

**R18**

Code No: 157DJ

**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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