[5560]-561

T. E. (Electrical)

ADVANCED MICROCONTROLLER AND ITS APPLICATIONS

(2015 Course) (Semester - I) (End Sem.) (303141)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

    1)   *Attempt Q.No1or Q.No2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6, Q.No.7 or Q.No.8, Q.No.9 or Q.No.10.*

    2)   *Neat diagram must be drawn wherever necessary.*

    3)   *Figures to the right indicate full marks.*

    4)   *Assume suitable data, if necessary.*

Q1) a)   Compare CISC and RISC Architecture.   **[6]**

    b)   Explain the following instruction with suitable example   **[4]**

        i)   BN n

        ii)   BCF f,b,a

OR

Q2) a)   Write C program to generate delay of 50m sec using Timer 0. Assume crystal frequency of 10 MHz.   **[6]**

    b)   Mention alternate function of Port B.   **[4]**

Q3) a)   Explain the following in detail :   **[6]**

        i)   Immediate addressing mode

        ii)   Direct addressing mode

    b)   Write a assembly language program to blink LED connected to RBI. **[4]**

OR

Q4) a)   Explain RAM memory organisation in detail.   **[6]**

    b)   Write assemble language program to add the contents of five consecutive memory location starting from 20H and store result into WREG.   **[4]**

Q5) a) Explain CCP1CON register in detail and also give its count, if we want to toggle CCP1 pin upon match. **[8]**

   b) Mention the steps of programming Capture mode. **[8]**

OR

Q6) a) Write a C program to generate 2.5 Khz PWM frequency at 75% duty cycle on CCP1 pin. **[8]**

   b) Explain speed control of DC motor using Compare mode. **[8]**

Q7) a) Write programming steps to receive data serially, also find the value in SPBRG register to have baud rate to 9600 at Fosc = 10 MHz. **[8]**

   b) Draw and explain LCD interfacing with pic18f458. **[9]**

OR

Q8) a) Explain the steps of Timer interrupt programming. **[8]**

   b) Write C program to transmit character "A" continuously at a baud rate of 9600 and crystal frequency of 10 MHz. **[9]**

Q9) a) Explain ADCON0 and ADCON1 register in details. **[8]**

   b) Draw the interfacing diagram of voltage measurement and also explain its interfacing procedure. **[9]**

OR

Q10) a) Explain interfacing of LM35 for Temperature measurement. **[8]**

   b) Show interfacing and write C program to generate Square wave using DAC. **[9]**

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