

## Department: Mechanical Engineering

### Department Vision-Mission/Short Term & Long Term Goal

#### **Vision**

"Be a nationally recognized Mechanical Engineering Department that provides right academic ambience and nurtures innate talent of students."

#### **Mission**

"Prepare engineering students for successful career in Mechanical Engineering by imparting knowledge, skills and attitude."

#### **Short Term Goal**

- Improve passing rate.
- Identify weaker students and groom them through extra efforts.
- Increase first class index.
- Encourage students for research projects by providing financial support.

#### **Long Term Goal**

- Permanent affiliation.
- Recognized research center of mechanical engineering department.
- Continuous improvement in Mechanical engineering departmental placements.
- Increase industrial MOUs.

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### PEO'S/PSO'S/PO'S

#### Programme Educational Objectives:

- Graduates will apply knowledge gained in engineering and science to improve lives and livelihoods through a successful career in Mechanical Engineering and other related fields.
- Graduates will become innovators, entrepreneurs to address social, technical and business challenges.
- Graduates will engage in lifelong learning such as higher studies, research and other Continuous professional development activities.

#### Programme Specific Outcome:

After successful completion of B. E. (Mechanical) program student will,

**Problem-Solving Skills:** Execute fabrication, test, operation, documentation and specification of basic mechanical systems or processes.

**Successful Career and Entrepreneurship:** Work in Core/software industry for Design / Development and use of CAD/CAM/CAE Software and platforms in creating innovative career paths to be an entrepreneur and create employability for nation building.

## Program Outcomes:

After successful completion of B. E. (Mechanical) program student will have

- **Apply Knowledge of Mathematics, Science and Engineering:** An ability to relate & apply fundamental knowledge of mathematics, science and mechanical engineering to real world problems.
- **Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **Design and Development of solution:** An ability to design a system, component, or process to meet desired needs within realistic constraints. such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability
- **Analysis design and modeling of complex problems:** An ability to 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.
- **Modern tool usage:** An ability to create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- **Social contribution of Engineers:** An ability to 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.
- **Environment and Sustainability:** An ability to understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **Ethics:** An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and teamwork:** An ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

# INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

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- **Communication skills:** An ability to communicate effectively on complex engineering activities with the engineering community and with the 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
  - **Project management and finance:** An ability to 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.
  - **Lifelong Self-learning:** An ability to 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.