Question Paper Code: R22A31CE04

R22

ANURAG Engineering College

(An Autonomous Institution)

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

TRANSPORTATION ENGINEERING

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 60**

Section – A (Short Answer type questions) (10 Marks)

Answer All Questions		Course Outcome	B.T Level	Marks
1.	Why is road transport preferred over railways for short distances?	CO1	L1	1M
2.	What is the Golden Quadrilateral?	CO1	L1	1M
3.	What is the standard width of a single-lane and two-lane pavement in India?	CO2	L1	1M
4.	Define *stopping sight distance (SSD).*	CO2	L1	1M
5.	Name any two methods used for conducting spot speed studies.	CO3	L1	1M
6.	Define *highway capacity.*	CO3	L1	1M
7.	Define the *softening point* of bitumen.	CO4	L1	1M
8.	Name two methods used for aggregate blending.	CO4	L1	1M
9.	What are the critical load positions in a rigid pavement slab?	CO5	L1	1M
10.	What are overlays, and why are they used?	CO5	L1	1M

Section B (Essay Questions)

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

11. A)	Describe the Bharatmala Pariyojana. What are its objectives, and how is it expected to impact India's infrastructure?	CO1	L3	10M
	OR			
B)	Explain the concept of Public-Private Partnership (PPP) in highway projects. Discuss its advantages and challenges	CO1	L3	10M
12. A)	Derive the formula for overtaking sight distance (OSD) considering two lane carriage way?	CO2	L4	10M
	OR			
B)	Describe the design principles of summit and valley curves based on comfort, safety, and aesthetics	CO2	L2	10M
13. A)	Discuss the factors affecting the LOS of a highway and Explain the relationship between *V/C ratio* and *LOS*	CO3	L3	10M
	OR			
B)	Discuss the methods used for traffic volume and spot speed studies	CO3	L3	10M
14. A)	What are the different types of modified bituminous binders? Discuss their properties and applications.	CO4	L3	10M
	OR			
B)	Explain the procedure for conducting the *California Bearing Ratio (CBR) test.* How is it used in pavement design?	CO4	L3	10M
15. A)	Discuss the factors affecting the choice between flexible and rigid pavements	CO5	L3	10M
	OR			
B)	Describe the *IRC 37-* method for designing flexible pavements. Include key parameters and assumptions	CO5	L2	10M