Code No: 126AD

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2017

GROUND IMPROVEMENT TECHNIQUES

(Civil Engineering)

Time: 3 hours Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	List out various application of mechanical method.	[2]
b)	Explain in-situ tests to characterize problematic soils.	[3]
c)	Write the applications of dynamic tamping?	[2]
d)	List out the functions of compaction pile.	[3]
e)	What do you mean by electro-osmosis	[2]
f)	Define on geo-drains.	[3]
g)	What do you understand by ground freezing?	[2]
h)	Enumerate various objectives of grouting.	[3]
i)	What are the objectives of in-situ reinforcement?	[2]
j)	Explain step by step process in rock bolting.	[3]

PART - B

(50 Marks)

2. Explain, briefly the need and objectives of ground modification. [10]

OR

3. Explain the various electrical methods of densifying cohesive soils. [10]

4. How can you densify cohesion less soil with the help of vibro compaction technique? [10]

OR

5. Describe the method of densification by Blasting? Explain its effectiveness. [10]

6. Explain the properties of a material to be selected as a Geo-synthetics? [10]

OR

7. What is vertical drain explain the design of vertical drain? [10]

8.a) Differentiate between the compaction grouting and displacement grouting.
b) Write a short notes on shotcreting. [5+5]

OR

9. Explain briefly different types of grouting techniques. [10]

10. Explain the steps involved in designing reinforced earth wall. [10]

OR

11.a) Write a short notes on grid reinforced soil.
b) Discuss about reinforcement with strip. [5+5]

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