Code No: D4310 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012
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 Microprocessor and Micro-controller. What are the issues in embedded software development?

2. a) Discuss the aspects Memory allocation and mapping in embedded domain.
   b) What are the considerations for processor selection?

3. What is the role of serial communication in real-time applications? Explain the serial communication among the different buses.

4. What are the roles of SEMAPHORE, MAIL BOX while dealing with shared memory problems? Explain the **Deadly Embrace** while implementing interrupts with semaphores.

5. What are the issues and how they are overcome in modeling the Multiprocessing systems?

6. a) Distinguish between conventional OS and RTOS.
   b) Explain the Process Control Block (PCB) and memory organization of a process.

7. a) Explain in detail about the issues in embedded design and co-design.
   b) Top-down approach for embedded software application development.

8. Answer any **TWO** of the following
   i) Testing and porting of Embedded applications
   ii) Embedded software environment
   iii) 8051 controller.

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