R07

Code: R7410505

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013

EMBEDDED SYSTEMS

(Common to CSE, IT & CSS)

Time: 3 hours   Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1. (a) Draw and explain an embedded system design and development life cycle model.
    (b) Describe the design approach for digital signal processor based embedded system.

2. Describe the various operating modes of the UART and associated control registers. Draw the relevant diagrams.

3. Explain the following terms relevant to programming the 8051 microcontroller.
    (a) Lines of code.
    (b) Labels.
    (c) Instructions and.
    (d) Comments.

4. (a) Explain how to perform unconditional jumps using relevant mnemonics. Give suitable example.
    (b) Explain how to perform byte jumps using relevant mnemonics. Give suitable example.

5. With neat sketch explain the design consideration for interfacing digital-to-analog convertor to 8051 microcontroller based embedded system. Give the necessary source program.

6. What are the states of a task? Explain which is the entity controlling (Scheduling) the transitions from one state to another in a task.

7. (a) Explain the advantages of times slice scheduling by an RTOS.
    (b) Illustrate the hard real-time scheduling considerations.

8. (a) Explain the design approach of an elevator controller.
    (b) Explain the memory organization of ARM processor with suitable.

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