

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-I Regular Examination January / February 2011

**Subject code: 711304N**

**Subject Name: Basics of Transportation Engineering**

**Date: 04 /02 /2011**

**Time: 02.30 pm – 05.00 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)** Discuss merits and demerits of mass rapid transit system in urban area. **07**  
**(b)** Discuss factors affecting trip production and trip attraction. **07**

- Q.2 (a)** Distribute the trips using Furness method for the following data upto 1 iteration. **07**

O/D	1	2	3	Future production
1	50	200	350	900
2	150	50	400	1200
3	250	100	50	900
Future	900	700	1400	

Attraction

- (b)** State objects and uses of classified volume count survey. **07**

**OR**

- (b)** State objects and uses of speed-delay studies. **07**

- Q.3 (a)** Explain Speed-Flow-Density relationship. **07**

- (b)** Develop regression model for trip generation from the following data: **07**

Household income (Rs. In thousands)	Trips per day
10	2
20	5
30	8
40	11
50	15

**OR**

- Q.3 (a)** State merits and demerits of grade-separated intersections. **07**

- (b)** Design superelevation for design speed of 100 kmph on a curve of radius 300 m. **07**  
Workout speed limit if required.

- Q.4 (a)** Explain ESWL. **07**

- (b)** Write short note on PCU. **07**

**OR**

- Q.4 (a)** Write short note on signs used on highways. **07**

- (b)** State factors to be considered for location and planning of an airport. **07**

- Q.5 (a)** Discuss the requirements of a railway station. **07**

- (b)** Write short note on expansion joint in C.C. road. **07**

**OR**

- Q.5 (a)** Differentiate between flexible and rigid pavement. **07**

- (b)** Discuss the measures to prevent accidents. **07**

\*\*\*\*\*