

**December - Examination 2025**

**MCA (II<sup>nd</sup> Year) Examination**

**COMPUTER SCIENCE**

**COMPUTER ARCHITECTURE & MICROPROCESSORS**

**Paper : MSCCS-08/MSCCS-202/MSCCSC-202/MCA-202**

[Time: 3 Hours]

[Maximum Marks: 80]

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**Note :-** The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

**Section-A**

**8×2=16**

**(Very Short Answer Type Questions)**

**Note :-** Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries **2** marks.

1. (i) What is input output port?
- (ii) Define the term assembler.
- (iii) What is the function of microprocessor?
- (iv) Define the term instruction cycle.
- (v) Write the features of Pentium processor.
- (vi) Define optical memory.
- (vii) What is superscalar processing?
- (viii) What do you understand by control bus?

## Section-B

4×8=32

### (Short Answer Type Questions)

**Note :-** Answer **any four** questions. Each answer should not exceed **200** words. Each question carries **8** marks.

2. What is address space partitioning? Explain memory mapped I/O scheme.
3. Define subroutine. Explain procedure of data transfer to subroutine.
4. Explain the signal group of 8085.
5. What is microinstruction? Explain micro programmed control unit design of control unit.
6. Define external memory. Explain RAID memory used in computer system.
7. What is pipelining? Explain comparison between RISC and CISC.
8. Define arithmetic and logical unit. Explain the sequential ALU design with the help of suitable diagram.
9. What is operand? Explain instruction formats with the help of suitable diagram.

## Section-C

2×16=32

### (Long Answer Type Questions)

**Note :-** Answer **any two** questions. You have to delimit your each answer maximum up to **500** words. Each question carries **16** marks.

10. What is system bus? Explain crossbar switch structure of bus interconnection.
11. What is fixed point arithmetic? Explain working of addition and subtraction operation with help of suitable diagram.
12. What is the interrupt? Explain the working of programmable DMA controller with the help of suitable diagram.
13. Draw and explain the pin diagram of 8086.

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