

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2020****Subject Code:2160608****Date:03/02/2021****Subject Name:Urban Transportation system****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Define the following: Land Use, Zoning, CBD **03**
 - (b) What are the criteria for defining Urban area. Explain the various category of Urban area **04**
 - (c) Explain in detail the various data required for the Urban Transport Planning **07**
a) Road Inventory Data b) Traffic Data c) Economic Data
- Q.2**
- (a) Explain , Mobility, Accessibility, Growth Factor for Transportation Planning **03**
 - (b) Explain with flow chart, how economic growth of a city depends on efficient road network. **04**
 - (c) Enlist and explain the Physical, Social, Economical, Institutional, Infrastructure required for Urban development. **07**
- Q.3**
- (a) Enlist and explain the objectives of Transportation planning. **03**
 - (b) Explain the factors for deciding the zoning ,network identification, coding **04**
 - (c) Explain with observation table ,how the following survey are conducted for the Transportation Network Planning **07**
1) Home Interview Survey 2) Road Side Interview Survey
- Q.4**
- (a) Explain factors governing trip production and attraction between the zones **03**
 - (b) Explain the following methods of Trip Distribution 1) Detroit 2) Fratar with the formulae **04**
 - (c) Enlist and explain objectives of Origin and Destination Survey. Describe any one method for conducting O-D survey.. **07**
- Q.5**
- (a) Explain role of transportation at national, regional and urban level **03**
 - (b) Explain the Gravity Model of Trip Distribution and its advantages. **04**
 - (c) Explain the following- Study area, cordon line, centroid, origin, destination, Internal trip, Inter zonal trip, Intra zonal trip, trip generation. **07**

- Q.6** (a) Differentiate between Trip end model and Trip interchange model. **03**
- (b) Enlist and explain two Trip assignment models **04**
- (c) The table below shows the Income of the House hold, No of trips made by the persons. Develop the trip generation equation $Y = a + bX$. Find the coefficient of Correlation. **07**

Sr No	Income in (Thousand Rupees) X	Trips per day Y
1	20	5
2	30	7
3	35	10
4	40	12
5	45	10

- Q.7** (a) Enlist different route assignment technique and explain any one giving necessary formula.. **03**
- (b) Write a short note on Urban Goods Movement . **04**
- (c) Discuss the objectives of Urban Mass transportation .Enlist the various Urban Mass transportation for the road and rail transit **07**
- Q.8** (a) Write a short note on Travel demand forecasting. **03**
- (b) Describe corridor identification and screen line identification. **04**
- (c) Enlist and explain the various methods of routing and scheduling for mass transportation. **07**
