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**Model Question Paper**  
**Seventh Semester B.E. Degree (CBCS)**  
**Automotive Electronics**

Time: 3 hrs.

Max. Marks: 80

**Note: 1. Answer any FIVE full questions, choosing one full question from each module.**

**MODULE – I**

- 1 a. Briefly explain the four stroke cycle of an IC Engine, with neat diagrams (08 Marks)  
 b. Explain the working of a disc brake system with a neat diagram (08 Marks)

**OR**

- 2 a. Explain the effect of Air/fuel ratio on the performance (08 Marks)  
 b. Explain the working of an electronic ignition control with a neat diagram (08 Marks)

**MODULE – II**

- 3 a. Explain the working of an EGO sensor with a neat diagram. Also draw the ideal EGO switching characteristics and explain (08 Marks)  
 b. Explain EGR actuator control with a relevant diagram. (08 Marks)

**OR**

- 4 a. With relevant diagram explain the optical crankshaft position sensor. (08 Marks)  
 b. With a neat sketch explain Throttle Angle Sensor (TAS) (08 Marks)

**MODULE – III**

- 5 a. What are the seven modes of fuel control? Explain engine warm up with relevant diagrams. (08 Marks)  
 b. With a neat block diagram, explain spark advance correction scheme (08 Marks)

**OR**

- 6 a. With a relevant diagrams, explain evaporative emissions canister purge (08 Marks)  
 b. What are the various modules of control unit software? Explain them briefly (08 Marks)

**MODULE – IV**

- 7 a. What are the CAN protocol layers? What are the four different frames? write the message format (08 Marks)  
 b. Briefly explain the following : 1) LIN BUS 2) MOST BUS (08 Marks)

**OR**

- 8 a. Explain Digital Cruise control system with the help of a relevant diagram. (08 Marks)  
 b. With a neat sketch explain digital speed sensor (08 Marks)

**MODULE – V**

- 9 a. With relevant diagrams explain the timing light and engine analyzer (08 Marks)  
 b. Write brief notes on On-Board-Diagnostics and Off-Board-Diagnostics. (08 Marks)

**OR**

- 10 a. Explain low tire pressure warning system (08 Marks)  
 b. Explain Dead lock reckoning navigation system (08 Marks)

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