Exam.Code:0928
Sub. Code: 6566

2014

B.E. (Electronics and Communication Engineering)

Fourth Semester

EC-402: Microcontrollers and Interfacing

Time allowed: 3 Hours | Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Part.*

x-x-x

Q1. (a) Explain the difference between C and OV flag in 8051 and where each one is used.

(b) Is the following a valid instruction? Give justification too. "CJNE R4,#67,here"

(c) Compare polling vs. interrupts in embedded system.

(d) Explain any two advanced features of PIC18.

(e) Why always the LJMP instruction is used as the topmost line of Interrupt Service Routine? **(2*5 = 10)**

Part-A

Q2. (a) What is embedded system? Explain the applications of embedded systems with suitable examples. (5)

(b) Write the instructions how to access the internal RAM, external ROM and external RAM address using suitable examples. (5)

Q3. (a) Write a program to add 16 bit data stored in external memory location starting from 6000 H to 6003 H. Store the results at external memory locations from 5000 H to 5003 H. (5)

(b) Draw and explain pin diagram of 8051 microcontrollers. (5)

Q4. (a) Write an assembly language program to find the average of 10 students marks stored in on chip ROM area 100H onwards. Store the average. (5)

(b) Explain the bit addressable I/O instructions in detail and mention the advantage of using these instructions. (5)

Part-B

Q5. (a) Write a program using interrupts to do the following: blink the led on and off continuously and simultaneously generating a square wave on the port 2.0 using timer 1.Assume XTAL=11.0592 MHz. (5)

(b) Explain the different steps to receive data serially using 8051. (5)

Q6. (a) Draw LCD interfacing diagram with 8051 microcontroller. Write a program to display UIET in the 1st row of the LCD screen. (5)

(b) Assuming that XTAL=22MH,WAP to generate a pulse train of 2 seconds period on pin P2.4. Use Timer 1 in mode 2. (5)

Q7. (a) Write the program to create a square wave of 50% and 66% on bit 1 and bit 5 of port C of PIC18 respectively. (5)

(b) Draw the programming model of PIC 18 microcontroller and Explain the different registers in it. (5)

x-x-x