Q.P. Code: 16CE129 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year II Semester Supplementary Examinations February-2022

TRANSPORTATION ENGINEERING-I

(Civil Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	Define highway alignment. What are the factors affecting highway alignment?		**12M**
	OR		
2	What are obligatory points? How they influence a change in the alignment? Support your answer with neat diagrams.		**12M**

UNIT-II

3	Define Overtaking Sight Distance (OSD). Using a neat diagram, explaining the process of overtaking On a two lane two way road and derive an expression for computing OSD.		**12M**
	OR		
4	Calculate the length of transition curve using the following data: Design speed = 65 kmph ,Radius of circular curve = 220 m , Pavement width = 7.5 m Super elevation = 1 in 150		**12M**

UNIT-III

5	Explain briefly about various factors which affect the: i) Road User Characteristics ii) Vehicular Characteristics		**12M**
	OR		
6	Explain various design factors that are considered in rotary intersections and also discuss the importance of rotary intersections.		**12M**

UNIT-IV

7	What are the various tests carried out on bitumen? Briefly mention the principle and uses of each Test.		**12M**
	OR		
8	List different tests on road aggregates and mention their advantages and limitations.		**12M**

UNIT-V

9	Design a new flexible pavement for a two-lane undivided carriageway using the following data: Design CBR value of subgrade = 8.0%, Initial traffic on completion of construction = 1800cv per day, Average growth rate = 6.0% per year, Design life = 15 years, VDF value = 2.5.		**12M**
	OR		
10	With sketch show the different components of a rigid pavement and mention the functions of each.		**12M**

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