

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 07

BCA (Sem-2)
COMPUTER SYSTEM ARCHITECTURE
Subject Code : UGCA-1908
M.Code : 77416
Date of Examination : 02-06-2023

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. Answer very briefly :

- a) Define a NOT and NAND gate using diagram.
- b) What is a K-Map and write its use in boolean algebra.
- c) Mention any two benefits of demultiplexer.
- d) Show a parallel binary adder using a circuit diagram.
- e) What is encoding and decoding?
- f) How can we remove a race around condition?
- g) Mention the features of RISC architecture.
- h) Name the types of buses used in computer system architecture.
- i) Why is D-Flip flop used?
- j) What is the need of a register in computer system architecture?

SECTION-B

2. Explain the Logic Gates : XOR, XNOR, NAND and NOR with neat diagram for each.
3. Compare the execution of half adder/subtractor with a full-adder/subtractor.
4. Simplify the expression using K-maps : $F(A,B,C) = \sum(1,3,5,6,7)$.
5. Show the logic diagram and explain J-K flip-flop and R-S flip-flop.
6. Explain in detail the Von Neumann architecture.
7. Describe the data movement among registers using bus in a 16-bit common bus system.

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.