Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:2141001 **Date:11/02/2021**

Subject Name:Microprocessor and 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 the flag register and flag bits of 8085.	**03**
	(b)	Explain the need of *ALE* and *IO/M* pins of the 8085 microprocessor	**04**
	(c)	What is stack? Explain stack operations in 8085 microprocessor using PUSH and POP instructions with neat sketches. When stack operations are needed?	**07**
Q.2	**(a)**	Explain three control flag bits of 8086 microprocessor.	**03**
	(b)	Classify the interrupts in 8085 Microprocessor	**04**
	(c)	Draw and explain programming model of 8085 microprocessor.	**07**
Q.3	**(a)**	Give the Comparison of RISC and CISC Microprocessor	**03**
	(b)	Compare I/O mapped I/O and memory mapped I/O with respect to 8085 microprocessor	**04**
	(c)	Draw and explain timing diagram of IN instruction.	**07**
Q.4	**(a)**	List out the priorities of hardware interrupts in 8085.	**03**
	(b)	Compare Static RAM and Dynamic RAM memory	**04**
	(c)	Draw and explain timing diagram of OUT instruction.	**07**
Q.5	**(a)**	Explain the difference between JMP and CALL instructions with example	**03**
	(b)	What are the function of below pins of 8251 USART DSR', DTR', RTS', CTS'	**04**
	(c)	Write a program to generate a continuous square wave of period 500µs and use bit D0 to output the square wave and system clock period is 325ns.	**07**
Q.6	**(a)**	Explain the function of Program Counter.	**03**
	(b)	Write a short note on branch instructions of 8085	**04**
	(c)	Write an assembly program to add 6 data bytes stored from memory location 2050h, the result can be more than 8 bits and display it at output ports 81h and 82h respectively	**07**
Q.7	**(a)**	State features of 8259 programmable interrupt controller.	**03**
	(b)	List and explain Addressing Modes of the 8085 microprocessor.	**04**
	(c)	Write a program to transfer the data bytes stored from memory location 2050 to 2056h to the memory location 3050 to 3056 in reverse order.	**07**
Q.8	**(a)**	What is the difference between absolute decoding and partial decoding? Explain with example.	**03**
	(b)	List the advantages of memory segmentation in the 8086 microprocessor.	**04**
	(c)	Draw architecture 8086 microprocessor. Explain its basic features.	**07**

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