

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BTECH  
BRANCH: CIVIL ENGINEERING

SEMESTER : VI  
SESSION : SP/2025

SUBJECT: CE437 TRANSPORTATION PLANNING

TIME: 02 Hours

FULL MARKS: 25

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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- Q.1(a) What is the goal of Intelligent Transportation System (ITS)? [2] 1 K2  
Q.1(b) Explain the significance of transportation planning in India? [3] 1 K2

- Q.2(a) Differentiate between Home Based and Non-Home Based Trips? [2] 1 K1  
Q.2(b) Explain how urban goods movements can be broadly classified? [3] 2 K2

- Q.3(a) Explain the characteristic of the Freight Transportation Demand. [2] 2 K2  
Q.3(b) The following information was obtained from a transportation survey of a town. [3] 3 K5  
Develop linear regression model for estimating trips generated from a zone.

Traffic Zone Number	Average Household Size	Total Trips made per day
1	2	4
2	3	6
3	4	7
4	5	8
5	6	10

- Q.4(a) What do you mean by Trip Matrix with an example. [2] 3 K2  
Q.4(b) Trips originating from zone 1, 2, and 3 of a study area are 78, 92 and 82 respectively and those terminating at zones 1, 2, and 3 are given as 88, 96 and 78 respectively. If the growth factor is 1.3 and the base year trip matrix is as given below, find the expanded origin-constrained growth trip table. [3] 3 K5

	1	2	3
1	20	30	28
2	36	32	24
3	22	34	26

- Q.5(a) What are the various stages of Travel Demand Forecasting? [2] 3 K2  
Q.5(b) Discuss about Gravity model. [3] 3 K2

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