

Total No. of Questions : 6]

SEAT No. :

P3714

[Total No. of Pages :2

Engg. - 28

T. E. (E & TC) (Semester - I)

MICROCONTROLLER AND APPLICATIONS (In Sem.)

(2012 Pattern)

Time :1 Hour]

[Max. Marks :30

Instructions to the candidates :

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*

Q1) a) Explain selection criteria of microcontrollers for particular application. **[5]**

b) Define Embedded system. Explain its characteristics. **[5]**

OR

Q2) a) Compare Von Neumann and Harvard architecture. **[5]**

b) What are limitations of 8 bit microcontroller? **[5]**

Q3) a) Explain structure of port 0 and port 1 of 8051. **[4]**

b) Explain SCON register in detail. Also calculate the hexadecimal count in TH1 when the baud rate of the controller is 1200. **[6]**

OR

Q4) a) Calculate the hexadecimal values to be loaded in TH, TL and TMOD register for delay calculations of 1 msec using Timer 1 in Mode 1. (Assume input frequency 12 MHz) **[6]**

b) Explain the interrupt structure of 8051 also list the vector addresses. How priority can be changed? **[4]**

P.T.O.

Q5) a) What are the various oscillator options? How they can be selected using config register. [5]

b) Draw and explain structure of Program Memory Map of PIC. [5]

OR

Q6) a) What are the features of PIC microcontroller? [4]

b) What is the function of WREG, Status Register in PIC microcontroller. Explain in detail. [6]

