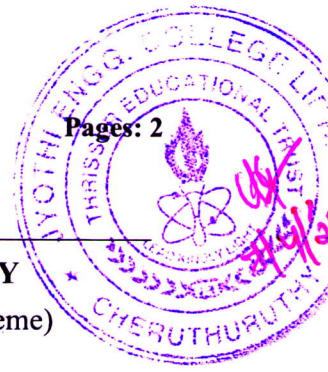


Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
 B.Tech Degree 7th semester (S,FE) Exam April 2025 (2019 Scheme)



Course Code: CET423

Course Name: GROUND IMPROVEMENT TECHNIQUES

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions, each carries 3 marks.*

		Marks
1	What are the objectives of ground improvement techniques?	(3)
2	Explain microbial method of ground improvement?	(3)
3	List any three methods of deep compaction	(3)
4	What are the advantages of blasting technique of ground improvement?	(3)
5	List the advantages and disadvantages of dewatering.	(3)
6	Draw the figure of multi stage well point operation	(3)
7	Explain reinforced earth wall.	(3)
8	What are the merits of soil nailing?	(3)
9	What are the principle of grouting	(3)
10	Explain suspension grout and solution grout.	(3)

**PART B***Answer any one full question from each module, each carries 14 marks.***Module I**

- 11 a) Explain about the classification of ground improvement techniques (14)

**OR**

- 12 a) Explain about the selection of ground improvement based on soil condition (14)

**Module II**

- 13 a) Explain the principle, installation procedure and application of sand pile (14)

**OR**

- 14 a) What are the properties of compacted soil (8)  
 b) Explain compaction control. (6)

**Module III**

- 15 a) Describe the electro – osmosis method of dewatering. (7)  
 b) Explain vacuum dewatering system with neat figure. (7)

OR

- 16 a) What are the advantages of PVD (14)

**Module IV**

- 17 a) Explain the components of soil nail walls. (8)  
b) What are the different types of geosynthetics (6)

OR

- 18 a) What are the different application of geotextiles (14)

**Module V**

- 19 a) Explain the principles involved in the soil improvement by (i) compaction (14)  
grouting (ii) jet grouting (iii) fracture grouting (iv) Displacement grouting

OR

- 20 a) Explain thermal method of ground improvement also give the merits and (14)  
demerits of each technique

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