Or

Explain micro instruction format in detail. **6**

8. Explain the block diagram of Instruction Level Parallelism. **6**

Or

Explain general structure of pipeline. **6**

9. What is Interrupt ? Explain different steps used in Interrupt cycle. **6**

Or

Explain process of transfer of information between CPU and I/O device. **6**

Section D

10. Explain the process for signed magnitude addition and subtraction with flow chart. **8**

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B.C.A. EXAMINATION, 2026

(Second Semester)

(From 2019-20 Onwards)

(Re-appear Only)

Computer Organization

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

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : All questions in Section A and Section B are compulsory. Attempt one question out of two alternatives for each question in Section C and Section D.

Section A

1. (a) Define Computer Organization.

(b) Explain signed two's complement data.

(c) Define divide overflow.

(d) What do you mean by horizontal microinstruction formats ?

(e) What is CPU organization ?

(f) Define microinstruction.

(g) Explain Boolean instructions.

(h) Define parallel processing

(i) Define Pipeline

(j) What do you mean by I/O organization ?

(k) Define Interrupt.

(1) What do you mean by Cache Performance ? **12×1=12**

Section B

2. Explain hardware implementation for floating point multiplication.

3. Explain different types of addressing modes with example.

4. Explain instruction level parallelism.

5. Explain Cache memory. **4×3=12**

Section C

6. Explain hardware implementation for sign magnitude subtraction. **6**

Or

Explain booth's multiplication algorithm with the help of flowchart. **6**

7. What is Micro-program sequencer ? Discuss the advantages and disadvantages of Micro program sequencer. **6**

Or

Explain hardware implementation of multiplication by using sign magnitude representation. **8**

11. What do you mean by Instruction Cycle ? Explain fetch and decode operation in instruction cycle. **8**

Or

What are two different types of micro instruction format ? Discuss its advantages and disadvantages. **8**

12. What are different types of parallelism in computer architecture ? **8**

Or

Explain load-store architecture in pipeline. **8**

13. What is the use of Associative memory ? Explain the architecture of associative memory. **8**

Or

Explain the process of replacing and writing data in the cache memory. **8**

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