Total No. of Questions :10] *[Total No. of Printed Pages :2*

Roll No .....

MEDC - 102

M.E./M. Tech., I Semester

Examination, June 2014

Micro Controller System Design

Time : Three Hours

Max. Marks : 70

Note: i) Attempt all questions.
ii) All questions carry equal marks.

1. a) Explain the Single chip microcomputer architecture.
   b) What is a microcontroller based embedded system? Elaborate with the example.

OR

2. a) What should be the criteria for selecting an appropriate microcontroller?
   b) What is a directives (pseudo-instructions) means in an assembly language program? Explain with examples.

3. a) Explain hardware architecture of 8051 microcontroller.
   b) Draw how to interface external memory with 8051 microcontroller? What is the maximum size of memory that can be interface with 8051?

OR

4. a) How can we interface a 4 × 4 keypad with single port of microcontroller?
   b) Elaborate memory architecture of 8051 microcontroller. Also elaborate the uses of bit addressable RAM.

5. a) What is compiler and cross compiler, differentiate with examples.
   b) Explain the meaning of files with extensions '.asm', '.obj', '.1st', and '.hex'.

OR

6. a) What do you mean by integrated software development environment.
   b) Write an assembly language program for blinking LED's connected on Port 1 of 8051 in counting UP sequence for 50 times.

7. a) Explain the working of Vending Machine and use of microcontroller in it?
   b) What are the initialization commands for 16 × 2 LCD with microcontroller?

OR

8. a) Explain SCON, SBUF, TCON and TMOD register of microcontroller.
   b) How we can interface ADC with 8051? Write the handshaking sequence for establishing connection between 8051 and ADC.

9. a) What are the requirements of DSP processor, how it is different from General purpose Processor?
   b) Explain architecture of TMS series processor architecture form TI-DSP.

OR

10. a) Explain SHARC processor architecture, why it more suitable for DSP applications.
    b) Write applications of DSP processor.

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