QUESTION BANK

MODULE – I

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1. Which are the various approaches incorporated in association with ground improvement potential? Identify the various ground/soil conditions on the basis of these approaches.
2. List the various ground modification techniques practiced in engineering works.
3. Explain any two ground modification techniques and its suitability in the field.
4. Write on Ground Improvement potential.
5. Give notes on different types of ground improvement techniques.
6. Explain the importance of Ground improvement in foundation engineering.
7. Name any five-material used for ground improvement.
8. Categories different ground improvement methods based on the soil suitability
9. Explain the property of material suitable for ground improvement
10. List the different method of insitu ground improvement techniques and its applications
11. Explain the properties of material used for ground improvement

MODULE – II

1. Explain the blasting method used for Ground improvement.
2. Write note on Column techniques for Ground improvement
3. Explain the Dynamic Compaction for Ground improvement.
4. Explain about the compaction control
5. Outline how the ground improvements are achieved by vibration techniques.
6. What is Stone column? Explain its method of construction
7. Classify the insitu compaction methods
8. Explain the design considerations of dynamic compactions
9. Explain vibro floating with neat sketch
10. Write a note on blasting method of compaction
11. What is sand pile and stone column
12. Explain the design consideration of lime piles
13. What are the suitability criteria for the various shallow surface compaction methods?

14. How can we check or control the quality of compaction?
15. Mention the various deep compaction techniques. Explain any two in detail with suitable sketch.
16. How does compaction affect the shear strength of soil?

MODULE – III

1. Explain the application of vertical drain.
2. What is PVD? Explain its advantage over other drains.
3. Illustrate the well point system of dewatering.
4. Explain about different drains facility
5. How Electro osmotic method is applied for Ground Improvement.
6. Write note on the importance of lowering the ground water in a construction site.
7. With neat sketch explain Open sump
8. With neat sketch explain well point and vacuum
9. Explain the PVD installation procedure
10. Write a note on pre compression and vertical drain
11. Differentiate between progressive system and ring system of well point installation.
12. How is single stage well point system different from multi- stage well point system. Explain with the help of suitable diagrams.

MODULE – IV

1. Outline the use of micro pile as ground improvement choice.
2. List different type of geosynthetics
3. Explain the procedure for the construction of soil nail. Also mention the various
4. . Illustrate the application of geo-textile as (a) Filtration (b) Drainage (c) Erosion control.
5. Explain the design considerations of a) Reinforced Earth wall (b) Soil nailing
6. Explain the types of geosynthetics with their application
7. Explain the types of geotextiles
8. What are the reinforced earth materials
9. Write a note on micro piles
10. What are the design constructions of micro piles

MODULE – V

1. What are the applications of grouting? Describe with the help of neat diagrams.
2. Discuss on permeation grouting.
3. What are the aspects and factors affecting grouting?
4. Write short note on jet grouting
5. What are different mechanisms involved in lime stabilization?
6. Discuss the process of cement stabilization in the field.
7. Write short note on lime fixation point and optimum lime content.
8. List out and explain the effect of lime on physical and engineering properties of soil.
9. Mention any four basic types of lime. How lime is stabilized base constructed?
10. List the different type of grouting material used for ground improvement?
11. Explain method of stabilisation using cement.
12. Explain Grouting technique used for Ground Improvement.
13. Explain the principle of ground freezing
14. Describe the chemical aspects of lime stabilisation and its effects on adjacent soil.