

Total No. of Questions : 8]

SEAT No. :

P3921

[4958]-1045

[Total No. of Pages : 2

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]

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