

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

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