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Reg. No. | | | | | | | | |

I Semester M.C.A. Degree Examination, April/May - 2026

COMPUTER SCIENCE

Computer Organization and Architecture

(CBCS Scheme)

Paper : 1MCA3

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates:

1) **Part A : Answer any Five questions.**
2) **Part B : Answer any Four questions.**

PART - A

Answer any Five questions. Each question carries Six marks. **(5×6=30)**

1. Discuss different types of addressing modes.
2. Differentiate between RISC and CISC.
3. Describe the phases of instruction cycle with flowchart.
4. Explain the working of JK and T flip flop using NAND gate.
5. Explain hamming code with an example.
6. Discuss ILP and its techniques.
7. Explain Hardwired Control unit.
8. Explain tri-state bus buffer with block diagram.

PART - B

Answer any Four questions. Each question carries Ten marks. **(4×10=40)**

9. Simplify $F(A,B,C,D) = \sum m(0, 1, 2, 5, 7, 8, 9, 10, 13, 15)$ using K-MAP. **(10)**
10. Explain different Instruction formats with examples. **(10)**

[P.T.O.

11. Explain Arithmetic logic shift unit. **(10)**

12. a) Write short note on daisy chaining arbitration. **(5)**

b) Define RAID and explain 0, 1, 3, 5, 10. **(5)**

13. Explain interconnection structure. **(10)**

14. Explain the working of DMA data transfer with block diagram. **(10)**
