Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 162002 **Date: 03/01/2013**

Subject Name: Micro Processors & Micro Controllers

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Draw Architecture of 8085 microprocessor and Explain in Brief.	**07**
	(b)	What is microcontroller? What are the features that differentiate it from microprocessor?	**07**
Q.2	**(a)**	Draw internal block diagram of 8051 microcontroller and each block in brief.	**07**
	(b)	Explain SCON and PCON SFRs in details.	**07**
		OR	
	(b)	Explain Interrupt of 8051 microcontroller.	**07**
Q.3	**(a)**	List and Explain categories of 8085 instructions that manipulate data.	**07**
	(b)	Using diagram illustrate logic pin out of the 8085 microprocessor.	**07**
		OR	
Q.3	**(a)**	Explain timing diagram of the memory write cycle.	**07**
	(b)	Differentiate between Vectored and Non Vectored interrupts.	**07**
Q.4	**(a)**	Draw flow chart and write an assembly language program to load the hexadecimal number 9BH and A7H in register D and E , respectively , and add the numbers. If the sum is greater than FFH display 01H at Output PORT0; otherwise display the sum.	**07**
	(b)	The following block of data is stored in memory locations from XX55H to XX5AH. Write an assembly language program to transfer the data to the locations XX80H to XX85H in the reverse order. (e.g. the data by 22 should be stored at XX85H and 37H at XX80H) Data(H) 22,A5,B2,99,7F,37.	**07**
		OR	
Q.4	**(a)**	Write an ALP to add unsigned numbers found in internal RAM 35H,36H and 37H. Store the result in 40H(LSB) and 41H(MSB).	**07**
	(b)	Write a program to toggle all bits of port 1 by sending to it the values 55H and AAH continuously. Put a time delay in between each issuing of data to port 1	**07**
Q.5	**(a)**	Write short notes on memory mapped I/O.	**07**
	(b)	Write an ALP to convert Binary numbers to BCD numbers.	**07**
		OR	
Q.5	**(a)**	Explain register Banks and stack of 8051 microcontroller.	**07**
	(b)	Explain timer control register of 8051.	**07**

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