

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 right 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]

