CBCS SCHEME

17EC561

Fifth Semester B.E. Degree Examination, July/August 2021
Automotive Electronics

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions.*

1 a. Briefly explain the four stroke cycle of an IC engine with neat diagrams. **(10 Marks)**
   b. Explain the working of a disk break system with neat diagram. **(10 Marks)**

2 a. Explain the working of a electronic ignition control with a neat diagram. **(10 Marks)**
   b. Explain the effect of Air/Fuel Ratio on engine performance. **(10 Marks)**

3 a. What is hall effect? Explain a position sensor using principle of hall effect. Compare it with magnetic reluctance position sensor. **(10 Marks)**
   b. With neat diagram, explain Ignition system. **(10 Marks)**

4 a. Explain the working of a magnetic reluctance position sensor with relevant diagram. **(10 Marks)**
   b. With a neat diagram, explain Mass Air Flow Sensor. **(10 Marks)**

5 a. Explain the working of a idle air control with relevant diagrams. **(10 Marks)**
   b. With a neat block diagram, explain EGR control. **(10 Marks)**

6 a. What are seven modes of fuel control? Explain with neat diagram digital engine control system. **(10 Marks)**
   b. What are the various modules of control unit software? Explain them briefly. **(10 Marks)**

7 a. Explain the cruise control system with relevant diagram. **(10 Marks)**
   b. Explain Antilock braking system with relevant diagrams. **(10 Marks)**

8 a. With relevant diagram, write a note on digital speed sensor. **(10 Marks)**
   b. Write a note on system diagnosis. **(10 Marks)**

9 a. Write a brief notes on on-board and off-board diagnostics. **(10 Marks)**
   b. Explain accelerometers based air bag system. **(10 Marks)**

10 a. Explain collision avoidance radar warning system with relevant diagrams. **(10 Marks)**
   b. Explain the automatic driving control system with relevant diagram. **(10 Marks)**

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