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Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
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. Mention the factors to be considered in selecting the most suitable method of ground improvement. Explain briefly. (10 Marks)
b. How are the ground improvement techniques classified? (06 Marks)
c. What is "Ground Improvement"? Mention the objectives of ground improvement. (04 Marks)
- 2 a. What are Deep compaction method? When do you recommend them and explain. (06 Marks)
b. Explain different surface compaction methods with their suitability also explain field control tests. (09 Marks)
c. What are the factors affects the soil compaction? (05 Marks)
- 3 a. What is Hydraulic Modification? Discuss the aims of this method. (10 Marks)
b. Name the various method of lowering water table. Explain any two methods. (10 Marks)
- 4 a. Explain briefly the principle and types of "Preloading" Techniques. (10 Marks)
b. Write short notes on the following :
i) Electro Kinetic dewatering ii) Sand drain with preloading. (10 Marks)

PART - B

- 5 a. What are the beneficial effects of cement stabilization on soil properties? (06 Marks)
b. Brief about the mechanism of bitumen stabilization. (04 Marks)
c. List the different types of stabilizers. Explain briefly how flyash can we used stabilizing agent in the improvement of soil properties. (10 Marks)
- 6 a. Explain Lime stabilization of soils. What are the good effects of lime stabilization on clayey soils? (10 Marks)
b. Explain in briefly the use of the chemicals like sodium chloride, calcium chloride and lignin in stabilization of soil. (10 Marks)
- 7 a. What is Grouting? What are the applications of grouting? (08 Marks)
b. Explain types of grouting based on materials used for grouting and methods of grouting. (12 Marks)
- 8 Write short notes on the following :
a. Soil Nailing techniques.
b. Gabions.
c. Modification for black cotton soil.
d. Stone Column. (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.