Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code:X80603   **Date:05/05/2016**
Subject Name:Urban Transportation System
Time:10:30 AM TO 01:00 PM   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What are the goals and objectives of urban transportation planning? Describe in detail.	**07**
	(b)	Define – Urban Area, Screen Line Check, CBD, Trip generation, Metropolitan City, Study Area, Home based trip.	**07**
Q.2	**(a)**	What is Multiple Linear Regression Analysis? State the various assumptions and advantages for the same.	**07**
	(b)	The total trips production in and attracted to the three zones 1, 2 and 3 of a survey area in the design year are tabulated as below:	**07**

Zones	Trips produced	Trips attracted
1	2500	3500
2	3000	4500
3	4000	2500

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 45 minutes. If the trips interchange between zones 2 and 3 is known to be 600, calculate the trip interchange between zones 1 to 2, 1 to 3, 2 to 1, 3 to 1 and 3 to 2.

OR

	(b)	Explain any two methods of Trip distribution with their disadvantages.	**07**
Q.3	**(a)**	Obtain the future O-D matrix from the given data using Average growth Factor Method for only two iterations.	**07**

O \ D	1	2	3	Future trips
1	60	150	250	460
2	150	25	350	1250
3	250	350	25	3250
Future attraction	460	1250	3250	

	(b)	Write short note on "Opportunity Models".	**07**

OR

Q.3	**(a)**	What are the types of Modal Split in transportation Planning Process? Explain any one with the help of elaborate flowchart.	**07**
	(b)	Explain Probit Analysis of Modal split analysis.	**07**
Q.4	**(a)**	Which are the different techniques of Traffic assignment? Explain any two with the help of a neat diagram.	**07**
	(b)	Explain Moore's Algorithm with the help of an example.	**07**

OR

Q.4	**(a)**	Write short note on Category Analysis. Enlist its advantages and disadvantages.	**07**
	(b)	Write a short note on Urban Class Groups.	**07**
Q.5	**(a)**	Write short note on i) Segment Capacity ii) Home interview survey	**07**
	(b)	(1) Discuss factors influencing individual choice of travel mode	**04**
		(2) Explain Trip Production and Attraction with the help of neat figure.	**03**

OR

Q.5	**(a)**	Write short note on Diversion Curves. In order to relieve congestion on an urban street network, the construction of a motorway is proposed. The travel time from one zone centroid to another via the proposed motorway is estimated as 12 minutes against 20 minutes on an old connectivity. The flow between the two zone centroid is 1000 vehicles per hour. Assign the flow between the new motorway and existing streets.	**07**
	(b)	What is meant by Mass Rapid Transit System? Compare between Metro Railway System and BRTS.	**07**

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