EVALUATION SCHEME

OF

M. TECH

(GEOTECHNICAL ENGINEERING)

II YEAR

DEPARTMENT OF CIVIL ENGINEERING

INTEGRAL UNIVERSITY
LUCKNOW

EVALUATION SCHEME

Branch: M. Tech Geotechnical Engineering

(w.e.f. 2025-26)

Year – II, Semester – III

S. No.	Course Category	Code No	Name of Subject	Periods				Evaluation Scheme				Subject Total	Attributes							United Nations Sustainable Development Goals (SDGs)
				L	T	P	C	Continuous Assessment (CA)			ESE		Employ ability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
								CT	TA	Total										
1	DE	CE681	Slopes and Retaining Structures	3	1	-	4	40	20	60	40	100	✓		✓		✓		✓	SDGs 4, 8, 9, 11, 13
		CE682	Soil-Structure Interaction										✓		✓		✓		✓	SDGs 9, 11, 13
		CE683	Unsaturated Soil Mechanics												✓		✓		✓	SDGs 4, 9, 11
		CE684	Seismology & Tectonics										✓		✓		✓		✓	SDGs 11, 13, 15
		CE685	Constitutive Modeling in Soil Mechanics												✓		✓			SDGs 4, 11, 13
2	DE	CE686	Offshore Geotechnical Engineering	3	1	-	4	40	20	60	40	100	✓		✓		✓		✓	SDGs 11, 13, 14
		CE687	Pavement Geotechniques and Materials										✓	✓	✓		✓		✓	SDGs 9, 11, 12
		CE688	Design and Analysis of Foundation Structures										✓		✓				✓	SDGs 9, 11, 13
		CE689	Remote Sensing and GIS in Geotechnical Engineering										✓	✓	✓		✓			SDGs 9, 11, 13, 15
		CE690	Finite Element methods in Geotechnical Engineering												✓				✓	SDGs 4, 9, 11
3	DE	CE691	Geotechnical Earthquake Engineering	3	1	-	4	40	20	60	40	100	✓		✓		✓			SDGs 9, 11, 12
		CE692	Pavement Analysis and Design										✓		✓		✓		✓	SDGs 9, 12, 15
		CE693	Tunnelling Technology										✓		✓		✓			SDGs 4, 11, 13
		CE694	Artificial Intelligence in Geotechnical Engineering										✓	✓	✓				✓	SDGs 4, 11, 13
		CE695	Machine Foundations										✓		✓				✓	SDGs 9, 11, 13

PRACTICAL / DRAWING / DESIGN																			
4	DC	CE675	Directed Study	-	-	-	-	-	-	60	40	100			✓				✓	SDGs 8, 9, 11, 12
5	DC	CE699	M.Tech Dissertation	-	-	-	-	-	-	60	40	100	✓	✓	✓		✓		✓	SDGs 8, 9, 11, 12
Total				**9**	**3**	**-**	**12**					**500**								

L – Lecture; **T –** Tutorial; **P –** Practical; **C** – Credits; **CT** – Class Tests; **TA** – Teacher Assessment
Continuous Assessment (CA) = Class Tests + Teacher Assessment

Subject Total = Continuous Assessment (CA) + End Semester Examination (ESE)

DC – Departmental Core **DE** – Departmental Elective

EVALUATION SCHEME

Branch: M. Tech Geotechnical Engineering

(w.e.f. 2025-26)

Year – II, Semester – IV

S. No.	Course Category	Code No	Name of Subject	Periods				Evaluation Scheme				Subject Total	Attributes							United Nations Sustainable Development Goals (SDGs)
				L	T	P	C	Continuous Assessment (CA)			ESE		Employ ability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
								CT	TA	Total										
PRACTICAL / DRAWING / DESIGN																				
1	DC	CE699	M.Tech Dissertation	-	-	-	-	-	-	60	40	100	✓	✓	✓		✓		✓	SDGs 8, 9, 11, 12
2	DC	CE699	M.Tech Dissertation	-	-	-	-	-	-	60	40	100	✓	✓	✓		✓		✓	SDGs 8, 9, 11, 12
3	DC	CE699	M.Tech Dissertation	-	-	-	-	-	-	60	40	100	✓	✓	✓		✓		✓	SDGs 8, 9, 11, 12
4	DC	CE699	M.Tech Dissertation	-	-	-	-	-	-	60	40	100	✓	✓	✓		✓		✓	SDGs 8, 9, 11, 12
Total				**-**	**-**	**-**	**-**					**400**								

L – Lecture; **T –** Tutorial; **P –** Practical; **C** – Credits; **CT** – Class Tests; **TA** – Teacher Assessment
Continuous Assessment (CA) = Class Tests + Teacher Assessment

Subject Total = Continuous Assessment (CA) + End Semester Examination (ESE)

DC – Departmental Core **DE** – Departmental Elective

INTEGRAL UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING

PROGRAMME: GEOTECHNICAL ENGINEERING

PROGRAM SPECIFIC OUTCOMES (PSO):

PSO-1: To develop the knowledge based on design, construction and management of new geotechnical infrastructures.

PSO-2: To use the knowledge in evaluation and execution of sustainable solutions to the geotechnical problems faced by the society.

PROGRAM EDUCATIONAL OBJECTIVES (PEO):

PEO-1: Graduates will be able to develop into proficient resources in the advanced aspects of geotechnical engineering with analytical and quantitative reasoning and design abilities.

PEO-2: Graduates will be capable of applying the skills to formulate, analyses and solve the societal problems of sustainable development related to their specialization along with maintaining professional integrity and ethics.

PEO-3: Graduates will be prepared to assume higher roles and responsibilities at national and international levels to imprint their presence for the larger good of society.

PROGRAM OUTCOMES (PO):

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 lifelong learning in the broadest context of technological change.