Reg. No										

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Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

M.Tech. (First Semester – Regular/Supplementary) Examinations, January – 2026

24MPCTPE11011 – Geotechnical Investigations for Construction Projects

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. What do you mean by site investigations?	CO1	K1
b. List out various types of samplers.	CO2	K1
c. What are the main purposes of soil sampling?	CO3	K1
d. What are the types of soil bitumen?	CO3	K1
e. What is dynamic compaction?	CO4	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions			Marks	CO #	Blooms Level
2.	a.	Explain in brief about various stages in sub-soil explorations.	5	CO1	K2
	b.	List out the main purposes of soil investigation.	5	CO1	K1
		(OR)			
	c.	How Standard penetration test is conducted?	5	CO1	K2
	d.	Describe briefly about Static cone penetration test	5	CO1	K2
3.	a.	Illustrate in detail about Scraper Bucket sampler.	5	CO2	K3
	b.	What is a boring log? How to prepare a boring log?	5	CO2	K3
		(OR)			
	c.	Describe in detail about Piston sampler.	5	CO2	K2
	d.	How would you prepare a sub-soil investigation report and apply its findings to improve construction planning?"	5	CO2	K3
4.	a.	What are the factors affecting compaction?	5	CO3	K2
	b.	Describe briefly about Modified Proctor test.	5	CO3	K2
		(OR)			
	c.	Write briefly about the influence of compaction on the shear strength of soil.	5	CO3	K2
	d.	How would you determine the optimum moisture content of soil and apply it to achieve better compaction in a construction project?"	5	CO3	K3
5.	a.	What are the factors that influence compaction in case of rollers?	5	CO3	K2
	b.	Classify briefly about different types of rollers.	5	CO3	K2
		(OR)			
	c.	Describe in detail about stone column.	5	CO4	K2
	d.	What are the salient factors considered to achieve the best performance by Preloading techniques?	5	CO4	K2
6.	a.	Describe in brief about aspects of grouting.	5	CO4	K2

b.	What are the grouting materials used for grouting.	5	CO4	K1
	(OR)			
c.	Write short notes on grouting with cement mixes	5	CO4	K2
d.	Write short notes on grouting with asphalt mixes.	5	CO4	K2

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