

BT-5/D07

MICROPROCESSOR AND INTERFACING

PAPER - ECE-311E, (ii)

Time : 3 Hrs.

Maximum Marks : 100

Note : Attempt any five questions by selecting at least one question from each unit.

UNIT-I

1. a. Explain the following pins of 8086 Microprocessor :
 $\overline{\text{BHE}} / \text{S7}$, $\overline{\text{RQ}} / \overline{\text{GT}}$, $\overline{\text{MN}}/\overline{\text{MX}}$, $\overline{\text{RD}}$, $\overline{\text{TEST}}$ 10
- b. Explain at least 10 advantages of RISC over CISC architecture. 10
2. a. What are the functions of IC8284 in the 8086 systems? 5
- b. Draw the functional block diagram of 8086 Micro-processor. 5
- c. Explain minimum and maximum modes in 8086 system. 10

UNIT-II

3. a. Explain the following instructions :
SAR, POPF, XLAT, JNP/JPO, STD 10
- b. Explain the following Assembler directives :
ASSUME, SEGMENT 10
4. a. Write a program to compute factorial for a number N between 1 and 8. 10
- b. What are addressing modes available in Intel 8086 processor ? Give example. 10

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UNIT-III

5. a. Interface two 4K x 8 EPROMS and two 4K x 8 RAM chips with 8086 Microprocessor and draw the suitable circuit showing their interfacing. 15
- b. Describe the Memory mapped I/O and Direct I/O. Give the main advantage and disadvantage of each. 5
6. a. Draw a timing diagram for RD/WR cycle in MN mode by introduction a wait state for 5ms in the processor cycle. 15
- b. Explain the concept of Segmented memory. What are its advantages ? 5

UNIT-IV

7. a. Interface an 8255 with 8086 at 80H as an I/O address of Port A. Interface five 7 segment displays with the 8255. Write an ALP to display 1, 2, 3, 4 and S over the 5 display continuously as per their positions starting with 1 at least significant position. 10
- b. What is intel 8259 chip ? Discuss its use and operation in a 8086 Microprocessor based system. 10
8. a. Define an Interrupt. Describe the interrupt response of an 8086 processor. 10
- b. Draw the block diagram of 8251 and explain the function of each block. 10

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