Code: 13A01705 **R13**

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

GROUND IMPROVEMENT TECHNIQUES

(Civil Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What are the objectives of Grouting?
(b) List out different methods of de watering.
(c) What are the applications of reinforced earth?
(d) What are the stabilization methods used for cohesive soils?
(e) Differentiate between stone and lime columns.
(f) Give the classification of Geo-synthetics.
(g) What is the criteria for selection of fill material around drains?
(h) Explain the concept of under reamed pile.
(i) What are the problems associated with expansive soil?
(j) What do you mean by 'hydraulic fracturing?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Describe ascending, descending and stage grouting.

OR

3 Explain various methods of dewatering in detail

UNIT – II

4 Describe 'Vibro flotation' method in detail.

OR

5 Explain various insitu densification methods for cohesive soils.

UNIT – III

6 What are the different chemicals used in stabilization of soil?

OR

7 Write short notes on the following:

(a) Bituminous stabilization.
(b) Mechanical stabilization.

UNIT – IV

8 Explain the design principle of reinforced earth wall.

OR

9 Explain clearly the functions of Geotextiles.

UNIT – V

10 Explain different methods for identification of expansive soils.

OR

11 What are the remedial solutions that are followed in expansive soils?

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