D1ACS2205 **(1 Page)** **Name.....**
Reg.No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2022
(Regular/Improvement/Supplementary)

COMPUTER SCIENCE
FCSS1C05 – COMPUTER ORGANIZATION & ARCHITECTURE

Time: 3 Hours **Maximum Weightage: 30**

Section A: Short answer questions. Answer any *four* questions. Each carries *two* weightage.

1. Explain one Error detection and correction method with example.
2. Differentiate between SR-flip-flop and JK-flip-flop.
3. Elaborate on the concept of Big-endian and Little-endian address assignments.
4. Explain the execution of a complete instruction.
5. Give a short note on the working of sequential array multiplier.
6. Differentiate between Programmed-I/O and Interrupt driven I/O.
7. Draw Flag Register and give significance of each bit.

(4 × 2= 8 weightage)

Section B: Short essay questions. Answer any *four* questions. Each carries *three* weightage.

8. Simplify using K-Map :$F(P,Q,R,S) = \sum (0,2,5,7,8,10,13,15)$.
9. Explain the working of hardwired control unit.
10. Summarize Booth's algorithm.
11. Explain the non-restoring division algorithm with an example.
12. Write a note on virtual memory. Explain the advantages.
13. Explain the working of programmable interrupt controller.
14. Write a note on 8051 instruction set.

(4 × 3 = 12 weightage)

Section C: Essay questions. Answer any *two* questions. Each carries *five* weightage.

15. With the help of a block diagrams explain the working of Serial in Serial Out and Serial in Parallel Out shift registers.
16. Explain the working of Fast adders with a neat diagram.
17. Give an overview of 8085 architecture and addressing modes.
18. With the help of a diagram, explain two-bus and three-bus organization of processors.

(2 × 5 = 10 weightage)