1128
B.E. (Electrical and Electronics Engineering)
Fifth Semester
EE-510: Microcontrollers

Max. Marks: 50

Time allowed: 3 Hours

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

x-x-x

I. Attempt the following:-

   a) Distinguish between Embedded and External processor.

   b) Which part of the memory is allocated to SFRs in 8051?

   c) Explain the function of the instruction CJNE.

   d) What is the advantage of Register Indirect Addressing Mode?

   e) What is an access bank in PIC18 & what is the size of this bank?　(5x2)

UNIT – I

II. a) Where is the stack in 8051, how is it moved and accessed?

   b) Fifteen numbers are stored in RAM location 70H onwards. WAP to find the Largest number in this set and save it at 90H address.　(4,6)

III. a) Discuss the SFRs used in Interrupt process of 8051?

   b) Generate a square wave with ON time of 3ms and an OFF time of 10ms.On all pins of PortO. Assume Crystal frequency of 22MHz.　(6,4)

IV. a) WAP to receive the data which has been sent in serial form at Baud rate 19200 and subsequently to send it to port2 in parallel form

   b) Explain LCD interfacing with 8051.(only the hardware design) How is the Busy Flag checked?　(5,5)

UNIT – II

V. a) Discuss the addressing of Program memory and Data memory in PIC 18.

   b) How many Banks are there in PIC 18, what is the size and how are they selected?　(6,4)

P.T.O.

VI. a) Specify the expected result in W register of PIC 18 and solve the C, DC & Z flags

   for the following code:

     MOVLW 0X89

     ADDLW 0X77

   b) Discuss the instruction formation of the CALL instruction.

   c) Explain the concept and advantage of Pipelining in PIC18? (4,3,3)

VII. Write short notes on <u>any three</u> of the following :-

   a) RS232C serial Interface

   b) PortO vs Porti

   c) Interrupt Service Routine

   d) Keyboard Interface (4,3,3)

x-x-x