

C 1030

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**EIGHTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE  
EXAMINATION, APRIL 2016**

**CE/PTCE 09 803 L16—URBAN TRANSPORTATION PLANNING**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.  
Each question carries 2 marks.*

1. (a) Explain travel demand matrix.
- (b) What are the assumptions used in multiple regression analysis ?
- (c) Explain generalised cost functions.
- (d) Define trip. How trips are classified ?
- (e) What are the elements of transportation network ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.  
Each question carries 5 marks.*

2. (a) What are the urban characteristics, transportation planner has to focus ?
- (b) Explain the use of screen lines and cordon lines in data collection.
- (c) Distinguish between trip end and trip interchange mode split models.
- (d) What are the assumptions in category analysis ?
- (e) Explain diversion curves in traffic analysis.
- (f) Explain the concept of gravity model. What are the limitations of gravity model ?

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

3. (a) Explain transport demand analysis based on consumer travel behaviour.

*Or*

- (b) Explain the system approach to transportation planning.

**Turn over**

4. (a) How zoning is carried out for transportation survey ? What are the four basic movements to be considered while collecting travel pattern data ?

Or

- (b) What are the different methods of forecasting trip generation rates ?
5. (a) Estimate the future year trip distribution from the following base year using average growth factor method.

Zone	A	B	C	Growth factor
A	0	50	100	2
B	50	0	150	3
C	100	150	0	4

Or

- (b) For the design year the work trips generated from four residential zones A, B, C and D are 1200, 2500, 1500 and 3500 respectively. There are 3500 and 4500 jobs in industrial estates X and Y respectively. It is known that the attractions between zones are inversely proportional to the square of the journey time between zones. The journey times from home to work are given below :

Zones	X	Y
A	15	20
B	15	10
C	10	10
D	15	20

Calculate the inter zonal work trips.

6. (a) What are the different methods of traffic assignment ? Explain the capacity restrained traffic assignment stating its advantages and disadvantages.

Or

- (b) What are the factors affecting modal choice ? What are the different modal split models ? Explain

(4 × 10 = 40 marks)