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Question Paper Code : X61364

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020
Seventh Semester
Civil Engineering
CE 2033/10111 CEE 28 – GROUND IMPROVEMENT TECHNIQUES
(Regulations 2008/2010)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Identify the various geotechnical problems in alluvial soil deposits.
2. What do you understand the term Reclamation Material? And name any materials of this kind.
3. Define deep well drainage system.
4. List advantages and disadvantages of dewatering.
5. Differentiate between sand drains and stone columns.
6. Write short notes on dynamic compaction.
7. Describe the advantages of soil reinforcement for the weak soil.
8. List out the application of geo-synthetics.
9. List out the materials used for stabilization.
10. State about jet grouting.



PART – B

(5×16=80 Marks)

11. a) What are the various effect that contributes on possible alterations of ground after formation and discuss in detail. (16)
- (OR)
- b) i) Discuss in detail the various factors that must be considered in the selection of best ground improvement technique. (10)
- ii) Explain in detail the black cotton soils. (6)
12. a) Define a filter. Discuss the filter requirements.
- (OR)
- b) Describe the electro-osmosis method of dewatering for ground improvements.
13. a) i) Explain the insitu densification of cohesionless soil. (10)
- ii) Discuss the vibroflotation technique for clay soil. (6)
- (OR)
- b) i) Describe dynamic consolidation. (6)
- ii) Write short notes on lime pile and sand pile. (4)
- iii) Compare the relative merits of various methods of insitu treatment of cohesive and cohesionless soils. (6)
14. a) Explain in detail about application of geotextiles and geo-membrane for the construction of civil engineering works. (16)
- (OR)
- b) i) Describe a suitable method to stabilise a highway fill foundation in hilly terrain with high rainfall. (10)
- ii) Explain the functions of geosynthetics. (6)
15. a) Describe the injection techniques in grouting.
- (OR)
- b) State the types of grouting. Explain the different methods in grouting.
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