USN | | | | | | | | | | **15ME751**

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019
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 4 stroke cycle, with neat sketch.   (06 Marks)
    b. Explain Spark pulse generation with neat sketch.   (06 Marks)
    c. Discuss Steering system.   (04 Marks)

OR

2   a. Define Power , BSFC , Torque , Volumetric efficiency , Thermal efficiency , Calibration.
                                                                          (06 Marks)
    b. Explain Spark timing on performance.   (04 Marks)
    c. Discuss Electronic ignition, with block diagram.   (06 Marks)

Module-2

3   a. Explain Typical electronic engine control system, with block diagram.   (06 Marks)
    b. Explain Strain gauge MAP sensor with neat sketch.   (05 Marks)
    c. Explain Magnetic Reluctance position sensor, with neat sketch.   (05 Marks)

OR

4   a. Elaborate Hall effect position sensor. Also explain Shielded – field sensor.   (10 Marks)
    b. Explain Fuel injector, with neat sketch.   (06 Marks)

Module-3

5   a. Briefly explain the features of Digital Electronic Control, with block diagram.   (08 Marks)
    b. Explain Secondary Air Control system and its management using block diagram.   (08 Marks)

OR

6   a. Explain Data Processing.   (08 Marks)
    b. Discuss Digital Modules in control units.   (08 Marks)

Module-4

7   a. Classify BUS systems and discuss its application in the vehicle.   (06 Marks)
    b. Broadly discuss CAN Bus, LAN Bus and MOST Bus.   (10 Marks)

OR

8   a. Explain vaccum operated Throttle Actuator, with neat labeled sketch.   (08 Marks)
    b. Discuss elaborately, Digital cruise control.   (08 Marks)

Module-5

9   a. Explain Timing Light, with block diagram.   (06 Marks)
    b. Elaborate accelerometer based Air bag system.   (10 Marks)

OR

10 a. Explain Collision Avoidance Radar warning system.   (08 Marks)
    b. Explain Low Tyre pressure Warning system.   (08 Marks)

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