Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –I Examination Feb. - 2012

Subject code: 710302N **Date: 13/02/2012**
Subject Name: Advance Microcontroller
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)**	Explain memory of PIC 18 F452 Microcontroller.	**07**
	(b)	Explain stack operation in PIC18XXX.	**07**
Q.2	**(a)**	Explain timer of PIC 18F452 microcontroller with its modules	**07**
	(b)	Draw a schematic diagram for PIC18XXX microcontroller interface with DAC0808. Write an assembly language program to generate ramp signal.	**07**
		OR	
	(b)	Draw schematic diagram interfacing LM35 with PIC18XXX. Explain necessary scaling (calibration) process if required. Write an assembly language program which reads temperature and displays at port D.	**07**
Q.3	**(a)**	Explain flag register of 18F452 microcontroller along with function of each flag.	**07**
	(b)	List the different types of arithmetic instruction related to addition task. Explain any three with example.	**07**
		OR	
Q.3	**(a)**	Draw and explain internal construction of PORT D	**07**
	(b)	List and explain types of data copy instruction.	**07**
Q.4	**(a)**	Explain serial data communication modules of 18F452 controller	**07**
	(b)	List the addressing mode of PIC 18F452 and explain any two in detail.	**07**
		OR	
Q.4	**(a)**	List and explain buses of PIC 18F452 microcontroller	**07**
	(b)	Draw and explain microcontroller unit for 18F452.	**07**
Q.5	**(a)**	List and explain special features of 18F452 microcontroller.	**07**
	(b)	Write a code to read the data from memory location 30h four times and add it with content of 20H on every read and store the result at the end of the sixth read in WREG.	**07**
		OR	
Q.5	**(a)**	Explain function of working register, bank select register and status register.	**07**
	(b)	Write a program to move data AAh in file register 125H and then exchange data with file register 120H	**07**

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