

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2160608****Date:27/05/2019****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) Define 'urban areas' and 'Rural areas' **03**
 (b) What is trip generation? Explain the factors governing trip generation and attraction rates. **04**
 (c) What is Urbanization? State the reasons of Urbanization. Discuss merits and demerits of urbanization. **07**

- Q.2** (a) Discuss the concept of travel demand. **03**
 (b) Explain average growth factor method of trip distribution. **04**
 (c) Write short notes on: **07**
 i) Metro Rail Transit System
 ii) Para transit transportation system

OR

- (c) Give classification of urban mass transit system and explain about BRTS. **07**
- Q.3** (a) Define the following: **03**
 i) Land use ii) Study area iii) CBD
 (b) What are the survey data checks? Explain accuracy check in detail **04**
 (c) What do you mean by zoning? Describe points to be considered while zoning. **07**

OR

- Q.3** (a) Define the following: **03**
 i) Screen Line ii) Cordon line iii) Zones
 (b) Write short note on: Network identification and coding. **04**
 (c) Explain the procedure to conduct home interview and also write what data should be collected during survey. **07**

- Q.4** (a) Discuss about opportunity models. **03**
 (b) Write a short note on All or nothing assignment method. **04**
 (c) The total trips production in and attracted to the three zones 1,2 and 3 of survey area in the design year are tabulated as: **07**

Zones	Trips produced	Trips attracted
1	2000	3000
2	3000	4000
3	4000	2000

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

OR

- Q.4** (a) What is model split? Define (i) Captive transit riders (ii) Choice transit riders. **03**
 (b) Compare between trip end models and trip interchange models **04**

(c) Obtain the future O-D matrix from the given data using Detroit model

07

O/D	1	2	3	T_i
1	50	100	200	400
2	100	50	300	850
3	200	300	100	1100
T_j	400	850	1100	

- Q.5** (a) Enlist the steps for comprehensive planning process. **03**
 (b) Discuss about Transportation System Management (TSM) strategies. **04**
 (c) Describe briefly: Corridor identification and corridor screen line analysis. **07**

OR

- Q.5** (a) Give the classification of the urban roads. **03**
 (b) Discuss on transit system's performance parameters in brief. **04**
 (c) What are the urban forms? Describe the characteristics of each related to the transportation planning. **07**

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