



**PES UNIVERSITY**  
 (Established under Karnataka Act No.16 of 2013)  
 100-ft Ring Road, BSK III Stage, Bengaluru – 560 085  
**Department of Post Graduate Studies, Mechanical Engineering**

**Programme Outcomes (POs)**

<b>Program Outcome ID</b>	<b>NBA Program Outcomes (Washington Accord)</b>	<b>PESU M.Tech- ME Program Outcomes</b>	<b>AHEP Alignments</b>
UE17ME_PG_PO1	<b>Scholarship of Knowledge:</b> Acquire in-depth knowledge of specific discipline or professional area, including wider and global perspective, with an ability to discriminate, evaluate, analyse and synthesise existing and new knowledge, and integration of the same for enhancement of knowledge.	Obtain wide-ranging knowledge in the field of Mechanical Engineering with specialization in Thermo-fluids Engineering, Machine Design, Manufacturing Engineering and Automobile Engineering, with an ability to distinguish, assess, investigate and synthesize existing and new information, and assimilate the same for enhancement of knowledge.	SM1fl, SM2fl, SM3fl EP1fl, EP2fl.
UE17ME_PG_PO2	<b>Critical Thinking:</b> Analyze complex engineering problems critically, apply independent judgment for synthesizing information to make intellectual and/or creative advances for conducting research in a wider theoretical, practical and policy context	Investigate complex problems in Mechanical Engineering critically and apply independent judgment for obtaining vital information for conducting research.	EA1fl, EA2fl, EA3fl, EP1fl.
UE17ME_PG_PO3	<b>Problem Solving:</b> Think laterally and originally, conceptualize and solve engineering problems, evaluate a wide range of potential solutions for those problems and arrive at feasible, optimal solutions after considering public health and safety, cultural, societal and environmental factors in the core areas of expertise	Hypothesize and solve problems in mechanical engineering through creative and original approach and develop critical reasoning ability to estimate a wide range of possible solutions and arrive at the most feasible and optimal solution considering safety, public health, cultural, societal and environmental factors.	D1fl, D2fl, D3fl, EP1fl, EP2fl, EP3fl, ET6fl
UE17ME_PG_PO4	<b>Research Skill:</b> Extract information pertinent to unfamiliar problems through literature survey and experiments, apply appropriate research methodologies, techniques and tools, design, conduct experiments, analyze and interpret data, demonstrate higher order skill and view things in a	Conduct experiments, obtain, analyse and interpret data using proper techniques and tools; obtain information through review of literature and conduct of experiments related to unknown problems in the frontiers of mechanical engineering; demonstrate higher order thinking and contribute to	SM3fl, EA2fl, EA3fl, D1fl.



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	broader perspective, contribute individually/in group(s) to the development of scientific/technological knowledge in one or more domains of engineering.	the development of scientific/technological knowledge in the different domains associated with mechanical engineering.	
UE17ME_PG_PO5	<b>Modern Tool Usage:</b> Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.	Demonstrate an ability to apply modern computing tools and techniques, to model and analyze complex problems in mechanical engineering with a clear knowledge of the limitations involved.	EP1fl, EP2fl, EP3fl.
UE17ME_PG_PO6	<b>Collaborative and Multidisciplinary work:</b> Possess knowledge and understanding of group dynamics, recognize opportunities and contribute positively to collaborative-multidisciplinary scientific research, demonstrate a capacity for self-management and teamwork, decision-making based on open-mindedness, objectivity and rational analysis in order to achieve common goals and further the learning of themselves as well as others	Demonstrate an understanding of group dynamics and contribute positively to collaborative and multidisciplinary research with an ability to make decisions based on rational analysis, to achieve common goals.	EP4fl, EA3fl.
UE17ME_PG_PO7	<b>Project Management and Finance:</b> Demonstrate knowledge and understanding of engineering and management principles and apply the same to one's own work, as a member and leader in a team, manage projects efficiently in respective disciplines and multidisciplinary environments after consideration of economic and financial factors	Demonstrate an ability to apply the principles of project and finance management to efficiently manage and execute mechanical engineering projects, including multidisciplinary perspectives, while working individually as well as in groups.	SM3fl, D1fl, EP4fl, ET3fl, ET4fl.
UE17ME_PG_PO8	<b>Communication:</b> Communicate with the engineering community, and with society at large, regarding complex engineering activities confidently and effectively, such as, being able to comprehend and write effective reports and design	Communicate confidently and effectively regarding complex mechanical engineering activities with the engineering community as well as general society both in terms of making oral presentations as well as documenting and writing technical reports,	EP4fl.



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	documentation by adhering to appropriate standards, make effective presentations, and give and receive clear instructions	adhering to appropriate standards; demonstrate an ability to give and receive clear instructions	
UE17ME_PG_PO9	<b>Life-long Learning:</b> Recognize the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously	Demonstrate an ability to engage in life-long learning, self-sufficiently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously	EA2fl, EP2fl.
UE17ME_PG_PO10	<b>Ethical Practices and Social Responsibility:</b> Acquire professional and intellectual integrity, professional code of conduct, ethics of research and scholarship, consideration of the impact of research outcomes on professional practices and an understanding of responsibility to contribute to the community for sustainable development of society	Attain professionally superior and ethically strong global outlook with an understanding of social responsibility, concern for the environment and be able to contribute to the community for sustainable development of society	ET1fl, ET2fl, ET3fl, ET4fl, ET5fl, ET6fl.
UE17ME_PG_PO11	<b>Independent and Reflective Learning:</b> Observe and examine critically the outcomes of one's actions and make corrective measures subsequently, and learn from mistakes without depending on external feedback.	Demonstrate self-awareness and an ability to learn from mistakes made and take suitable corrective action to improve as an engineer and individual.	EA2fl, EP2fl.