



CBCS SCHEME

15CV751

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Seventh Semester B.E. Degree Examination, June/July 2023 Urban Transportation and Planning

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain with flow diagram "System approach" to transport planning. (08 Marks)
- b. List out the present difficulties and measures to meet the increased urbanization problems. (08 Marks)

OR

- 2 a. Explain with flow diagram various stages in transport planning. (08 Marks)
- b. Write short notes on Para Transit Transport. (08 Marks)

Module-2

- 3 a. Define external cordon. What are the factors considered for selection of external cordon lines for urban transport system study? (08 Marks)
- b. Define "Zone" in urban transportation. What are the different points considered in dividing the whole area into zones? (08 Marks)

OR

- 4 a. What are the types of surveys, that are usually carried out in transportation survey explain any two? (08 Marks)
- b. Write note with sketches and formulas :
 - i) Basic moment in transportation survey
 - ii) Expansion of data from samples in home - interview surveys. (08 Marks)

Module-3

- 5 a. Write note on :
 - i) Trip
 - ii) Generation
 - iii) Home based trips
 - iv) Non-home based trips. (08 Marks)
- b. Explain the factors considered while governing trip generation and attraction rates. (08 Marks)

OR

- 6 a. Explain distribution of trips between zones by matrix method. (08 Marks)
- b. Explain with general formulas growth factor methods. (08 Marks)

Module-4

- 7 a. The given matrix is a symmetrical one with total origins and destinations at each zone being equal, calculate the interzonal movements with new values of future trips, generated trip growth factors by average factor method.

O \ D	1	2	3	p_i	P_i	$E_i = p_i/P_i$
1	60	100	200	360	360	1
2	100	20	300	420	1260	3
3	200	300	20	520	3120	6
a_j	360	420	520	1300	4740	
A_j	360	1260	3120			
$E_i = A_j/a_j$	1	3	6			

- b. What are the types of trip distribution methods? Explain any one?

(10 Marks)
(06 Marks)

OR

- 8 a. 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 as :

Zone	A	B	C
Trips produced	2000	3000	4000
Trips attracted	3000	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 .calculate the trip interchange between zones A and B, A and C, C and A, C and B, B and A if the trip interchange between zones B and C is known to be 600?

- b. Explain the phases in calibration of gravity model.

(08 Marks)
(08 Marks)

Module-5

- 9 a. Explain with general formulas :
i) Intervening opportunity model
ii) Competing opportunities models.

(08 Marks)

- b. The number of trips produced in and attracted to the three zones 1, 2 and 3 are tabulated as :

Zone	1	2	3	Total
Trips produced (P_i)	14	33	28	75
Trips attracted (A_j)	33	28	14	75

As a result of calibration, for the number of trips produced in order of closeness of zones is included by following matrix :

O \ D	1	2	3
1	1	2	3
2	2	1	3
3	2	3	4

Zonal L – factors :

zone	L – factors
1	0.04
2	0.02
3	0.04

Distribute the trips between the zones.

(08 Marks)

OR

- 10 Write notes on any four :
- a. Diversion curves
 - b. Capacity restraint assignment
 - c. Minimum path tree
 - d. Traffic assignment purpose
 - e. Land use and transportation interaction
 - f. All – or – nothing assignment.

(16 Marks)
