62453

Reg. No.

I Semester M.C.A. Degree Examination, June/July - 2023

COMPUTER SCIENCE

Computer Organization and Architecture

(CBCS Y2k20 Scheme)

Paper : IMCA3

Time : 3 Hours Maximum Marks : 70

Instructions to Candidates:

- Answer any Five quesrions from Part - A
- Answer any Four questions from Part - B

PART - A

Answer any Five questions. (5×6=30)

1. Explain Von-Nuemann Architecture with a neat diagram. (6)
2. Differential between RISC and CISC. (6)
3. Subtract $24_{(10)}$ from $14_{(10)}$ Using 2's Complement Method. (6)
4. Explain Error Detector Using Hamming Code. (6)
5. Explain addressing models and its types. (6)
6. Explain the working of half adder and full adder, with a neat circuit diagram. (6)
7. Explain Instruction Level Parallelism. (6)
8. Explain Virtual Memory. (6)

PART - B

Answer any Four questions. (4×10=40)

9. a) Simplify:

   $F(A,B,C,D)=\Sigma m(0,1,2,3,4,5)+d(10,11,12,13)$ in SOP minimal form. (5)

   b) Analyse booth multiplication algorithm with flow chart, hardware implementation with an example. (5)

10. a) Explain Arithmetic Logic shift unit. (5)

    b) Explain the different registers in basic computer. (5)

P.T.O.

11. a) Explain Interrupt cycle with flow chart. (5)

b) Explain different types of ROMs. (5)

12. a) Explain the working of DMA data transfer with a neat block diagram. (5)

b) Explain different instruction formats with an example for each. (5)

13. a) What is memory mapped I/o and Program controlled I/O. (5)

b) Explain binary counter. (5)

14. Write short note on:

a) MIMD Architecture (5)

b) Inter Process communication. (5)