



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, April 2016
(2008 Scheme)
08.807.5 Elective – V : TRANSPORTATION PLANNING (C)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** the questions.

- I. a) Explain sufficiency and deficiency analysis by screen line corridor surveys.
- b) What are the applications of Origin Destination surveys ?
- c) What are the factors to be considered in the selection of external cordons ?
- d) What are the phases involved in the calibration of gravity model ?
- e) What are the assumptions made in Category analysis ?
- f) What are the criteria for the selection of a statistically significant regression model in trip generation modelling ?
- g) Explain the all or nothing assignment technique.
- h) List the commonly used transportation planning softwares. **(8×5=40 Marks)**

PART – B

Module – I

- II. a) Explain the different types of surveys required for identifying factors influencing travel pattern. **10**
- b) Discuss how the transportation system planning can be integrated with other levels of planning. **10**

OR

- III. a) Discuss the methods to evaluate the accuracy of the survey data and expand the sample data so as to represent the whole population. **10**
- b) Explain the home interview method of origin destination survey. What are its advantages compared to other methods ? **10**

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Module – II

- IV. a) With the help of a flow chart explain the sequential travel demand modelling process. How is it different from simultaneous process ? 8
- b) The trip productions and attractions from and to three zones is given below :

Zone	1	2	3
Trips Produced	140	330	280
Trips Attracted	300	270	180

The impedance value between various zones are as follows :

Origin	Destination		
	1	2	3
1	39	52	50
2	52	26	26
3	50	26	39

Distribute the trips between zones, do one iteration. 12

OR

- V. a) Explain the growth factor models available for trip distribution. What are the assumptions and disadvantages of growth factor models ? 10
- b) The present OD matrix in a study area consisting of three zones is given below.

Find the trip matrix for the horizon year. Stop after one iteration. (Use average growth factor method).

Origin	Destination			Growth factor
	1	2	3	
1	70	110	210	2
2	110	40	300	4
3	210	300	50	3

Note : Assume destination growth factor to be as same as the origin growth factor. 10



Module – III

- VI. a) Discuss the concept of capacity restraint method of traffic assignment. What are the merits of this method over the other methods ? 10
- b) How is noise generated due to road traffic ? What are the detrimental effects of traffic noise ? How can it be reduced ? 10

OR

- VII. a) What is intelligent transportation system ? What are its applications for public transport management ? 10
- b) The utility function for travel by different modes are given by

$$U = K_m - 0.05 T_a - 0.04 T_w - 0.02 T_r - 0.01 C$$

Where K_m – constant

T_a – Access time

T_w – Waiting Time

T_r – Riding time

C – Cost of Travel.

	K_m	T_a	T_w	T_r	C
Car	0.2	8	0	30	90
Bus	2.4	12	10	50	40
Light Rail	0.6	15	5	40	50

Apply logit model and calculate the mode shares of car and bus and light rail. 10
