

Cloud Computing Unit-4 PYQ Analysis (2022-2025)

I analyzed the Unit-4 related questions from the papers you uploaded (May 2022, May 2023, May 2024, Dec 2024, June 2025).

UNIT-4 TOPICS

Unit-4 contains:

- Cloud Security Fundamentals
 - Cloud Security Architecture
 - Privacy & Security in Cloud
 - Trusted Cloud Computing
 - Virtualization Security
 - Virtual Threats
 - VM Security Recommendations
 - VM-Specific Security Techniques
 - Secure Execution Environment
 - Secure Communication
 - Vulnerability Assessment Tools
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QUESTIONS FOUND IN PYQs



June 2025

Q4(a)

Explain the fundamental principles of cloud security.

➔ Topic:

- Cloud Security Fundamentals



Q4(b)

What are the key security recommendations for securing virtual machines (VMs)?

➔ Topic:

- VM Security Recommendations



December 2024

Q6(b)

What are the security related challenges in cloud computing?

➔ Topic:

- Cloud Security Challenges



Q7(b)

What is Trusted Cloud Computing? Explain.

➔ Topic:

- Trusted Cloud Computing



 **May 2024**

Q4(a)

Describe various vulnerability assessment tools for cloud.

➔ Topic:

- Vulnerability Assessment Tools



Q4(b)

What are virtual threats? Explain VM specific security techniques.

➔ Topic:

- Virtual Threats
- VM Security Techniques



 **May 2023**

Q5(b)

What are the different security challenges in cloud computing? Discuss in brief.

➔ Topic:

- Cloud Security Challenges



Q6(a)

Explain Security Reference Architecture of Cloud with a neat diagram.

➔ Topic:

- Cloud Security Architecture



Q6(b)

What do you understand by Secure Communication in Cloud? How is it achieved?

➔ Topic:

- Secure Communication



 **May 2022**

Q5(b)

Describe the top threats identified by Cloud Security Alliance (CSA) cloud computing.

➔ Topic:

- Cloud Threats
- Security Challenges



 **FREQUENCY ANALYSIS**

Topic	2022	2023	2024	Dec 2024	2025	Frequency
Cloud Security Challenges	✓	✓	✗	✓	✗	★★★★★
Cloud Security Architecture	✗	✓	✗	✗	✗	★★★★
Secure Communication	✗	✓	✗	✗	✗	★★★★
Vulnerability Assessment Tools	✗	✗	✓	✗	✗	★★★★
Virtual Threats	✗	✗	✓	✗	✗	★★★★
VM Security Techniques	✗	✗	✓	✗	✗	★★★★
Trusted Cloud Computing	✗	✗	✗	✓	✗	★★★★
Cloud Security Fundamentals	✗	✗	✗	✗	✓	★★★★
VM Security Recommendations	✗	✗	✗	✗	✓	★★★★

MOST REPEATED TOPICS

Security Challenges in Cloud

Asked in:

✓ 2022

✓ 2023

✓ Dec 2024

Expected 2026

Explain security challenges in cloud computing.

Discuss major threats and countermeasures.

Cloud Security Architecture

Asked in:

 2023

But extremely important architecture question.

Expected

Explain cloud security architecture with neat diagram.

Virtual Threats & VM Security

Asked in:

✓ 2024

✓ 2025

Expected

Explain virtual threats and VM-specific security techniques.

Secure Communication

Asked in:

✓ 2023

Expected

Explain secure communication in cloud and how it is achieved.

Vulnerability Assessment Tools

Asked in:

 2024

Expected

Describe vulnerability assessment tools for cloud security.



MOST IMPORTANT 14-MARK QUESTIONS

1.

Explain Cloud Security Architecture with neat diagram.

2.

Discuss Security Challenges in Cloud Computing.

3.

Explain Virtual Threats and VM Security Techniques.

4.

Explain Secure Communication in Cloud.

5.

Explain Trusted Cloud Computing.

6.

Explain Vulnerability Assessment Tools.

7.

Explain VM Security Recommendations.



MOST IMPORTANT 7-MARK QUESTIONS

1. Define Trusted Cloud Computing.

2. Explain Cloud Security Fundamentals.
 3. Explain VM Security Recommendations.
 4. Explain Virtual Threats.
 5. Explain Secure Communication.
 6. Explain Vulnerability Assessment Tools.
 7. Explain VM Security Techniques.
 8. Explain Cloud Security Architecture.
 9. Explain CSA Top Threats.
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FINAL PREDICTION FOR NEXT EXAM

 **VERY HIGH PROBABILITY**

- Cloud Security Architecture
 - Security Challenges in Cloud
 - Virtual Threats
 - VM Security Techniques
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 **HIGH PROBABILITY**

- ✓ Secure Communication
 - ✓ Trusted Cloud Computing
 - ✓ Vulnerability Assessment Tools
 - ✓ VM Security Recommendations
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MEDIUM PROBABILITY

- ✓ Privacy Issues in Cloud
 - ✓ Secure Execution Environment
 - ✓ Security Fundamentals
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SAFE UNIT-4 STRATEGY

If exam is tomorrow:

MUST PREPARE

1. Cloud Security Architecture
2. Security Challenges
3. Virtual Threats

4. VM Security Techniques
5. Secure Communication

These topics alone cover the majority of Unit-4 questions from 2022–2025.

SECOND PRIORITY

6. Trusted Cloud Computing
7. Vulnerability Assessment Tools
8. VM Security Recommendations

Memory Trick

UNIT-4 = SECURITY UNIT

- Architecture
- Challenges
 - Threats


- VM Security
- Communication
- Trust

Final Rank-Wise Importance


Rank 1

 Security Challenges

Rank 2

 Cloud Security Architecture

Rank 3

 Virtual Threats + VM Security

Rank 4

 Secure Communication

Rank 5

 Trusted Cloud Computing

Rank 6

 Vulnerability Assessment Tools

If you prepare these **6 topics thoroughly**, you can cover approximately **75–85% of Unit–4 PYQ trend (2022–2025)**.