Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–IV (NEW) EXAMINATION – WINTER 2020

Subject Code:2140304 **Date:11/02/2021**

Subject Name:Microprocessor & its Interfacing

Time:02:30 PM TO 04:30 PM **Total Marks:56**

Instructions:

1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Explain rotate instruction with the help of figure.	**03**
	(b)	Define T-State, Machine cycle and Instruction cycle.	**04**
	(c)	Explain 8085 addressing modes with help of example.	**07**
Q.2	**(a)**	Explain function of following instruction in detail 1) DAD 2) DAA 3) XCHG	**03**
	(b)	Write an 8085 ALP to convert the hexadecimal value to decimal value?	**04**
	(c)	Draw and explain Architecture of 8085	**07**
Q.3	**(a)**	Write a program to find largest number in array of data.	**03**
	(b)	Compare Memory mapped I/O with Peripheral I/O	**04**
	(c)	Write a program to initiate ADC and store the digital data in memory.	**07**
Q.4	**(a)**	Discuss the function of SIM and RIM instructions.	**03**
	(b)	Explain R/2R ladder network circuit used in D/A converter.	**04**
	(c)	Write a program to multiply two 16-bit numbers and stored result in memory location.	**07**
Q.5	**(a)**	Explain the signals HOLD, READY and ALE.	**03**
	(b)	What is interrupt? List the interrupts available in 8085 Microprocessor	**04**
	(c)	With neat schematic explain working of 8253 Programmable timer Interface.	**07**
Q.6	**(a)**	Explain Call and jump instruction in detail.	**03**
	(b)	Write an ALP for 8085 to find the square of the numbers from 0 to 9 using a Table of Square.	**04**
	(c)	With neat schematic explain working of 8259 Programmable Interrupt Controller.	**07**
Q.7	**(a)**	Compare PUSH & POP instruction.	**03**
	(b)	Write a short note on serial communication protocols in detail	**04**
	(c)	Explain Mode 0, Mode 1 and Mode 2 operations of 8255 in detail.	**07**
Q.8	**(a)**	Define 1) Opcode 2) Operand 3) Polling	**03**
	(b)	Explain parallel communication protocols in detail	**04**
	(c)	Explain Interfacing of 4x 4 Matrix keyboard with 8085 in detail.	**07**

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