

**NANDHA ENGINEERING COLLEGE  
(Autonomous)**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**VISION & MISSION - INSTITUTION**

**VISION**

To be a world class Engineering and Management Institution in leading technological and socio-economic development of the country by enhancing the global competitiveness of technical manpower and by ensuring high quality technical education through dissemination of knowledge, insights and intellectual contributions.

**MISSION**

To provide value-based technical education and mould the character of younger generation.

**VISION & MISSION - DEPARTMENT**

**VISION**

To be a premier centre for learning in Mechanical Engineering in the country.

**MISSION**

- To offer state-of-the-art undergraduate, postgraduate and research programmes in engineering.
- To develop skilled and employable graduates to meet the challenges in emerging fields of Engineering.
- To prepare the students for prosperous career in Engineering / Entrepreneurship by inculcating the leadership qualities with professional and ethical responsibilities for the benefit of the society.
- To encourage Research & Development in the thrust areas of Engineering

**PROGRAM EDUCATIONAL OBJECTIVES (PEOS):**

**PEO1:** Skilled Engineer: Graduates will be successful practitioners in solving industry's technological problems

**PEO2:** Entrepreneurs: Graduates will be entrepreneurs and contribute to the economic growth of the country

**PEO3:** Higher Education and Research: Graduates will pursue higher studies in engineering or management successfully and prefer career paths in teaching / industry or research

**PEO4:** Professional and Ethical responsibilities Graduates will function in their career with professional and ethical responsibilities

## **PROGRAM OUTCOMES:**

**PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2: 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.

**PO3: 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.

**PO4: 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.

**PO5: 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.

**PO6: 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.

**PO7: 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.

**PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10: 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.

**PO11: 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.

**PO12: 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:**

**PSO1:** Ability to design mechanical systems with required specifications using latest software packages

**PSO2:** Ability to identify sustainable materials and technologies for alternate engineered solutions

**PSO3:** Ability to apply the concepts and principles of manufacturing engineering to innovate and to create products and processes with sustainable manufacturing

**PSO4:** Ability to provide solution to challenges in the solar thermal systems