Total No. of Questions :10]

SEAT No. :

P3511

[Total No. of Pages :2

[5560]-161
T. E. (Electrical)
ADVANCED MICROCONTROLLER AND ITS APPLICATIONS
(2012 Pattern) (Semester - I) (303141)

Time : 2 ½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q10.***
2) ***Neat diagram must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) a) Explain the function of Bank select register. **[4]**

b) Explain the functions of following SFR's related to the ports of PIC18 microcontroller PORTx, and TRISx. **[6]**

OR

Q2) a) Explain the status of the flags in status register if the PIC18 MPU adds the following two numbers 0xFF and 0x01. **[6]**

b) Explain any four data types with example used in C programming of PIC18F458. **[4]**

Q3) a) Explain the CALL and RETURN instructions in PIC18 microcontroller. **[6]**

b) Write a program in C to load Timer 0 by a data AAFF H. **[4]**

OR

Q4) a) Explain interrupt handling in PIC18 microcontroller. **[6]**

b) Write a program in C to configure PORT C as input port and PORT D as output port. **[4]**

P.T.O.

Q5) a) Explain interfacing of 4X4 keypad with PIC18F458 microcontroller. **[8]**

b) Explain SPI protocol in details. **[8]**

OR

Q6) a) Write a program in C to receive bytes of data serially and place the data in WREG register continuously. Set the baud rate 9600, 8 bit data 1 stop bit. XTAL = 10 MHz. **[8]**

b) Explain interfacing of 16X2 LCD with PIC18F458 microcontroller. **[8]**

Q7) a) Explain compare mode of PIC18F458 and also explain SFR CCP1CON register in details. **[8]**

b) Explain interfacing of stepper motor with PIC18F458 microcontroller. **[8]**

OR

Q8) a) Explain capture mode of PIC18F458 microcontroller in details. **[8]**

b) With flow chart explain speed control of DC motor using PIC18F458 microcontroller. **[8]**

Q9) a) Explain interfacing of LM35 with PIC18F458 microcontroller for temperature measurement. **[9]**

b) Explain programming of A/D converter in PIC18F458 microcontroller. **[9]**

OR

Q10)a) Explain with neat diagram interfacing of DAC 0808 with PIC18F458 microcontroller. **[9]**

b) Explain in details the function of following SFR : **[9]**

ADCON0

ADCON1