K24U 3537

Reg. No. : .....

Name : .....

**III Semester B.C.A. Degree (C.B.C.S.S. – O.B.E.-Regular/Supplementary/ Improvement) Examination, November 2024**
**(2019 to 2023 Admissions)**
**Core Course**
**3B06BCA : INTRODUCTION TO MICROPROCESSORS**

Time : 3 Hours Max. Marks : 40

PART – A
**(Short Answer)**

Answer **all** questions. **(6×1=6)**

1. What is the role of the bus system in a processor ?
2. What is the basic word size of the Intel 8085 microprocessor ?
3. Specify the use of the 8086 assembly language directive, SEGMENT.
4. What is the benefit of bit preservation in rotate instructions ?
5. What is meant by 'cycle stealing' in the 8257 DMA controller ?
6. How many interrupt request lines does the 8259A support ?

PART – B
**(Short Essay)**

Answer **any 6** questions. **(6×2=12)**

7. What are the functions of the control unit ?
8. How does pipelining improve the performance of a microprocessor ?
9. What is the significance of data transceivers in 8086 ?
10. Describe the following 8086 assembly language instructions : push and pop.

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11. Explain the effect on the carry flag when a rotate operation is performed.
12. What is the ENTER command in stack frame management ?
13. What are the various types of interrupts in 8086 ?
14. Discuss the role of the following pins in the 8257 DMA controller. DACK and DREQ.

## PART – C
**(Essay)**

Answer **any 4** questions. **(4×3=1**

15. Explain Moore's Law and its impact on microprocessor development.
16. How does the 8086 handle I/O operations ?
17. Describe the purpose and usage of the following 8086 assembly language instructions : MUL, DIV.
18. Explain the structure of a typical 8086 assembly language program.
19. Explain the interrupt priority system in the 8086.
20. Describe the benefits and drawbacks of the interrupt-driven I/O method.

## PART – D
**(Long Essay)**

Answer **any 2** questions. **(2×5=1**

21. Explain the role of the stack pointer and the program counter in 8085.
22. Explain the purpose and functioning of the bus interface unit in the 8086 architecture.
23. Describe how the 8086 handles interrupts using the stack.
24. Explain the concept of Direct Memory Access (DMA). How does it improve system performance, and what are its key components ?

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