MSCCS-08/MSCCS-202/MSCCSC-202/MCA-202

June - Examination 2026

MCA (IInd Year) Examination

COMPUTER SCIENCE

Computer Architecture and Microprocessors

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

[*Time: **3** Hours*] [*Maximum Marks: **80***]

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 the purpose of an instruction register?

   (ii) What are the typical elements of a machine instruction?

   (iii) What is the function of ALU?

   (iv) Define pipelining in a processor.

   (v) What is the role of the Program Counter (PC)?

   (vi) Define addressing mode.

   (vii) What is stack organization?

   (viii) What are main principles used to construct a RISC machine?

Section-B **4×8=32**

(Short Answer Type Questions)

Note :- Answer **any four** questions. You have to delimit your each answer maximum up to **200** words. Each question carries **8** marks.

2. Define bus. Explain PCI (Peripheral Component Interface).

3. Explain sequential ALU with structure diagram.

4. Define instruction cycle. Explain different stages of instruction cycle.

5. Explain the differences between microprogrammed and hardwired control unit.

6. Define cache. Explain its main features.

7. What is parallel processing? Explain the terms SISD, SIMD, MISD, MIMD with reference to it.

8. Explain the differences between machine language and assembly language.

9. Explain interrupt driven data transfer.

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 floating-point arithmetic? Explain the floating-point arithmetic addition and subtraction.

11. What is control unit? Explain hardwired control unit design method.

12. Define address translation. Explain the structure of dynamic address translation system.

13. Explain address space partitioning of memory and I/O with interfacing using 74LS138.
