FACULTY OF INFORMATICS
MCA I Year II Semester (Non-CBCS) (Backlog) Examination, April 2022

Subject: Computer Organization

Time: 3 Hours   **Max. Marks: 80**

(Missing data, if any, may be suitably assumed)
Note: Answer any five questions from the following.
All questions carry equal marks.

1 (a) Explain logic gates with logic circuits and diagrams.
   (b) Explain simplification of Map with example.

2 (a) Explain shift registers, binary counters.
   (b) Explain error detection codes.

3 (a) Write micro operations for instruction cycle.
   (b) Explain design of accumulator logic.

4 Explain different types of micro operations with examples.

5 (a) Write an assembly language program for basic computer to find the largest of 10 numbers stored in the memory.
   (b) What is an Assembler? Explain the role of Assembler Directives.

6 Explain how the address sequencing takes place in micro programmed control unit.

7 (a) Write assembly language program using a stack organized computer with zero address operation instruction.
   (b) Write short notes on instruction formats.

8 (a) Explain Booths Multiplication Algorithm for multiplying binary integers.
   (b) Distinguish between RISC and CISC processor.

9 (a) What is Associate Memory? Derive Match logic.
   (b) Draw the block diagram of a typical asynchronous communication interface.

10 (a) What is cache Memory? Explain how associate memory can be used as cache memory.
   (b) Explain principle of data transfer using DMA.

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