



CBGS SCHEME

18CV745

Seventh Semester B.E. Degree Examination, Jan./Feb. 2023

Urban Transport Planning

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Define Urbanization. List and explain the urban class groups. (06 Marks)
- b. What is Para-transit system and what are the factors influencing Para transit system. (07 Marks)
- c. Compare between Bus and Light Rail system. (07 Marks)

OR

- 2 a. What are the causes of urbanization? (06 Marks)
- b. List and explain the different effects of urbanization. (07 Marks)
- c. Write merits and demerits of Metro and BRTS system. (07 Marks)

Module-2

- 3 a. Define study area. What are the factors to be considered while selecting external cordon line? (06 Marks)
- b. Explain Home interview survey. (07 Marks)
- c. What are the four basic movements for which survey data are required? (07 Marks)

OR

- 4 a. Define Zoning. What are the points to be kept in view when dividing the area into zones? (07 Marks)
- b. Define sampling. (06 Marks)
- c. Explain Road Side Interview Survey. (07 Marks)

Module-3

- 5 a. Explain Trip and its classification. (04 Marks)
- b. What is Multiple Linear Regression Model? What are the assumptions made in MLR analysis? (08 Marks)
- c. Let the trip rate of a zone is explained by the household size done from the field survey. It was found that the household size are 1, 2, 3 & 4. The trip rate of the corresponding household is as shown in below table. Fit a linear equation relating trip rate and household size.

	Household Size (x)			
	1	2	3	4
Trips	1	2	4	6
Per Day	2	4	5	7
(y)	2	3	3	4

(08 Marks)

OR

- 6 a. Explain the factors governing trip generation and attraction. (06 Marks)
- b. What is aggregated and disaggregated analysis? (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- c. Trips originating from zone 1, 2, 3 of a study area are 78, 92 and 82 respectively. Those terminating at zone 1, 2, 3 are given as 78, 96 and 78 respectively. If growth factor is 1.3 and cost matrix is shown below, find the expanded growth trip table.

O/D	1	2	3	O_i
1	20	30	28	78
2	36	32	24	92
3	22	34	26	82
d_j	78	96	78	252

(08 Marks)

Module-4

- 7 a. Explain Gravity model. (04 Marks)
 b. What are the factors affecting Modal Split? (08 Marks)
 c. The total trips produced in and attracted to the three zones A, B and C of a survey area in the design year are tabulated below.

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

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 A & B, A & C, B & A and C & B. (08 Marks)

OR

- 8 a. Draw the flowchart for modal split carried out after trip distribution. (07 Marks)
 b. Explain opportunity model. (07 Marks)
 c. Explain Desire line diagram with neat sketch. (06 Marks)

Module-5

- 9 a. Explain purpose of trip assignment. (06 Marks)
 b. Explain all-or-nothing assignment. (07 Marks)
 c. What are the difficulties in transport planning for small and medium cities? (07 Marks)

OR

- 10 a. Explain Minimum Path-tree. (06 Marks)
 b. What is Lowry Derivative Model? (07 Marks)
 c. Explain Capacity Restraint Techniques. (07 Marks)
