

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 <i>ALE</i> and <i>IO/M</i> pins of the 8085 microprocessor	04
	(c) What is stack? Explain stack operations in 8085 microprocessor using <i>PUSH</i> and <i>POP</i> 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 <i>IN</i> 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 <i>OUT</i> instruction.	07
Q.5	(a) Explain the difference between <i>JMP</i> and <i>CALL</i> instructions with example	03
	(b) What are the function of below pins of 8251 USART <i>DSR'</i> , <i>DTR'</i> , <i>RTS'</i> , <i>CTS'</i>	04
	(c) Write a program to generate a continuous square wave of period 500 μ s and use bit <i>D0</i> 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
