22654

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3 Hours / 70 Marks Seat No. | | | | | | | | |

15 minutes extra for each hour

Instructions : (1) All Questions are *compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : **2 × 5 = 10**

(a) List two automotive applications of diodes.

(b) Name two types of computer memory.

(c) State functions of knock sensor.

(d) State advantages of electronic suspension.

(e) State any two automotive diagnosis measuring instruments.

(f) Convert decimal number 31 into equivalent binary number.

(g) Define, KAM (Keep Alive Memory).

2. Attempt any THREE of the following : **4 × 3 = 12**

(a) State and explain working of zener diode as voltage regulator with circuit diagram.

(b) Compare digital and analog visual display used in automobile applications.

(c) Differentiate between open and close loop control system.

(d) Explain any four types of signal conditioning.

3. Attempt any THREE of the following : **4 × 3 = 12**

(a) Describe construction and working of Manifold Absolute Pressure (MAP) sensor.

(b) Draw neat label sketch of electronic power steering.

(c) Describe procedure to diagnose oxygen sensor.

(d) Explain working of air bag as a safety system.

4. Attempt any THREE of the following : **4 × 3 = 12**

(a) Compare CAN Bus with LIN Bus automotive communication system.

(b) Describe construction of automotive computer with help of block diagram.

(c) Describe construction and working of idle speed actuators.

(d) Explain construction of MPFI electronic control system with block diagram.

(e) Explain working of tyre low pressure warning system.

5. Attempt any TWO of the following : **6 × 2 = 12**

(a) Classify errors in measurement. Describe each type of error in brief.

(b) Explain procedure to perform stand alone diagnostic of electronic injector.

(c) Describe construction and working of unit injector actuator.

6. Attempt any TWO of the following : **6 × 2 = 12**

(a) Describe with help of sketch construction and working of Throttle Position Sensor (TPS).

(b) Describe working of Antilock Braking System (ABS) with layout.

(c) Explain six step approach of component testing with its importance.

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