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Question Paper Code : X20274

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Seventh Semester

Civil Engineering

CE 6012 – GROUND IMPROVEMENT TECHNIQUES

(Regulations 2013)

(Common to PTCE 6012 – Ground Improvement Techniques for B.E. (Part-Time)
– Sixth Semester – Civil Engineering – (Regulations – 2014))

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Enumerate the various soil deposits found in our country.
2. Where do alluvial soil deposits found ?
3. What is called Dewatering technique ?
4. Define the term 'Sensitive clay'.
5. List the various methods of in-situ densification.
6. What is called reinforced earth wall ?
7. State the purpose of non-oven geotextiles.
8. Define the term 'grouting'.
9. List any two limitations of lime stabilization.
10. What is called consolidation ?

PART – B

(5×13=65 Marks)

11. a) Enumerate the various methods of Ground improvement and describe them. **(13)**
(OR)
b) Discuss the factors influencing the selection of ground improvement techniques. **(13)**



12. a) i) Explain the operational procedures and precautionary measures adopted during the process of electro-osmotic dewatering. (8)
ii) Write a note on Deep well along with its merits and demerits. (5)
(OR)
- b) Explain with a help of a neat sketch, the method of dewatering using sumps and ditches by listing out their advantages and limitations. (13)
13. a) i) Differentiate top feed and bottom feed method. (5)
ii) Write down the limitations of sand drain. (8)
(OR)
- b) Discuss the various stages of operation in installation and action of a lime pile. (13)
14. a) Explain about the various classifications of Geo-synthetics with the help of a flow chart. (13)
(OR)
- b) With neat sketches explain about the reinforced Earth for Ground improvement. (13)
15. a) Describe the different methods of mechanical stabilization. (13)
(OR)
- b) With neat sketches explain in detail about the various grout injection methods. (13)

PART – C**(1×15=15 Marks)**

16. a) Write a note on the following aspects related to Ground Improvement Techniques.
- i) Role of ground improvement techniques in Foundation Engineering. (8)
ii) Well Point system of Dewatering. (7)
(OR)
- b) i) State the various applications of Grouting. (5)
ii) Explain the principle and operation of Vibro-compaction methods of Ground Improvement. (10)
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