

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VIII EXAMINATION – SUMMER 2020

**Subject Code: 2170613**

**Date: 29/10/2020**

**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.

- |            |     |  |           |
|------------|-----|--|-----------|
| <b>Q.1</b> | (a) | Explain various static vehicle characteristics affecting road design and traffic performance.                    | <b>03</b> |
|            | (b) | Explain about the elements involved in traffic operation.  | <b>04</b> |
|            | (c) | Explain intersection volume count survey with typical survey format.   | <b>07</b> |
| <b>Q.2</b> | (a) | Indicate and explain how spacing of street lighting is decided.  | <b>03</b> |
|            | (b) | Explain various design factors for street lighting.  | <b>04</b> |
|            | (c) | Explain about visual factors of road users.  | <b>07</b> |
| <b>OR</b>  |     |  |           |
|            | (c) | Explain the psychological factors of road users.   | <b>07</b> |
| <b>Q.3</b> | (a) | Explain Enoscope method to measure spot speed of vehicle.  | <b>03</b> |
|            | (b) | What is condition and collision diagram ? Draw collision diagram of a typical accident spot.                     | <b>04</b> |
|            | (c) | State methods of origin and destination studies. Explain any one in detail.                                      | <b>07</b> |
| <b>OR</b>  |     |  |           |
| <b>Q.3</b> | (a) | Illustrate with an example about time mean speed and space mean speed.   | <b>03</b> |
|            | (b) | What are the causes of accidents ? State the purposes of accident studies.                                       | <b>04</b> |
|            | (c) | Explain the methods of presentation of time and delay study data.  | <b>07</b> |
| <b>Q.4</b> | (a) | Explain types of pavement markings.  | <b>03</b> |
|            | (b) | Define following with respect to traffic signal :<br>Cycle length, Interval, Intergreen period, Peak hour factor | <b>04</b> |
|            | (c) | Draw any ten traffic mandatory signs.  | <b>07</b> |
| <b>OR</b>  |     |  |           |
| <b>Q.4</b> | (a) | Draw a sketch of typical pavement marking at a T junction.   | <b>03</b> |
|            | (b) | Explain Webster's method of design of traffic signal.  | <b>04</b> |
|            | (c) | Draw any ten traffic warning signs.  | <b>07</b> |
| <b>Q.5</b> | (a) | Give classification of at grade intersections.   | <b>03</b> |
|            | (b) | Define: Luminous intensity, Metre candle, Illumination,  | <b>04</b> |
|            | (c) | Explain the principles of intersection design.   | <b>07</b> |
| <b>OR</b>  |     |  |           |
| <b>Q.5</b> | (a) | What is conflict point ? Show conflict points on one way cross road with one way regulation movement.            | <b>03</b> |
|            | (b) | Define: Luminous flux, Lumen, Candela, Glare   | <b>04</b> |
|            | (c) | What is the principle of rotary intersection ? Write advantages and disadvantages of rotary intersection.        | <b>07</b> |

\*\*\*\*\*