PANIMALAR ENGINEERING COLLEGE

Accredited by NBA and Affiliated to Anna University
Approved by All India Council For Technical Education, New Delhi
POONAMALLEE, CHENNAI- 600 123.

DEPARTMENT OF MECHANICAL ENGINEERING

NEWSLETTER-THE TORQUE

.... Ready to be driven

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VISION

The Department of Mechanical Engineering will be globally recognized as a pioneer in Under Graduate Engineering Programs through its excellence in teaching and research, catering to the significant and evolving societal needs.

MISSION

Mission 1: To serve the society by developing competent engineers with outstanding leadership qualities and ethical values.

Mission 2: To address the progressive needs of the society and industry using modern engineering tools and cutting edge technologies.

Mission 3: To inculcate the importance of professional development within budding engineers through sustained learning.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1: Graduates will contribute to the industrial and societal needs as per the recent developments using knowledge acquired through basic engineering education and training.

PEO 2: Graduates will be able to demonstrate technical knowledge and skills in their career with systems perspective, analyze, design, develop, optimize, and implement complex mechanical systems.

PEO 3: Graduates will be able to work in multidisciplinary environment developing complex mechanical systems.

PEO 4: Graduates will work as a team or as an individual with utmost commitment towards the completion of assigned task using apt communication, technical and management skills.

PEO 5: Graduate will recognize the importance of professional development by pursuing higher studies in various specializations.

PROGRAMME OUTCOMES

Engineering Graduates will be able to:

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

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.

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.

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.

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.

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.

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.

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

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

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.

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.

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: Fundamental Domain Knowledge: Design mechanical systems in various fields of machine elements, thermal, manufacturing, industrial and inter disciplinary fields using engineering/technological tools.

PSO2: Usage of software programs: Resolve new challenges in Mechanical Engineering using modern computer tools and software programs.

PSO3: Continual learning and Research: Develop intellectual and technical solution to complex mechanical problems through continual learning and research.

ENGINEERING FACTS...

V. Arun Kumar
II Mech

1. The snowboard was invented by an engineer? With some engineering twists and turns along the way, the snowboard has become a marvel of geometry, chemistry, and biomechanics. Since the snowboard allows deft turns, ski manufacturers have quickly adopted some of the snowboard innovations, enabling skiers to turn with less effort.

2. Engineers design running shoes for protection, performance, and comfort? Engineers understand how much force travels from the ground through the shoe to the foot. Through the work of engineering, weight is distributed throughout the whole foot -- heel to toe.

3. A civil engineer created the slippery part of the water slide? A civil engineer designed a pumping system to circulate just the right amount of water to the flume. Without the right flow of water, there is no ride. Additionally, civil engineers have designed the slide to withstand the weight of people, the water, and even the force of the wind blowing on it.

4. The launch and return of spacecraft, from the Apollo to the Shuttle, is a monumental engineering triumph? The space program has greatly expanded the world's knowledge base. The technological advancement by engineers in energy, communications, materials, structures, and computers, have made space travel possible.

5. The Ferris wheel is considered one of the greatest engineering wonders in the world? The first Ferris wheel was created by Pittsburgh, Pennsylvania engineer, George W. Ferris, in 1893. The wheel is supported by two 140-foot steel towers and connected by a 45-foot axle -- the largest single piece of forged steel ever made at that time.

6. Engineers make interactive television possible? Engineers are involved in all aspects of interactive TV technology, from designing new cables, to creating new film emulsions, to engineering better sound quality. This technology allows viewers to select any program, film, or game from more than 500 channels.

7. Engineers play an instrumental role in the theme park industry? Theme park engineers are involved in designing, building, lighting, and even controlling the crowd flow in theme parks around the world.

8. Companies and universities are using engineers to form the Virtual Reality and Simulation Initiative? This technology applies computer simulation and visualization to 3-D modeling projects, such as virtual offices.

9. Bioengineers are creating a new and exciting medical technogy? This technology will utilize virtual reality to help surgeons reconstruct facial birth defects.

10. Computer engineers, in conjunction with animators, have created special effects in movies such as "Jurassic Park," "Forrest Gump," and "Interview with the Vampire"? Through "morphing" technology, images are digitally mastered to appear realistic.

An ingenious no-electricity cooler made with plastic bottles

SS Barath Raj
II Mech

Do you have a few plastic bottles lying around? Then you can make an air conditioner - really.

Eco-Cooler is a low-cost cooling system designed for developing regions. It's constructed from halved plastic bottles inserted into a grid-like board, which is then installed in a hut like a window pane.

Each bottle's neck collects and compresses air from hot breezes, cooling it down dramatically. The innovation can drop temperatures inside a hut as much as 40 degrees Fahrenheit.

Several rural communities in Bangladesh have already implemented the system, which is an eco-friendly solution for communities lacking electrical access.

Do you know???

S.Anish Arjun
III Mech

A diamond will not dissolve in acid. The only thing that can destroy it is intense heat.

Albert Einstein won the Nobel Prize for physics in 1921.