EC/EE 224 (R-20)

Total No. of Questions : 10] [Total No.of Pages : 02

II/IV B. Tech. DEGREE EXAMINATIONS, AUGUST - 2024

Second Semester

EC / EE

MICROPROCESSOR & MICROCONTROLLERS

Time : **Three Hours** Maximum : **70** Marks

Answer ONE question from each Unit. 5x14=70 M

All Questions carry equal marks.

UNIT - I

1. a) What is system bus architecture ? Give generalized 8086 system bus architecture.

   b) Define addressing mode and explain the different addressing modes presented in 8086 Microprocessor with examples.

(OR)

2. a) Explain machine language instruction formats of 8086.

   b) Draw the Register organization of 8086 Microprocessor and explain the operation of each register in detail.

UNIT - II

3. a) Explain the programming development steps in 8086 microprocessor.

   b) Explain the different types of interrupts of 8086 processor.

(OR)

4. a) What is interrupt vector table of 8086 ? Explain its structure.

   b) Explain DAC principle of operation.

UNIT - III

5. a) Write about keyboard interfacing with 8051.

   b) Draw and discuss architecture of USART and explain different status and control formats in detail.

(OR)

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6. a) Write an 8051 subroutine to control the 7-segment display operation.

   b) Describe the three major tasks needed to get meaningful information from a keyboard.

UNIT - IV

7. a) Draw the pin diagram of 8051 and Describe the pins.

   b) Classify and explain the instruction set of 8051 microcontroller.

(OR)

8. a) Discuss about 8051 series microcontrollers in expanding the memory.

   b) Describe the serial port operation in 8051 microcontroller.

UNIT - V

9. a) Explain the different assembly programming tools used in 8051 microcontroller in detail.

   b) Explain the different types of timers in 8051.

(OR)

10. a) Explain the various modes of programming 8051.

    b) Write about keyboard interfacing with 8051.