GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014

Subject Code: 170604 Subject Name: Urban Transportation System Time: 02.30 pm - 05.00 pm

Date: 31-05-2014

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 is the necessity of transportation planning at national, regional and urban level. 07 Describe in detail urban transport planning process.
 - (b) Define the terms :- (i) Trip (ii) mobility (iii) Accessibility (iv)Horizon year
 (v)Base year (vi) Origin & destination (vii) Travel forecasting.
- Q.2 (a) What are the roles of transportation in society? describe economic and social role of 07 transportation.
 - (b) Explain with flow diagram four stages of travel demand forecasting.

OR

- (b) Describe the various types of transportation surveys to be carried out for planning 07 process.
- Q.3 (a) Describe the factors affecting trip generation and attraction rates 07
 - (b) What are the major determinants of public transport.

OR

Q.3 The following information was collected during transportation survey of study Area.

Travel zone	Population (in thousands)	Total trips generated	
		(in hundreds)	
1	25.8	12.2	
2	28.0	11	
3	30.8	16.8	
4	33	15	
5	22	12	
6	29.8	14.8	
7	20	9.2	
8	24.6	12.8	

Develop linear regression model for estimating the trips generated from zone if The population of particular zone may increase 40000 predict trips for that zone.

- Q.4 (a) Enlist different growth factor models for trip distribution, explain in detail any one.
 - (b) Describe gravity model with formula showing each parameters.

OR

Q.4 A Study area has been divided in to four zones 1, 2, 3 and 4. The present trips and 14 growth factor is given in the following table and total trip produce and attracted. Develop future trip distribution matrix by fratar method.

D	1	2	3	4	GF
0					
1	-	105	205	95	2.9
2	100	-	580	290	3.8
3	210	600	-	790	2.1
4	105	300	800	-	2.1
G F	2.9	3.8	2.1	2.1	-

1

07

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Q.5(a) What are the general principles of Traffic assignment.07(b) Explain by drawing sketch concept of screen line survey and Cordon line survey of study area.07Q.5(a) Explain by drawing sketch point segment and corridor model.07(b) Give classification of urban mass transit system.07
