USN | | | | | | | | | | |

10MT55

Fifth Semester B.E. Degree Examination, Aug./Sept. 2020
Automotive Electronics

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. Describe the working operation of four stroke engine with a neat diagram. **(10 Marks)**
b. Explain the working operation of starting system with neat diagram. **(10 Marks)**

2 a. Define sensor. Explain the working operation of exhaust gas oxygen sensor with neat diagram. **(10 Marks)**
b. Explain the construction and working operation of hall effect position sensor with neat diagram. **(10 Marks)**

3 a. Discuss the working operation of fuel metering actuators with neat diagram. **(10 Marks)**
b. Discuss the analysis of exhaust gas recirculation system with neat diagram. **(10 Marks)**

4 a. Mention and write about engine performance terms. **(10 Marks)**
b. Explain distributorless control system with a block diagram. **(10 Marks)**

PART – B

5 a. Briefly explain the concept of digital cruise control. **(10 Marks)**
b. Explain antilock braking system. **(10 Marks)**

6 a. Explain how coolant temperature measurement using microcontroller based electronics. **(10 Marks)**
b. Write a block diagram, explain vehicle speed measurement system. **(10 Marks)**

7 a. Explain briefly computer based instrumentation system and its advantages. **(12 Marks)**
b. Write short notes on:
i) Sequential sampling;
ii) Vehicle speed measurement. **(08 Marks)**

8 a. Explain collision avoidance radar warning system. **(10 Marks)**
b. Write short notes on:
i) Radio navigation system.
ii) Advanced driver information system. **(10 Marks)**

* * * * *