



# CBCS SCHEME

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## Sixth Semester B.E. Degree Examination, June/July 2024 Ground Improvement Technique

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. List and explain the factors influencing the soil formation, briefly. (10 Marks)  
b. With a neat outline map of India, explain the major classification of soil distribution in India. (10 Marks)

OR

- 2 a. Explain briefly the compaction mechanics and the method of dynamic compaction used in field. (10 Marks)  
b. What are the factors which contribute for alteration of ground after formation? (10 Marks)

### Module-2

- 3 a. Explain the ground water and seepage control requirements during and after constructions. (10 Marks)  
b. With a neat sketch explain the well-point system of dewatering for control of groundwater. (10 Marks)

OR

- 4 a. Briefly enlighten the dewatering techniques by electro-osmosis method. (10 Marks)  
b. What are the design steps involved in the dewatering systems? Explain in brief. (10 Marks)

### Module-3

- 5 a. Enlighten the cement stabilization method used for the chemical modification of soil. (10 Marks)  
b. Briefly explain the chemical stabilization by line and natural and synthetic polymers. (10 Marks)

OR

- 6 a. Explain in brief the method of bituminous stabilization of soil. (10 Marks)  
b. Briefly explain the chemical stabilization of soil by lignin and using aggregants and dispersants. (10 Marks)

### Module-4

- 7 a. Explain in detail the vibroflotation technique for densifying cohesionless soil. (10 Marks)  
b. What are the different methods used in vibro-compaction? Explain in brief. (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.

OR

- 8 a. Explain the aspects of grouting with their applications in brief. (10 Marks)  
b. What are the steps involved in grouting procedure? Briefly explain. (10 Marks)

Module-5

- 9 a. List and explain the different types of geo-synthetics used in geotechnical and construction engineering. (10 Marks)  
b. Explain the various properties of geo-synthetics and briefly enlighten then all. (10 Marks)

OR

- 10 a. Explain the various applications of geo-synthetics in civil engineering works. (10 Marks)  
b. Explain briefly the soil reinforcement with its materials and application. (10 Marks)

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