Seat No.: Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014

Date: 22-05-2014

Subject Code: 172001

Sul Tir	bject	Name: Microcontrollers and Embedded Systems 2:30 pm - 05:00 pm Total Marks: 70 as:	
	1.	Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	Explain the bit configuration of SCON & TCON registers of 8051 Draw and explain memory organization in PIC18f.	07 07
Q.2	(a) (b)	Interface 7segment LEDs with PIC18f. Interface 3x3 keyboard with 8051.	07 07
	(b)	OR Interface DAC0808 with 8051.	07
Q.3	(a)	Explain the types of interrupts in 8051 and state their priority. Explain IE register bit pattern.	07
	(b)	Explain the significance of stack using PUSH & POP instructions. OR	07
Q.3	(a)	What is Checksum byte? Why is checksum operation done? Write a program to calculate checksum byte.	07
	(b)	Explain PORTA & PORTB functions of PIC18f452.	07
Q.4	(a)	Explain data framing in 8051. What is baud rate? How do you set different baud rates & double the baud rate in 8051?	07
	(b)	Write a 8051 C program to toggle P2.5 every 5ms. XTAL=24MHz. OR	07
Q.4	(a) (b)	Explain the different branch instructions in PIC18f. Write a 8051 C program to transmit the message "PEACE" at 19200 baud rate serially.	07 07
Q.5	(a)	Write an ALP to add an array of 5 data starting at 40H & store the result in locations 07H & 08H in PIC18f.	07
	(b)	Write a 8051 C program using interrupts to (i)generate 10kHz on P2.3 (ii)receive data serially (iii)read data from P0, compliment it & send to P1. XTAL=11.0592MHz.	07
Q.5	(a)	OR Write a subroutine to setup Timer1 of PIC18F in 16-bit mode with internal	07
Ų.S	(a)	clock at 10MHz to generate a delay of 100ms.	U/
	(b)	Write an ALP to clear 16 RAM locations starting at address 50H in PIC18f.	07
