1T00836 - T.E.(Electiral Engineering)(SEM-VI)(Choice Base Credit Grading System ) (R-20-21) (C Scheme) / 89302 - Microcontroller Applications

QP CODE: 10013545                                              DATE: 09/12/2022

(3 Hours)                                                      [Total Marks : 80

Question No 01 is compulsory.
Attempt any Three questions from the remaining questions.
Each question carries 20 marks.
Figure to the right indicates full marks.

Q. 1.   Attempt **any 04** sub-questions out of 05 sub-questions.
        I] Compare the microprocessor with microcontroller.                    (05 marks)
        II] Describe the Access Bank concept used in Pic18 microcontroller.    (05 marks)
        III] Explain the GIE and PEIE bits with reference to interrupt.        (05 marks)
        IV] Describe the Program Counter (PC) and Table Pointer (TBLPTR) registers.   (05 marks)
        V]  Explain the Timer0 Control Register (T0CON) used in Pic18.         (05 marks)

Q. 2.   A] What is mean by Addressing mode? Explain the addressing modes used in Pic18
        microcontroller.                                                       (10 marks)
        B] Explain the memory organization (Program and Data Memory) of Pic18 Microcontroller.
                                                                               (10 marks)

Q. 3.   A] Explain the different instruction formats used in assembly level programming of Pic18
        microcontroller.                                                       (10 marks)
        B] Write a C program to flash an LED connected at RB1 at a frequency of 1KHz.Use Timer0
        in 16-bit mode, Crystal oscillator frequency = 10MHz and prescaler of 64.   (10 marks)

Q. 4.  A] Describe the various special function registers used in USART module used in Pic18
        microcontroller for serial communication.                             (10 marks)
        B] Explain the inbuilt ADC module interfacing of Pic18 microcontroller.   (10 marks)

Q. 5.   A] Explain the Table Read operation along with the instructions associated with it.(10 marks)
        B] Explain in brief, the Capture, Compare and PWM (CCP) module of Pic18.   (10 marks)

Q. 6    Write any 02 short notes.
        i] LCD interfacing with Pic 18 microcontroller.                        (10 marks)
        ii] Seven Segment LED Interfacing with Pic 18 microcontroller.         (10 marks)
        iii] Stepper motor interfacing with Pic 18 microcontroller             (10 marks)
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