Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION - WINTER • 2014

	•	Code: 173203 Name: Microprocessor and Microcontroller	Date: 02-12-2014	
Tiı	•	.0:30 am - 01:00 pm	Total Marks: 70	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary.		
Q.1	(a)	Draw the functional block diagram of internal architecture explain its working.	re of IC 8085 and	07
	(b)	Draw and explain the generation of Control Signal of Mi explain the flag register of 8085. What is PSW?	crocontroller. Also	07
Q.2 (a)		Define and describe the data types and directives of 8051	Microcontroller.	07
	(b)	Draw and describe following 8-bit Registers (a) SCON (b) PCON (c) TCON (d) TMOD OR		07
	(b) (a) Draw the pin diagram of Intel 51 8-bit Microcontroller.(b) Explain the register indirect and index addressing mode of 8051.			07
Q.3	(a)	Explain Register Bank and Stack of 8051 microcontroller	r.	07
	(b)	Write an assembly program to generate 10khz square was duty cycle. (take $T = 1.085 \times 10^{\circ}-6$ second)	ve frequency with 60%	07
Q.3	(a)	OR Draw and explain Reset and Clock circuit of 8051. V capacitor in RESET circuit?	What is the purpose of	07
	(b)	A door sensor is connected to the P1.1 pin, and a buzze Write an 8051 C program to monitor the door sensor, and the buzzer. Sound of buzzer by sending a square wave of	d when it opens, sound	07
Q.4	(a) (b)	Explain the level and edge-triggered interrupts of 8051. Write an 8051 C program to toggle all bits of P2 conti	nuously every 500 ms.	07 07
		Use Timer, mode 1 to create the delay.		
Q.4	(a)	OR What is the important of TI and RI flag bit in serial comm	nunication?	07
	(b)	Assuming that XTAL = 22 MHz, write a program to generate frequency 1Khz on pin P1.2.		07
Q.5	(a) (b)	Draw and explain the Stepper and DC motor interfacing with 8051. Write a C program to scrolling a string "The Earth is but One Country" to the LCD using 250 millisecond delays.		07 07
Q.5	(a) (b)	OR Draw and explain the DAC interfacing of 8051 with one Write a C program to reading and displaying temperature		07 07
