USN

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024
Urban Transportation and Planning

Time: 3 hrs.   Max. Marks: 80

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

Module-1

1   a. Explain the system approach to transport planning using a flow chart.   **(10 Marks)**
    b. Explain the various urban transport problems.   **(06 Marks)**

OR

2   a. Explain the features of BRTS.   **(07 Marks)**
    b. Explain briefly the travel demand.   **(05 Marks)**
    c. Write the types of transit system and explain any two.   **(04 Marks)**

Module-2

3   a. Define External Cordon Line. What factors should be given due weightage in the selection of External Cordon line.   **(06 Marks)**
    b. What is zoning? Discuss the points to be kept in mind while doing zoning.   **(10 Marks)**

OR

4   a. What are the methods of Origin and Destination Study? Explain home interview method in detail.   **(08 Marks)**
    b. What is Sampling? Discuss various types of Samplings.   **(08 Marks)**

Module-3

5   a. Explain in detail the various factors governing trip generation.   **(08 Marks)**
    b. What is multiple linear regression analysis and mention the assumptions made?   **(08 Marks)**

OR

6   a. What is trip distribution and mention the methods of trip distribution?   **(04 Marks)**
    b. Explain category analysis and mention the assumptions made.   **(04 Marks)**
    c. Let the trip rate of zone is explained by the house hold size done from field survey. If was found that the household sizes are 1, 2, 3, 4, the trip rates of the corresponding house hold is shown in the table below :

Household Size	1	2	3	4
trips /day	2	3	4	5
	3	5	7	8
	3	4	4	5
ΣY	8	12	15	18

(08 Marks)

Module-4

7 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	Trips Produced	Trips Attracted
A	2000	3000
B	3000	4000
C	4000	2000

It is known that the trip between the two zones are inversely proportional to the second power of the travel time between zones, which is 20 minutes. If the trip interchange between zones B and C is known to be 600, calculate the trip interchange between zones A to B, A to C, B to A and C to B. **(08 Marks)**

   b. Explain the concept of Intervening Opportunities model. **(08 Marks)**

OR

8 a. Write the various phases calibration of gravity model. **(05 Marks)**

   b. With the aid of flow diagram explain :
   i)   Modal split after trip generation but before trip distribution.
   ii) Modal split after trip distribution. **(08 Marks)**

   c. Briefly explain the details of Tanner's model. **(03 Marks)**

Module-5

9 a. List the various assignment techniques and explain any two methods. **(08 Marks)**

   b. Explain the application of the traffic assignment. **(08 Marks)**

OR

10 a. Discuss the points for the selection of land – use transport model. **(06 Marks)**

    b. Write a flow chart of fundamental structure of Lowry model and explain the principal components of the model. **(10 Marks)**

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