CBCS Scheme

USN | | | | | | | | | | 15EC561

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Automotive Electronics

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. Explain the different strokes for a four stroke SI engine, with suitable diagram. **(08 Marks)**
b. What are the drive train? With schematic explain the planetary gear system. **(08 Marks)**

OR

2 a. Explain the effect of Air/Fuel Ratio on performance. **(08 Marks)**
b. Briefly explain with neat diagram spark plug. **(08 Marks)**

Module-2

3 a. What is hall effect? Explain a position sensor using principle of hall effect. Compare it with magnetic reluctance position sensor. **(08 Marks)**
b. With neat diagram explain Ignition system. **(08 Marks)**

OR

4 a. With relevant diagrams optical crankshaft position sensor. **(08 Marks)**
b. Explain the working of fuel injector and pulse mode fuel control signals with relevant diagram and waveforms. **(08 Marks)**

Module-3

5 a. What are seven modes of fuel control? Explain with neat diagram digital engine control system. **(08 Marks)**
b. With a neat block diagram, explain EGR control. **(08 Marks)**

OR

6 a. What is the use of secondary Air? With the help of a diagram explain how the secondary air is controlled. **(08 Marks)**
b. What are the various modules of control unit? Write a block diagram depicting those modules. **(08 Marks)**

Module-4

7 a. Explain the cruise control system with relevant diagram. **(08 Marks)**
b. Explain Antilock braking system with relevant diagrams. **(08 Marks)**

OR

8 a. With relevant diagram, write a note on digital speed sensor. **(08 Marks)**
b. Write a note on system diagnosis. **(08 Marks)**

Module-5

9 a. With neat block diagram, explain the timing light used to measure and set ignition timing. **(08 Marks)**
b. Write a note on deadlock reckoning navigation. **(08 Marks)**

OR

10 a. Explain Accelerometer based Air Bag system with relevant diagrams. **(08 Marks)**
b. Explain Collision Avoidance Radar warning system with relevant diagrams. **(08 Marks)**

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