

**GOVT. COLLEGE OF ENGINEERING
AMRAVATI**

DEPARTMENT OF MECHANICAL ENGINEERING



CURRICULUM

For

B. TECH. (Mechanical Engineering)

From 2019 – 20 batch

PROGRAM OBJECTIVES

- I. To prepare students for successful careers in industry/ higher studies /R&D institutions that meet global needs.
- II. To provide students with solid foundation in basic science and basic engineering required to solve and analyze mechanical engineering problems.
- III. To develop ability among students to solve industrial, environmental, Techno-social problems with latest and appropriate mechanical engineering techniques and tools available
- IV. To inculcate professional skill, ethical responsibility, team work and leadership qualities in students.
- V. To promote awareness of entrepreneurship, self-education, lifelong learning and to develop sense of social responsibility.

PROGRAM OUTCOMES

- I. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- II. **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.
- III. **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.
- IV. **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.
- V. **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.
- VI. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and

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cultural issues and the consequent responsibilities relevant to the professional engineering practice.

- VII. **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.
- VIII. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- IX. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- X. **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.
- XI. **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.
- XII. **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

1. Identify Mechanical Engineering related real life issues/ problems in industries, society and provide feasible solution
2. Apply the knowledge of the basic streams of Mechanical Engineering viz. thermal, design and production system to design mechanical system and product development
3. Plan and implement the activities in the small, medium and large enterprises as a part of team or as an individual

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