Question Paper Code: R18A31CE01

R18

ANURAG Engineering College

(An Autonomous Institution)

III B.Tech I Semester Supplementary Examinations, December – 2024

TRANSPORTATION ENGINEERING

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions		Course Outcome	B.T Level	Marks
1.	Classify Indian Road network?	CO1	L2	2M
2.	List out various engineering surveys to be made for the preparation of road alignment.	CO1	L1	3M
3.	What is the motive of geometric design in highway alignment?	CO2	L1	2M
4.	Calculate SSD for V = 40 kmph for two-way traffic in a two-lane road? f=0.30, t=2.5?	CO2	L1	3M
5.	What are the uses of accident studies?	CO3	L2	2M
6.	Define peak hour factor? Explain how it is quantified?	CO3	L1	3M
7.	Define the terms "cycle length" and "phase" in signal design?	CO4	L1	2M
8.	Categorize various road signs? And mention the necessity of the road signs?	CO4	L2	3M
9.	Classify different types of grade separated intersections?	CO5	L2	2M
10.	List various measures that can resolve the conflict points at intersections?	CO5	L1	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 x 10M = 50M)**

11. A)	Define highway alignment and elaborate the factors affecting alignment	CO1	L3	10M
	OR			
B)	Discuss the recent road projects planned and initiated based requirement in India	CO1	L3	10M
12. A)	What are the elements a geometric design deals with? Discuss design of any three elements	CO2	L2	10M
	OR			
B)	A national highway passing through a rolling terrain has two horizontal curves of radius 450m and 150m. Design the required super-elevation for the curves as per IRC guidelines. Given The ruling design speed for NH passing through a rolling terrain is 80 kmph. The coefficient of lateral friction f=0.15. The maximum permissible super elevation e=0.07	CO2	L2	10M
13. A)	Briefly explain the methods of data-collection and presentation of Origin and Destination survey data?	CO3	L3	10M
	OR			
B)	Distinguish between microscopic and macroscopic parameters of traffic flow? Also provide relationships among various parameters?	CO3	L3	10M

14. A)	Classify traffic Signals? And discuss various signal systems	CO4	L3	10M
	OR			
B)	Explain the need of road markings and illustrate different types of road markings with neat sketches?	CO4	L3	10M
15. A)	Define highway capacity? and elaborate different levels of service of a highway?	CO5	L3	10M
	OR			
B)	What is a rotary intersection? Explain the design features of a rotary intersection.	CO5	L3	10M