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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (CE) (2012 to 2017) (Sem.-7)
GROUND IMPROVEMENT TECHNIQUES

Subject Code : BTCE-810

M.Code : 71869

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Answer briefly :

1. When is compaction adopted?
2. How is dynamic compaction different from static compaction?
3. What is liquefaction?
4. 'Stone columns are both strong and flexible'. Comment.
5. What is jet grouting?
6. What is meant by displacement grouting?
7. What are micropiles?
8. What are principle requirements of a reinforcing material?
9. How is permeability of soil affected by geotextiles?
10. How is bearing capacity of soil affected by geotextiles?



SECTION-B

11. What is pre-loading? How do vertical drains improve the functioning of pre-loading technique?
12. Explain the principle and salient applications of soil-lime stabilization.
13. Draw a typical layout of grouting plant. Also mention the basic items required for a grouting plant along with their functions.
14. What is the role of reinforced earth construction in ground improvement? Explain with relevant data/examples.
15. What design considerations should you keep in mind while using geotextiles in retaining walls?

SECTION-C

16. Comment on the use of vibratory techniques in improving the bearing capacity of cohesive soils (in situ).
17. What is the role of chemicals in soil stabilization? Give examples along with merits/demerits.
18. Explain how soil nailing technique is used to provide stability of foundation of trenches and surrounding structures? Draw sketch to support your answer.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.