Seat No.: _____           Enrolment No.

# GUJARAT TECHNOLOGICAL UNIVERSITY
## BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019

**Subject Code: 2160208**                                             **Date: 06/12/2019**
**Subject Name: Automotive computer controlled Systems**
**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.**

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|---|---|---|---|
| **Q.1** | **(a)** | What are the fundamental parts of computer? Give its application. | **03** |
| | **(b)** | Explain Anti lock Braking System. | **04** |
| | **(c)** | Write a short note on LCD and LED display. | **07** |
| | | | |
| **Q.2** | **(a)** | Explain principles of operation for ECU. | **03** |
| | **(b)** | Explain digital multi-meter. | **04** |
| | **(c)** | What is a logic gates explain with application? | **07** |
| | | **OR** | |
| | **(c)** | Explain the coded ignition key system. | **07** |
| **Q.3** | **(a)** | Write short note on variable capacitance type Manifold Absolute Pressure (MAP) sensor. | **03** |
| | **(b)** | Describe Stability Control System in detail. | **04** |
| | **(c)** | Explain On Board Diagnostic II (OBD-II) tools. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain Engine coolant temperature sensor. | **03** |
| | **(b)** | Give difference between Sensor and Transducer. | **04** |
| | **(c)** | Explain important of sensors and also explain Oxygen sensor. | **07** |
| **Q.4** | **(a)** | Give difference between RAM and ROM. | **03** |
| | **(b)** | Describe precautions while working with computer controlled systems. | **04** |
| | **(c)** | Write short note on Actuators. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Describe Stepper motor operated Air valve. | **03** |
| | **(b)** | Explain traction control system. | **04** |
| | **(c)** | Explain vehicle Air conditioning system with neat sketch. | **07** |
| | | | |
| **Q.5** | **(a)** | Explain Adaptive operating strategy of the ECM. | **03** |
| | **(b)** | Explain variable resistance type sensors. | **04** |
| | **(c)** | Explain supplementary restraint system (SRS). | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain Digital to Analog and Analog to Digital Conversion. | **03** |
| | **(b)** | Explain piezoelectric sensor. | **04** |
| | **(c)** | Explain knock sensor with neat sketch. | **07** |

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