

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. IST Semester–Remedial Examination – July- 2011

Subject code: 711302 N

Subject Name: TRAFFIC ENGINEERING I

Date:08/07/2011

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) “Traffic engineering knowledge is becoming one of the necessities in the present era of high population/Vehicular growth” Justify the statement. **07**
- (b) Describe the need for the OD survey; Briefly explain various methods of OD survey techniques. **07**
- Q.2** (a) How will you plan and execute the OD survey for the city in which you are living? How will you present the above information? **07**
- (b) Speed observations from a radar speed meter have been taken giving the speeds of the subsidiary streams composing the flow along with the volume of traffic of each subsidiary stream. The readings are as under. **07**

Speed (kmph)	Volume (vph)
2-5	2
6-9	5
10-13	0
14-17	8
18-21	20
22-25	40
26-29	84
30-33	95
34-37	47
38-41	37
42-45	65
46-49	3
50-53	9
54-57	4

- Calculate : (i) Time mean Speed
(ii) Space mean speed
(iii) Variance about space mean speed

OR

- (b) A test car was used on North-South road of National highway for a test section of 3.0 km and the following data for the moving car was observed: **07**
- Calculate :
- (i) Flow in both direction.
 - (ii) Journey speed.
 - (iii) Running Speed

Direction	Trip No.	Travel Time	No. of Vehicles met against stream	No of vehicles overtaking test car	No of vehicles overtaken by test car
North	1	8.10	85	6	2
	2	8.25	89	7	3
	3	8.02	83	5	2
	4	7.98	84	4	3
South	1	8.30	83	8	4
	2	8.14	78	5	3
	3	7.94	80	4	5
	4	7.86	85	6	3

- Q.3 (a)** Describe in detail the various Volume data techniques in the present scenario of IT/ computer application in Traffic engineering. **07**
- (b)** Derive the equation by moving observer method for determination of flow and journey speed **07**

OR

- Q.3 (a)** What is headway? Explain its importance in traffic engineering. **07**
- (b)** Explain in detail the distribution followed by Headway. **07**

- Q.4 (a)** Road accident study is very important at present context. Explain briefly the utilization of the road accident data. **07**
- (b)** Which are the different statistical methods available for analysis of accident data? **07**

OR

- Q.4 (a)** Describe in detail the Vehicular characteristic. How it is useful in Geometric Design of road? **07**
- (b)** Describe the function of road marking. Which are the types of road marking? **07**

- Q.5 (a)** Justify the statement ‘Decision of specific design strategy of intersection needs through understanding of the situation at hand’ **07**
- (b)** Comment “ Implementation of Pedestrian control devices in the Indian cities are not given due weightage in planning” **07**

OR

- Q.5 (a)** Briefly explain the need for parking survey and Define **07**
 (i) Parking Accumulation (ii) Parking Volume
 (iii) Parking Load (iv) Paring Index
 (v) Parking Turnover
- (b)** “Parking in metro/ major city is becoming one of the critical problems” Suggest the solution applicable as per the present situation of IT/ Computer. **07**
