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A

B.Tech. Degree VII Semester Examination November 2019

CE 15-1705 (E2) GROUND IMPROVEMENT TECHNIQUES (2015 Scheme)

Time: 3 Hours

Maximum Marks: 60

PART A (Answer ALL questions)

(10 × 2 = 20)

- I. (a) What are the factors affecting the choice of ground improvement techniques?
- (b) List out the problems in laterite, alluvial and black cotton soil.
- (c) How can we stabilize ground using lime?
- (d) Explain the concept of preloading.
- (e) Differentiate between prefabricated vertical drains and lime piles.
- (f) What do you mean by 3-dimensional consolidation?
- (g) Enumerate the properties of grouts.
- (h) Mention any four grouting applications.
- (i) State the concept of reinforced earth. Give two examples of earth reinforcing materials.
- (j) Classify Geotextiles.

PART B

(4 × 10 = 40)

- II. What are the chemical and thermal methods of stabilization of ground?
OR
- III. What are the drainage and dewatering techniques of ground?
- IV. Explain the in-situ densification methods in granular soils. Draw neat sketches in support.
OR
- V. What are sand drains? Explain its design and installation methods with neat sketches.
- VI. What do you mean by groutability ratio? Detail the methods of grouting with neat sketches.
OR
- VII. Explain grouting technology- ascending and descending stages with neat sketches.
- VIII. (a) What are the functions of geotextiles?
(b) What are natural geotextiles? Give two applications.
(c) What are the properties of geotextiles?

OR

- IX. Elaborate the load transfer mechanism of reinforced earth. Briefly explain the stability analysis of reinforced earth retaining walls.
