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Code No: B7702, B5501

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012
REAL TIME OPERATING SYSTEMS FOR EMBEDDED SYSTEMS
(COMMON TO EMBEDDED SYSTEMS & VLSI DESIGN, EMBEDDED SYSTEMS)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks

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1.a) Write the usage of any three system calls to handle process control functions in Unix .
b) How interprocess communication takes place using semaphores?

2.a) Define Precedence graph, resource graph and Laxity function.
b) Differentiate between online and offline scheduling mechanisms.

3. Explain Resource model and reservation types in detail with suitable examples.

4.a) Define the following with examples.
Hardware redundancy, software redundancy and time redundancy
b) Write about the fault and error containment zone.

5.a) Explain the scheduling mechanism in Vx works handle periodic and aperiodic tasks.
b) How concurrency is handled in Vx works? Illustrate with example.

6.a) Describe the memory management mechanism in Unix.
b) Discuss the clock driven approach and its features.

7.a) Discuss the various parameters in timer functions .
b) What are the causes for failures? Give examples for hardware and software faults.

8. Write short notes on
a) Message queues
b) Optimality of LST algorithm.

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