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

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 file handling functions in Unix.
  b)   How interprocess communication takes place using semaphores?

2.a)   Differentiate between the precedence graph and task graph. Give examples.
  b)   Explain the temporal parameters of real-time work load in detail.

3.a)   Illustrate the time-driven real time scheduling approach in detail.
  b)   Briefly describe the scheduling approach used in time-shared applications.

4.a)   Define the following with examples.
                 Aperiodic thread and server thread.
  b)   Write the different states of thread and explain the Thread control block in detail.

5.a)   Write a procedure to schedule the context switches in Vx works.
  b)   Write the issues and challenges to design chocolate vending machine.

6.a)   Describe the message queues to handle IPC problem.
  b)   Differentiate between hard and soft real time systems.

7.a)   Discuss the Release time jitters of Aperiodic tasks in time services.
  b)   Write the features of µCOS-II and its uses.

8.   Write short notes on
           a) Clock driven scheduling mechanism
           b) Resource allocation graph.

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