

**R09**

**Code No: D4310**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**M.Tech II - Semester Examinations, March/April 2011**

**EMBEDDED SYSTEMS  
(POWER ELECTRONICS)**

**Time: 3hours**

**Max. Marks: 60**

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

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1. Distinguish between Microprocessors and Microcontrollers. Illustrate the applications of embedded computing. [12]
2. a) Explain the considerations for the selection of processor and memory devices for embedded applications.  
b) Discuss the terms memory allocation and mapping with respect to Embedded system. [12]
3. a) Explain the role of device drivers and buses in device networking.  
b) Write the assembly language program using 80xx microcontroller which interface LED and make it ON and OFF. [12]
4. Explain the process and process state diagram. Show that Semaphores are used for process synchronization. [12]
5. Explain the features of RTOS and mention the steps in the design of sample RTOS. [12]
6. What are the issues and challenges in embedded system design? Explain the design process with an example. [12]
7. Explain the role of ICE in the embedded system design applications. [12]
8. Write a short note on
  - i) Context period and context switching
  - ii) Debugging and testing of embedded applications
  - iii) Power saving techniques in embedded applications. [12]

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