Reg No.:_____ Name:_____

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth Semester B.Tech Degree (R,S) Examination May 2024 (2019 Scheme)

Course Code: CET332

Course Name: TRAFFIC ENGINEERING AND MANAGEMENT

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1		Define the macroscopic parameters of traffic.	(3)
2		Compute the space mean speed of the vehicles, if the observed spot speeds are 50, 40, 60, 55 and 80 kmph.	(3)
3		Discuss the role of vehicle registration in the traffic regulation in India.	(3)
4		Discuss the scope of traffic management measures.	(3)
5		Describe the concept of Level of Service.	(3)
6		Explain the significance of PCU in the present scenario.	(3)
7		Differentiate between pre-timed and traffic actuated signals along with their advantages and disadvantages.	(3)
8		Describe the benefits of channelisation.	(3)
9		Discuss the 3 E's in road safety?	(3)
10		Describe the need for road safety audit.	(3)

PART B

Answer one full question from each module, each carries 14 marks.

Module I

11	a)	Illustrate and explain the relationships between the fundamental variables of traffic flow.	(9)
	b)	Compare Greenshields model with Greenberg's Logarithmic model.	(5)

OR

12	a)	Derive the critical flow condition using Greenshield's model.	(9)
	b)	With a neat sketch of time space diagram, show the relationship between spacing and headway.	(5)

Module II

13 a) Explain the traffic regulatory measures adopted concerning vehicle and driver aspects. (9)

b) Describe any two management measures for the reduction of traffic congestion. (5)

OR

14 a) Explain the principles governing the application of speed limits in India along with its significance. (9)

b) Describe the advantages and disadvantages of closing side streets. (5)

Module III

15 a) Demonstrate the procedure mentioned in Indo HCM for the determination of capacity and level of service of a single lane interurban road. **(9)**

b) Define base capacity and adjusted capacity. **(5)**

OR

16 a) Demonstrate the procedure mentioned in Indo HCM for the determination of capacity and level of service of an urban road. **(9)**

b) Enumerate the factors affecting the capacity and level of service of a road. **(5)**

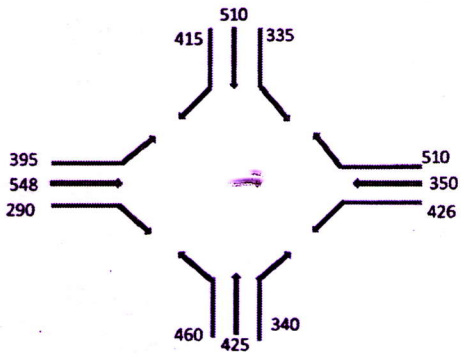
Module IV

17 a) Classify and describe various types of intersections. **(9)**

b) Illustrate and explain different road signs used for controlling traffic. **(5)**

OR

18 a) The width of a carriage way approaching an intersection is given as 15 m. The entry and exit width at the rotary are 10 m. The traffic approaching the intersection from the four sides is shown in the figure below. **(9)**



Determine the capacity of the rotary using the given data.

b) Describe the advantages and disadvantages of traffic signals. (5)

Module V

19 a) Explain the different factors which influence the occurrence of road accidents. (9)

b) Describe the importance of pedestrian safety in the Indian traffic condition. (5)

OR

20 a) Differentiate between collision and condition diagrams with neat sketches. (9)

b) Explain the different stages involved in road safety audit. (5)

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