborative learning
2. Promote independent exploration and research
3. Develop a deeper understanding of digital technology and computer science concept
4. Connect classroom learning to real-world applications
5. Fall in love with the power of technology and its potential to shape the future
6. Gain confidence and critical thinking skills

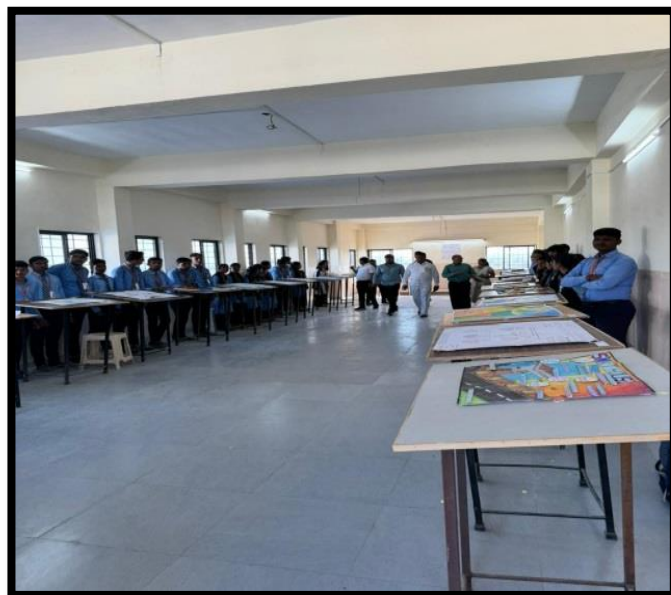
The suggested themes of the competition were:

1. Artificial Intelligence & Robotics
2. Applications of IoT in Smart Factories Coding Fundamentals
3. Green Manufacturing Practices
4. Nanotechnology in Mechanical Engineering

The total time allotted for the activity was two hour and 30 minutes. The judges of the competition were Daule A.D. (Head of Civil Department). The decision regarding the winners was made on the basis of following criteria:

- Relevance to the theme
- Accuracy and clarity of the message
- Neatness
- Overall presentation

The winners were awarded with the certificates from Chief Guest Dr. P. M. Patil, H.O.D Civil Department Mr. Daule A.D. It was an interesting session for the students as they participated in the competition with great enthusiasm.



Paper Presentation Competition

A Paper Presentation Competition was organized for all Mechanical engineering students at Adsul's Technical Campus Classroom on 15th Sep 2023 aimed to blend fun with learning, allowing participants to showcase their technical and non-technical knowledge and creativity.

Objectives

1. Promote critical thinking and original contributions to knowledge.
2. Encourage participants to analyze problems critically and present logical, evidence-based solutions.
3. Motivate participants to strive for excellence in their academic or professional pursuits

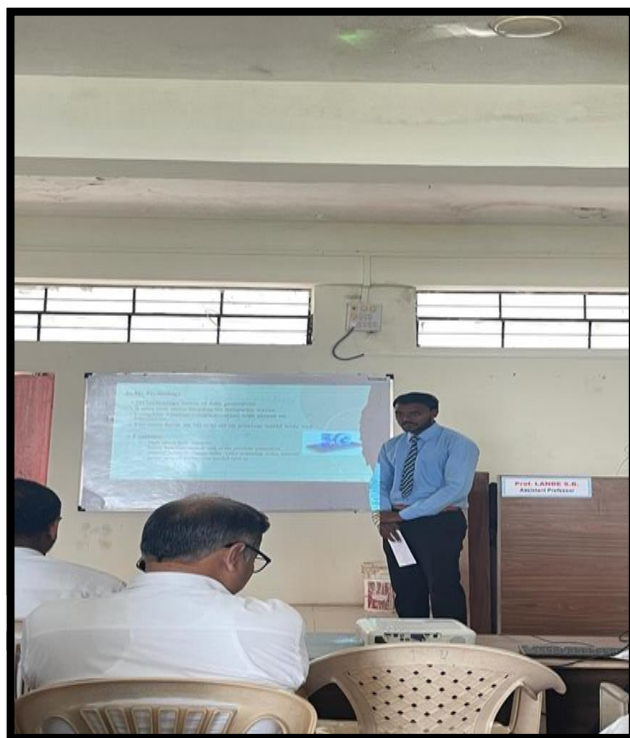
The suggested topics of the competition were:

1. Advances in Renewable Energy Systems
2. Waste-to-Energy Technologies
3. Automation in Manufacturing
4. Tribology: Enhancing the Life of Mechanical Components

The total time allotted for the activity was 2 hour and 30 minutes. The judges of the competition were Dr. H. B. Jadhav. (HOD of Comp. Eng.). The decision regarding the winners was made on the basis of following criteria:

- Clarity and Relevance
- Relevance to the theme
- Accuracy and clarity of the message
- Depth of Research
- Overall presentation

The winners were awarded with the certificates from Chief Guest Dr. P. M. Patil, H.O.D Computer Department Dr. H. B Jadhav. The event was well-received, and students expressed enthusiasm for future such activities



Quiz Competition

A Quiz Competition was organized for the students of was organized for all Mechanical engineering students at Adsul's Technical Campus Seminar Hall on 15th Sep 2023. The competition aimed to foster a spirit of learning, enhance knowledge, and encourage healthy competition among students..

Objectives

1. To encourage participants to broaden their knowledge base across various topics.
2. To train participants to think and act quickly under time constraints.
3. To build self-confidence through public participation and recognition.
4. To inspire individuals to step out of their comfort zones and participate actively in intellectual challenges



Competition Format

1. **Preliminary Round:** A written quiz to shortlist teams for the main rounds.
2. **Main Rounds:**
 - o **Round 1:** General Knowledge/Technical Round.
 - o **Round 2:** Rapid Fire Round.
3. **Scoring Criteria:** Points were awarded for each correct answer, with penalties for incorrect responses in certain rounds.

The winners were awarded with the certificates from Chief Guest Dr. P. M. Patil, Principal of ATC, H.O.D Electrical Department, Mr. Bhangale H.K. Participants appreciated the diverse and challenging questions. The enthusiasm and competitive spirit displayed by the participants were commendable. The department looks forward to organizing more such events in the future to nurture curiosity and academic excellence among students



Rangoli Competition

Rangoli is a form of folk art that originated in the Indian subcontinent. A Rangoli may be symmetrical and consist of bright colors, intricate patterns and motifs. They are commonly created around Diwali, an important Hindu religious holiday that celebrates the victory of light over darkness.

The competition develops art & creativity among students. It also gives happiness & joy to Students in their academics. These competitions help students to remain in close touch with their Culture. To enhance students' creativity in art and providing place of competition to encourage Student's ability, hence the Department of Computer Engineering organized Rangoli Competition.

- To encourage students to enhance their skills in Rangoli design.
- To enhance the creativity & imagination in the field of art.
- To boost their confidence in the art.
- To encourage students to take active part in co-curricular activities.

Rangoli is a traditional form that brightens up an occasion and is believed to be harbinger of good luck. Beautiful patterns are created on the floor using colored rice, flowers, colored sand or paints. In order to develop skills of aesthetics, creativity and innovation among the students, a 'Rangoli Competition' was conducted on **15th September 2023**. The criterion for judgment was the selection of the design, neatness, clarity, color combination and creativity or new ideas implemented by the students to make their design more presentable.

The competition was held for the students of classes FE/SE/TE/BE. The students had pre-planned their patterns and had come prepared with all the materials, they required for making them. The competition was held in two categories.. The students put their best foot forward and took part in the competition with zest. Innovation and creation are the words that best describe their efforts. The Rangoli Competition motivated the students to perform and outshine in their creative skills and most importantly, their teamwork brought laurels to their house



Placement & Internship Talk

Expert from Azure Infotech Pvt. Ltd. Has delivered placement and internship talk to TE and BE students on 2nd Sep 2023. The session was delivered by an expert from *Azure Infotech Pvt. Ltd.*, a leading IT solutions company known for its innovative technologies and solutions.

The Placement and Internship Talk was an informative and inspiring session that provided TE and BE students with valuable insights into the internship and placement process. The expert from Azure Infotech Pvt. Ltd. not only gave students a clear understanding of the company's expectations but also motivated them to hone their skills and prepare diligently for the competitive job market. The session was an excellent initiative by the department to equip students with the necessary knowledge and tools to succeed in their careers.



Expert Lecture

On 20th September 2023 from 04:00 PM to 05:15 PM, Expert lecture on "Industry 4.0" was conducted by Prof. D.S. Phaple (Lecturer in Mechanical Engineering, Amrutwahini Polytechnic College, Sangamner).

He has explained that the industry 4.0 is the Fourth Industrial Revolution, represents the integration of digital technologies into manufacturing and industrial processes. This transformation is driven by advancements in automation, data exchange, artificial intelligence (AI), machine learning, the Internet of Things (IoT), and cyber-physical systems.

Key Elements of Industry 4.0 are: IoT and Connectivity, Data Analytics and Big Data, Cyber-Physical Systems (CPS), AI and Machine Learning, Augmented Reality (AR) and Virtual Reality (VR), Cloud Computing, Robotics and Automation, additive manufacturing (3D Printing) & the benefits of industry 4.0 are: Smart Factories, Supply Chain Optimization, Predictive Maintenance, Energy Management, etc.



Expert Lecture

On 25th September 2023 from 4:00 PM to 05:15 PM, Expert lecture on "3D Printing Technology" was conducted by Dr. Pawar K.P. (Principal, Rajiv Gandhi College of Engineering, Takli- Dhokeshwar- Parner Dist: Ahmednagar.)

Dr. Pawar K.P. an expert in 3D printing and additive manufacturing led the session. With extensive experience in research and industry applications of 3D printing. He provided valuable knowledge and real-world examples that connected theoretical concepts to practical implementation. The lecture began with an overview of 3D printing, defining it as an additive manufacturing process that creates objects layer by layer based on digital models. Different types of 3D printing technologies were introduced, including Fused Deposition Modeling (FDM), Stereo lithography (SLA), and Selective Laser Sintering (SLS), with brief explanations of each.

The speaker discussed how 3D printing is being used across industries, including aerospace, automotive, healthcare, and consumer goods. Specific applications such as custom prosthetics, complex aerospace components, and rapid prototyping were highlighted to demonstrate the versatility of the technology.



Editorial Committee

We acknowledge the efforts of our editorial team, comprising faculty and students, for their valuable contributions in this publication:

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