Total No. of Questions :8]

SEAT No. :

P1731

[Total No. of Pages :2

[5058] - 365

T.E. (Electronics Engineering)

MICROCONTROLLERS AND APPLICATIONS

(2012 Course) (End Semester) (Semester - II) (304183)

Time : 2½ Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Answer Q.1 OR Q.2 and Q.3 OR Q.4 and Q.5 OR Q.6 and Q.7 OR Q.8.***
2) ***Answer any four questions.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the rigth side indicate full marks.***
5) ***Use of calculator is allowed.***
6) ***Assume suitable data if necessary.***

Q1) a) Explain Counter operation in 8051 microcontroller. **[6]**

b) Compare Assembler and compiler? **[6]**

c) How performance of any microcontroller is evaluated? **[8]**

OR

Q2) a) Write features of PIC18FXX Microcontroller over PIC16FXXX. **[6]**

b) Explain addressing modes of 8051 microcontroller. **[6]**

c) Draw and explain PORT0 and POTR2 structure of PIC 18FXXX Microcontroller. **[8]**

Q3) a) Draw an interfacing diagram and write an Embedded C Program to interface 16x2 LCD with PIC 18FXX Microcontroller to display the "My College" message. Use 8 bit interface mode. **[8]**

b) Draw and Explain the interrupt structure for the PIC 18FXX microcontroller. What are peripheral interrupts, IVT and ISR? **[8]**

OR

P.T.O.

Q4) a) Write a program to generate 100 msec delay Using Timer1. What are the values to be loaded in TMRCON1, TMIL RIH TMRIL? Assume that XTAL = 8 MHZ. **[8]**

b) Explain the Capture and Compare Mode of PIC 18FXXX in detail. **[8]**

Q5) a) Write a program to read only numbers from input UART string. **[8]**

b) How SPI is better than 12C Bus? Explain MSSP for 12C master mode. **[8]**

OR

Q6) a) Explain the MSSP with SPI mode? **[8]**

b) Draw and explain Interfacing of RTC with PIC 18FXXX? Also write embedded c program to update date. **[8]**

Q7) a) Write a Embedded C Program for reading single analog input range from 0V to 5V and display it on LCD. **[8]**

b) Design PICI 18FXXX based four digit decimal counter using seven segment with a delay of one second. **[10]**

OR

Q8) a) How the speed of the DC motor controlled by PWM, explain in brief? **[6]**

b) Design Frequency counter for the range from Dc to 5 MHz frequency using PIC 18FXXX. Design and draw interfacing circuit. Also explain required flow chart. **[12]**