PAPER ID-421708

Subject Code: KCS403

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

BTECH
(SEM IV) THEORY EXAMINATION 2021-22
MICROPROCESSOR

Time: 3 Hours ***Total Marks: 100***

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

SECTION A

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

Q.no	Questions	Marks	CO
(a)	Discuss in brief about the evolution of Microprocessor.	2	2
(b)	Discuss briefly about the types of Microprocessors.	2	1
(c)	Discuss briefly about the Registers in Microprocessor.	2	2
(d)	What do you understand by the Interrupts in Microprocessor?	2	1
(e)	Write in brief about the Bus interface unit (BIU) in Microprocessor.	2	3
(f)	What do you understand by the term Instruction sets?	2	3
(g)	Discuss briefly about the concept of Assembly language.	2	4
(h)	What is the purpose of Branch operations?	2	4
(i)	What do you understand by the Peripheral Devices?	2	5
(j)	What do you understand by the DMA Controller?	2	5

SECTION B

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

Q.no	Questions	Marks	CO
(a)	Give a detailed explanation about the 8253 programmable counters.	10	5
(b)	Discuss in detail about the Machine control and Assembler directives.	10	2
(c)	Give the Complete description about the Hardware and Software Interrupts.	10	3
(d)	Discuss in detail about the Conditional call and Return instructions.	10	4
(e)	Discuss in detail about the Microprocessor architecture and Operation of its components.	10	1

SECTION C

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

Q.no	Questions	Marks	CO
(a)	Write short notes on following. i) 8259 programmable interrupt controller ii) 8251 USART	10	5
(b)	Explain in detail about the Execution Unit and Memory Segmentation of the Microprocessor.	10	2

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

Q.no	Questions	Marks	CO
(a)	Draw and explain Internal Block diagram of Programmable timer counter and its Modes of operation in detail.	10	1
(b)	Explain in detail about the Architecture of 8086 microprocessor with the help of a neat diagram.	10	3

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

Q.no	Questions	Marks	CO
(a)	Discuss in detail about the different Address Modes of 8086. Give Example for each type.	10	4
(b)	Discuss Internal block diagram of 8237 and explain the operating mode of 8237 DMA controller.	10	5

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

Q.no	Questions	Marks	CO
(a)	Draw the Block diagram and explain in detail about the operations of 8255 Parallel communication interface.	10	2
(b)	Explain the following. i) Data transfer schemes ii) Interfacing devices	10	1

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

Q.no	Questions	Marks	CO
(a)	Write a detailed note on the following: (i) Assembler Level Program(ASMs) (ii) Memory Space	10	4
(b)	Discuss in detail about the instruction formats. Calculate the number of memory chips needed to design 128K-Byte memory if the memory chip size is 2048 x 1.	10	3