

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – WINTER • 2013****Subject code: 1721303****Date: 31-12-2013****Subject Name: Regional and Mass Transportation****Time: 10.30 am – 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.

SS

- Q.1** (a) What are the problems encountered in regional transportation planning? **07**
 (b) Explain goals and constraints in regional planning. **07**

- Q.2** (a) Enlist various methods of population forecasts; explain in detail geometrical increase method. **07**

- (b) Explain (i) Minimum Need Program (ii) National Rural Employment Program **07**

OR

- (b) Define :- (i) Economic Homogeneity (ii) Concentric City (iii) Delineation **07**
 (iv) Nodal Point (v) Sustainability
 (vi) Structural Homogeneity (vii) Spatial

- Q.3** (a) Explain in detail “Density Saturation Gradient” **07**
 (b) Explain “Golden Quadrilateral” **07**

OR

- Q.3** (a) There are four areas in region to be provided road transport infrastructure during next five years plan suggests order of priority for phased development from following characteristics. Utility units are 0.5, 1.1, 2.1 and 3.9 respectively for population range. The productivity units are 2.1, 2.4 and 5 per tones for Agriculture, Raw material and Industry production respectively. **10**

Road link	Length in km	No. of villages and towns population range				Productivity served (Tones)		
		<500	501-1000	1000-2000	>2000	Agriculture	Raw Material	Industrial Production
A	76	28	17	12	05	8100	3200	1050
B	38	21	09	07	04	5100	1100	1750
C	45	14	07	06	07	6050	2100	3150
D	55	45	06	04	03	3100	7150	557

- (b) Explain Concentric Ring Theory by drawing sketch. **04**

- Q.4** (a) Give comparison of Railway Transportation and Road Transportation in context with Regional Transportation Planning. **07**

- (b) Explain Cohort Survival Model **07**

OR

- Q.4** (a) Explain by drawing flow diagram structure of Lowry Model **07**

- (b) Explain Hansen’s Accessibility Model by giving formula. **07**

- Q.5** (a) What is Centrality Score? How it can be determined? **07**

- (b) What are the objectives of vehicle ownership modeling? **07**

OR

- Q.5 (a)** A Concentric city with a single market at centre wants to produce for different crops from A to D whose characteristics are given below. **09**

	A	B	C	D
(i) Price at site in dollar	115	101	81	49
(ii) Production cost per unit	22	26	12	11
(iii) Net price per unit at site	93	75	69	38
(iv) Transportation cost per unit	21	11	6.9	3.5

Sketch your results and indicate which crops should be produced at optimum distance from City Centre.

- (b)** Draw the sketch of circular road pattern. Explain advantages and disadvantages. **05**
