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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)  
**B.Tech IV Year I Semester Supplementary Examinations November-2020**  
**TRANSPORTATION ENGINEERING –II**  
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

1 Explain briefly about sub surface drainage system and what are the various methods adopted in reduction of sub surface water. 12M

**OR**

- 2 a Define CC road, W.B.M road and pre-mixed type of construction. 6M  
b What do you understand by surface drainage system and list out the different types of drainage systems? 6M

**UNIT-II**

- 3 a What is ballast? What are the requirements of ballast? 6M  
b What are the functions of sleepers? What are the factors on which sleeper's effect? 6M

**OR**

- 4 a A M.G. track has a sleeper density of  $(n+5)$ . If the track is laid with a rail of 11.89m length, Find out the number of sleepers per one rail length. 6M  
b List out the different types of rails. What are the advantages of the rails? 6M

**UNIT-III**

- 5 a Draw a neat sketch of a left hand turnout and name its various components. 6M  
b What is meant by railway yard and List out the various types of yards? 6M

**OR**

- 6 a List out the various technical terms used in points and crossings. 6M  
b What are the various functions of wright hand turnouts? 6M

**UNIT-IV**

- 7 a Define the terms Apron, Terminal building and Shoulders. 6M  
b Briefly explain the concept of Wind Rose diagram. 6M

**OR**

- 8 a What is meant by aircraft and Write the characteristics of aircraft. 6M  
b Monthly mean of average daily temperature for the hottest month of year at an airport site  $40^{\circ}\text{C}$ . Monthly mean of max daily temperature for the same month of the year is  $50^{\circ}\text{C}$  calculate, the airport reference temperature if the site is at mean sea level with a level ground. Determine the actual runway length to be provided. 6M

**UNIT-V**

- 9 a Define break water and explain its classification. 6M  
b What considerations are taken in selecting the location of a harbor? 6M

**OR**

- 10 a Mention the advantages and disadvantages of floating dry dock. 6M  
b Explain the historical background of Bombay ports. 6M

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