

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

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Week 6

Week 7

Week 8

Week 9

● Lecture 42 : POSIX

● Lecture 43 : Unix-Based Real-Time Operating Systems

● Lecture 44 : A survey of some contemporary Real-Time Operating Systems

● Lecture 45 : A survey of some contemporary Real-Time Operating Systems (Contd.)

● Lecture 46 : Benchmarking Real-Time Systems

● Lecture Materials

○ Quiz: Week 9 : Assignment 9

● Feedback Form of Week 9

Week 10

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Week 12

Assignments Solution

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Live Interactive Session

Week 9 : Assignment 9

The due date for submitting this assignment has passed.

Due on 2021-09-29, 23:59 IST.

As per our records you have not submitted this assignment.

1) POSIX stands for:

- Portable Operating System Interface
- Profitable Operating System Interface
- Portable Operational System Interface
- Preemptable Operating System Interface
- Printable Operating System Interface

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

2) Which of the following statements are FALSE concerning Open System?

- Open system is a vendor-neutral system
- Open systems do not allow a user to intermix hardware, software and networking solutions from different vendors
- Open systems are copyrighted
- Open systems help achieve interoperability and portability
- All of these

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

c.

1 point

3) PSOS embedded real-time operating system is best suitable for which types of applications?

- Embedded applications
- Avionics applications
- Database applications
- Graphical applications
- Multimedia applications
- Automotive applications
- Telecom applications

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.
☐ f.
☐ g.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

4) Which of the following operating systems are based on Preemption point approach?

- VRTX
- VxWorks
- RT Linux
- HP-UX
- Windows CE

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

e.

1 point

5) Which of the following are NOT considered as disadvantages of RT Linux?

- Duplicated coding effort.
- Fragile execution environment.
- Programs need to be written using a small subset of POSIX API.
- The source code is available.
- Users can use their own schedulers.

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

e.

1 point

6) In μ C/OS-II, the Source code is written in:

- ANSI C
- C++
- C#
- JAVA
- SMALL TALK

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

7) Which of the following operating systems was deployed in the Mars Path Finder?

- VRTX MC
- VRTX SA
- VxWorks
- PSOS
- RT Linux
- Lynx
- Windows CE

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.
☐ f.
☐ g.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

8) If you are developing a small real-time embedded application eradicating issues of NT, which of the following operating systems would be suitable?

- Unix V
- Windows
- Windows CE
- QNX
- None of these

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

9) Which of the following statements are FALSE concerning Win CE?

- WinCE 3.0 supports priority inheritance.
- WinCE processes share a single page table.
- WinCE supports multiprocessors.
- WinCE can support up to only 16 simultaneously executing processes.
- Processes in WinCE have 32MB address space.

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

d.

1 point

10) Which of the following benchmarks deal with server-side Java applications?

- SPECviewperf
- SPEC 95
- SPEC JVM98
- SPEC JBB2000
- SPEC WEB2005

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

1 point

11) Which one of the following metrics represents the time it takes to start the execution of the required ISR after an interrupt occurs?

- Task switching time
- Task preemption time
- Interrupt latency time
- Semaphore shuffling time
- Deadlock breaking time
- Datagram throughput time
- Process dispatch time

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.
☐ f.
☐ g.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

12) Suppose the time to complete a certain task when there are no interrupts is 2 seconds and the time to complete the same task when 40,000 interrupts occur per second is 3.2 seconds. Find the overhead due to 40,000 interrupts per second.

- 30% of the task execution time
- 40% of the task execution time
- 50% of the task execution time
- 60% of the task execution time
- 80% of the task execution time

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

1 point