

Exam.Code:0935  
Sub. Code: 6982

1129  
B.E. (Electrical and Electronics Engineering)  
Fifth Semester  
EE-510: Microcontrollers

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
  - a) Distinguish between Von Neumann and Harvard Architecture.
  - b) How does one know that 8051 is using external program memory ?
  - c) Explain the function of the instruction JBC .
  - d) What is the advantage of Register Indirect Addressing Mode?
  - e) What is the function of File register inPIC18? (5x2)

UNIT - I

- II.
  - a) Explain the function of Registers PSW and Register B?
  - b) 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. (4,6)
- III.
  - a) Discuss the SFRs used in Serial Communication Programming of 8051?
  - b) Generate a square wave with ON time of 15ms and an OFF time of 5ms On all pins of Port2. 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.

(2)

- VI. a) Specify the expected result in W register of PIC 18 and solve the C, DC & Z flags for the following code:  
MOVLW 0 X 76  
ADDLW 0 X 89
- b) Discuss the instruction formation of the CALL instruction.
- c) Explain the instructions MOV FF, MOVWF? (3,3,4)
- VII. Write short notes on any three of the following:-
- a) Embedded System
- b) Seven Segment Display
- c) Interrupt Service Routine
- d) Keyboard Interface (4,3,3)

x-x-x

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NO