Assignment 2(SKEMA)

1. Show how the flag register is affected by the following instructions:

(i)	MOVLW B’00001111’	L = 00001111
		W = L = 00001111

	ANDLW B’10110000’	L = 10110000 W AND L = 00001111 10110000 00000000 Affected flag is Z, Z = 1, because result of the operation is ZERO

(ii)	MOVLW B’00110001’	L = 00110001
		W = L = 00110001

	IORLW B’11001110’	L = 11001110 W IOR L = 00110001 11001110 11111111 Affected flag is Z, Z=0, because result of operation is NOT ZERO

(iii)	MOVLW B’11111111’	L = 11111111
		W = L = 11111111

	ADDLW B’00000001’	L = 00000001 W + L = 11111111 00000001 [1]00000000 Affected flag are C, DC, Z Z = 1, because result of the operation is ZERO C=1, because there is a carry beyond the D7 bit DC=1,because there is a carry from the D3 to the D4 bit

(iv)	MOVLW B’11111000’	L =11111000
		W = L = 11111000

	MOVWF Mybyte	F = Mybyte
		Mybyte = W = 11111000

	MOVLW B’10001001’	L = 10001001
		W = L =10001001

	ADDWF Mybyte,0	F = Mybyte W + F, result of operation save in W W + Mybyte = 10001001 11111000 [1] 10000001 Affected flag are C, DC, Z Z = 0, because result of the operation is NOT ZERO C=1, because there is a carry beyond the D7 bit DC=1,because there is a carry from the D3 to the D4 bit

(v)	MOVLW B’00001111’	L = 00001111
		W = L = 00001111

	MOVWF MyReg	F = MyReg
		MyReg = W = 00001111

	MOVLW B’00001111’	L = 00001111
		W = L = 00001111

	SUBWF MyReg, 0	F = MyReg W - F, result of operation save in W W - MyReg = 00001111 00001111 [0] 00000000 Affected flag are C, DC, Z Z = 1, because result of the operation is ZERO C=0, because there is no carry beyond the D7 bit DC=0,because there is no carry from the D3 to the D4 bit

2. State the contents of the file register RAM locations after the following program:

MOVLW H’99’	L = H’99’
	W = L = H’99’

MOVWF H’12’	F → H’12’ F = W = H’99’ H’12’ = H’99’

MOVLW H’85’	L = H’85’
	W = L = H’85’

MOVWF H’13’	F → H’13’ F = W = H’85’ H’13’ = H’85’

MOVLW H’3F’	L = H’3F’
	W = L = H’3F’

MOVWF H’14’	F → H’14’ F = W = H’3F’ H’14’ = H’3F’

MOVLW H’63’	L = H’63’
	W = L = H’63’

MOVWF H’15’	F → H’15’ F = W = H’63’ H’15’ = H’63’

MOVLW H’12’	L = H’12’
	W = L = H’12’

MOVWF H’16’	F → H’16’ F = W = H’12’ H’16’ = H’12’

3. State the contents of RAM locations 0x12 and WREG after the following program:

MOVLW 0	L = 0
	W = L = 0

MOVWF 0x12	F → 0x12 F = W = 0 0x12 = 0

MOVLW 0x22	L = 0x22
	W = L = 0x22

ADDWF 0x12, F	W + F, result of operation save in F; F→0x12 = 0 W + F = 00100010 00000000 00100010 F→0x12 = 0x22
ADDWF 0x12, F	W + F, result of operation save in F; F→0x12 = 0x22 W + F = 00100010 00100010 01000100 F→0x12 = 0x44
ADDWF 0x12, F	W + F, result of operation save in F; F→0x12 = 0x44 W + F = 00100010 01000100 01100110 F→0x12 = 0x66
ADDWF 0x12, F	W + F, result of operation save in F; F→0x12 = 0x66 W + F = 00100010 01100110 10001000 F→0x12 = 0x88 W=0x22

4. State the contents of RAM locations 0x12 and WREG after the following program:

MOVLW 0	L = 0
	W = L = 0

MOVWF 0x12	F → 0x12 F = W = 0 0x12 = 0

MOVLW 0x22	L = 0x22
	W = L = 0x22

ADDWF 0x12, W	W + F, result of operation save in W; F→0x12 = 0 W + F = 00100010 00000000 00100010

	W= 0x22
ADDWF 0x12, W	W + F, result of operation save in W; F→0x12 = 0 W + F = 00100010 00000000 00100010 W = 0x22
ADDWF 0x12, W	W + F, result of operation save in W; F→0x12 = 0 W + F = 00100010 00000000 00100010 W = 0x22
ADDWF 0x12, W	W + F, result of operation save in W; F→0x12 = 0 W + F = 00100010 00000000 00100010 W = 0x22 F→0x12 = 0

5. Write a program to get data from the SFRs of Port B and send it to the SFRs of PORT C continuously.

Again MOVF PORTB,W	F→PORTB W = F = PORTB
MOVWF PORTC	F→PORTC PORTC = W = PORTB
GOTO Again	Goto label 'Again' to repeat the process again

6. Write a program to get data from the SFRs of Port B. Add the value 5 to it and sent it to the SFRs of Port C

Again MOVF PORTB,W	F→PORTB W = F = PORTB
ADDLW D'5'	L = 5 W + L = PORTB + 5
MOVWF PORTC	F→PORTC PORTC = W = PORTB+5
GOTO Again	Goto label 'Again' to repeat the process again