Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) EXAMINATION – WINTER 2023

Subject Code:3160712 Date:05-12-2023

Subject Name: Microprocessor and Interfacing

Time:02:30 PM TO 05:00 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)**	Explain the difference between a microprocessor and a microcomputer.	**03**
	(b)	Define significance of ALE pin with example or a diagram.	**04**
	(c)	Draw and Explain Pin diagram of 8085.	**07**
Q.2	**(a)**	Explain Assembler, Debugger and Linker with an example.	**03**
	(b)	Explain Read/ Write control signals for memory and I/O.	**04**
	(c)	Draw and Explain Timing Diagram of MVI A, 45h.	**07**
		OR	
	(c)	List instruction set of 8085. Also explain timing diagram of two-byte instructions.	**07**
Q.3	**(a)**	Find the ending address of an 8K-byte memory if the starting address is ***'0'***	**03**
	(b)	What are the contents in Register H and L after executing the following 8085 program? MVI L, 01H MVI H, 00H INX H	**04**
	(c)	Write an assembly language program to find the larger number from given two numbers stored at 2501H = 98H, 2502H = 87H result store at 2503H.	**07**
		OR	
Q.3	**(a)**	What is the ending address of a 2K-bytes memory whose starting address is 3000H.?	**03**
	(b)	What are the states of the Carry (C), Zero (Z) flags and content in Accumulator (A) after executing the following 8085 program? MVI L, 01H MVI A, 00H SUB L	**04**
	(c)	Write an assembly language program to find the smaller number from given two numbers stored at 2501H = 84H, 2502H = 99H result store at 2503H.	**07**
Q.4	**(a)**	Explain General purpose Data register.	**03**
	(b)	Explain Indirect and Immediate addressing mode with example.	**04**
	(c)	Explain 8085 Programming model and classify instruction set on the basis of different addressing modes.	**07**
		OR	
Q.4	**(a)**	Explain various flags use in 8085.	**03**

	(b)	Give comparison of Memory mapped I/O and Peripheral mapped I/O.	**04**
	(c)	Explain One byte, Two byte, Three byte and write short note on different types of instruction sets.	**07**
Q.5	**(a)**	Differentiate between maskable and non-maskable interrupts.	**03**
	(b)	Explain various types of conditional jump instructions with example.	**04**
	(c)	Draw and explain the architecture of SUN SPARC microprocessor.	**07**

OR

Q.5	**(a)**	Differentiate vectored and non-vectored interrupts.	**03**
	(b)	How many interrupts are there in 8085? Name them. Explain the characteristics in terms of maskability, vectoring and priority.	**04**
	(c)	Give ARM architecture features and explain block diagram of ARM.	**07**

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