

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER I- EXAMINATION –WINTER-2023

Subject Code:619406**Date: 17/01/2024****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) Explain AND, OR & NOT gates with graphical symbols and truth table in detail. **07**
(b) Write a short note on Universal gates. **07**
- Q.2** (a) Describe DeMorgan's Theorem, sum of Product and Product of Sum in detail with Truth table. **07**
(b) Write a short note on four main functions of computer. **07**
- OR**
- (b) Explain Instruction Cycle with state Diagram. **07**
- Q.3** (a) List and explain classes of Interrupts. List and briefly describe two approaches to dealing with multiple interrupts. **07**
(b) Explain User-Visible Register and Control and status Register in detail. **07**
- OR**
- Q.3** (a) Explain top-level view of computer components with diagram. **07**
(b) Write a short note on PCI. **07**
- Q.4** (a) Explain I/O module with block diagram. **07**
(b) Write a short note on DMA with block diagram. **07**
- OR**
- Q.4** (a) Explain Segmentation. **07**
(b) Explain functions of Operating system in detail. **07**
- Q.5** (a) Explain Paging. Also discuss logical and physical addresses. **07**
(b) Compare RAM and ROM. Explain types of ROM. **07**
- OR**
- Q.5** (a) Discuss characteristics of memory systems. **07**
(b) Explain functions of interpreter and compiler. **07**
