

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3160615****Date:13-12-2023****Subject Name: Traffic Engineering and Management****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) What are the functions of traffic Signal at intersection? Explain. **03**
(b) What are the methods of controlling on street parking? Explain. **04**
(c) What are the objectives of Traffic System Management? **07**
- Q.2** (a) What do you understand by Level Of Service? Explain LOS for uninterrupted flow on rural highways. **03**
(b) Explain PIEV Theory. **04**
(c) Explain the classified traffic volume. What are the purposes of carrying out the classified traffic volume studies? **07**
- OR**
- (c) Explain the procedure of finding Highway Capacity. **07**
- Q.3** (a) Explain Basic capacity, Practical capacity and Possible capacity. **03**
(b) Discuss advantage of Off street parking. **04**
(c) Explain relationship between flow parameters (speed, flow and density). **07**
- OR**
- Q.3** (a) Derive the Greenshield's speed density model. **03**
(b) Discuss advantage of On street parking. **04**
(c) Explain Road user characteristics. **07**
- Q.4** (a) What are bottlenecks? What are its causes? **03**
(b) Suggest methods to mitigate bottlenecks caused due to slow moving vehicles **04**
(c) Explain cloverleaf interchange with neat sketch. **07**
- OR**
- Q.4** (a) What are the factor affecting LOS? **03**
(b) Discuss Car following theory. **04**
(c) Describe advantages and disadvantages of Rotary. **07**
- Q.5** (a) Discuss the bus bay lanes. **03**
(b) What are the privative measures for accident? **04**
(c) Explain shared ride as a tool of TSM. **07**
- OR**
- Q.5** (a) Explain the methods of traffic forecasting and describe any one in detail. **03**
(b) Differentiate between Time mean speed and Space mean speed. **04**
(c) Explain condition diagram and collision diagram. **07**
