

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 7 – EXAMINATION – SUMMER 2026

Subject Code: 2170613

Date: 01/06/2026

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 the following: (i) Friction (ii) Unevenness (iii) Light reflecting characteristics **03**
 - (b) Explain the various aspects of human vision considered in traffic engineering. **04**
 - (c) Describe various static vehicular characteristics considered in traffic engineering. **07**
- Q.2**
- (a) Enlist functions of a traffic engineer. **03**
 - (b) Explain power requirement of vehicles. **04**
 - (c) Enlist purposes of travel time and delay study. Also explain fixed delay and operational delay. **07**
- OR**
- (c) Explain spot speed, running speed, and journey speed. How is the spot speed studied carried out? **07**
- Q.3**
- (a) Explain road user characteristics. **03**
 - (b) Describe '3 Es' for road accident prevention. **04**
 - (c) Explain collision diagram and condition diagram. **07**
- OR**
- Q.3**
- (a) Explain AADT and ADT. **03**
 - (b) Write short note on: On-street parking. **04**
 - (c) Explain Trial cycle method of signal design. **07**
- Q.4**
- (a) Define: Interval, Green interval, Red interval. **03**
 - (b) Give functions of road marking. Explain carriage way marking with sketches. **04**
 - (c) What are the merits and demerits of traffic signals? Briefly explain various types of traffic signals. **07**
- OR**
- Q.4**
- (a) Explain silhouette and reverse silhouette **03**
 - (b) Define: (a) Luminous Intensity (b) Luminous flux (c) Lumen (d) Luminous intensity **04**
 - (c) Describe the factors to be considered in the design of street lighting. **07**
- Q.5**
- (a) Write advantages of channelized intersections. **03**
 - (b) What is PCU? Give factors affecting PCU. **04**
 - (c) Explain grade separated intersection. Give its merits and demerits. **07**

OR

Q.5	(a) What are the benefits of street lighting.	03
	(b) Explain various terminal facilities.	04
	(c) Discuss design criteria of rotary intersection.	07
