CBCS SCHEME

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18CV745

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022
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. Explain system approach in Transportation Planning, with a neat flow diagram. **(10 Marks)**

b. Explain the causes and effects of Urbanization. **(10 Marks)**

OR

2 a. Briefly explain the coordination required in Public transportation. **(10 Marks)**

b. Write a note on : i) BRTS ii) Metro trains. **(10 Marks)**

Module-2

3 a. Define Zoning. Discuss the points to be kept in mind while doing Zoning. **(10 Marks)**

b. What are the methods available for origin and destination study? Explain Home Interview method in detail. **(10 Marks)**

OR

4 a. Define Expansion factor. Explain briefly the accuracy checks necessary for the data collected by any survey. **(10 Marks)**

b. List the different sampling techniques. Explain briefly. **(10 Marks)**

Module-3

5 a. Explain in detail the various factors governing trip generation. **(10 Marks)**

b. What is Multiple Linear Regression Analysis? Mention the assumptions and limitations of Multiple Linear Regression Analysis. **(10 Marks)**

OR

6 a. Enlist the different methods of Trip distribution. Explain in detail Average Growth Factor method and Uniform Growth Factor method. **(10 Marks)**

b. Estimate the future trip distribution as per Furness method [upto two iterations]. The predicted future trips are given in Table Q6(b) below. **(10 Marks)**

O \ D	1	2	3	4	Predicted Future Trips
1	8	3	16	15	147
2	6	9	8	5	42
3	10	8	3	8	32
4	2	4	7	12	30
Predicted Future rips	39	24	68	120	

Table Q 6(b)

Module-4

7 a. Explain briefly types of Opportunity models. **(10 Marks)**

b. The total number of trips produced in and attracted to three Zones A, B and C of a survey area in the design year are tabulated in Table Q7(b) below. 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 Zones A & B , A & C , B & A and C & B.

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

Table Q7(b) **(10 Marks)**

OR

8 a. Define Modal Split. Explain in brief the factors affecting modal split. **(10 Marks)**

b. The number of trips produced in and attracted to the three Zones 1, 2 and 3 are tabulated in table Q8(b) (1) below. The order of closeness of Zones is given in table Q8(b)(2) and the Zonal 'L' factor is given in table Q8(b)(3). Distribute the trips between Zones.

Zone	1	2	3	Total
Trips producted	14	33	28	75
Trips attracted	33	28	14	75

Table Q8(b)(1)

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

Table Q8(b)(2)

Zone	1	2	3
L factor	0.04	0.02	0.04

Table Q8(b)(3) **(10 Marks)**

Module-5

9 a. List the various assignment techniques and explain any two methods in brief. **(10 Marks)**

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

OR

10 a. Explain Diversion Curves with limitations. **(10 Marks)**

b. Define Trip assignment Explain the application, with a neat flow chart. **(10 Marks)**

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