

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014****Subject code: 1721301****Date: 02-12-2014****Subject Name: Traffic Engineering - II****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)** What are the basic traffic flow characteristics? Explain the relationship between Speed-Flow, Speed & Density and Flow-Density with sketch. **07**

**(b)** Define a Capacity of Highway. Explain the types of capacity and its importance. **07**

**Q.2 (a)** Explain the Level of Service concept with diagram. **07**

**(b)** Enlist the various types of Traffic control devices. Explain Regulatory and Warning signs with sketch. **07**

**OR**

**(b)** Define & Weaving. Sketch the various forms of weaving with merging and diverging. **07**

**Q.3 (a)** A fixed time two phase signal is to be installed at an intersection. Traffic is permitted to move only in straight direction in North-South and East-West direction. The traffic data and Road width is given blow. **07**

	North	South	East	West
Hourly flow (PCU/hr)	1100	900	1000	1400
Width of road in meter	7.5	6	7.5	8

Calculate the optimum cycle time an green time. The time lost per phase is 2 seconds and amber period is also 2 seconds. Sketch the timing diagram for each phase.

**(b)** Define & Peak hour factor, Intergreen period, Cycle length, Load factor, Saturation flow, Signal coordination, Off set **07**

**OR**

**Q.3 (a)** What are the advantages of one way streets? **07**

**(b)** Explain various types of coordinated signal system **07**

**Q.4 (a)** Draw a conflict diagram for 2 way 2 lane street and 2- one way streets. Also draw 2-phase, 3- phase and 4-phase system of Traffic signal. **07**

**(b)** Explain the measures for controlling Air pollution. **07**

**OR**

**Q.4 (a)** What are the effects of noise pollution? **07**

**(b)** Explain various types of signals. **07**

**Q.5 (a)** What are the types of on street parking? Explain with sketch. **07**

**(b)** Explain the field method of finding stopped delay and travel time delay at an intersection. **07**

**OR**

**Q.5 (a)** What are the factors affecting capacity & LOS. **07**

**(b)** What are the advantages of simulation of Traffic engineering design? **07**

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