Roll No. ....   Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AE) (Sem–6)
AUTOMOTIVE ELECTRONICS & MICROCONTROLLERS
Subject Code : AE-310
Paper ID : [A0723]

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. **SECTION-A is COMPULSORY.**
2. **Attempt any FOUR questions from SECTION-B.**
3. **Attempt any TWO questions from SECTION-C.**

SECTION-A   (10 × 2 = 20 Marks)

1. Write short notes on :

(a) Name the various flag bits available in 8085 microprocessor?

(b) What is ABS?

(c) Give the truth table and symbol of NAND.

(d) What is operational amplifier?

(e) Define immobilizer.

(f) What is EGR control?

(g) What is Engine mapping?

(h) What do you mean by Electromagnetic interference?

(i) What is the purpose of ALE pin connection with Intel 8051?

(j) What are the addressing modes of 8085?

SECTION-B   (4 × 5 = 20 Marks)

2. Differentiate between microprocessor and microcontroller.

3. Explain any one warning system with neat sketch.

4. How exhaust emission control is done in automobiles?

5. What is electronic suspension system? Write the advantages of electronic suspension system.

6. Explain the instruction set of 8085.

SECTION-C (2 × 10 = 20 Marks)

7. Describe the architecture of 8051 with a neat diagram.

8. Discuss in detail about the various components of an electronic engine management system.

9. Write short note on :

(a) Digital controller for drive motor

(b) Electronic power steering.