R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, February/March - 2022
REAL TIME SYSTEMS
(Common to CSE, IT)

Time: 3 Hours   **Max. Marks: 75**

Answer Any Five Questions
All Questions carry equal marks
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1.a) Give the correct syntax of read() and write() system calls and explain.
  b) Write a C program to copy the content of one file to another file using relevant system calls. [7+8]

2.a) Discuss the various status flags and file modes associated with an open( ) and creat( ) system calls.
  b) Write the syntax of exec() family of system calls and explain any two of them. [7+8]

3.a) How the priority based preemptive based scheduling is different from the round-robin scheduling? Explain briefly.
  b) Give a detail note on various parameters, states and data structures associated with a task in ROTS. [7+8]

4.a) Describe the key characteristics of an Real Time Operating System.
  b) What is a Message Queue? Explain various message queue operations. [7+8]

5.a) Explain various operations that can be performed on a pipe.
  b) What is an event register? List and give the description of various entries in event control block. [7+8]

6.a) Give a detail note on file-system component and remote procedure call component.
  b) Explain briefly about Port-Mapped I/O, Memory-Mapped I/O and DMA. [7+8]

7.a) State the need of Programmable Interval Timer. Explain the steps in servicing the timer interrupt.
  b) Describe the model for implementing a soft timer handling facility. [7+8]

8. How to schedule tasks in MicroC/OS-II? Explain in detail with an illustration. [15]

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