Vision, Mission of Department

VISION

To be a Mechanical Engineering Program of the first choice by the aspiring students and prospective employers by implementing world class education practices.

MISSION

- To adopt vibrant academic curricula and implementing innovative teaching learning processes.
- To provide opportunities to the students for the development of professional skills.
- To Nurture critical thinking and creativity in students.
- To Inculcate in students the life-long learning attitude and sensitivity towards society and environment.

OBJECTIVES

- To prepare the students to excel in postgraduate programs or to succeed in industry/technical profession through global, rigorous Mechanical Engineering education.
- To provide students with a sound foundation in Mathematics, Core Sciences and Mechanical Engineering fundamentals required to solve the problems in the field of Mechanical Engineering.
- To train the students with good scientific and engineering breadth so as to comprehend, analyse, design and create novel products and give solutions for the real-life problems.
- To inculcate in students professional, ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach and ability to relate engineering issues to broader social context.
- To provide students with an academic environment for excellence, leadership, managerial skills, written ethical codes and guidelines and lifelong learning needed for successful professional career.
- To develop creativity, innovative ability and R&D culture to build new sustainable mechanisms, machines, systems and methodology for enhancing engineering and technology standards.

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B. Tech. Mechanical Engineering

(Program Code: 1-1358137380)

Program Educational Objectives (PEOs)

Graduates of Mechanical Engineering programme after a span of three to four years of their graduation will:

PEO1: Demonstrate technical competency by applying knowledge to solve problems related to engineering issues.

PEO2: Exhibit skills and appropriate attitude to succeed in their professional career.

PEO3: Display thirst for emerging technologies and quest for innovation with concern to society and environment.

Programme Outcomes (PO's)

The students after successfully completing this programme will have an ability to:

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

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.

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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 (PSO's)

PSO-1: Students will develop an ability to successfully apply the design, thermal and manufacturing principles to analyze and interpret the problems of mechanical engineering or interdisciplinary nature in real time situations and provide analytical and/or software solutions for their overall development.

PSO-2: Students will be able to impart technological inputs and acquire managerial skills to become technocrats and entrepreneurs to build the nation, by developing new concepts in emerging fields through intellectual property rights, tech startups and pursuing higher education.

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