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10CV663

Sixth Semester B.E. Degree Examination, June/July 2017
Ground Improvement Techniques

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART - A

- 1 a. Classify and briefly explain various Ground Improvement Techniques. (10 Marks)
b. Explain the methods for stabilization of black cotton soil. (06 Marks)
c. What is Liquefaction? How do you control the same? (04 Marks)
- 2 a. Explain the effects of compaction on compressibility and permeability properties of the soil. (10 Marks)
b. Explain the Vibro – compaction and Vibro replacement techniques with figures. (10 Marks)
- 3 a. Define Hydraulic modification of soil and explain the multistage well point system, with a sketch. (10 Marks)
b. Mention the essential steps for designing dewatering system. Explain any two. (10 Marks)
- 4 a. Explain the methods of preloading for ground modification. (10 Marks)
b. Explain Electro – kinetic method for dewatering of soil. (10 Marks)

PART - B

- 5 a. What is Cement stabilization? Explain the Engineering benefits of cement stabilization. (10 Marks)
b. Write short notes on :
i) Criteria for cement stabilization ii) Stabilization using fly ash. (10 Marks)
- 6 a. Explain the suitability of soil - lime reactions of lime stabilization. (10 Marks)
b. Explain the stabilization using i) Chlorides ii) Bitumen. (10 Marks)
- 7 a. Which are the types of grouting? Explain any two with sketches. (10 Marks)
b. Briefly explain four important applications of grouting. (10 Marks)
- 8 Write short notes on any four :
a. Soil Nailing.
b. Micro piles.
c. Anchors.
d. Gabion and Mattresses.
e. Thermal methods of ground improvement. (20 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.