

Roll No.

Total No. of Pages : 2

Total No. of Questions : 09

B.Tech (ECE) (Sem.-5)
MICROPROCESSORS AND ITS APPLICATIONS
Subject Code : EC-307
Paper ID : [A0314]

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. Answer the following briefly :
 - (a) What is the advantage of using subroutine in an assembly language program?
 - (b) How is the physical address generated in 8086?
 - (c) Differentiate between Program Counter (PC) and Stack Pointer (SP).
 - (d) Explain the working of DAA instruction.
 - (e) Discuss partial decoding and absolute decoding.
 - (f) Differentiate between push and pop instructions.
 - (g) Differentiate between Hardware and Software interrupts.
 - (h) Explain the functions of RD and IO/M signals of the 8085 microprocessor.
 - (i) What is stack and explain how it operates ?
 - (j) What is the difference between 8086 AAM and AAD instructions ?

SECTION-B

(4 × 5 = 20 Marks)

2. Draw block diagram showing the architecture of 8086 microprocessor. Explain the function of each part.

3. What do you mean by addressing mode? Explain various addressing modes of 8085 in detail with the help of examples.
4. Write a program to multiply the two eight bit numbers using the shift add method.
5. Explain the keyboard interfacing with an 8085 microprocessor with help of a diagram.
6. What is meant by memory segmentation? State the advantages of segmentation (memory) in 8086 based system.

SECTION-C **(2 × 10 = 20 Marks)**

7. Discuss the Minimum and Maximum Configuration of 8086 with the help of Diagram and discuss their importance in system design.
8. Write an assembly language program:
 - (a) To find the largest of 12 unsigned bytes.
 - (b) To compare two strings stored in memory locations starting from STR1 and STR2 each 100 bytes long. The program should branch to an ERROR subroutine in case of mismatch.
9. Write short notes on any two of the following:
 - (a) Interrupt system of 8086
 - (b) I/O data transfer techniques
 - (c) 8155 PPI .