

**Scheme – I**  
**Sample Question Paper:**

**Programme Name** : Automobile Engineering  
**Programme code** : AE  
**Semester** : VI Sem  
**Course Title** : Autotronics  
**Marks** : 70

**22654**

**Time: 3Hrs.**

**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1) Attempt any FIVE of the following.**

**(10 Marks)**

- a) Enlist two types of diodes used in Automotive Electronics.
- b) State four types of Computer Memories used in Automotive applications.
- c) State the name of the sensor used in measurement of vehicle speed.
- d) Name the two types of computer controlled fuel injection systems used in modern vehicles.
- e) Give an example of particular DTC code found in vehicle diagnosis.
- f) Draw symbol of Photo-Diode.
- g) Identify the name of a communication system used for navigation purpose in modern automobiles.

**Q.2) Attempt any THREE of the following.**

**(12 Marks)**

- a) Draw block diagram of digital visual display in vehicle instrumentation.
- b) Convert the given decimal number 100.5 into binary number.
- c) Sketch and explain signal conditioning system used for oxygen sensor.
- d) Compare open loop and closed loop control system in automotive application.

**Q.3) Attempt any THREE of the following.**

**(12 Marks)**

- a) Illustrate with neat sketch the output signal waveform for Crank shaft position sensor.
- b) Draw block diagram of GDI system.
- c) Describe stand alone diagnosis procedure of coolant temperature sensor.
- d) Construct a block diagram for Common Rail Direct Injection system used in modern vehicles.

**Q.4) Attempt any Three of the following.**

**(12 Marks)**

- a) Explain with justification the use of Bluetooth technology as a communication system in automobiles.
- b) Answer the following (Refer Figure)

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