GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2016

	Subject Name: Embedded system Design		te:09/05/2016 tal Marks: 70	
	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary.		
Q.1	(a) (b)	Define Embedded systems & classify it. With neat diagram explain the architecture of PIC16F877.	07 07	
Q.2	(a) (b)	Explain features and board diagram of Arduino Uno board. Explain following PIC16 MPU configurations: clock oscillator types, Watchdog timer, Power-up timer, Brown-out Reset. OR	07	
	(b)	Explain features of PIC16F877 microcontroller.	07	
Q.3	(a) (b)	Explain PIC16 digital I/O pin structure and operation with neat diagram. Enlist PIC16 serial interfaces & explain any one in detail. OR	07 07	
Q.3	(a) (b)	Explain timer operation of PIC16F8XX with diagram. Enlist and explain various interrupt sources in PIC16F877.	07 07	
Q.4	(a) (b)	Explain various arithmetic and logical operators with example. Explain while loop with an example. OR	07 07	
Q.4	(a) (b)	Explain various conditional operators with example. Compare various communication ports available with PIC16.	07 07	
Q.5	(a)	Interface a switch and buzzer with PIC16F877 along with all necessary circuit and write a C language program to activate the buzzer for 3 seconds if switch is ON.	07	
	(b)	Explain triangular waveform generation using PIC16F877 with C programming. OR	07	
Q.5	(a)	Design a temperature sensor & display circuit and program it for receiving temperature sensor data on hyper terminal using PIC16f877.	07	
	(b)	Design ultrasonic range finder using Arduino Uno board and program it.	07	
