

R17

Code No: 5477AQ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M. Tech II Semester Examinations, July/August – 2021

REAL TIME OPERATING SYSTEMS
(Embedded Systems and VLSI Design)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

1. How to copy the contents of one file to another file using file I/O system calls? Illustrate with the help of an example program. [15]
- 2.a) Describe about Operating systems and Linux.
b) What are the lseek, read, write functions in UNIX? [7+8]
- 3.a) Compare between hard Vs soft real time systems.
b) Write a short note on command shell. [8+7]
- 4.a) What do you mean by shared data problem? How does the system handle it?
b) What is meant by tasks in RTOS? Give some examples. [9+6]
- 5.a) Define a signal. What are the uses of a signal? Illustrate various signal operations available in RTOS.
b) Compare Port-Mapped Vs. Memory-Mapped I/O. [8+7]
6. Briefly explain the following:
a) Timing wheels
b) Nested exceptions
c) Typical pipe operations [5+5+5]
- 7.a) Discuss the steps involved to initialize timer chip.
b) Write down the basic steps in handling an exception and explain in detail. [7+8]
8. Provide the important features of VxWorks and explain task management functions in VxWorks RTOS. [15]

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