

Total No. of Questions : 6]

SEAT No. :

**P4885**

**T.E./Insem.- 122  
T.E. Electrical**

[Total No. of Pages : 2

**ADVANCED MICROCONTROLLER & ITS APPLICATIONS  
(2012 Pattern) (Semester - I)**

*Time : 1 Hour]*

*[Max. Marks : 30*

**Instructions to the candidates:**

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*

**UNIT - I**

- Q1) a)** Explain status register of PIC 18F458 **[5]**
- b) Write a short note on oscillator support used in PIC 18 F458 microcontroller **[5]**

OR

- Q2) a)** Explain RAM organization of PIC 18 F458 **[5]**
- b) Draw the program memory map and Stack organization for P18 F458**[5]**

**UNIT - II**

- Q3) a)** Write an assembly language program to add 02H to each element of an array starting from location 0x 100. The length of array is 10. **[6]**
- b) Assume that a location 0x010 contains a data 09H. What will be the contents of WREG and location 0x010H if an instruction INCF 0X10,0,0 is executed. **[4]**

OR

- Q4) a)** Write an assembly language program to copy the status of PORTB.0to PORTD.0 without affecting the other pins of both the ports. **[6]**
- b) Explain the following instruction. **[4]**
- 1) BTFSS f,d,a
  - 2) MOVFF fs, fd

**P.T.O.**

**UNIT - III**

- Q5)** a) Write a short note on interrupt structure of PIC18F458 microcontroller. [4]
- b) Assuming crystal frequency = 10MHz, write a program in C language to generate square wave form with a frequency of 2kHz on PORTC.5. Use timer 0 in 16bit mode without a prescaler. [6]

OR

- Q6)** a) Explain T0CON register. [4]
- b) Write a program in C language which will complement the contents of port D on occurrence of an INT0 interrupt. [6]

