

**DHARMSINH DESAI UNIVERSITY**  
**FACULTY OF TECHNOLOGY**  
**DEPARTMENT OF CIVIL ENGINEERING**

**Vision**

To Develop Centre of Excellence and to impart learning to students for the state of art development in Civil Engineering & its application in real life projects. To imbibe leadership qualities and capacity to take up ethical practice and research in students for sustainable development.

**Mission**

- To offer multi-level and multi-disciplinary programme in civil engineering and other skill development courses that add value to student competencies.
- To promote quality education, research and consultancy services for benefits of industry and society.
- To have regular interaction with alumni and industry to make students familiar with latest trends and offer solutions to real life problems.
- To inculcate moral and ethical values among the students and instil the sense of responsibility towards the society.
- To provide dynamic learning environment by organizing various interacting programs that emphasizes team work, communication and leadership skills in students.

**Program Education Objectives (PEO)s ( M.TECH.)**

**PEO-1:**To mould the students to get employment and profession in the Structural/Geotechnical Engineering by exposing them to practical design problems incorporating current design codes /guidelines.

**PEO-2:** Create awareness among the graduate students for the use of state of the art professional software and orient them to high value research related to Structural/Geotechnical Engineering so that they are motivated to pursue research and lifelong learning.

**PEO-3:** Serve industry and society with professional ethics and moral values.

**PEO-4:**Develop leadership qualities, management skills and good teamwork in multidisciplinary projects.

## Program Outcomes (PO)

- PO-1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation for the solution of complex engineering problems.
- PO-2. Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO-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 public health and safety, and cultural, societal, and environmental considerations.
- PO-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.
- PO-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.
- PO-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.
- PO-7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.
- PO-8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO-9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO-10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with the 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.
- PO-11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO-12. Life-long learning:** Recognise 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) for M.Tech.- Structural Engineering Program

**PSO-1.**Structural analysis and design of various structures as per BIS Codes of practice. Address problems in the field of civil engineering, develop models, design/analyze, test and interpret results.

**PSO-2.**Use of application software for analysis and design of structures.

## Program Specific Outcomes (PSOs) for M.Tech.-Geotechnical Engineering Program

**PSO-1.**Use of suitable codes of practice, material and procedures to analyze and design of various geotechnical structures.

**PSO-2.**Apply technical knowledge and use to Software to take up various field geotechnical projects, research work and allied areas.

### Sub Criteria 5: Establish Consistency of PEOs(PG Course) with Mission of the Department

PEO Statement	M1 Education	M2 Research	M3 Ind & Alumni	M4 Skill endorsement	M5 Value added Services
PEO <sub>1</sub> -Ind-employment	3	2	3	2	1
PEO <sub>2</sub> -Research	3	3	3	2	1
PEO <sub>3</sub> -Industry & Society	3	1	3	3	1
PEO <sub>4</sub> - Value added	3	3	3	3	3

1: Slight (Low); 2: Moderate (Medium); 3: Substantial (High)