

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- PEO 1** The graduates shall demonstrate the ability to use professional skills including software tools and computational methodologies for the analysis, design, and management of infrastructure projects.
- PEO 2** The graduates shall practice high ethical values and effective communication skills so as to participate as a member of a multidisciplinary team working on various projects.
- PEO 3** The graduates shall continue lifelong learning and take up leadership roles in professional and entrepreneurial settings.

PROGRAM OUTCOMES (POs)

Upon successful completion of the Bachelor of Technology Program in Civil Engineering, students will be able to:

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. Modern tool usage:** 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.
- 6. 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.
- 7. 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.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

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

10. 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.

11. 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 team, to manage projects and in multidisciplinary environments.

12. 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 (PSOs)

Upon successful completion of the Bachelor of Technology Program in Civil Engineering, the students should be able to:

1. Analyse and design foundation and superstructure for diverse building types using industry-standard software
2. Analyse and design hydraulic structures and transportation systems
3. Design and evaluate water, sewerage and industrial effluent conveyance and treatment systems
4. Conduct surveying, soil investigation, develop site maps, and schedule construction projects.