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Name:

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSIT B.Tech Degree S6 (R,S) Exam April 2025 (2019 Scheme)

Course Code: CET332

Course Name: TRAFFIC ENGINEERING AND MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

Pages: 3

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PART A

	Answer all questions, each carries 3 marks.	Marks
1	Compare Greenshield's model and Greenberg'S model.	(3)
2	Define speed, density and volume.	(3)
3	List out any three traffic management measures.	(3)
4	Discuss the advantages of closing side streets.	(3)
5	Compare homogeneous and heterogeneous traffic condition.	(3)
6	List out any six factors affecting PCU.	(3)
7	Describe a multileg interchange.	(3)
8	Describe the functions of channelization.	(3)
9	Discuss the influence of environmental factors on accidents.	(3)
10	Discuss any three needs of road safety audit.	(3)

PART B

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

Module I

11	a)	Explain the fundamental diagrams of traffic flow.	()	(9)		

b) Differentiate time mean speed and space mean speed. Also, calculate the time (5) mean speed and space mean speed if the spot speeds are 60,70,60,50,40 and 35.

OR

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12 a) The data shown below were obtained from a highway stretch. Fit these data to (10)
 Greenshields model and determine i) free speed ii) jam density iii) capacity and
 iv) speed at maximum flow.

Speed (km/h)	20	30	40	50	60	75
Density (veh/km	80	75	60	45	35	20

b) Traffic surveys were conducted at a midblock section of length 700 m. During the (4) observation period of 15 minutes, 250 cars passed the section. The cars maintained a uniform speed of 45 km/hr. Determine flow, density, space headway and time headway.

Module II

13	a)	Explain the various aspects covered under regulation concerning vehicle.	(8)
	b)	Explain one way streets with advantages and disadvantages.	(6)
		OR	
14	a)	Explain traffic management measures that can take care of the imbalance in	(8)
		directional distribution of traffic during peak hours.	
	b)	Explain motor vehicle act.	(6)

Module III

- 15 a) Explain the procedure mentioned in Indo HCM (2017) for the determination of (8) base capacity and level of service of two lane two way interurban roads.
 - b) Explain the factors affecting capacity and level of service. (6)

OR

a) Explain the various Levels of Service as per Indo HCM. (8)
b) Differentiate between basic, practical and possible capacity of highways. (6)

Module IV

17 a) Explain the various traffic control measures. (8)

b) The average normal flow of traffic on crossroads A and B during design period (6) are 480 and 360 PCU per hour. The saturation flow values on the roads A and B are estimated as 1200 and 1080 PCU per hour respectively. The all-red time required for pedestrian crossing is 10 sec. Design 2 phase signal by websters method.

OR

18 a) Explain the basic forms of at grade intersections with neat sketches. (5)b) Explain the various design elements and capacity estimation of a rotary (9) intersection. Module V (10)a) Explain the influence of vehicle and driver on accidents. 19 b) Describe collision diagram. (4)OR (7)a) Explain the influence of road on accidents. 20 b) Explain the various stages of road safety audit. (7)
