Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– IV (Old) EXAMINATION – WINTER 2019

Subject Code: 140701   **Date: 10/12/2019**

Subject Name: Microprocessor And Interfacing

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Draw and Explain the functional block diagram of internal architecture of 8085 and explain its working.	7
	(b)	State the function of following instructions: (1) LHLD 16-bit (2) PUSH PSW (3) DAD H (4) RIM (5) XCHG (6) XTHL (7) PCHL	7
Q.2	(a)	Define: (i) RESET OUT (ii) HLDA (iii) READY (iv) HOLD (v) ALE (vi) INTR (vii)TRAP	7
	(b)	Draw and explain timing diagram of Memory Read and Memory Write cycle.	7
		OR	
	(b)	Write a short note on Memory Classification of 8085 Microprocessor.	7
Q.3	(a)	Explain the De multiplexing the Bus AD_7-AD_0 and also explain the generation of the Control signals.	7
	(b)	Explain the function of RIM and SIM instructions in 8085.	7
		OR	
Q.3	(a)	Explain the concept of subroutine with help of CALL and RET instructions	7
	(b)	Explain memory mapped I/O and I/O mapped I/O.	7
Q.4	(a)	Write a programme to perform multiplication of two 8 bit numbers.	7
	(b)	Write a programme to find smallest number from an array of data.	7
		OR	
Q.4	(a)	Write a programme to perform division of two 8 bit numbers.	7
	(b)	Write a programme to arrange an array of data in ascending order.	7
Q.5	(a)	Describe various modes of 8253 timer.	7
	(b)	Answer the following questions: 1. Explain any two working modes of IC 8254-Programmable interval timer. 2. Explain importance of DMA.	4 3
		OR	
Q.5	(a)	Explain 8279 Programmable Keyboard/Display Interface.	7
	(b)	Draw and explain the functional block of IC 8255A and also discuss the operating modes and control word format of 8255A.	7

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