

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - VII EXAMINATION - WINTER 2025

Subject Code: 2170613

Date: 24-11-2025

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.**

	Marks
Q.1 (a) Explain road surface characteristics.	03
(b) Describe PIEV theory of reaction time.	04
(c) Explain rolling resistance, air resistance and grade resistance experienced by moving vehicles.	07
Q.2 (a) Describe psychological factors of road users.	03
(b) What are the functions of traffic engineering?	04
(c) Explain collision and condition diagram. List preventive measure for road accidents	07
OR	
(c) Discuss the purpose and methods of conducting Origin and Destination study. Explain any one method of conducting Origin and Destination study.	07
Q.3 (a) Explain vehicular characteristics considered in traffic engineering.	03
(b) Write short note on: Off-street parking	04
(c) Explain floating car method of speed and delay survey. State its advantages and disadvantages.	07
OR	
(a) Define the following: 1) 85th Percentile Speed 2) Median Speed 3) Space Mean Speed	03
(b) What is PCU? Give factors affecting PCU.	04
(c) Write short note on: Co-ordinated signal systems.	07
Q.4 (a) Define: Cycle length, interval, lost time	03
(b) Explain various types of road marking as per IRC.	04
(c) Enlist various types of traffic signals? Explain fixed time signals with its advantages and disadvantages.	07
OR	
(a) How spacing of street lighting is decided? Explain in brief.	03

- (b) Define: (a) Luminous Intensity (b) Luminous flux (c) Lumen (d) Luminaire 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) Describe - 3 Es' for road accident prevention. 04
- (c) Discuss design criteria of rotary intersection 07

OR

- (a) Explain different types of light sources used in street lighting. 03
- (b) Explain various terminal facilities require along the highways. 04
- (c) Enlist different types of interchanges and explain cloverleaf interchange 07
