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10CV663

Sixth Semester B.E. Degree Examination, June/July 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. What is 'Ground Improvement'? What are the objectives of ground improvement? **(06 Marks)**
b. On what basis the ground improvement techniques are classified? **(06 Marks)**
c. What are the factors to be considered in selecting best soil improvement techniques? **(08 Marks)**

2 a. Explain how a compaction quality is controlled in the field. **(10 Marks)**
b. Explain Vibrofloatation technique. **(10 Marks)**

3 a. Explain the method of dewatering by Electro – Osmosis process. **(10 Marks)**
b. Explain with a neat sketch, multistage well point drainage. **(10 Marks)**

4 a. What are different types of Vertical drains? Explain construction of vertical drains. **(10 Marks)**
b. Briefly explain the preloading techniques. **(10 Marks)**

PART – B

5 a. Discuss the soil – cement reactions, when cement is added as an admixture in stabilization of soil. **(10 Marks)**
b. Discuss the use of fly ash in cement stabilization of soil and reactions involved. **(10 Marks)**

6 a. Write a detailed note on lime stabilization. **(10 Marks)**
b. Discuss stabilization using bitumen. **(10 Marks)**

7 a. Write a note on types of grouting materials. **(10 Marks)**
b. Explain 'Compaction grouting'. **(10 Marks)**

8 Write short notes on any four :
a. Properties of geosynthetics.
b. Rock bolting.
c. Stone columns.
d. Soil Nailing.
e. Thermal methods of stabilization. **(20 Marks)**

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