Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –Ist SEMESTER–EXAMINATION – JULY- 2012

Subject code: 711302N **Date: 07/07/2012**

Subject Name: Traffic Engineering -I

Time: 2:30 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 the road user human behavior also explain PIEV **07**

(b) A driver of vehicle starts displacing vehicle at a distance of 200.0 m while driving at speed of 60kmph. After seeing a road sign placed at distance 4m left side of path. Where the Sign board is to be placed so that driver can displace at 400.m **07**

Q.2 **(a)** Describe the static and dynamic characteristics of vehicle **07**

(b) Define the terms :-(i) spot speed (ii) running speed (iii) delay (iv) traffic volume (v) space mean speed (vii) traffic lane **07**

OR

(b) Explain by drawing sketch traffic flow characteristics merging ,diverging and weaving **07**

Q.3 **(a)** Draw the sketch of cross road junction and six road rotary Junction showing movements of traffic **07**

(b) Describe step wise procedure of Origin and Destination studies. **07**

OR

Q.3 **(a)** What are the reasons of traffic accidents enumerate the remedial measures. **07**

(b) The following data was collected during spot speed studies **07**

Speed group	Vehicles observed	Speed group	Vehicles observed
10-14.9	8	35-39.9	52
15-19.9	16	40-44.9	28
20-24.9	32	45-49.9	19
25-29.9	39	50-54.9	10
30-34.9	65	55-59.9	06

Draw the graph of speed versus % vehicles and find model speed, 15th percentile, 85th percentile speed and standard deviation.

Q.4 **(a)** Explain " green shield model " **07**

(b) What are the objectives of traffic volume count studies **07**

OR

Q.4 **(a)** What are the purposes of travel time and delay studies **07**

(b) The following twenty five observations were taken during spot speed studies by radar techniques **07**
50,40,60,54,45,31,72,58,43,52,46,56,43,6533,69,34,51,47,41,62,55,40,69
Calculate time mean speed and space mean speed

Q.5 **(a)** What are the ill effects of illegal parking **07**

(b) Draw the sketch of advance direction sign and route marker sign **07**

OR

Q.5 **(a)** Explain statistical methods for analysis of accident area. **07**

(b) Draw the sketch of **07**
(i) pavement marking for transition from four lane to divided two way lane
(ii) pavement marking for stop line

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