

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION – SUMMER 2025

Subject Code:2170613

Date:19-05-2025

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.

	MARKS
Q.1 (a) Explain the Road user Characteristics	03
(b) Explain the significance of PIEV theory by drawing conceptual sketch	04
(c) Explain in details Traffic Volume study, answer should includes, Definition of Traffic Volume, objectives of Traffic volumes study and Methods of Traffic volume study adopted in the field	07
Q.2 (a) Define (1) PCU (2) ADT (3) AADT	03
(b) Explain desired line diagram by drawing sketch	04
(c) Draw the sketch for Traffic signs, indicate with color and dimension requirements as per IRC (1) Speed limit (2) STOP (3) Give way (4) No parking (5) One way road (6) Pedestrian Crossing (7) Right Turn	07
OR	
(c) Draw the sketch of Road Marking with dimension and color requirements as per IRC (1) Road center line (2) Pavement Edge (3) No overtaking zone marking (4) Marking for 4 lane divided highway (5) Pedestrian Crossing (6) Marking for Extra widening on curve (7) STOP line	07
Q.3 (a) Draw the sketch of various forms of at grade intersection	03
(b) What is channelized intersection ? Enlist the advantages of channelization, Draw the sketch of channelization practice carried out for Tee Intersection	04
(c) Explain Vehicular characteristics in detail	07
OR	
Q.3 (a) Draw the sketch of rotary intersection, label the components of rotary intersection	03
(b) Draw the Condition diagram of accident study and label it , suggest the purpose of condition diagram	04
(c) What is grade separated intersection, Draw the sketch of Diamond Intersection and Trumpet Interchange	07
Q.4 (a) As a Civil Engineer suggest the benefits of Street light	03
(b) As a Civil Engineer suggest the benefits of Flyover compared to signalized intersection	04

- (c) Draw the sketch showing parking layout for on street parking, suggest your observation for different layout and its benefits **07**
- OR**
- Q.4** (a) Define (1) Traffic Density (2) Traffic Flow (3) PCU **03**
- (b) You are appointed as a City Engineer in municipal corporation, suggest the various lighting layout in your zone for single lane road , Two lane road, Four lane divided road and at Curve **04**
- (c) Define (1) Spot Speed (2) Journey speed (3) Running speed (4) 85th Percentile speed (5) Model speed (6) Time mean speed (7) Space mean speed **07**
- Q.5** (a) As a Civil Engineer suggest the duties of Traffic Engineer **03**
- (b) As a Traffic Engineer suggest the practical use of Origin and destination study and enlist the methods of origin and destination study **04**
- (c) Explain the significance of Following Traffic control device with its advantages and disadvantages **07**
 (1) Signs (2) Signals (3) Marking (4) Island
- OR**
- Q.5** (a) As a Civil Engineer suggest why Parking study is required **03**
- (b) Define (1) Signal cycle (2) Signal Cycle length (3) **04**
- (c) Draw the collision diagram of accident study and label it , suggest the purpose of collision diagram **07**
