



Reg. No. : .....

Name : .....



**Seventh Semester B.Tech. Degree Examination, November 2017  
(2013 Scheme)**

**13.705.3 : GROUND IMPROVEMENT (C) (Elective – II)**

Time: 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions.

1. Compare between electro-osmotic and hydraulic flow of water.
2. Explain the failure mechanism of stone column.
3. Discuss the preliminary evaluation test considered for assessing the suitability of dynamic compaction at a site.
4. Write short notes on the application of geosynthetics in railways.
5. Explain the types of grout materials based on their composition. **(5×4=20 Marks)**

**PART – B**

Answer **any one full** question from **each** Module.

**Module – I**

6. Show the diagrammatic arrangement of a well point and explain multistage well point system of dewatering process. **20**
7. Describe how thermal and freezing methods help in drainage and lowering ground water. **20**



**Module – II**

- 8. With simple sketch show the typical spacing and firing pattern of explosives and explain how this technology is useful in compacting cohesionless fill. **20**
- 9. Explain preloading method of improving soft soil. Derive the benefits of using sand drains in conjunction with preloading. **20**

**Module – III**

- 10. Identify any ten application areas, the purpose of using geosynthetics and the basic functions performed by geosynthetics. **20**
- 11. Write short notes on the types of rock bolts and explain the mechanism of load transfer from the reinforcing element to the soil/rock. **20**

**Module – IV**

- 12. Describe the various properties of chemical grout. **20**
  - 13. Explain the stabilization process of weak soil using cement. **20**
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