QP Code: RA22BTECH407 | Reg. No | | | | | | | | | | | AR 21/22

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(GIET University)

B. Tech (Sixth Semester) Examinations, April – 2025

21BCSPC36002/21BCMPC36002/21BCDPC36002/
22BCSPC36002/22BCMPC36002/22BCDPC36002

Microprocessors and Microcontrollers

(CSE,CSE-DS,CSE-AIML)

Time: 3 hrs | Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. How much memory in terms of bytes can be addressed by a microprocessor with 12 address lines?	CO1	K2
b. Difference between segment address and offset address?	CO2	K1
c. State the function of QS_1 and QS_0 signal.	CO2	K1
d. Define USART.	CO3	K3
e. Define Interrupt Service Routine (ISR).	CO4	K1

PART – B **(15 x 4 = 60 Marks)**

Answer ***ALL*** questions	Marks	CO #	Blooms Level
2. a. Write an assembly language program to compare two 8 bit hexadecimal number and store the smallest number in 8263H memory location using 8085 instruction sets.	8	CO1	K3
b. Explain the salient features of 8085 microprocessor.	7	CO1	K2
(OR)			
c. Explain with suitable diagram to Interface a 1KB memory with 8085 microprocessor and also write down the range of address?	8	CO1	K2
d. Draw and explain the timing diagram of the instruction MOV A,C ?	7	CO1	K3
3.a. What is PSW? Explain all the flags of 8086 microprocessor.	8	CO2	K2
b. Explain the differences between minimum mode and maximum mode configurations of 8086 microprocessor.	7	CO2	K2
(OR)			
c. What is addressing mode and explain the addressing modes of 8086 microprocessor with suitable examples?	8	CO2	K2
d. Explain the shift and rotate instructions of 8086 microprocessor.	7	CO2	K2
4.a. Explain the features of Programmable Peripheral Interface device .	8	CO3	K2
b. Explain the internal system configuration of 8257 peripheral interface with a neat sketch.	7	CO3	K2
(OR)			

c.	Explain the function of 8254 peripheral interface with suitable system configuration.	8	CO3	K2
d.	Explain the function of 8259 peripheral device with suitable internal architecture.	7	CO3	K2
5.a.	Write short notes on 8051 microcontroller interrupts	8	CO4	K1
b.	Write an assembly language program to copy the value 78H to RAM memory locations 41H to 57H using indirect addressing mode with a loop.	7	CO4	K4
	(OR)			
c.	What is the data memory size of 8051 microcontrollers and explain the internal RAM space of 8051 microcontrollers?	8	CO4	K3
d.	Explain the features of 8051 microcontroller.	7	CO4	K2

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