Exam.Code:0935
Sub. Code: 6982

2021
B.E. (Electrical and Electronics Engineering)
Fifth Semester
EE-510: Microcontrollers

Time allowed: 3 Hours Max. Marks: 50

***NOTE**: Attempt <u>five</u> 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) What is the function of the instruction CJNE.

b) Explain the difference between CISC and RISC processor.

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

d) How many banks are present in PIC18 & what is the size of each bank.

e) Distinguish between Von Neumann and Harvard Architecture. (5x2)

UNIT – I

II. a) WAP to exchange the lower nibble with a higher nibble for a series of 20 numbers starting at address 50H and then place the numbers at address 70 H onwards.

b) 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. (5,5)

III. a) Twenty numbers are stored in RAM location 50H onwards. WAP to eliminate all the blanks in this set and save the rest at 70H address onwards.

b) Discuss the SFRs used in Interrupt process of 8051 ? (5,5)

IV. a) WAP to receive the data which has been sent in serial form and send it Out to port 0 in parallel form. Also save the data at Ram location 70H. Use Timer 1 in mode 2 and 9600 baud.

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

P.T.O.

UNIT – II

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

b) Discuss CALL instruction with reference to PIC 18. (5,5)

VI. a) Explain the concept and advantage of Pipelining in PIC 18.

b) In the instruction "GOTO target-addr" explain why the lowest bit of Program counter is 0.

c) Specify the expected result in W register of PIC 18 for the instructions:

MOVLW 0 X 65

ANDLW 0 X 76 (4,4,2)

VII. Write short notes on the following:-

a) Keyboard Debouncing

b) Memory mapping

c) Interrupt service Routine

d) Stepper Motor

e) Nested Subroutines (5x2)

x-x-x