Roll No.						

Total No. of Pages : 02

Total No. of Questions : 07

B.Sc. (IT) (Sem.–1) COMPUTER SYSTEM ARCHITECTURE Subject Code : UGCA-1908 M.Code : 76954 Date of Examination : 14-01-2023

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

- 1. Write briefly :
 - a) What is Race around condition in a Flip flop?
 - b) What is POS? Explain.
 - c) What are the different applications of Flip flops?
 - d) Draw the circuit diagram and truth table of a XOR gate.
 - e) What is a Latch?
 - f) What is a Decoder?
 - g) What is an Address bus?
 - h) Write a short note on Computer registers.
 - i) What are the different memory reference instructions.
 - j) List the different types of Instruction Formats.

SECTION-B

- 2. a) What is Boolean Algebra? Explain the role of De Morgan's theorem in Boolean Algebra.
 - b) Explain three input NOR gate with truth table and logic circuit.
- 3. What is a Multiplexer? Explain with a truth table and logic circuit the design of an 8 to 1 line multiplexer.
- 4. Explain Binary Adder/Subtractor with the help of an example.
- 5. Explain the 16-bit common bus system of the computer with the help of a neat diagram.
- 6. Explain the working of a JK flip-flop with a truth table and logic circuit.
- 7. Explain with diagrammatic illustration the Von Neumann architecture.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.