

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MCA – SEMESTER I- EXAMINATION –WINTER-2024

**Subject Code: 619406**

**Date: 16/01/2025**

**Subject Name: Basic Computer Concepts**

**Time:10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** (a) What is Logical Gates? Write a detail note on Basic Logic Gates. **07**  
(b) Briefly discuss about the Top-Level View of Computer Components with diagram. **07**
- Q.2** (a) List and explain classes of Interrupts. **07**  
(b) List and briefly define the main structural components of a computer. **07**
- OR**
- Q.2** (b) List and briefly define the main structural components of a processor. **07**
- Q.3** (a) What is Direct Memory Access (DMA)? Explain the Block Diagram for DMA. **07**  
(b) Explain Instruction Cycle with state Diagram. **07**
- OR**
- Q.3** (a) What are the major functions of an I/O module? Explain I/O Module with Block Diagram. **07**  
(b) Explain User-Visible Register and Control and Status Register in detail. **07**
- Q.4** (a) What is Scheduling? List and briefly define the major types of OS scheduling. **07**  
(b) What is Mapping function? What are the 3 techniques used by Mapping function? **07**
- OR**
- Q.4** (a) What is an Operating System? Explain the types of Operating System in detail. **07**  
(b) What is Replacement algorithm? Why its needed? Make a list of it & explain it. **07**
- Q.5** (a) What is Flash Memory? Explain it in detail. **07**  
(b) What is Magnetic disk? Explain Magnetic read and write mechanism in detail. **07**
- OR**
- Q.5** (a) Explain the difference between DRAM and SRAM? **07**  
(b) Explain in detail Magnetic Tape. **07**

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