Subject Code: KEC502

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM V) THEORY EXAMINATION 2023-24
MICROPROCESSOR & MICROCONTROLLER

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**

Q no.	Question	Marks	CO
a.	Explain the term Microprocessor.	2	1
b.	Describe the term Memory Mapped I/O.	2	1
c.	Define the term Indexing in Microprocessors.	2	2
d.	What is the function of a rotation instruction?	2	2
e.	Explain the term 16-bit Microprocessors.	2	3
f.	Elaborate on the term Interfacing Devices.	2	3
g.	Describe the term Microcontroller.	2	4
h.	What are Pins used for in any Microprocessor?	2	4
i.	Define the term Ports in Microcontrollers.	2	5
j.	Explain the use of Analog-Digital-Converter in any microcontroller operation.	2	5

SECTION B

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

a.	Draw and Explain the Timing and Control Unit of 8085 Microprocessor.	10	1
b.	Explain the types of Jump instructions available in 8085 Microprocessors.	10	2
c.	Define different addressing modes associated to 8086 Microprocessor.	10	3
d.	Explain the Memory Organization in 8051 Microcontroller.	10	4
e.	Explain the LCD Interfacing with proper diagram with 8051 Microcontroller.	10	5

SECTION C

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

a.	Draw and describe the diagram to interface one 4 KB ROM and one 16 KB RAM with 8085 Microprocessor.	10	1
b.	Define and draw the timing diagram for the below mentioned instruction: MVI B, 20 H.	10	1

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

a.	Define the working and addressing modes associated to following instructions of 8085 Microprocessor: LXI, XCHG, DAD, CMP, RAR.	10	2
b.	Describe different types associated to Interrupts. Explain 8085 interrupts with all specifications associated.	10	2

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

a.	What are Maximum and Minimum Mode of operations in 8086 Microprocessor? Define the Pin functions of Pin number 24 to 31 in Maximum and Minimum mode, separately.	10	3
b.	Describe the flow chart of Initialization process in 8259 chip and explain the ICW1 & ICW2 associated to 8259 chips.	10	3

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

a.	Describe all the SFRs associated to 8051 Microcontroller.	10	4
b.	Explain all the ports and associated functions on port pins in 8051 microcontrollers.	10	4

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

a.	What is a Timer circuit? Explain the Timer operations associated to 8051 microcontrollers by using Timer Registers.	10	5
b.	Define different addressing modes associated to 8051 microcontrollers.	10	5