

Code :R7411310

**R7**

**IV B.Tech I Semester(R07) Supplementary Examinations, May/June 2011**  
**EMBEDDED & REAL TIME SYSTEMS**  
**(Electronics & Control Engineering)**

Time: 3 hours

Max Marks: 80

**Answer any FIVE questions**  
**All questions carry equal marks**

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1. (a) Distinguish between a combination circuit and a sequential circuit.  
(b) Explain the design challenges for Embedded systems.
2. (a) Explain about superscalar and VLIW architectures.  
(b) Explain how instructions are decoded and executed by the microprocessor.
3. (a) Explain the concurrent process model.  
(b) Compare state machine and sequential program models.
4. (a) What are the advantages of USB over RS232?  
(b) Draw and explain Bluetooth state Transition Diagram.
5. (a) Explain Task scheduling and give some examples.  
(b) What is a Mutex? How is it useful in solving shared data problem?
6. Write notes on the following:  
(a) Event Registers.  
(b) Signals.
7. (a) What is priority inversion problem? Give the solution for this.  
(b) Write notes on RT linux.
8. (a) What is verification with respect to design Technology and explain the main verification approach.  
(b) Explain about Hardware and software co-simulation.

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