Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 710302N **Date: 26-12-2013**

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 timer mode 0 for PIC 18F452.	07
	b)	Draw and explain memory organization of 18F452.	07
Q-2	a)	Explain following instruction with one example. a) PRNCF b) BTFSC c) MULLW d) MOVFF	08
	b)	Explain PIC 18 interrupt sources.	06
		OR	
	b)	Explain Master Synchronous Serial Port (MSSP) module.	06
Q-3	a)	Explain function of transmit status and control register.	07
	b)	Explain function of each bit of status register and working register.	07
		OR	
Q-3	a)	List and explain special features of 18F452.	07
	b)	Write ALP to Binary equivalent of BCD number in WREG. Assume data.	07
Q-4	a)	Write a ALP to generate a square wave of 5 KHz frequency by tuning on and off bit0 of PORTC if clock frequency is 40 MHz.	07
	b)	Explain CCP module.	07
		OR	
Q-4	a)	Write a program to copy the seven data bytes from program memory to data registers starting from REG 27(0X027) in reverse order. Assume data.	07
	b)	Explain stack pointer register with function of each bit.	07
Q-5	a)	Calculate the PR2 count to generate a 10 KHz pulse waveform if the PIC 18 oscillator frequency is 10 MHz.	07
	b)	List the types of timers and counters with their features.	07
		OR	
Q-5	a)	How CCP mode can be setup for Pulse Width Modulation Mode?	07
	b)	Write an ALP to generate 1 millisecond delay using PIC 18F452.	07

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