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PRESIDENCY UNIVERSITY

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Bengaluru

Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: CIV3029 **Course Name:** Ground Improvement Techniques

Semester: Seventh Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	50	40

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	List the various laboratory methods of mechanical ground modification (compaction).	2	CO2	BT1
2	List any two types of rollers used for mechanical ground modification.	2	CO2	BT1
3	List any four methods of deep compaction methods.	2	CO2	BT1
4	List any two disadvantages of blasting technique of ground modification.	2	CO2	BT1
5	List any four purpose of mechanical ground modification (compaction) techniques.	2	CO2	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the various objectives of ground modification techniques.	10	CO1	BT2
7	Explain the various factors afffecting ground modification techniques.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 15 M

Q.N.	Questions	M	CO	BT
8	Explain various problematic soils found in India.	15	CO1	BT2
9	Explain the various emerging trends in ground modification technique.	15	CO1	BT2

PARTD: Answer Any 1 Following Questions. 15 M

Q.N.	Questions	M	CO	BT
10	Discuss the effect of mechanical ground modification (compaction) on soil properties.	15	CO2	BT3
11	An embankment, having total volume of 2000 cubic meter is to be constructed having a bulk density of 1.98 g/cm3 and a placement water content of 18%. The soil is to be obtained either from borrow area A or B with a voids ratio of 0.78 and 0.69 respectively and water content of 16% and 12% respectively. Taking G=2.66, for both the soils, determine the volume of soil required to be excavated from each of the areas. If the cost of excavation is Rs. 35 per cubic meter and the cost of transportation is Rs. 32 and 36 per cubic meter for the borrow areas A and B respectively, which of the borrow area is more economical?	15	CO2	BT3