

CBCS SCHEME

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18CV644

Sixth Semester B.E. Degree Examination, June/July 2023 Ground Improvement Techniques

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Write a short note on formation of soil and their nature. (06 Marks)
- b. Explain various types of Reclamation materials. (06 Marks)
- c. What are the factors that must be considered in selection of ground improvement techniques? (08 Marks)

OR

- 2 a. With a neat sketch, explain dynamic compaction. (10 Marks)
- b. Explain about selection of field compaction procedure. (10 Marks)

Module-2

- 3 a. Briefly explain different methods of dewatering techniques. (10 Marks)
- b. Explain with the figure the procedure of Electro-kinetic dewatering system. (10 Marks)

OR

- 4 a. What are drains? Explain different types of drains. (08 Marks)
- b. Explain briefly with a figure pre-compression technique of pre loading with vertical drain. (12 Marks)

Module-3

- 5 a. Describe current stabilization. Explain the procedure of cement stabilization. (12 Marks)
- b. Discuss the effect of cement stabilization on permeability, swelling characteristics of soils. (08 Marks)

OR

- 6 a. Write a note on Tar on asphalt in stabilization of soil. (10 Marks)
- b. Write short notes on : (i) Lime stabilization (ii) Stabilization using lignin (iii) Chlorid stabilization. (10 Marks)

Module-4

- 7 a. Explain the process vibrocompaction. (10 Marks)
- b. Explain the blasting method of stabilization. Discuss the advantages of this method. (10 Marks)

OR

- 8 a. Mention the types of grouting and explain any two methods of grouting. (10 Marks)
- b. Explain the effect of grouting in soil and list out some chemicals and materials used in grouting. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. List the properties of geosynthetics. Explain any three. (12 Marks)
b. Discuss briefly the applications of geosynthetics. (08 Marks)

OR

10 Write short note on :

- a. Soil Reinforcement.
b. Crib walls.
c. Gabions
d. Mattresses
e. Micropiles.

(20 Marks)
