**APRIL 2025** **52504/125C2A**

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer any TEN questions.

1. Write a note on digital computers.

2. Find the octal number for the following binary number 11011.

3. What are the types of computer languages?

4. Relate the 9's complement for decimal.

5. State the rules for binary addition with example.

6. What is microprocessor?

7. Recall the use of data transfer in microprocessor.

8. Comment on instruction set.

9. Show the four primary operations of a MPU.

10. What is program control?

11. List out the arithmetic instruction with example.

12. Define the term “Pipelining”.

PART B — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

13. Convert the binary number 11010 into its decimal equivalent.

14. Convert hexadecimal number E5BA to binary.

15. What are the BCD to Binary and Binary to BCD conversions? Give example.

16. Highlight the pinout and signals of 8085 microprocessor.

17. Elaborate the function calls in 8085 microprocessor.

18. Point out the process of 8259 programmable interrupt controller.

19. Elucidate the characteristics of RISC pipeline.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

20. Compare and construct the fixed point and floating-point representation.

21. Draw and explain the functional block diagram of 8085 microprocessor.

22. Outline the arithmetic and JMP instructions with example.

23. Evaluate the block diagram and architecture of Direct Memory Access (DMA).

24. Discuss the vector processing and array processors.

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