FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P CSS1 C05 - COMPUTER ORGANIZATION AND ARCHITECTURE

(Computer Science)

(2019 Admission onwards)

Time : 3 Hours   Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. What is an error? How does error detection take place using parity checking?

2. Explain working of Ring counters.

3. Distinguish between direct and indirect addressing modes with examples.

4. Explain how arithmetic expressions are evaluated with an example.

5. Write a note on Micro-instruction and its format. Explain the various fields in a micro-instruction.

6. Draw flowchart for multiplication operation.

7. Compare and contrast Isolated I/O and memory mapped I/O.

(4 × 2 = 8 Weightage)

Part-B

Answer any *four* questions. Each question carries 3 weightage.

8. What are the Universal gates? Explain.

9. Explain instruction set Architecture? Give examples.

10. Explain Booths Algorithm with example.

11. What is an associative memory? Explain how read and write operations are performed on it.

12. Brielfy explain various modes of data transfer between CPU and I/O devices.

13. What is DMA ? Write a note on DMA controller.

14. Discuss the classification of instructions based on function. Explain the execution of branch instruction.

(4 × 3 = 12 Weightage)

Part-C

Answer any *two* questions. Each question carries 5 weightage.

15. Mention the Flip-flops used in digital circuit.

16. Explain signed 2's complement addition and subtraction operations. Discuss its hardware implementation.

17. Explain the virtual memory translation and TLB with necessary diagram.

18. Draw the block diagram of internal architecture of 8086 microprocessor. Explain each Component.

(2 × 5 = 10 Weightage)

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