GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–IV (New) EXAMINATION – WINTER 2015

Subject Code:2140304   **Date:22/12/2015**
Subject Name: Microprocessor & Its Interfacing
Time: 2:30pm to 5:00pm   **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)**	With neat diagram explain the architecture of 8085.	**07**
	(b)	Give the comparison between memory mapped I/O and I/O mapped I/O.	**07**
Q.2	**(a)**	Explain functions of following instructions: 1) DAD B 2) LDAX D 3) DAA 4) SIM 5) XTHL 6) XCHG 7) POP PSW	**07**
	(b)	Draw & explain timing diagram for OUT 30h.	**07**
		OR	
	(b)	Draw & explain timing diagram for STA 5080h.	**07**
Q.3	**(a)**	What do you mean by multiplexing? Explain Demultiplexing of AD bus with diagram.	**07**
	(b)	Write a program to generate a continuous square wave with the period of 1msec. Assume clock frequency 3MHz & use bit D_0 to output square wave.	**07**
		OR	
Q.3	**(a)**	Interface 16K of ROM with starting address 0000h and 2K of RAM with starting address C000h with 8085.	**07**
	(b)	50 Student's exam marks are stored in memory location starting at 4080h. Write an ALP to find the highest marks & store it at location 6000h.	**07**
Q.4	**(a)**	Write a program to convert 2-digit BCD number stored at location INBUF to binary number & store it at location OUTBUF.	**07**
	(b)	What do you mean by interrupt in microprocessor? List & explain types of interrupts available with 8085.	**07**
		OR	
Q.4	**(a)**	Write a program to multiply two 16-bit numbers stored in memory.	**07**
	(b)	Enlist & explain different types of communication protocols.	**07**
Q.5	**(a)**	Interface an 8-bit D/A converter with 8085. Write a program to generate a continuous ramp waveform.	**07**
	(b)	Explain the block diagram & functioning of 8155.	**07**
		OR	
Q.5	**(a)**	Draw 8254 block diagram & explain its control word format.	**07**
	(b)	Interface an LCD with 8085 using 8255 peripheral chip & write instructions to initialize LCD.	**07**

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