

Reg. No: 

--	--	--	--	--	--	--	--	--	--

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

**B.Tech IV Year II Semester Regular & Supplementary Examinations July-2021**

**GROUND IMPROVEMENT TECHNIQUES**

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

- |   |  |    |    |
|---|--|----|----|
| 1 | a List various well point dewatering systems     | L1 | 4M |
|   | b Explain their suitability for different soils. | L3 | 8M |

OR

- |   |   |    |    |
|---|---|----|----|
| 2 | a Explain about in detail about Compaction grouting | L3 | 6M |
|   | b Explain the importance of Fracture grouting       | L3 | 6M |

**UNIT-II**

- |   |   |    |    |
|---|---|----|----|
| 3 | a Explain with a neat sketch sand drain to accelerate the drainage of impervious soils. | L3 | 6M |
|   | b What are the advantages of using wick geo drains?                                     | L3 | 6M |

OR

- |   |  |    |    |
|---|--|----|----|
| 4 | a Explain briefly with a neat sketch the vibro-compaction method of densifying deep granular deposits. | L3 | 6M |
|   | b What is a sand drain? How is it constructed and is useful in densifying cohesive soil deposits?      | L3 | 6M |

**UNIT-III**

- |   |  |    |     |
|---|--|----|-----|
| 5 | Describe the properties of calcium chloride that are beneficial in stabilization of soils? | L3 | 12M |
|---|--|----|-----|

OR

- |   |  |    |    |
|---|--|----|----|
| 6 | a Explain soil-lime reactions.                         | L3 | 6M |
|   | b Discuss briefly about Lime stabilization in details. | L3 | 6M |

**UNIT-IV**

- |   |   |    |    |
|---|---|----|----|
| 7 | a What are the factors affecting mechanical stabilized soil properties? | L3 | 6M |
|   | b What is Gypsum stabilization? Explain in detail.                      | L3 | 6M |

OR

- |   |  |    |    |
|---|--|----|----|
| 8 | a Distinguish between geo textiles and geo grids.                              | L3 | 6M |
|   | b Explain any four engineering applications of reinforced earth with sketches. | L3 | 6M |

**UNIT-V**

- |   |  |    |     |
|---|--|----|-----|
| 9 | Explain briefly about CNS technology with neat sketch which is used as foundation technique. | L3 | 12M |
|---|--|----|-----|

OR

- |    |  |    |     |
|----|--|----|-----|
| 10 | Explain briefly about under reamed piles and its applications. | L3 | 12M |
|----|--|----|-----|

\*\*\* END \*\*\*