

CBCS SCHEME



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18EVE323

Third Semester M.Tech. Degree Examination, Dec.2019/Jan.2020 Embedded Linux System Design and Development

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Why Embedded Linux should be used as an operating systems. Give reasons. (10 Marks)
- b. Differentiate between Embedded Linux Versus Desktop Linux. (05 Marks)
- c. What are the paths to be adopted while porting to Linux? (05 Marks)

OR

- 2 a. Explain Linux Kernel architecture with the help of subsystem. (10 Marks)
- b. Discuss the Linux Start up sequence. (10 Marks)

Module-2

- 3 a. State the advantages of Boot loader interface. Explain the mandatory boot loader functionalities. (04 Marks)
- b. Quote the reason for the memory map requirement and three addresses that are seen on embedded Linux system. (08 Marks)
- c. What are the two timers that are needed to be programmed by the BSP? (08 Marks)

OR

- 4 a. What are the schemes available under LINUX for flower management that spans across drivers, BSP and application layers. (10 Marks)
- b. State and explain uniqueness of PCI architecture. (10 Marks)

Module-3

- 5 a. Explain sample MTD driver for NOR flash. (10 Marks)
- b. Differentiate between NOR versus NAND flash. (10 Marks)

OR

- 6 a. Define Mtd-utils package. Give the description of the individual utilities in the space. (10 Marks)
- b. What are the techniques to optimize kernel memory usage? (10 Marks)

Module-4

- 7 a. With block schematic explain features of Linux Series Driver. (10 Marks)
- b. With a sample implementation, describe I2C Bus. (10 Marks)

OR

- 8 a. What are watchdog timers? Discuss on sets of operations. (10 Marks)
- b. Elaborate on Kernel modulus. (10 Marks)

Module-5

- 9 a. Describe about programming with P-threads with simple MP3 player. (10 Marks)
- b. Write an OS porting layer and a kernel API driver. (10 Marks)

OR

- 10 a. Explain thread synchronization with example. (10 Marks)
- b. Write a short note on writing user space stubs. (10 Marks)

F 7 JAN 2020

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

