

B.Tech III Year II Semester Regular Examinations August-2023**MICROPROCESSORES AND MICROCONTROLLERS**

(Electrical and Electronics Engineering)

Time: 3 Hours**Max. Marks: 60**

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 Draw a block diagram of Microprocessor based system and explain the functions of each component: Microprocessor, Memory and I/O and their line communication. **CO1 L4 12M**

OR

- 2 Draw a block diagram of Microprocessor controlled temperature system and identify function of each component. **CO1 L4 12M**

UNIT-II

- 3 a Explain the Architecture of 8085 microprocessor with neat block diagram. **CO2 L3 8M**
b Discuss the different types of registers used in the 8085 microprocessor. **CO2 L2 4M**

OR

- 4 a Define an interrupt and explain the different types of interrupts available in the 8085 microprocessors. **CO2 L2 6M**
b Discuss CMA, RAR, RAL, RLC and RRC instructions with suitable example. **CO2 L2 6M**

UNIT-III

- 5 Draw the pin diagram of 8051 microcontroller and describe the functionality of each pin in detail. **CO3 L4 12M**

OR

- 6 a Explain the different types of interrupts in the 8051 microcontroller. **CO3 L2 6M**
b Explain how the 8051 microcontroller transfers the serial data input and output using UART. **CO5 L2 6M**

UNIT-IV

- 7 a Develop and write an assembly language programs of 8051 μ C to unsigned addition and subtraction of two 8-bit numbers 24H & 12H in 2023H & 2024H memory locations respectively and store the result in the next consecutive memory location. **CO6 L3 6M**
b Develop and write an assembly programs of 8051 μ C to divide and multiplication of two 8-bit numbers 25H & 11H in 8085H & 8086H memory locations respectively and store the result in the next consecutive memory locations. **CO6 L3 6M**

OR

- 8 a Explain how the 8051 microcontroller performs rotate and swap operations with an example. **CO4 L2 6M**
b Explain any three arithmetic operations Instructions of 8051 microcontroller with an example. **CO4 L2 6M**

UNIT-V

- 9 a List out types of 16 key layout and draw the diagram of the lead per key-keyboard configuration. **CO5 L4 6M**
b Design and Draw the x-y matrix keyboard and coded key board for 16 Keys. **CO5 L6 6M**

OR

- 10 a Explain the intelligent LCD display(16X2) with a pin diagram. **CO4 L1 8M**
b List any five advantages of A/D converter and its applications. **CO5 L1 4M**

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