



Seventh Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Urban Transport Planning

18CV745

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain system approach in Transportation Planning, with a neat flow diagram. (10 Marks)
- b. Explain the causes and effects of Urbanization. (10 Marks)

OR

- 2 a. Briefly explain the coordination required in Public transportation. (10 Marks)
- b. Write a note on : i) BRTS ii) Metro trains. (10 Marks)

Module-2

- 3 a. Explain zoning. What are the important points to be kept in mind while dividing the area into zones? (10 Marks)
- b. Define study area and explain external cordon line. (10 Marks)

OR

- 4 a. Explain (i) Home Interview Surveys (ii) Commercial Vehicle Surveys. (10 Marks)
- b. What are secondary sources of data in transport planning? Explain any two. (10 Marks)

Module-3

- 5 a. Explain Category analysis. What are the advantages and disadvantages of this method? (10 Marks)
- b. The following data is collected for a town :

Zone	1	2	3	4	5	6	7
Population in Thousand	25	20	28	18	19	21	22
Trips generated in Hundreds	18	15	20	13	14	16	17

Develop a linear regression model for trips generated from a zone and compute the coefficient of correlation. Predict the expected trip for a zone with population 50000. (10 Marks)

OR

- 6 a. List the various growth factor methods of trip distribution. Explain any one method in detail with the advantages and disadvantages. (10 Marks)

- b. Calculate the future trip distribution based on Furness method (up to two iteration) from the following data :

O	D	Present trips				Future Trips
		1	2	3	4	
1		10	20	15	18	140
2		21	16	17	14	150
3		30	21	25	27	200
4		10	9	16	13	100
Future Trips		150	110	170	160	

(10 Marks)

Module-4

- 7 a. Explain briefly types of Opportunity models. (10 Marks)
- b. The total number of trips produced in and attracted to three Zones A, B and C of a survey area in the design year are tabulated in Table Q7(b) below. It is known that the trips between two zones are inversely proportional to the second power of the travel time between zones which is uniformly 20 minutes. If the trip interchange between Zones B and C is known to be 600. Calculate the trip interchange between Zones A & B , A & C , B & A and C & B.

Zone	Trips produced	Trips attracted
A	2000	3000
B	3000	4000
C	4000	2000

Table Q7(b)

(10 Marks)

OR

- 8 a. Define Modal Split. Explain in brief the factors affecting modal split. (10 Marks)
- b. The number of trips produced in and attracted to the three Zones 1, 2 and 3 are tabulated in table Q8(b) (1) below. The order of closeness of Zones is given in table Q8(b)(2) and the Zonal 'L' factor is given in table Q8(b)(3). Distribute the trips between Zones.

Zone	1	2	3	Total
Trips produced	14	33	28	75
Trips attracted	33	28	14	75

Table Q8(b)(1)

O \ D	1	2	3
1	1	2	3
2	2	1	3
3	2	3	1

Table Q8(b)(2)

Zone	1	2	3
L factor	0.04	0.02	0.04

Table Q8(b)(3)

(10 Marks)

Module-5

- 9 a. Define trip assignment and explain the various applications of trip assignment. (10 Marks)
- b. Mention the different assignment techniques. Explain any one. (10 Marks)

OR

- 10 a. Explain in detail the features of the Lowry Model. (10 Marks)
- b. Write a brief note on Diversion Curves. (10 Marks)
