



CBCS SCHEME

15CV561

Fifth Semester B.E. Degree Examination, July/August 2022 Traffic Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What are the different road user characteristics? Explain any two characteristics. (08 Marks)
b. What is Modal Integration? Explain briefly its objectives and benefits. (08 Marks)

OR

- 2 a. Explain briefly vehicular performance characteristics. (08 Marks)
b. Write short notes on:
(i) Urban traffic problem in India. (04 Marks)
(ii) Sustainable approach in traffic engineering (04 Marks)

Module-2

- 3 a. Explain briefly factors considered to evaluate level of service. List the levels and their characteristics. (08 Marks)
b. The consolidated data of spot speed studies carried out at a certain road stretch is given below:

Speed Range, kmph	Number of vehicles	Speed range, kmph	Number of vehicles
0 - 10	10	50 - 60	250
10 - 20	15	60 - 70	120
20 - 30	55	70 - 80	45
30 - 40	90	80 - 90	30
40 - 50	200	90 - 100	10

Determine:

- (i) Upper and lower speed limits for regulation.
(ii) Design speed for checking the geometric design elements of the highway. (08 Marks)

OR

- 4 a. What are the various methods of conducting Origin and Destination survey? Explain the floating car method of survey. (08 Marks)
b. The consolidated data collected from speed and delay studies by floating car method on a stretch of urban road of length 4 km running North-South are given below. Determine the average values of: (i) Volume (ii) Journey speed (iii) Running speed of the traffic stream along each direction

Trip No.	Direction of Trip	Journey Time min-sec	Total stopper delay min-sec	No. of vehicles overtaking	No. of vehicles overtaken	No. of vehicle from opposite direction
1	N-S	6 - 30	1 - 35	5	6	265
2	S-N	7 - 15	1 - 45	4	2	183
3	N-S	6 - 50	1 - 30	4	2	281
4	S-N	7 - 40	1 - 45	3	1	205
5	N-S	6 - 10	1 - 10	3	4	240
6	S-N	8 - 10	2 - 20	2	2	160
7	N-S	6 - 30	1 - 30	2	4	300
8	S-N	7 - 25	1 - 25	3	2	155

(08 Marks)

Module-3

- 5 a. What are the different types of traffic islands? Explain briefly any two of these with a sketch. (08 Marks)
 b. Explain briefly the objectives of signalized intersection design. (08 Marks)

OR

- 6 a. What are the advantages and disadvantages of traffic islands? (08 Marks)
 b. Write short notes on:
 (i) Informatory signs
 (ii) Mandatory sign
 (iii) Cautionary sign (08 Marks)

Module-4

- 7 a. What are the objectives of accident studies? Explain the contributory factors in road accident. (08 Marks)
 b. Write short notes on:
 (i) Prevention of accidents
 (ii) Pedestrian safety
 (iii) Non-motorised transport (08 Marks)

OR

- 8 a. List the environmental hazards caused by traffic. Explain any two hazards. (08 Marks)
 b. Write short notes on:
 (i) Integration of Public Transport
 (ii) Controlling noise pollution
 (iii) Cost of Accidents (08 Marks)

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Module-5

- 9 a. What is traffic regulation? Explain briefly the various traffic regulatory measures adopted. (08 Marks)
 b. Explain 'Intelligent Transport System' for traffic management. (08 Marks)

OR

- 10 a. Explain 'Area Traffic Management'. What are its objectives? (08 Marks)
 b. Write short notes on:
 (i) Traffic Demand Management
 (ii) Traffic Management Measures
 (iii) Traffic Enforcement and Education. (08 Marks)
