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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech IV Year II Semester Advanced Supplementary Examinations Oct-2020
GROUND IMPROVEMENT TECHNIQUES

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a What is grouting? Explain in detail various field of application of grouting. 8M
b What are the types of foundation drains? 4M

OR

- 2 a Explain the compaction grouting & fracture grouting with neat sketches. 6M
b What is dewatering? Explain its importance in civil engineering works 6M

UNIT-II

- 3 a Discuss the principles of ground improvement in cohesion less soils 8M
b Compare vibratory probe compaction & dynamic compaction 4M

OR

- 4 a Discuss the need of ground improvement & write the principles of ground improvement in cohesion less soils. 7M
b What is a sand drain? How is it constructed & is useful in densifying cohesive soil deposits? 5M

UNIT-III

- 5 a Write short notes on Gypsum Stabilization 6M
b Explain the mechanics of soil stabilization 6M

OR

- 6 a Explain mechanical methods of soil stabilization. What are the different types of test for soil stabilization? 5M
b Write short notes on mechanical stabilization 7M

UNIT-IV

- 7 a What are geotextiles? Write a note on common nomenclature of geosynthetics 6M
b Different between woven & non-woven geotextiles. How they are manufacture. 6M

OR

- 8 a Write the advantages & applications of reinforced earth structures with neat sketches 6M
b Distinguish between geotextiles & geomembrane. 6M

UNIT-V

- 9 a What are the problems associated with expansive soils 6M
b Explain the constant volume method used for determination of swell pressure 6M

OR

- 10 a Write short notes on Drilled piers. 6M
b Discuss in detail about construction under reamed pile . 6M

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