Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–IV(NEW) EXAMINATION – WINTER 2022

Subject Code:2140707   **Date:16-12-2022**

Subject Name:Computer Organization

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. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Define Shift Register and write any two applications of it.	**03**
	(b)	Differentiate Instruction Code V/S Operation Code	**04**
	(c)	Compare RS & JK flip-flops. What is the difference between Main memory and cache memory?	**07**
Q.2	**(a)**	Explain Memory Transfer.	**03**
	(b)	List Logic Micro operations and explain any one in detail	**04**
	(c)	Explain BUS Transfer using Multiplexer (4 register)	**07**
		OR	
	(c)	Draw and explain 4-bit arithmetic circuit.	**07**
Q.3	**(a)**	Define Register Transfer Language and explain importance of it.	**03**
	(b)	Draw flowchart for instruction cycle	**04**
	(c)	What do you mean by Primary memory & Secondary memory? Explain T Flip flop with diagram and truth table.	**07**
		OR	
Q.3	**(a)**	Explain any three addressing Modes	**03**
	(b)	Give the differences of Synchronous & Asynchronous data transfer.	**04**
	(c)	Draw and explain 4-bit arithmetic circuit	**07**
Q.4	**(a)**	Give Difference between CISC and RISC Instructions.	**03**
	(b)	Draw neat sketch for Control Unit of Basic Computer.	**04**
	(c)	Explain the stack organization of CPU.	**07**
		OR	
Q.4	**(a)**	Draw and explain one stage of arithmetic circuit.	**03**
	(b)	Draw Flowchart for interrupt cycle.	**04**
	(c)	Write short note on Associative mapping in Cache memory	**07**
Q.5	**(a)**	What is control word? Explain with example.	**03**
	(b)	Give the differences of Synchronous & Asynchronous data transfer.	**04**
	(c)	Explain 4 bit binary adder with block diagram	**07**
		OR	
Q.5	**(a)**	Draw and explain Pipeline Processing	**03**
	(b)	Explain Instruction Format.	**04**
	(c)	Explain 0 Address, 1 Address, 2 Address, 3 Address instructions with example.	**07**

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