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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (EE) (Sem.-5)
MICROPROCESSORS AND INTERFACING
Subject Code : EE-307
Paper ID : [A0416]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- a) What do you mean by an instruction? Explain.
- b) Discuss the function of the 8086 queue.
- c) Describe the operation an 8086 will perform when it executes ADD AX, BX.
- d) Write a delay loop which produces a delay of 100 μ s on an 8086 with 5MHz clock.
- e) What do you mean by the term interfacing? Explain.
- f) What do you mean by memory segmentation? Explain.
- g) Explain the following instructions used in 8086 :
 - i. XLAT
 - ii. LEA
- h) Differentiate between shift logical right (SHR) and shift arithmetic right (SAR) instructions used in 8086 microprocessor.
- i) What is the function of 8254 chip? Explain.
- j) Why handshaking is required? Explain.

SECTION-B

2. Explain the classification of instructions with the help of examples in 8085 microprocessor.
3. Draw a flow chart and write a program to count from 0 to 9 with a one second delay between each count. At the count of 9, the counter should reset itself to zero and repeat the sequence continuously. The clock frequency of the microcomputer is 1 MHz.
4. Discuss various addressing modes of 8086 microprocessor giving at least two examples of each.
5. Why Microprocessor is required? Compare 8-bit, 16-bit and 32-bit microprocessors.
6. Differentiate between Minimum and Maximum mode. Write down the various characteristics of minimum mode.

SECTION-C

7. Draw the block diagram and explain the Architecture of the 8086 microprocessor. Also discuss the function of different registers used in 8086 microprocessor in detail.
8. Discuss why an interrupt controller is required? Describe the 8259 programmable interrupt controller.
9. Explain the following :
 - i. 8085 Architecture.
 - ii. A/D conversion.