G 666 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

Seventh Semester

Branch : Civil Engineering

GROUND IMPROVEMENT TECHNIQUES (Elective 1) (C)

(Old Scheme—Prior to 2010 Admissions/Supplementary)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 *marks.*

1. Explain the principle of ground improvement.
2. Briefly explain electro-osmosis.
3. Explain various stabilization methods.
4. Explain the mechanism of lime stabilization.
5. Explain the load transfer mechanism of reinforced earth.
6. Write short note on grouting.
7. Explain desirable properties of grout.
8. Explain stress-strain relationship of reinforced earth.
9. Write a note on durability of geotextiles.
10. Distinguish between woven and non-woven geotextiles.

(10 × 4 = 40 marks)

Part B

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

11. (a) Explain well point system.

Or

(b) Explain dewatering by electro osmosis.

12. (a) Explain in brief construction of lime-stabilized bases.

Or

(b) Explain briefly bituminous stabilization.

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

Or

(b) Explain jet grouting and compaction grouting techniques.

14. (a) Explain soil reinforcement interaction.

Or

(b) State the construction procedure for reinforced earth retaining wall. How it differ from ordinary retaining wall.

15. (a) Discuss about the effect of geotextiles on strength, bearing capacity, compaction and permeability behaviour of cohesive soils.

Or

(b) Discuss the use of geotextile as a drainage media. Also explain durability of geotextile.

(5 × 12 = 60 marks)