Total No. of Questions : 8]

SEAT No. :

P3921

[Total No. of Pages : 2

[4958]-1045
T.E. (E & TC)
MICROCONTROLLER AND APPLICATIONS
(End-Sem) (Semester - I) (2012 Course) (304183)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer to the two sections should be written in separate answer books.***
2) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 Q7 or Q8.***
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) Compare RISC and CISC microcontroller with Example. **[6]**

b) Draw and explain the Flag structure of 8051 with bank 2 selection. **[6]**

c) Explain in detail Data memory MAP of PIC18F with GPR and SFRS. **[8]**

OR

Q2) a) Differentiate between RS232 and RS 485, Comment on serial communication rate. **[6]**

b) Draw and explain the interrupt structure of 8051 in detail. **[6]**

c) Draw and explain the PIC18F architecture in detail. **[8]**

Q3) a) Write a program for 1KHz, 10% duty cycle PWM waveform. **[8]**

b) Draw an interfacing diagram for 4*4 matrix key board and display the Key pressed on LED write a code. **[8]**

OR

Q4) a) Draw and explain the interfacing of LCD with port D and port E of PIC18XXXL micro controller without Busy flag. Write C code to display 'S.P.P.U Pune'. **[8]**

b) Explain function the port structure of PIC in detail. **[8]**

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Q5) a) Explain the MSSP structure of PIC 18F in detail. **[8]**

b) Compare the SPI and 12C protocol. **[8]**

OR

Q6) a) What are the features of RTC Draw an interfacing diagram to interface with PIC. **[8]**

b) Draw an interfacing of temp Sensor to PIC using Serial ADC and indicate excess temp when exceed the set pont by LED. **[8]**

Q7) a) Design a frequency counter for counting number of pulses and display same on LCD. **[10]**

b) Draw an interfacing diagram and write a algorithm for DC motor speed control using PIC. **[8]**

OR

Q8) a) Design of DAS system for pressure monitoring system [use any suitable sensor]. **[10]**

b) State and explain with generalized Data acquisition system. **[8]**