EC/EE 224 (R-22)

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) Define register ? List and discuss the functions of the registers of 8086 Microprocessor.

   b) Explain the physical address formation in 8086.

(OR)

2. Explain in detail about the assembler directives of 8086.

UNIT - II

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

   b) Write an assembly language program to generate Fibonacci series up to a given number.

(OR)

4. a) Explain about Procedures and assembler macros in 8086 programming with examples.

   b) Write an Assemble language program to find the factorial of a given number.

UNIT - III

5. a) Explain the concept of IO handshaking with neat diagrams.

   b) Discuss the principle of operation of DAC and explain its interfacing with 8086.

(OR)

6. a) What is DMA ? Explain DMA transfer with a neat block diagram.

   b) What are the main features of 8255 ? Draw and explain the control word register formats of 8255.

P.T.O.

UNIT - IV

7. a) List out the differences between Microprocessor and Microcontroller.

   b) Explain the register banks of 8051 with neat sketch.

(OR)

8. a) Explain the memory organization of 8051 with neat diagram.

   b) Explain the I/O ports of 8051 microcontroller.

UNIT - V

9. a) What are Timers ? Explain the timers of 8051 microcontroller.

   b) Write an assembly language program of factorial of 5 using 8051 microcontroller.

(OR)

10. a) Explain the interfacing of A/D converter with 8051.

    b) Explain the concept of Serial data communication with related registers of 8051.