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10CV843

**Eighth Semester B.E. Degree Examination, June/July 2018**  
**Urban Transport Planning**

Time: 3 hrs.

Max. Marks:100

- Note:1. Answer any FIVE full questions, selecting atleast TWO questions from each part.**  
**2. Assume suitable data wherever necessary.**

**PART – A**

- 1
  - a. Define “System Approach”. Explain with flow diagram, system approach to Transport Planning. (10 Marks)
  - b. Explain briefly the various stages involved in Transportation Planning Process. (10 Marks)
- 2
  - a. Define “Zone”. Mention the different factors considered in dividing the whole area into zones. (10 Marks)
  - b. Explain the inventory of Transportation Facilities. (05 Marks)
  - c. Explain with sketch, about the basic movements in transportation survey. (05 Marks)
- 3
  - a. Explain Home – Based and Non – Home Based trip. (05 Marks)
  - b. Explain the assumptions made in categories analysis. (06 Marks)
  - c. Let the trip rate of zone is explained by the household size done from the field survey. It was found that the household size are 1,2, 3 and 4. The trip rates of the corresponding household is shown in the table below. Fit a linear equation relating trip rate and household size. (09 Marks)

	House Hold Size (x)			
	1	2	3	4
Trips	1	2	4	6
Per	2	4	5	7
Day (y)	2	3	3	4
€(y)	5	9	12	17

- 4 Write a short note on :
  - a. Study area.
  - b. Expansion of Data from samples.
  - c. Trip distribution.
  - d. Home interview surveys. (20 Marks)

**PART – B**

- 5
  - a. Explain Average growth factor methods in Trip distribution. (05 Marks)
  - b. Explain Fratar method in trip distribution. (05 Marks)
  - c. The base year trip matrix for a study area consisting of three zones is given below.

	1	2	3	O <sub>i</sub>
1	20	30	28	78
2	36	32	24	92
3	22	34	26	82
d <sub>j</sub>	88	96	78	252

The productions from the zone 1, 2, and 3 for the horizon year is expected to grow to 98, 106 and 122 respectively. The attractions from these zones are expected to increase to 102, 118, 106 respectively. Compute the matrix for the horizon year using doubly constrained growth factor model using Furness method. (10 Marks)

1 of 2

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 6 a. Define Modal split and explain in brief the factors affecting modal split. (10 Marks)  
b. Explain advantages and disadvantages of Pre – distribution modal split. (05 Marks)  
c. Draw the flow diagram for Modal split carried out after trip distribution. (05 Marks)
- 7 a. Explain the application of the traffic assignment. (05 Marks)  
b. Write a flow chart of fundamental structure of Lowry Model. (05 Marks)  
c. List the various assignment techniques and explain any two methods. (10 Marks)
- 8 Write short notes on :  
a. Difficulties in transport planning for small and medium cities.  
b. Quick response techniques.  
c. Grain – Lowry model.  
d. Furness method. (20 Marks)

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