

USN

--	--	--	--	--	--	--	--	--	--

10CT752

Seventh Semester B.E. Degree Examination, Dec.2016/Jan.2017
Ground Improvement Techniques

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. What are objectives of Ground Improvement Techniques? (04 Marks)
b. Explain factors to be considered in selecting ground improvement techniques. (08 Marks)
c. Describe the stabilization of black cotton soils for making them suitable for foundation. (08 Marks)
- 2 a. Explain effect of compaction on various engineering properties. (10 Marks)
b. With neat sketch, explain in brief about dynamic compaction. (06 Marks)
c. Briefly explain about compaction specification. (04 Marks)
- 3 a. What is a Well Point? List and explain any two methods of dewatering techniques. (10 Marks)
b. List and explain any 3 steps of designing a dewatering system. (10 Marks)
- 4 a. Explain the following :
i) Sand drains ii) Preloading iii) Electrokinetic dewatering. (12 Marks)
b. Describe about drainage of slopes. (04 Marks)
c. Enlist any four controls required during construction of drainage system. (04 Marks)

PART – B

- 5 a. Explain effect of cement stabilization on various properties of soils. (08 Marks)
b. Explain Soil – cement reaction. (04 Marks)
c. Describe in detail about fly ash stabilization. (08 Marks)
- 6 a. Explain Criteria, Suitability for Lime stabilization. (08 Marks)
b. Discuss about Bitumen, Lignin, Calcium chloride and Asphalt in stabilization. (12 Marks)
- 7 a. In which situations grouting proves effective method of stabilization. (04 Marks)
b. What are the materials used for grouting? Explain. (08 Marks)
c. List types of Grouting. Explain any two types with neat sketches. (08 Marks)
- 8 Write short notes on the following (any four) :
a. Stone columns.
b. Soil nailing.
c. Thermal methods of stabilization.
d. Gibbious and Mattresses.
e. Micro piles. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.