CBCS SCHEME

USN | | | | | | | | | | |

17CV561

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Traffic Engineering

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Assume any missing data suitably.

Module-1

1 a. List the different road users characteristics and explain the concept of PIEV theory. **(10 Marks)**

b. Explain the fundamentals of traffic flow. **(10 Marks)**

OR

2 a. What are the different vehicular characteristics which affect road design and explain briefly? **(10 Marks)**

b. Discuss various urban traffic problem that India is facing. List some remedial measures also. **(10 Marks)**

Module-2

3 a. List out the objectives of traffic volume studies and origin destination studies. **(10 Marks)**

b. Following data were obtained from the spot speed studies. Determine:
i) Upper and lower values of speed limit for regulation
ii) Design speed for checking the geometric design element of the highway.

Speed range (kmph)	Number of vehicles	Speed range (kmph)	Number of Vehicles
5 to 10	230	30 to 35	430
10 to 15	375	35 to 40	290
15 to 20	500	40 to 50	110
20 to 25	680	50 to 60	25
25 to 30	525	60 to 70	8

(10 Marks)

OR

4 a. Explain briefly speed and delay study by moving car method. **(10 Marks)**

b. From the following data determine:
i) Speed limit values for mixed traffic
ii) Speed for geometric design

Speed (kmph)	Frequency	Speed (kmph)	Frequency
0 to 10	12	50 to 60	225
10 to 20	18	60 to 70	119
20 to 30	68	70 to 80	43
30 to 40	89	80 to 90	33
40 to 50	204	90 to 100	9

(10 Marks)

Module-3

5 a. Enumerate the design factors and advantages of rotary intersection. **(10 Marks)**

b. Write short notes on: i) At-grade intersection ii) Channelized intersection. **(10 Marks)**

OR

6 a. What are the advantages and disadvantages of traffic signal? **(10 Marks)**

b. The average normal flow of traffic on cross roads A and B during design period are 410 and 260 pcu per hour. The saturation flows are 1260 and 1000 pcu per hour respectively. The all red time required for pedestrian crossing is 12 seconds. Design a two phase traffic signal by Webster's method. **(10 Marks)**

Module-4

7 a. Briefly explain the various causes of accidents. **(10 Marks)**

b. Explain various design factors of highway lighting. **(10 Marks)**

OR

8 a. Explain the measure to control the traffic noise. **(10 Marks)**

b. Explain briefly promotion of non-motorized transport. **(10 Marks)**

Module-5

9 a. Explain intelligent transport system for traffic management. **(10 Marks)**

b. Discuss the details of traffic system management. **(10 Marks)**

OR

10 Write short notes on the following:

a. Traffic Congestion

b. Road Pricing System

c. Travel Demand Management

d. Traffic Regulatory Measures. **(20 Marks)**

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