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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Civil Engineering

GROUND IMPROVEMENT TECHNIQUES (Elective I) [C]

(Old Scheme—Prior to 2010 admissions)

[Supplementary/Mercy Chance]



Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What is the necessity of ground improvement ?
2. List out the advantages and disadvantages of stone column treated ground.
3. Explain the mechanism of line stabilization.
4. Write a note on grouting applications.
5. Explain jet grouting process.
6. What are the factors affecting soil cement mixing ?
7. Explain the load transfer mechanism of reinforced earth.
8. Write a note on application areas of earth reinforcement.
9. How do you strengthen earth enhancement by using geotextiles ?
10. What are the advantages of geotextile in the construction of pavement ?

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Explain vibratory-compaction in sand. Enumerate the factors to be considered while selecting an in situ densification technique for loose sand.

Or

12. What are the different types of surface compaction equipments ? Explain its suitability for different soils.

Turn over

13. Explain (i) bituminous stabilization ; (ii) electrical stabilization.

Or

14. Explain (i) thermal stabilization ; (ii) chemical stabilization.

15. Discuss on properties of grout.

Or

16. Explain classification and basic function of grout.

17. Write a note on soil-reinforcement interaction.

Or

18. How soil beneath footing can be improved by reinforcement ?

19. Write a note on application of Geosynthetics for various civil engineering works.

Or

20. What are the parameters that indicate the physical and strength properties of Geosynthetics ?

(5 × 12 = 60 marks)

