

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 : 11-12-2025

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 are the applications of Logic Gates?
- b) Define NAND and NOR gates and justify why they are called Universal Gates.
- c) Write difference between Combinational & Sequential circuits?
- d) What is the main difference between a Half Adder and a Full Adder?
- e) What is an Encoder? Give an example.
- f) Give truth table of D Flip flop.
- g) What is a Race-Around Condition in JK Flip-Flop?
- h) What are the key differences between Computer Organization and Computer Architecture?
- i) What is the Stored Program Concept and why is it important?
- j) What is the purpose of an Address Bus in a computer system?

SECTION - B

2. Write a detailed note on simplification of Boolean Expression using Boolean algebra.
3. What is a Binary Adder/Subtractor? Explain its working with a logic diagram.
4. Write a detailed note on Multiplexers and Demultiplexers.
5. Write a detailed note on applications of Flip-Flops.
6. Explain the Stored Program Concept with Von Neumann and Harvard architectures.
7. What is an Instruction Format? Explain different types of instructions with examples.

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.