



(<https://swayam.gov.in>)



(https://swayam.gov.in/nc_details/NPTEL)

manojmanu609bv@gmail.com ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Edge Computing (course)



Click to register
for Certification
exam

(https://examform.nptel.ac.in/2025_01/exam_form/dashboard)

If already
registered, click
to check your
payment status

Course
outline

About
NPTEL ()

How does an
NPTEL
online
course
work? ()

Week 0 ()

Week 1:
Cloud and
Edge
Computing ()

Week 2 :
Edge
Computing ()

Week 2: Assignment 2

The due date for submitting this assignment has passed.

Due on 2025-02-05, 23:59 IST.

Assignment submitted on 2025-02-02, 15:51 IST

1) What does the Water Usage Effectiveness (WUE) metric measure? 1 point

- ☐ CPU efficiency
- ☐ Energy consumed per task
- ☒ Annual water usage per IT equipment energy
- ☐ Server response time

Yes, the answer is correct.
Score: 1

Accepted Answers:
Annual water usage per IT equipment energy

2) Which type of hypervisor runs directly on hardware without an operating system? 1 point

- ☒ Type-I (Bare-metal)
- ☐ Type-II (Hosted)
- ☐ Hybrid
- ☐ None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Type-I (Bare-metal)

3) Which metric measures the energy efficiency of data centers? 1 point

- ☒ PUE
- ☐ WUE

Week 3 :
Edge
Intelligence
()

Week 4 :
Edge
Intelligence
()

Week 5 :
Mobile Edge
Computing ()

Week 6:
Clock
Synchronizat
ion ()

Week 7 :
Security and
Privacy in
Edge
Computing ()

Download
Videos ()

Demo ()

☐ ROI

☐ SLA

Yes, the answer is correct.

Score: 1

Accepted Answers:

PUE

4) What is Docker primarily used for? **1 point**

☐ Network monitoring

☒ Container-based virtualization

☐ File management

☐ Hardware emulation

Yes, the answer is correct.

Score: 1

Accepted Answers:

Container-based virtualization

5) What is one key benefit of containerization compared to virtual machines? **1 point**

☒ Faster startup times

☐ Stronger isolation

☐ Requires more resources

☐ Slower deployment

Yes, the answer is correct.

Score: 1

Accepted Answers:

Faster startup times

6) How much time will it take to upload 10 GB of data over a network with a speed of 10 Mbps? **1 point**

☐ ~10 minutes

☒ ~13.3 minutes

☐ ~16.7 minutes

☐ ~20 minutes

Yes, the answer is correct.

Score: 1

Accepted Answers:

~13.3 minutes

OR

~16.7 minutes

7) In hardware virtualization, what is the role of Intel VT or AMD-V extensions? **1 point**

☐ Improve energy efficiency

☐ Support for binary translation

☒ Enable the hypervisor to run guest OS in isolation

☐ Allow faster disk access

Yes, the answer is correct.

Score: 1

Accepted Answers:

Enable the hypervisor to run guest OS in isolation

8) Which of the following is a benefit of Docker over traditional VMs?

1 point

- ☐ Requires its own kernel for each instance
- ☒ Faster scaling and portability
- ☐ Stronger isolation than VMs
- ☐ High resource consumption

Yes, the answer is correct.

Score: 1

Accepted Answers:

Faster scaling and portability

9) Which is a characteristic of paravirtualization?

1 point

- ☐ Guest OS requires no modification
- ☒ Uses a thin VMM and requires hyper calls
- ☐ Fully emulates hardware
- ☐ Higher overhead than full virtualization

Yes, the answer is correct.

Score: 1

Accepted Answers:

Uses a thin VMM and requires hyper calls

10) Which virtualization technique involves modifying the guest OS for better interaction with the hypervisor? **1 point**

- ☒ Para-virtualization
- ☐ Full virtualization
- ☐ Partial virtualization
- ☐ Application-level virtualization

Yes, the answer is correct.

Score: 1

Accepted Answers:

Para-virtualization