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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch—Civil Engineering

CE 010 706 L02—GROUND IMPROVEMENT TECHNIQUES (Elective II) (CE)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions.
Each question carries 3 marks.*

1. What is the necessity of soil improvement ?
2. What are the factors affecting soil cement mixing ?
3. Explain rigidity and thixotropy.
4. Explain the mechanism of earth reinforcement.
5. Compare geotextile with geogrid.

(5 × 3 = 15 marks)

Part B

*Answer all questions.
Each question carries 5 marks.*

6. What is Preloading ? Explain suitability of preloading technique with illustration.
7. Explain various stabilization methods.
8. Explain jet grouting process.
9. Explain about application areas of earth reinforcement.
10. What are the advantages of geotextiles in the construction of pavements ?

(5 × 5 = 25 marks)

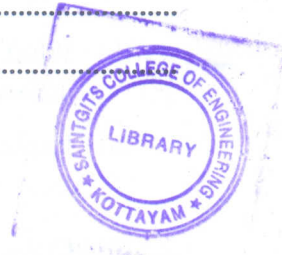
Part C

*Answer all questions.
Each question carries 12 marks.*

11. (a) Explain vibratory compaction in sand. Enumerate the factors to be considered while selecting an insitu densification technique for loose sand.

Or

Turn over



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

12. (a) Explain crone stabilization, bituminous stabilization and thermal stabilization.

Or

(b) Critically discuss various stabilization process with their relative merits and demerits.

13. (a) What is grouting ? Discuss various grouting materials adopted. State their suitability.

Or

(b) With suitable sketch, explain the functioning of a cement grouting plant.

14. (a) Write a note on soil reinforcement interaction.

Or

(b) How soil beneath footing can be improved by reinforcement ?

15. (a) Differentiate between geomembrane, geotextile and geogrid.

Or

(b) What are the parameters that indicate the physical and strength properties of Geosynthetics ?

(5 × 12 = 60 marks)

