

The justification of PEOs with the Mission of the Department is given below:

1.5. Establish consistency of PEOs with Mission of the Department (10)

| PEO Statements | M1: Academic Excellence To develop outstanding engineers well versed in the theory and practice of the Mechanical Engineering discipline. | M2: Systems Approach through Total Quality Management To follow a holistic systems approach through a Total Quality Management framework targeting excellence, initiative, creativity, and innovation so as to ensure competence in the discipline of Mechanical Engineering with specialization in emerging fields. | M3: Ethics & Values To uphold the highest ethical standards in one's professional career by inculcating moral values, creating willingness to work with one's hands, promoting respect for dignity of labour and a spirit of self-sacrifice in the service of humanity. | M4: Social Responsibility & Sustainable Development To contribute to national development by meeting its industrial needs through empowerment of the marginalized sections of society, and to build economy through frugal innovation anchored in the principle of achieving more with less. |
|--|---|--|---|--|
| PEO1: To provide a solid foundation in the basic sciences, analytical skills and Mechanical Engineering fundamentals required to succeed in the field of engineering. | 3 | 3 | 1 | 2 |

| S. No. | Mapping (Score) | Justification |
|---------------|------------------------|---|
| 1 | PEO1 – M1 (3) | The Mechanical Department has well-qualified and experienced Faculty who have devoted their careers to academic pursuits and are well equipped to transform the young students into knowledgeable and motivated professionals. State-of-the-art facilities provided in the institute help students to pursue a successful career in industries. |
| 2 | PEO1 – M2 (3) | The training based on a holistic approach focusses on all-round development of students provided in the institute thus helping them to pursue a successful career in industries. Students of Mechanical Engineering are provided an opportunity to specialize in Industrial Engineering or Computer Science according to their interest. |
| 3 | PEO1 – M3 (1) | The learning environment provided in the Institute is designed to encourage ethical values and leadership abilities thus helping students to sustain a successful career in industries. |
| 4 | PEO1 – M4 (2) | A culture for innovation and a spirit of service is pervasive in the campus and this provides motivation and inspiration to the students to work towards nation building. |

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| PEO2: To train students to develop sound scientific and practical engineering application skills and a keen research acumen so as to conceive, analyze, design and create novel engineering products. | 3 | 3 | 2 | 3 |

| S. No. | Mapping (Score) | Justification |
|--------|-----------------|--|
| 1 | PEO2 – M1 (3) | Inculcating a scientific temper and practical training skills in engineering coupled with the theoretical knowledge make the student better suited to the increasingly technologically oriented environment. |
| 2 | PEO2 – M2 (3) | The design orientation is extremely important for an engineer in the 21 st century which can be regarded as an era of superfast innovation with reducing product cycle times and time-to-market. |
| 3 | PEO2 – M3 (2) | Training in practical engineering application skills when pursued in a rigorous fashion develops in oneself the capacity to work with one's own hands and also promotes respect for dignity of labour. |
| 4 | PEO2 – M4 (3) | Understanding the long-term implications of the product being designed and the competence to integrate aspects necessary for ensuring sustainable development are essential requirements today. |

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| PEO3: To provide broad-based exposure to the state-of-the-art in the Mechanical Engineering discipline and make the students industry ready. | 3 | 3 | 1 | 3 |

| S. No. | Mapping (Score) | Justification |
|--------|-----------------|---|
| 1 | PEO3 – M1 (3) | The institute's environment with the state-of-the-art facilities is helping students to achieve personal and professional success with awareness, both as individuals and in team environments. |
| 2 | PEO3 – M2 (3) | Students training in the conducive environment of the institute are helping them to achieve personal and professional success with awareness, both as individuals and in team environments. |
| 3 | PEO3 – M3 (1) | By providing a conducive learning environment in the institute that encourages ethical values and leadership abilities in students helps them to achieve personal and professional success both as individuals and in team environments. |
| 4 | PEO3 – M4 (3) | Through different projects (Design Engineering Theme Development Project, Co-op Internship Project, Major Project) required to be completed as part of the curriculum, students are exposed to There is a strong focus is on application of knowledge towards sustainable national development. |

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| PEO4: To prepare students to respond to societal needs through an understanding of the rural ethos, Indian Culture, and plurality of ethnic and religious communities in the country at large. | 1 | 1 | 3 | 3 |

| S. No. | Mapping (Score) | Justification |
|--------|-----------------|--|
| 1 | PEO4 – M1 (1) | The students are exposed to various facets of societal issues thus inculcating in them an understanding of the practical requirements of the nation at large enabling them to contribute better as engineers. |
| 2 | PEO4 – M2 (1) | Understanding of the needs and plurality of the country at large is an integral part of being competent to offer engineering solutions to the problems facing the nation. |
| 3 | PEO4 – M3 (3) | Emphasis on development of all-round personality of students by bringing about physical, intellectual, emotional, and ethical integration with basic values of humanism, secularism, and democracy, and make them capable of giving a fuller response to social and environmental challenges. |
| 4 | PEO4 – M4 (3) | The institute's environment that encourages ethical values and leadership abilities in students coupled with the Program Curriculum will lead students to better shoulder social responsibilities and encourages focus on innovation that is conducive to sustainable development because of a deeper understanding of the needs and resources available in the target population. |

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| PEO5: To encourage students to develop lifelong learning skills, entrepreneurship abilities and ethical values for a successful professional career. | 1 | 1 | 3 | 3 |

| S. No. | Mapping (Score) | Justification |
|--------|-----------------|---|
| 1 | PEO5 – M1 (1) | Training students within the conducive environment of the institute – coupled with the multiple projects and industrial training that are an integral part of the Program Curriculum – inculcates in the students the ability and the passion to engage in continuous learning in their professional careers. This is essential in the fast-changing engineering landscape of today. |
| 2 | PEO5 – M2 (1) | 'Learning to learn' is the need of today for competence in emerging areas, specially since the new knowledge that is emerging in these areas would have to be successfully learnt and deployed for successful careers. |
| 3 | PEO5 – M3 (3) | Engendering professional ethics & human values creates willingness and capacity to work with one's hands, promoting respect for dignity of labour and a spirit of self-sacrifice to serve humanity. |
| 4 | PEO5 – M4 (3) | Innovation and entrepreneurship are key to national development. The learning environment provided in the institute is designed to promote frugal innovation and provide low-cost solutions for the society helping students to progress towards a successful career. The focus is on "doing more with less" which is the basis of innovation in real life situations. These have been emphasized in various fora and in the NEP 2020 also. |