



## SAPTHAGIRI COLLEGE OF ENGINEERING

### DEPARTMENT OF CIVIL ENGINEERING

### PROGRAMME OUTCOMES

Program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behaviour. Graduation students of **Bachelor of Civil Engineering** program at Sapthagiri College of Engineering will attain the following program outcomes **in the field of Civil engineering**.

	PROGRAM OUTCOME
PO1.	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2.	<b>Problem analysis:</b> Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3.	<b>Design/development of solutions:</b> 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.	<b>Conduct investigations of complex problems:</b> 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.	<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.
PO6.	<b>The engineer and society:</b> 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.	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8.	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9.	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10.	<b>Communication:</b> 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.	<b>Project management and finance:</b> 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.	<b>Life-long learning:</b> 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.



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#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)**

The programme educational objectives of civil engineering is designed to produce engineers who are ready to contribute to the civil engineering profession

	<b>PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)</b>
PEO 1:	Apply fundamental and specialized technical knowledge and communication skills to find creative solution for technological challenges.
PEO 2:	Take up advanced education and to engage in research and development in Civil engineering
PEO 3:	Practice Civil engineering in a responsible, professional and ethical manner and implement eco-friendly sustainable technologies for the benefit of the industry and society.
PEO 4:	Enrich competence of graduates to implement emerging techniques for societal needs.



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### **PROGRAMME SPECIFIC OUTCOMES**

The graduates of Civil Engineering program of Sapthagiri College of Engineering should be able to attain the following at the time of graduation.

	<b>PROGRAM SPECIFIC OUTCOMES</b>
<b>PSO1</b>	Develop critical thinking capability and arrive at solutions for sub structures and super structures.
<b>PSO2</b>	Survey, plan and produce detailed drawings for preparation of cost estimates and manage constructions.
<b>PSO3</b>	Assess water resource components for sustainable utilization and design the hydraulic structures and machines.
<b>PSO4</b>	Specify and design for Transportation and environmental engineering aspects.