

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (NEW) EXAMINATION – WINTER 2021****Subject Code:2170613****Date:23/11/2021****Subject Name:Traffic Engineering****Time:02:30 PM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define traffic engineering. What is scope of traffic engineering? **03**
 (b) Explain (any two) physical factors of road users. **04**
 (c) Enlist method of traffic volume study and explain mechanical counters method with advantages. **07**
- Q.2** (a) How do different vehicular characteristics affect road features? Explain briefly. **03**
 (b) Discuss presentation of spot speed data with neat sketches. **04**
 (c) Explain various methods of O and D study. **07**
- OR**
- (c) Discuss distribution of light on the street. **07**
- Q.3** (a) Explain about classified traffic volume count survey with observation table. **03**
 (b) Explain various types of road marking as per IRC. **04**
 (c) Enlist different types of interchanges and explain cloverleaf interchange. **07**
- OR**
- Q.3** (a) Define: Space mean speed, time mean speed, 85th Percentile speed. **03**
 (b) Explain trial cycle method of signal design. **04**
 (c) Describe various traffic signs as per IRC with neat sketches. **07**
- Q.4** (a) Define: Luminous flux, Lumen, Candela. **03**
 (b) What is the importance of highway lighting ? State the factors influencing night visibility. **04**
 (c) Enlist various types of traffic signals? Explain fixed time signals with its advantages and disadvantages. **07**
- OR**
- Q.4** (a) Define: Traffic capacity, basic capacity, practical capacity. **03**
 (b) Explain design factors for street lighting. **04**
 (c) What is Traffic island? Describe it functions, advantages and disadvantages. **07**
- Q.5** (a) Draw fundamental diagrams of traffic flow. **03**
 (b) What is PCU? Give factors affecting PCU. **04**
 (c) Enlist purposes of travel time and delay study. Also explain fixed delay and operational delay. **07**
- OR**
- Q.5** (a) Explain AADT and ADT. **03**
 (b) Explain various methods of on-street parking. **04**
 (c) Explain collision and condition diagram. List preventive measure for road accidents. **07**
