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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 ()

Week 2 : Edge Computing ()

Week 7: Assignment 7

The due date for submitting this assignment has passed.

Due on 2025-03-12, 23:59 IST.

Assignment submitted on 2025-03-06, 12:27 IST

1) Which attack exploits communication signals in edge computing to infer sensitive data? ***1 point***

○ Malware injection

○ Authentication bypass

○ DDoS attack

● Side-channel attack

Yes, the answer is correct.
Score: 1

Accepted Answers:
Side-channel attack

2) What is the main weakness of coarse-grained access control in MEC systems? ***1 point***

○ High resource consumption

○ Complex configuration

● Lack of flexibility for specific permissions

○ Incompatibility with cloud systems

Yes, the answer is correct.
Score: 1

Accepted Answers:
Lack of flexibility for specific permissions

3) If a side-channel attack observes power consumption data every 10 ms and collects ***1 point***
100

Week 3 : Edge Intelligence ()

Week 4 : Edge Intelligence ()

Week 5 : Mobile Edge Computing ()

Week 6: Clock Synchronization ()

Week 7 : Security and Privacy in Edge Computing ()

○ Lecture 14: Security and Privacy in Edge Computing (unit?unit=71&lesson=72)

○ Week 7: Lecture Notes (unit?unit=71&lesson=76)

● **Quiz: Week 7: Assignment 7 (assessment?name=99)**

○ Feedback For Week 7 (unit?unit=71&lesson=75)

○ Week 7: Assignment 7 Solution (unit?unit=71&lesson=83)

samples, how long does the attack run?

● 1 second

○ 10 seconds

○ 100 seconds

○ 0.1 second

Yes, the answer is correct.
Score: 1

Accepted Answers:
1 second

4) A server mitigates a flooding-based attack by filtering 75% of 10,000 incoming packets
per second. How many packets per second reach the server? ***1 point***

○ 7,500

○ 5,000

○ 10,000

● 2,500

Yes, the answer is correct.
Score: 1

Accepted Answers:
2,500

5) What is the primary goal of overprivileged attacks in IoT systems? ***1 point***

○ To exploit network vulnerabilities

● To access unauthorized resources

○ To overload server hardware

○ To modify encryption keys

Yes, the answer is correct.
Score: 1

Accepted Answers:
To access unauthorized resources

6) In flooding-based attacks, which protocol is exploited in a SYN flood attack? ***1 point***

● TCP

○ UDP

○ ICMP

○ FTP

Yes, the answer is correct.
Score: 1

Accepted Answers:
TCP

7) An edge server processes 1,000 legitimate requests per second but faces a DDoS attack
with 5,000 malicious requests per second. What percentage of the total requests are legitimate? ***1 point***

Week 8 : NVF-SDN and Resource allocation in Edge-Cloud systems ()

Download Videos ()

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○ 20%

○ 50%

● 16.67%

○ 10%

Yes, the answer is correct.
Score: 1

Accepted Answers:
16.67%

8) Which defense mechanism prevents brute-force attacks on authentication systems? ***1 point***

○ Deep Packet Inspection

● Two-Factor Authentication

○ Role-Based Access Control

○ Dynamic Code Obfuscation

Yes, the answer is correct.
Score: 1

Accepted Answers:
Two-Factor Authentication

9) What kind of malware targets IoT devices by exploiting their firmware vulnerabilities? ***1 point***

○ Ransomware

● IoT Reaper

○ Spyware

○ Rootkit

Yes, the answer is correct.
Score: 1

Accepted Answers:
IoT Reaper

10) Which of the following is a key vulnerability exploited in Zero-Day DDoS attacks? ***1 point***

○ Protocol design flaws

○ Firmware bugs

● Unknown code-level vulnerabilities

○ Insufficient bandwidth

Yes, the answer is correct.
Score: 1

Accepted Answers:
Unknown code-level vulnerabilities