

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

CMRIT LIBRARY
BANGALORE - 560 03

15CV654

Sixth Semester B.E. Degree Examination, June/July 2018

Ground Improvement Techniques

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Classify the ground improvement techniques and discuss their suitability. (08 Marks)
b. If in a project unsuitable soil conditions encountered, what are the possible alternate solutions of ground modification? (08 Marks)

OR

- 2 a. Explain the effects of compaction on compressibility and permeability properties of soil. (08 Marks)
b. With a sketch, explain dynamic compaction. (08 Marks)

Module-2

- 3 a. Briefly explain different methods of dewatering techniques. (08 Marks)
b. Explain Electro – Osmosis dewatering and stabilization technique. What is the purpose of replacing electrodes during Electro – Osmosis dewatering? (08 Marks)

OR

- 4 a. With a neat sketch, explain preloading technique with vertical drains of ground improvement techniques. (08 Marks)
b. Why drainage of slope is necessary? Give reasons. (08 Marks)

Module-3

- 5 a. Discuss short term and long term soil – lime reaction, when lime is used as stabilizer and what are the engineering benefits of lime stabilization? (08 Marks)
b. Describe Cement stabilization. What are the engineering properties of cement additives to soil as stabilizer? (08 Marks)

OR

- 6 a. Explain how fly ash is beneficial in combination with other materials for effective stabilization. (08 Marks)
b. Write short notes on : i) Chlorides stabilization ii) Bitumen stabilization. (08 Marks)

Module-4

- 7 a. Explain Blasting method of stabilization. Bring out the advantages of this method. (08 Marks)
b. What are Stone columns? Explain the process of installation. (08 Marks)

OR

- 8 a. Give the classification of grouting methods for soils. Describe it in brief. (08 Marks)
b. What are the applications of grouting? Explain them briefly. (08 Marks)

Module-5

- 9 a. List the properties of geosynthetics. Explain any two. (08 Marks)
b. Explain the four most basic applications of geosynthetics. (08 Marks)

OR

- 10 Write short notes on the following : (16 Marks)
a. Soil nailing b. Gabions and Mattresses c. Soil reinforcement d. Micro piles.

* * * * *

CMRIT LIBRARY
BANGALORE - 560 03