Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

P.D.D.C. Sem- III Examination December 2010

Subject code: X31103

Subject Name: MICROCONTROLLER AND INTERFACING

Date: 15 /12 /2010 **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)**		How interrupts are handled in 8051. Also explain types of interrupts & their vector locations.	**07**
	(b)		Explain Flags & PSW register in 8051.	**07**
Q.2	**(a)**		Explain 8031/51 Interfacing with External ROM.	**07**
	(b)		Write a C Program to send 55H & AAH to all ports of the 8255 continuously. Assume the base Address of the 8255 is 4000H.	**07**
			OR	
	(b)		Write a C Program to read temperature from ADC0848, Convert it to decimal & put it on Port-0 with some delay.	**07**
Q.3	**(a)**		Explain TCON & SCON register in brief.	**07**
	(b)		Give importance of TI & RI Flag bit.	**07**
			OR	
Q.3	**(a)**		Write an 8051 C Program to send Letters “M”,”D”& ”E” to the LCD using delays.	**07**
	(b)		Explain Interfacing of ADC in brief.	**07**
Q.4	**(a)**	(i)	Compare RAM Data Space & CODE Data Space	**03**
		(ii)	Write an 8051 C Program to get a byte of data from Port-1, wait ½ sec & then send it to Port-2.	**04**
	(b)		Explain 8051 Addressing Mode in brief & Give Advantages & Limitation of Register Indirect Addressing Mode.	**07**
			OR	
Q.4	**(a)**	(i)	Explain I/O Ports & Bit addressability in brief.	**04**
		(ii)	Write a Program that Generate Square Wave of 50% duty cycle on bit-0 of Port-1.	**03**
	(b)		Explain JUMP & CALL Instruction with Program Range.	**07**
Q.5	**(a)**	(i)	A Switch is connected to pin 2.7.Write a C Program to Monitor the status of SW & Perform the following: a) If SW =0, the Stepper motor moves clockwise. b) If SW =1, the Stepper motor moves counter clockwise.	**04**
		(ii)	Explain PWM in Brief.	**03**
	(b)	(i)	Explain DS12887 RTC Interfacing in Brief.	**04**
		(ii)	Write a Program to setting the Date October 19th, 2004 for RTC.	**03**
			OR	
Q.5	**(a)**		Draw the pin diagram of 8051 & Explain function of each pin in brief.	**07**
	(b)		Explain Different Timer Mode in 8051.	**07**

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