

B.E Civil and Structural Engineering

PROGRAMME OUTCOMES (POs) Engineering Graduates will be able to:

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.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1 Apply the knowledge of mathematics, science and fundamentals of engineering in the engineering problems to provide suitable, viable and economic solutions.

PSO2 Students can identify the problem, analyse and design according to the needs of the society and to come up with the environmental friendly sustainable solutions even for the complex problems.

PSO3 Apply modern tools and management techniques for the complex engineering problems, design of new experiments based on the researches, interpretation and analysis of data to make valid conclusions.

PSO4 Apply the principle of ethics in approaching different projects and problems, communicate with the concerns effectively, proper reports and documentations.

Structural Engineering Programmes

PROGRAMME OUTCOMES (POs)

PO1 Engineering knowledge: Apply the knowledge of Civil and Structural Engineering fundamentals to identify, formulate and present solutions to technical problems in their field of expertise.

PO2 Problem analysis: Identify, formulate, review research literature and analyse complex engineering problems reaching substantiated conclusions using the concepts of that required advanced knowledge within the field.

PO3 Design / Development of solutions: Design solutions for Structural engineering related engineering problems and design system components or processes that meet the desired specifications.

PO4 Conduct investigations: 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 tools including prediction and modelling to Structural analysis activities with an understanding of the limitations.

PO6 The engineer and society: Apply reasoning informed by the contextual knowledge and impact of Structural systems and engineering solutions to the society and the consequent responsibilities relevant to the professional engineering practice.

PO7 Environment and sustainability: Understand the sustainability of design commutation systems with respect to environmental and social issues by their knowledge of contemporary issues in their expertise.

PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the structural 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 professionally and technically on complex engineering activities with their peer engineering community and society in an effective way, such as, being able to comprehend effective reports and design documents, make effective presentations and make and execute clear instructions.

PO11 Project management and finance: Demonstrate the knowledge and understanding of the engineering principles by applying the gained knowledge, to manage projects and in multidisciplinary environments.

PO12 Life-long learning: Recognize the need, adopt themselves for the preparation and ability to engage in independent life-long learning wholly to the demands of the communication and technical changes.

M.E Structural Engineering

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1 To develop the technical and engineering skills of the students and to train them in applying fundamental principles in the field of Structural Engineering domain feeding the needs of global expectations with professional competence.

PEO2 To enable the graduates to apply sustained learning, their engineering skills and adopting to multidisciplinary situations through graduate work.

PEO3 To expose the students to the latest innovations and trends in the field of Structural Engineering in theory, professional development and self-study in Structural Engineering and Practice and tuning the academic programmes periodically to make the students fit for a professional job, a research assignment or self-employment.

PEO4 To impart communication, analytical and soft skills for the students towards either placing them in a comfort zone in their profession or in a path to pursue graduate education master and doctoral degree. 3

PEO5 To produce Structural Engineers who integrate and build on the program's core curricular concepts in the pursuit of professional leadership, teamwork, life-long learning, and successful career advancement.

M.E. (Construction Engineering and Management)

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

PEO1 To develop the technical and engineering skills of the students and to train them in applying fundamental principles in the domain, feeding the needs of global expectations with professional competence.

PEO2 To explore the students in the field of Civil and Structural Engineering areas both in theory and practice and tuning the academic programmes periodically to make the students fit for professional jobs, research assignment or self-employment.

PEO3 To demonstrate their ability to deal effectively with ethical and professional issues, taking into account the broader societal implications.

PEO4 To impart communication, analytical and soft skills for the students towards either placing them in a comfort zone in their profession or a path to pursue higher studies.

