PAPER ID-421788

Roll No:

BTECH
(SEM IV) THEORY EXAMINATION 2021-22
INTRODUCTION TO MICROPROCESSOR

Time: 3 Hours   *Total Marks: 70*

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

SECTION A

1. **Attempt *all* questions in brief.**   2*7 = 14

a.	Explain why the hierarchy of memory is used in digital computer.
b.	What are subroutines? Explain with the help of examples.
c.	Discuss the use of flag registers.
d.	Differentiate between microcontroller and microprocessor.
e.	Explain the use of ALE in 8085 microprocessor.
f.	What is branching? Describe branching instruction.
g.	Discuss five features of 8086 microprocessor.

SECTION B

2. **Attempt any *three* of the following:**   7*3 = 21

a.	What is Microprocessor? Explain the block diagram of 8085 microprocessor in detail.
b.	Describe different types of data transfer operations with the help of examples.
c.	Demonstrate the requirement of counters. Explain time delays with the help of appropriate example.
d.	What is Assembly language? Write an Assembly language program to convert binary number to BCD number using 8085 instructions.
e.	Discuss Programmable peripheral interface. Explain 8255 Programmable peripheral interface in detail.

SECTION C

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

a.	Explain the evolution of microprocessor and also discuss the types of microprocessor.
b.	Describe different types of Interfacing devices with the help of examples.

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

a.	Explain programming techniques. Describe looping with the help of example.
b.	What is Machine cycle? How the op-code is fetched from memory, explain with the help of timing diagram.

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

a.	Illustrate the concept of conditional call. Explain conditional call and return instructions with examples.
b.	What is Interrupt? Explain Interrupt handling mechanism. Discuss types of interrupts used in 8085 microprocessor.

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

a.	Write an Assembly language program to perform multiplication of two 8-bit numbers using 8085 instructions.
b.	Explain BCD-to-Seven segment code converter in detail.

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

a.	What is DMA? Describe cycle stealing in DMA. Explain the functioning of 8237 DMA controller.
b.	Describe PIN diagram of 8086 microprocessor. Explain register organization used in 8086 microprocessor.