

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER- VII EXAMINATION-SUMMER 2023

Subject Code: 2170613

Date: 27/06/2023

Subject Name: Traffic Engineering

Time: 10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define traffic engineering. Also write the scope of traffic engineering. **03**
(b) Enlist traffic surveys & give the purposes of traffic survey. **04**
(c) Define traffic volume. Discuss different methods of carrying out traffic volume study. **07**
- Q.2** (a) Explain any three physical factors for road user. **03**
(b) Define: Luminous flux, Lumen, Luminous Intensity & Candela. **04**
(c) Write short note on travel time & delay study. **07**
- OR**
- (c) List out the different methods of Origin & Destination study & explain any one. **07**
- Q.3** (a) Define: Spot speed, Running speed & Journey speed. **03**
(b) What is PCU? Write the factors affecting PCU. **04**
(c) Explain various methods of on-street parking with figure. **07**
- OR**
- Q.3** (a) Explain Time-mean speed & Space-mean speed with examples. **03**
(b) What is conflict points & show conflict points on one-way cross road with one way regulation movement? **04**
(c) Explain coordinated control of signal. **07**
- Q.4** (a) Explain various design factors for street lighting. **03**
(b) Explain various types of traffic signals with advantage & disadvantages. **04**
(c) Draw at least 5 signs of each: Regulatory sign, Warning sign & Informatory sign. **07**
- OR**
- Q.4** (a) Explain various static vehicle characteristics considered in Traffic engineering. **03**
(b) Define: Cycle, cycle length, Interval & Lost time. **04**
(c) Enlist various methods of designing fixed time signal & explain Webster's method. **07**
- Q.5** (a) Explain Enoscope method to measure the spot speed of vehicle. **03**
(b) Calculate time mean speed & space mean speed from the following spot speed observations: **04**
63, 69, 40, 75, 72, 58, 65, 34, 38, 47, 50, 40, 60, 54, 45.
(c) What are the causes of road accidents? Also explain collision & condition diagram. **07**
- OR**
- Q.5** (a) Describe principles of Longitudinal pavement marking. **03**
(b) Explain the types of light sources. **04**
(c) Explain Rotary intersection with its advantages & disadvantages. **07**
