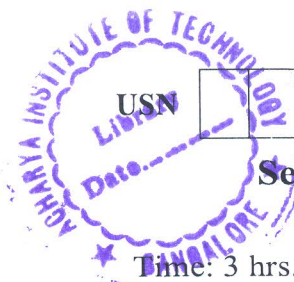


CBCS SCHEME

15ME751



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Seventh Semester B.E. Degree Examination, June/July 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. What is the need of electronics in automobiles? (02 Marks)
- b. Explain the physical configuration of front engine Rear wheel Drive with neat sketch. (10 Marks)
- c. Discuss spark advance and spark Retard briefly. (04 Marks)

OR

- 2 a. Discuss briefly the electronic engine control with block diagram. (08 Marks)
- b. Define the terms :
i) BSFC ii) Engine mapping iii) Volumetric efficiency iv) Thermal efficiency. (08 Marks)

Module-2

- 3 a. What is hall effect? Explain a position sensor using principle of hall effect. (08 Marks)
- b. With a neat diagram explain electronic ignition system. (08 Marks)

OR

- 4 a. Briefly explain the typical coolant sensor. (08 Marks)
- b. Write the neat sketch of Exhaust Gas Oxygen (EGO) sensor and explain. (08 Marks)

Module-3

- 5 a. What are seven modes of fuel control? Explain briefly. (08 Marks)
- b. Explain with neat diagram digital engine control system. (08 Marks)

OR

- 6 a. With a neat block diagram, explain EGR control. (08 Marks)
- b. What are the different operating conditions of engine control unit? (04 Marks)
- c. Write a note on data processing. (04 Marks)

Module-4

- 7 a. Explain the construction and working of CAN Bus. (08 Marks)
- b. Explain the working of Blue tooth in networked vehicle. (08 Marks)

OR

- 8 a. Explain the Cruise control system with relevant diagram. (08 Marks)
- b. With relevant diagram, write a note on digital speed sensor. (08 Marks)

Module-5

- 9 a. Explain any two conventional methods of engine diagnostics. What are the limitations? (08 Marks)
- b. Explain the principle of electronic air bag system, with a neat block diagram. (08 Marks)

OR

- 10 a. Explain low fire pressure warning system with neat sketch. (08 Marks)
- b. Explain collision Avoidance Radar warning system with relevant diagrams. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.