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Roll No. ....

**MEDC-102****M. Tech. (First Semester)****EXAMINATION, Dec., 2010****MICROCONTROLLER SYSTEM DESIGN****(MEDC-102)***Time : Three Hours**Maximum Marks : 100**Minimum Pass Marks : 40*

**Note :** Attempt any five questions. All questions carry equal marks.

1. (a) Give detailed architecture of single chip microcomputer.  
(b) Describe interfacing techniques in detail.
2. (a) What do you understand by interrupts ? Give the interrupt structure of 8051. Also explain the working of interrupt priority register.  
(b) With suitable examples explain the addressing modes of 8051.
3. (a) Explain memory mapping of 8051 with diagram.  
(b) Give detailed register structure of 8051 microcontroller.
4. Describe in detail modular approach for software development. Discuss integrated software development environment.

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5. Design a system using Atmel 89C 51/52 and PIC microcontrollers. Also discuss their special features.
6. Discuss the application of microcontrollers in data acquisition and design a small microcontroller based system and describe its working.
7. Give DSP processor architecture in detail and give its applications. Design a small system using TI-DSP.
8. Write short notes on any two of the following :
  - (a) I/O interfacing and programming
  - (b) Program and data memory
  - (c) Support chips
  - (d) Architecture of microcontroller 68HC05/68HC11
  - (e) Instruction set and programming of 8051

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