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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