

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth Semester B.Tech (Hons) Degree Examination July 2021 (2018 Admission)

Course Code : CE362**Course Name : GROUND IMPROVEMENT TECHNIQUES**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any two full questions, each carries 15 marks*

Marks

- 1 a) List different types of problematic soils. Explain any one. (6)
- b) What are the factors influencing the selection of ground improvement techniques? (5)
- c) Explain the terms : i) Groutability ii) Compaction grouting (4)
- 2 a) Name the various soil deposits found in India. Explain the geotechnical problems associated with any two types. (10)
- b) Describe the desired characteristics of a grout. (5)
- 3 a) Briefly write the role of ground improvement in foundation engineering. (9)
- b) Describe the methods i) grouting from top ii) grouting from bottom. (6)

PART B*Answer any two full questions, each carries 15 marks*

- 4 a) Explain about ground anchors and its components (7)
- b) Describe different types of chemical stabilization. (8)
- 5 a) Give notes on soil nailing and its components. (9)
- b) Explain the stabilization of soil using calcium chloride and sodium chloride (6)
- 6 a) Discuss about the engineering benefits of cement stabilization. (7)
- b) Describe about types of rock bolts. (8)

PART C*Answer any two full questions, each carries 20 marks*

- 7 a) Explain about different methods of dewatering (12)
- b) Which are the different compaction control tests in the field? Explain any one. (8)

- 8 a) How sumps and ditches are used in dewatering? (6)
- b) Write a note on well point system. (7)
- c) Describe deep compaction method of explosion with a neat sketch (7)
- 9 a) Discuss on the properties of compacted cohesionless soil. (7)
- b) Describe the principle, equipment used, installation and operation adopted in electro-osmotic dewatering. (7)
- c) With neat sketches explain vibrofloatation (6)
