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Seventh Semester B.E. Degree Examination, Dec.2024/Jan.2025
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. What is urban transportation planning? List the steps in the process of transportation planning and explain them briefly. **(10 Marks)**

   b. What is co-ordination of transport systems? List and explain the types of co-ordination. **(10 Marks)**

OR

2 a. Explain the systems approach in transport planning with a flow chart. **(10 Marks)**

   b. Define urbanization. Explain the effects of urbanization in transportation sector. **(10 Marks)**

Module-2

3 a. What is Zoning? List out the points to be considered during zoning. **(10 Marks)**

   b. Define sampling. List and explain briefly the types of sampling. **(10 Marks)**

OR

4 a. Explain the process of road side interviews conducted for collecting the data for transport planning. **(10 Marks)**

   b. Define external cordon line. List the types of inventories conducted for finding transport facilities, explain briefly. **(10 Marks)**

Module-3

5 a. What is trip generation? List and explain the factors affecting. Trip generation and attraction rates. **(10 Marks)**

   b. The trip rate 'y' and the corresponding household sizes 'x' from a sample are shown in the table below. Compute the trip rate. If the avg household size is 3.25. Establish the trip generation equation.

Household size (x) →				
Zones →	1	2	3	4
Trips per day (y)	1	3	4	5
↓	3	4	5	8
	3	5	7	8

(10 Marks)

OR

6 a. What are the assumptions made in multilinear regression analysis? List and explain the types of multilinear regression analysis. **(10 Marks)**

   b. The following data shows average household. Size and total trips made per day for a particular zone of study area. Develop the trip production equation and also compute coefficient of correlation.

Average Household size (x)	Total trips/day (y)
2	4
3	6
4	7
5	8
6	10

(10 Marks)

Module-4

7 a. What is Modal split? Explain with a flow chart, the modal split carried out after trip distribution. **(10 Marks)**

   b. Obtain the future trip table by average factor method given the expected future trips for zone 1, 2, 3 are expected to be 360, 1260 and 3120 respectively.

D\O	1	2	3
1	60	100	200
2	100	20	300
3	200	300	20

(10 Marks)

OR

8 a. List and explain the factors affecting the modal split. **(10 Marks)**

   b. The total trips produced and attracted to the 3 zones A, B, C of a survey area in the design years are tabulated as follows:

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

It is known that the trips between 2 zones are inversely proportional to the second power of the travel time between zones, which is uniformly 20 min. If the trip interchange between B and C is known to be 600. Calculate the trip interchange between zones A and B, A and C, B and A, C and A, C and B. **(10 Marks)**

Module-5

9 a. Define Traffic Assignment. List the various methods of route assignment. Explain any two methods. **(10 Marks)**

   b. With a flow chart, explain the structure of a lowry model. **(10 Marks)**

OR

10 a. Explain the major requirements of the traffic assignment. **(10 Marks)**

    b. What are the major factors to be considered while selecting a land-use model? Explain briefly. **(10 Marks)**

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