Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

P.D.D.C. Sem - IV Examination June- 2011

Subject code: X-40901

Subject Name: Microprocessor & Interfacing

Date: 02/06/2011 **Time: 10.30 am – 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 & Explain Block diagram of Internal Architecture of 8085 μP. **07**

(b) State the function of the following instruction of 8085 μP. **07**

1. RAL 2. PUSH B 3. DAA
4. STC 4. PCHL 6. XCHG
7. CMA

Q.2 **(a)** **07**

1. State whether the following lines are input line (pins) or output lines with respect to 8085 μP.
   I) ALE II) READY III) HLDA

2. Compare Memory mapped I/O & I/O mapped I/O

(b) List various machine cycle of 8085 μP. Explain Op-code Fetch machine cycle with the help of timing diagram. **07**

OR

(b) What do you understand by term Addressing modes? Explain various addressing modes supported by 8085 μP. **07**

Q.3 **(a)** Add 16 bit number stored at memory locations 2000H and 2001H with 16 bit number stored at memory location 2002H & 2003H. The MSB of the two numbers to be added are in memory locations 2001H & 2003H. Store the result at memory locations 2004H & 2005H with MSB stored at memory locations 2005H. **07**

(b) Write an ALP to count continuously from 00H to FFH with 1 sec delay between each count and display the output at output port whose address is 3AH. Assume clock frequency to be 1 MHz. **07**

OR

Q.3 **(a)** Subtract 16 bit number stored at memory locations 2002H and 2003H from16 bit number stored at memory location 2000H & 2001H. The MSB of the two numbers to be subtracted are in memory locations 2001H & 2003H. Store the result at memory locations 2004H & 2005H with MSB is stored at memory locations 2005H. **07**

(b) Transfer ten bytes of data from one memory block to another memory block. Source memory block starts from memory location 2200H where as destination memory block starts from memory location 2300H. **07**

Q.4	**(a)**	Write a detailed note on Interrupts of 8085 μP.	**07**
	(b)	Explain Interfacing of 8-bit D to A converter with 8085 μP.	**07**

OR

Q.4	**(a)**	Explain RIM & SIM instructions.	**07**
	(b)	Explain interfacing of 8-bit A to D converter with status checking techniques with 8085 μP.	**07**
Q.5	**(a)**	Draw functional Block diagram of 8255. Explain its Control word and BSR mode of operation.	**07**
	(b)	Draw functional Pin out diagram of 8253 Programmable Interval timer. Explain its control word and Mode 0 operation with help of timing diagram.	**07**

OR

Q.5	**(a)**	Draw the Block diagram of 8259A Programmable Interrupt Controller & Explain function of each block.	**07**
	(b)	Draw functional pin out diagram of 8279 Keyboard & Display controller & Explain function of each pin.	**07**

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