MEVD-105

M.E./M.Tech. I Semester

Examination, June 2013

Embedded Micro Controller Programming

Time : Three Hours

Maximum Marks : 70

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

1. What are the essential structural units in an embedded system? Enlist some applications of embedded systems. What are the challenges faced in designing an embedded systems?

2. Enlist and explain the different Application Specific Instruction - Set Processors (ASIP) used in embedded systems. What are the advantages offered by an ASIP for an embedded system?

3. Compare the RISC and CISC processor architectures. Enlist and explain the structural units and their functions in a DSP processor. Name some CISC microcontroller ICs.

4. a) What are the different forms of RAM? Explain the difference between static RAM and dynamic RAM.

   b) Explain how one can erase and reprogram E^2 PROM? State some applications of E^2PROM.

20A

PTO

[2]

5. a) Compare the advantages and disadvantages of data transfer using serial and parallel ports / devices.

   b) Explain how Serial Peripheral Interface (SPI) can be used for data transfer.

6. Describe the internal architecture of the 8051 microcontroller with a block schematic diagram.

7. Compare the architectures of ARM7 and ARM9. Explain the modes of ARM operation.

8. Write short notes on any two:

   a) Harvard / Princeton architecture

   b) CAN bus architecture

   c) Interfacing of microcontroller with ADC / DAC

   d) Microcontroller 68HC11

20B