PAPER ID-411302

Roll No: ☐☐☐☐☐☐☐☐☐☐☐☐☐

BTECH
(SEM IV) THEORY EXAMINATION 2023-24
MICROPROCESSOR

TIME: 3 HRS   M.MARKS: 100

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt all questions in brief.**   **2 x 10 = 20**

a.	What are the different addressing modes?	02
b.	Give the significance of address bus and control bus.	02
c.	Define assembler directives.	02
d.	What is flag register?	02
e.	What are the different types of interrupts in 8086.	02
f.	Explain memory segmentation.	02
g.	What are the different methods to generate delay in software?	02
h.	Why is assembly language used to program microprocessor?	02
i.	What do mean by direct memory access?	02
j.	Draw the pin diagram of 8259A (PIC)	02

SECTION B

2.   **Attempt any three of the following:**   **3 x 10 = 30**

a.	Explain the general microprocessor architecture and operations of its components.	10
b.	Draw and explain the timing diagram of memory read operations in 8085. Explain the different steps involved in it.	10
c.	Explain maximum mode operation of 8086 microprocessor with suitable example.	10
d.	Explain assembler level programming and flowchart of assembler level programming.	10
e.	Explain how 8253/8254 can be used as a square wave generator.	10

SECTION C

3.   **Attempt any one part of the following:**   **1 x 10 = 10**

a.	Define interrupt and give the interrupt pins in 8085 and 8086.	10
b.	What is timing diagram? Explain the terms related to this.	10

4.   **Attempt any one part of the following:**   **1 x 10 = 10**

a.	What do you understand by branch operation and logical instructions?	10
b.	Draw the pin diagram of 8085 and specify the function and direction of information flow of address bus, data bus and control bus.	10

5.   **Attempt any one part of the following:**   **1 x 10 = 10**

a.	How does the asynchronous behavior of EU and BIU increase the throughput of 8086 microprocessor?	10
b.	Explain the multiplication and division instructions of 8086.	10

6.   **Attempt any one part of the following:**   **1 x 10 = 10**

a.	Write a program to arrange a data array in ascending order.	10
b.	Write a program to generate a delay of 200ms using 8085system that runs on 50 MHz frequency.	10

7.   **Attempt any one part of the following:**   **1 x 10 = 10**

a.	Explain RS-232C in detail.	10
b.	Draw the block diagram of 8237 DMA controller. Also explain the features of the same.	10