



GIET UNIVERSITY, GUNUPUR - 765022
B. Tech (Sixth Semester Regular) Examinations, May - 2024
21BCDPC36002 - Microprocessors and Microcontrollers
 (CSE, CSE(AIML), CSE(DS))

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 <i>ALL</i> questions	CO #	Blooms Level
a. What is the basic difference between opcode and operand?	CO1	K2
b. What is the function of MN/\overline{MX} signal?	CO2	K4
c. How many memory locations can be addressed by a microprocessor with 12 address lines?	CO2	K1
d. What is the function of Control Word Register(CWR)?	CO3	K3
e. What are the advantages of memory segmentation ?	CO4	K1

PART – B**(15 x 4 = 60 Marks)**Answer *ALL* questions

	Marks	CO #	Blooms Level
2. a. Explain the following instructions with examples (i) MVI (ii) CMA (iii) LHLD (iv) STA	8	CO1	K3
b. Explain the 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	K1
d. Draw and explain the timing diagram of memory read machine cycle.	7	CO1	K4
3.a. Draw the register organization of the 8086 microprocessor and explain typical functions of each register.	8	CO2	K2
b. Explain the maximum mode configuration of 8086 microprocessor with suitable diagram.	7	CO2	K3
(OR)			
c. What is an Instruction and Explain the logical instructions of 8086 microprocessor?	8	CO2	K1
d. Write an assembly language program in 8086 microprocessor to transfer ten data words from offset address 2100H to offset address 3100H.	7	CO2	K2
4.a. Explain the operating modes of Programmable Peripheral Interface Device.	8	CO3	K4
b. Explain the function of 8257 peripheral device with neat sketch.	7	CO3	K1
(OR)			
c. Explain the function of Programmable Interval Timer with suitable system configuration.	8	CO3	K2
d. Explain the function of 8259 peripheral device with suitable internal architecture.	7	CO3	K3
5.a. Explain the addressing modes of 8051 microcontroller with suitable examples.	8	CO4	K1

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| b. Explain the internal memory organization of 8051 microcontroller. | 7 | CO4 | K4 |
| (OR) | | | |
| c. Explain the differences between microprocessor and microcontroller. | 8 | CO4 | K3 |
| d. Write an assembly language program to copy a block of ten bytes of data from RAM locations starting at 45 H to RAM locations starting at 67 H | 7 | CO4 | K2 |

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