

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2170613

Date:28/04/2018

Subject Name:Traffic Engineering(Departmental Elective - II)

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.

- Q.1** (a) Define traffic engineering. What is scope of traffic engineering? **03**
(b) What is PCU? Give factors affecting PCU. **04**
(c) What is the need of traffic volume study? Explain methods of traffic volume study. **07**
- Q.2** (a) Explain: Road surface characteristics. **03**
(b) Explain the presentation of O-D data with sketch. **04**
(c) Enlist different types of interchanges and explain cloverleaf interchange. **07**
- OR**
- (c) Describe various traffic signs as per IRC with neat sketches. **07**
- Q.3** (a) Explain PIEV theory with neat sketch. **03**
(b) Explain various types of road marking as per IRC. **04**
(c) Explain various methods of O-D study. **07**
- OR**
- Q.3** (a) Define: Space mean speed, time mean speed, 85th Percentile speed. **03**
(b) Write short note on 'Diamond Interchange' with sketch. **04**
(c) Enlist various types of traffic signals? Explain fixed time signals with its advantages and disadvantages. **07**
- Q.4** (a) Define: Traffic capacity, basic capacity, practical capacity. **03**
(b) Explain design factors for street lighting. **04**
(c) Enlist methods of travel time and delay study. Describe moving observer method. **07**
- OR**
- Q.4** (a) Draw a fundamental diagram of traffic flow. **03**
(b) Explain various methods of on-street parking. **04**
(c) What is Traffic island? Describe its functions, advantages and disadvantages. **07**
- Q.5** (a) Explain vehicular characteristics considered in traffic engineering. **03**
(b) Explain various terminal facilities required along the highways. **04**
(c) Explain collision and condition diagram. List preventive measures for road accidents. **07**
- OR**
- Q.5** (a) Define: Luminous flux, Lumen, Candela. **03**
(b) The vehicle passes 1 km length of road in 1 min., 2 min. and 3 min. time respectively. Calculate the time mean speed and space mean speed. **04**
(c) Draw neat sketch of Rotary Intersection with its advantages and disadvantages. **07**
