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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**

(AUTONOMOUS)

**B.Tech IV Year II Semester Advanced Supplementary Examinations September-2021****GROUND IMPROVEMENT TECHNIQUES**

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

- 1 Explain the electro osmosis method to control ground water in low permeable soil? L3 12M

OR

- 2 Explain briefly various methods of grouting L3 12M

**UNIT-II**

- 3 Discuss the principles of ground improvement in cohesion less soils. L3 12M

OR

- 4 a Explain with a neat sketch sand drain to accelerate the drainage of impervious soils. L2 6M  
b Discuss the important formulae used in the improvement of soft clay deposits using stone columns. L3 6M

**UNIT-III**

- 5 a Discuss on suitability and applications of lime stabilization L2 6M  
b Explain the proportioning techniques of mechanical soil stabilization. L3 6M

OR

- 6 Discuss the gradation limits for soil-cement stabilization and explain its construction procedure. L3 12M

**UNIT-IV**

- 7 a Explain separation and filtration functions of geo-textile. Mention applications based on these functions. L3 6M

- b What is the objective of soil reinforcement? L3 6M

OR

- 8 a Explain any four engineering applications of reinforced earth with sketches L3 6M  
b Describe the procedure of designing a reinforced earth wall. L3 6M

**UNIT-V**

- 9 Give a detail discussion about various tests used for identification of expansive soils. L3 12M

OR

- 10 Discuss in detail about construction of under reamed pile and its advantages. L3 12M

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