III B. Tech I Semester Supplementary Examinations, June/July-2022
MICROPROCESSORS AND MICROCONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 hours   Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1. a) With a neat diagram explain the architecture of 8086 processor? [8M]
   b) Explain the logical rotate instructions of 8086? [7M]

(OR)

2. a) Explain any three string manipulation instructions of 8086? [8M]
   b) What do you mean by addressing modes? What are the different addressing modes supported by 8086? Explain each of them with suitable example. [7M]

UNIT-II

3. a) Explain the different control word formats of 8255 PPI. [8M]
   b) Draw the interfacing diagram of a DAC to 8086 and explain. [7M]

(OR)

4. a) Draw 8255 internal architecture and explain. [8M]
   b) Draw a typical stepper motor interface with 8086 and explain. [7M]

UNIT-III

5. a) With the internal structure, explain the operation of 8257DMA controller. [8M]
   b) Explain the operation of USART serial communication port. [7M]

(OR)

6. a) With the internal structure, explain the operation of 8259 controller. [8M]
   b) Explain TIMER and COUNTER programming. What is the difference between them? [7M]

UNIT-IV

7. a) What are the interrupts of 8051? Explain them briefly. [8M]
   b) Discuss in detail about serial port operation in 8051 microcontroller. [7M]

(OR)

8. a) Explain the instruction set of 8051. [8M]
   b) Draw and describe various register set of 8051. [7M]

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UNIT-V

9. a) Draw the architecture of PIC 16C61 controller and explain the operation of each block in it. [8M]

   b) Explain the power-on-reset and watch dog timers operation in PIC controller in detail. [7M]

(OR)

10. a) Briefly explain about the different types of interrupts handled by PIC 16C61/71microcontroller [8M]

    b) Write about PIC 16F8XX flash controllers. [7M]

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