Program Educational Objectives (PEOs) of B.Sc. Mechanical Engineering

The objectives of Mechanical Engineering B.Sc. program are to produce graduates who are able to:

PEO-1: . *Adopt challenging careers in the field of Mechanical Engineering with their professional competence for solution to engineering problems.*

PEO-2: . *Pursue advanced education, research, and development for achieving innovation in engineering and technology.*

PEO-3: . *Assume leadership position within an organization, in compliance with ethical, societal, economic, and environmental practices, for sustainable development.*

Department Program Learning Outcomes are:

1. Engineering Knowledge

An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

2. 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.

3. Design/Development of Solutions

An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

4. Investigation

An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

5. Modern Tool Usage

An ability to 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

An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

7. Environment & Sustainability

An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

8. Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

9. Individual and Team Work

An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

10. Communication

An ability to communicate effectively, orally as well as in writing, 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

An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

12. Lifelong 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.