USN | | | | | | | | | | **15CT832**

Eighth Semester B.E. Degree Examination, November 2020
Urban Transportation and Planning

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions irrespective of modules.

Module-1

1 a. Explain briefly the scope of urban transport planning. **(08 Marks)**
   b. Explain the system approach to transport planning using a flow chart. **(08 Marks)**

2 a. What is zoning? Discuss the points while doing zone. **(08 Marks)**
   b. Explain Home interview surveys and road side interview surveys. **(08 Marks)**

Module-2

3 a. Explain in detail the various factors governing trip generation. **(10 Marks)**
   b. Explain category analysis. Mention the assumptions made in this analysis. **(06 Marks)**

4 a. Develop a trip production equation for the below data and also compute coefficient of correlation.

Average household size	Total trips/day
3	4
4	6
5	7
6	10

                                            (10 Marks)

   b. What is multiple linear regression analysis? Mention the assumptions made in this analysis. **(06 Marks)**

Module-3

5 a. List the different methods of trip distribution. Explain in detail uniform growth factor method. **(08 Marks)**
   b. Solve for the future trip table by average growth factor method

O \ D	1	2	3
1	10	20	30
2	20	10	40
3	30	20	10

The future trips generated and attracted in zones 1, 2 and 3 are expected to be 150, 1050 and 2100 respectively. **(08 Marks)**

6 a. Write a short notes on intervening and completing opportunities model.   (06 Marks)
   b. The total trips produced in and attracted to the three zones A, B and C in the design year are given below:

Zone	Trips produced	Trips attracted
A	1000	2500
B	2500	3500
C	3500	1000

It is known that the trips between two zones are inversely proportional to the second power of travel time between zones, which is 20 minutes. If the trip interchange between A and B is 200, calculate the trip interchange between A and C, B and C, B and A, C and B.
(10 Marks)

Module-4

7 a. Explain the factors affecting modal split.   (10 Marks)
   b. Draw the flow diagram for modal split carried out after trip distribution.   (06 Marks)

8 a. Define trip assignment. Explain the application of trip assignment.   (08 Marks)
   b. List the various assignment technique and explain any one in detail.   (08 Marks)

Module-5

9 a. Write a note on selection of land use transport model.   (06 Marks)
   b. Write a note on:
      i)   Fratar method
      ii) Tanner's model   (10 Marks)

10 a. Briefly explain the difficulties involved in transport planning for small and medium cities.   (08 Marks)
   b. With flow chart explain the structure of Lowry model.   (08 Marks)

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