MEDC - 102

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

Examination, June 2013

Micro Controller System Design

Time : Three Hours

Maximum Marks : 70

Note : 1. *Attempt any five questions.*
2. *All questions carry equal marks.*

1. a) How are registers used in computer system? What is the purpose of the program counter & instruction decoder.

   b) Explain the working of 16-bit microprocessor

2. a) Discuss in brief about the supporting chips used with 16 - bit microprocessor.

   b) Explain the data memory present in 8 bit and 16 bit microprocessor.

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3. a) Discuss about the 8051 Data types and Directives.

   b) Show the contents of PSW register after the execution of the following instruction.

   MOV A, # OBFH

   ADD A, # 1 BH

   c) Find CY, AC & P flag bits for the following code.

   MOV A, # 9CH

   ADD A, # 64 H

4. a) Discuss about 8051 Register Banks and stack.

   b) Write instructions to use the registers of bank 3, and load the same value 05H in the registers R_0 to R_3.

5. a) Discuss about the addressing modes of microcontroller.

   b) Discuss about the interrupt handling of microcontroller.

6. a) Write a program to toggle all the bits of port 1 by sending to it the values 55H and AAH continuously. Put a time delay in between each issuing of data to port 1.

   b) Discuss briefly about integrated software development environment.

7. a) Write a brief note on PIC microcontroller.

   b) Explain briefly about DSP Processors.

8. Write short notes on any two of the following:

   a) ARM microcontroller

   b) Recursion & Debugging

   c) Embedded controllers