Code No: R2032021 **R20** SET -1

III B. Tech II Semester Supplementary Examinations, December -2023
MICRO PROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

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

1. a) What is system bus architecture? Give generalized 8086 system bus architecture. [7M]
   b) Draw the Register organization of 8086 Microprocessor and explain the significance of each register in detail. [7M]

(OR)

2. a) Explain about memory segmentation and instruction queue of 8086. [7M]
   b) Discuss the architecture of 80286 with neat block diagram. [7M]

UNIT-II

3. Discuss the maximum and Minimum mode configuration of 8086 with a neat diagram. Mention the functions of the various signals. [14M]

(OR)

4. a) What is addressing mode? Explain various addressing modes of 8086 microprocessor with examples. [7M]
   b) What is the purpose of assembler directives? Explain any six of them. [7M]

UNIT-III

5. a) Explain how D/A converter interfacing is done with 8086 with an application. [7M]
   b) Explain the operation of 8255 PPI Port A programmed as input and output in Mode 1 with necessary handshaking signals. [7M]

(OR)

6. a) Draw and explain the operation of 8251 serial communication interface. [7M]
   b) Explain the static memory interfacing with 8086 with example. [7M]

UNIT-IV

7. a) Describe the register set present in 8051 µC and explain their functionality in detail. [9M]
   b) Discuss the Timers and counters of 8051 microcontroller. [5M]

(OR)

8. a) With the help of a neat block diagram, Explain the internal architecture of 8051 microcontroller in detail. [10M]
   b) Discuss the addressing modes of 8051 with suitable examples. [4M]

UNIT-V

9. a) Explain in detail about the File registers and Special Function Registers of PIC18. [7M]
   b) Write a program to convert ASCII digits of ‘5’ and ‘6’ to packed BCD and display it on Port C. [7M]

(OR)

10. a) Write a program to get a byte of data from Port C, wait for 1 second, and then send the same to Port B. [7M]
    b) List and explain the data types of C for PIC18. [7M]

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