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manojmanu609bv@gmail.com ▾

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

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Course outline

About NPTEL ()

How does an NPTEL online course work? ()

Week 0 ()

Week 1: Cloud and Edge Computing ()

- ☐ Lecture 1:
Overview of
Cloud
Computing
(unit?)

Week 1: Assignment 1

The due date for submitting this assignment has passed.

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

Assignment submitted on 2025-02-02, 15:50 IST

1) Which company introduced EC2, a service for on-demand computing? **1 point**

- ☐ Microsoft
☐ Google
☒ Amazon
☐ Oracle

Yes, the answer is correct.

Score: 1

Accepted Answers:

Amazon

2) What defines the 'intelligence tier' in edge computing architecture? **1 point**

- ☐ Data ingestion
☒ Running ML models
☐ Data storage
☐ User interfaces

Yes, the answer is correct.

Score: 1

Accepted Answers:

Running ML models

3) What is the main benefit of virtualization in cloud computing? **1 point**

- ☐ High latency
☐ Cost increase

unit=21&lesson=22)

☐ Lecture 2:
Cloud
Computing
and its
Limitations to
Support Low
Latency and
RTT (unit?
unit=21&lesson=23)

☐ Lecture 3:
Introduction to
Edge
Computing
(unit?
unit=21&lesson=24)

☐ Lecture 4:
Edge
Computing
Paradigms
(unit?
unit=21&lesson=25)

☐ Week 1:
Lecture Notes
(unit?
unit=21&lesson=32)

☒ **Quiz: Week 1:
Assignment 1
(assessment?
name=92)**

☐ Feedback For
Week 1 (unit?
unit=21&lesson=31)

☐ Week 1:
Assignment 1
Solution (unit?
unit=21&lesson=48)

**Week 2 :
Edge
Computing ()**

**Week 3 :
Edge**

- ☒ Efficient resource utilization
- ☐ Limited scalability

Yes, the answer is correct.

Score: 1

Accepted Answers:

Efficient resource utilization

4) Which cloud service model includes virtual machines, storage, and networking capabilities? **1 point**

- ☒ IaaS
- ☐ PaaS
- ☐ SaaS
- ☐ HaaS

Yes, the answer is correct.

Score: 1

Accepted Answers:

IaaS

5) According to Moore's Law, processor speed doubles every: **1 point**

- ☐ 9 months
- ☐ 12 months
- ☒ 18 months
- ☐ 24 months

Yes, the answer is correct.

Score: 1

Accepted Answers:

18 months

6) What does the Water Usage Effectiveness (WUE) metric measure in cloud data centers? **1 point**

- ☐ IT energy consumption per server
- ☐ Total facility power to IT power ratio
- ☒ Annual water usage per IT equipment energy
- ☐ Data transmission speed per watt

Yes, the answer is correct.

Score: 1

Accepted Answers:

Annual water usage per IT equipment energy

7) Identify the correct match: **1 point**

- ☒ IaaS – Load Balancing
- ☐ PaaS – Virtual Machines
- ☐ SaaS – Web Servers
- ☐ HaaS – CRM

**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 ()

Yes, the answer is correct.

Score: 1

Accepted Answers:

IaaS – Load Balancing

8) If an edge node takes 0.05 seconds to process a task and 0.02 seconds for data transfer, **1 point**
what is the total latency?

- ☒ 0.07 seconds
- ☐ 0.05 seconds
- ☐ 0.02 seconds
- ☐ 0.09 seconds

Yes, the answer is correct.

Score: 1

Accepted Answers:

0.07 seconds

9) Which cloud computing model primarily provides runtime environments, databases, and development tools? **1 point**

- ☐ SaaS
- ☐ IaaS
- ☒ PaaS
- ☐ HaaS

Yes, the answer is correct.

Score: 1

Accepted Answers:

PaaS

10) Which cloud computing paradigm enables customers to access virtual machines, servers, and storage on a pay-as-you-go basis? **1 point**

- ☐ SaaS
- ☐ PaaS
- ☒ IaaS
- ☐ HaaS

Yes, the answer is correct.

Score: 1

Accepted Answers:

IaaS