

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016****Subject Code:2170613****Date:18/11/2016****Subject Name:Traffic Engineering(Departmental Elective - II)****Time:10.30 AM to 1.00 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) Explain various static vehicle characteristics affecting road design and traffic performance. **07**
- (b) List out elements involved in traffic operation. Discuss the primary functions of traffic engineering. **07**
- Q.2** (a) Enlist method of traffic volume study and explain mechanical counters method with advantages. **07**
- (b) Using the spot speed data given in the following table, Determine (a) Modal Speed (b) Median Speed (c) Speed limit for Traffic Regulations (d) Speed to be used in geometric design. **07**

Speed Range (Km/ph)	No. of Vehicles observed
21-25	2
26-30	6
31-35	18
36-40	25
41-45	19
46-50	16
51-55	17
56-60	12
61-65	7
66-70	4
71-75	3
76-80	1

OR

- (b) One kilometer section of road is covered by three vehicles in 1 minute, 2 minute and 3 minutes. Calculate time mean speed and space mean speed. **07**
- Q.3** (a) Describe various types of on-street parking. **07**
- (b) Write short note on moving car observer method with its advantages **07**
- OR**
- Q.3** (a) List various traffic signs as per IRC and Draw neat sketch of following signs **07**
(i) No parking (ii) Hair pin Band (iii) Give way.
- (b) Explain various types of traffic signals with advantages and disadvantages. **07**
- Q.4** (a) Explain various design factors responsible for street lighting. **07**

(b) Indicate and explain how spacing of street lighting is decided. **07**

OR

Q.4 (a) Define: Luminous flux, Lumen, Candela, Glare, Luminous intensity, Metre candle, Illumination. **07**

(b) Explain various types of light sources used in street lighting. **07**

Q.5 (a) With neat sketches show the movement of traffic on full cloverleaf junction with its advantages. **07**

(b) Draw neat sketch of Rotary Intersection with its advantages and disadvantages. **07**

OR

Q.5 (a) Explain briefly various terminal facilities. **07**

(b) Discuss briefly with neat sketch collision diagram and condition diagram. **07**
