6E3205

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B.Tech VI Sem. (Main/Back) Exam. April-May, 2012
Computer Engg.
6CS5 Embedded System Design

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **five questions,** selecting one question from **each unit.***
*All Question carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*
Units of quantities used/ calculated must be stated clerly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. **Nil** 2. **Nil**

Unit-I

1. (a) What is the difference between Microprocessor, Microcontroller and DSP? Explain. Write down the general capablities of Microcontroller. 10

(b) Explain the use of Microcontroller in Embedded systems. 6

Or

1. (a) What are the selection criterias of a Microcontroller? Explain. 8

(b) Explain the architecture of 32 bit Microcontroller. 8

Unit-II

2. (a) Explain the I/O Ports, Counters and Timers of a Microcontroller MSP 430. 10

(b) Write Short note on clock system of MSP430. 6

Or

2 (a) Explain the Interfacing of MSP 430 with the External Memory. 10

(b) Explain various key differentiating factors between different MSP 430 families. 6

Unit – III

3. (a) What is ARM ? Explain Various Instruetion Set of ARM in detail. 10

(b) Write short note on Interrupts of ARM. 6

Or

3. (a) Explain How ARM processor is better for embedded system development Also Explain role of pipeline in it. 10

(b) Write short note on Vector table in ARM. 6

Unit – IV

4. Explain the I/O Port programming of 8051 Microcontroller in detail. 16

Or

4. Explain the Architecture and PIN diagram of 8051 Microcontroller. Also Explain the addressing modes in 8051. 16

Unit –V

5. (a) Explain How analysis and optimization of CPU Power Consumption is achieved in Embedded System. 10

(b) Write short note on clock request feature. 6

Or

5. (a) Explain the application of Embedded Systems in Energy meters. 10

(b) Write Short note on Low Power Programming and Interrupts. 6
