

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013****Subject code: 1721303****Date: 03-06-2013****Subject Name: Regional and Mass Transportation System Planning****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.

- Q.1** (a) Define  $\delta$  region in reference to national boundary. What are the steps in regional network planning? **07**
- (b) Enlist the goals and constraints in regional transportation planning. **07**
- Q.2** (a) What is Pradhan Mantri Gram Sadak Yojana (PMGSY), describe programme objectives of PMGSY. **07**
- (b) Explain by drawing flow diagram shopping model. **07**

**OR**

- (b) Describe the methods of population forecasts, give details with formulae. **07**
- Q.3** Calculate population in the year 2021 using arithmetic increase and geometrical method **14**

| Year | Population | year | population |
|------|------------|------|------------|
| 1931 | 17900      | 1971 | 46400      |
| 1941 | 20600      | 1981 | 58300      |
| 1951 | 26900      | 1991 | 63700      |
| 1961 | 32200      |      |            |

**OR**

- Q.3** (a) Explain in detail (i) Goods movement demand (ii) Goods moment analysis **07**
- (b) Explain by drawing flow diagram quantum of commodity **07**
- Q.4** (a) Describe the factors affecting shopping trip generation rates in metropolitan area. **07**
- (b) Explain by drawing flow diagram structure of lowry model. **07**

**OR**

- Q.4** (a) Explain in detail policies and objectives of 3<sup>rd</sup> twenty year road development plan **07**
- (b) Define vehicle ownership model, explain in detail requirements of vehicle ownership modeling. **07**
- Q.5** (a) Describe  $\delta$  cohort survival model  $\delta$  **07**
- (b) Enlist the topological measures of accessibility, explain any two in detail. **07**

**OR**

- Q.5** (a) What is saturation utility concept, explain by giving example. **07**
- (b) Describe in detail density saturation gradient **07**

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