APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Sixth Semester B.Tech Degree (S,FE) Examination May 2022 (2015 Scheme)
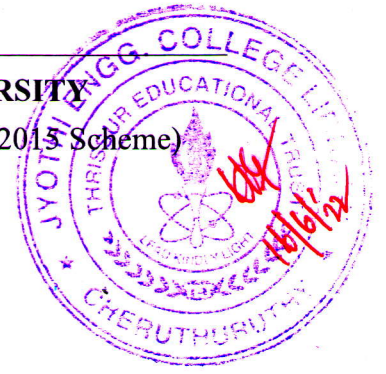
Course Code: CE362
Course Name: Ground Improvement Techniques

Max. Marks: 100   Duration: 3 Hours

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

1	a)	List the major distribution of soil in India and explain any two types.	(6)
	b)	What are the problems associated with expansive soils?	(4)
	c)	Explain ascending and descending type of grouting	(5)
2	a)	Describe the different ground conditions under which ground improvement techniques need to be adopted.	(5)
	b)	List the objectives of grouting	(5)
	c)	What is reclaimed soil? Explain the different types of reclamation materials.	(5)
3	a)	Write a note on ground improvement potential	(5)
	b)	Describe jet grouting and its types.	(5)
	c)	Describe the stages of grouting in a construction project.	(5)

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

4	a)	Explain the components of a ground anchor, with the help of a neat sketch. Explain the different types of ground anchor used?	(8)
	b)	Describe the different mechanisms involved in lime stabilization?	(7)
5	a)	Explain the mechanism of soil nailing. Explain about the construction sequence of soil nailing.	(9)
	b)	Write a note on proportioning of materials in mechanical stabilization	(6)
6	a)	Discuss about soil stabilization using polymers.	(7)
	b)	Mention any two rock bolt types and their applications.	(8)

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

7	a)	Explain any two surface compaction equipment.	(6)
	b)	Describe vacuum dewatering technique	(6)
	c)	Explain about compaction control tests	(8)
8	a)	Explain the deep well drainage system with a neat sketch.	(8)
	b)	Explain the deep compaction method of explosion.	(6)
	c)	Describe the dewatering technique by sumps and ditches.	(6)
9	a)	Explain electro-osmosis method of dewatering.	(10)
	b)	List the vibration methods of deep compaction. Explain any two methods.	(10)

****