

R19

Code No: 5677AW

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

SYSTEM DESIGN WITH EMBEDDED LINUX

(Embedded Systems and VLSI Design)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

1. Discuss the following in detail: Interrupt latency and scheduler latency. [15]
- 2.a) What are the basic parameters that define a real time task on Linux? Explain in detail.
b) Compare real time and native signals. [10+5]
- 3.a) Draw and explain the MTD architecture.
b) Discuss the I2C read and write operations. [10+5]
- 4.a) What are the functions that can be implemented by the watchdog timer? Explain.
b) Explain the architecture of monolithic kernel. [8+7]
- 5.a) What are the phases in Linux start-up sequence? Explain any one phase.
b) Differentiate embedded Linux and desktop Linux. [8+7]
- 6.a) Explain dynamic scheduling algorithm with an example.
b) Discuss the problems due to priority inversion and solutions of priority inversion. [8+7]
- 7.a) Write the differences between static and dynamic libraries.
b) What are the subdirectories of the root file system? Explain. [8+7]
8. Discuss the following:
a) Hard real-time Linux
b) Interrupts
c) Cross-tool chains. [5+5+5]

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