

**National Institute of Technology Karnataka, Surathkal
Department of Computer Science and Engineering**

Quiz 1

Principles of Information Security(CS814)

Max Marks: 15 Date: 27/09/2024 Duration: 45 Minutes Roll No:

1. Name and describe the three main security requirements. **(3 Marks)**
2. Describe the Reconnaissance and Persistence tactics of the MITRE ATT&CK framework. **(2 Marks)**
3. What is a Firewall? Briefly describe **(2 Marks)**
4. What is network segmentation? How is it useful with regards to security? **(2 Marks)**
5. Name any 3 types of threat actors **(3 Marks)**
6. Name and describe any 3 types of cyber attacks **(3 Marks)**

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**National Institute of Technology Karnataka, Surathkal
Department of Computer Science and Engineering**

Quiz 2

Principles of Information Security(CS814)

Max Marks: 15 Date: 14/11/2024 Duration: 45 Minutes Roll No:

1. Describe Role-Based Access Control and specify its advantages and limitations
(2+2+2 Marks)
2. List any 4 uses of auditing
(2 Marks)
3. What are the three requirements of a good hash function? Name and describe
(3 Marks)
4. What is Cross-site Scripting attack? Name and describe its types
(4 Marks)

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National Institute of Technology Karnataka, Surathkal
Department of Computer Science and Engineering
Mid-Semester Exam
Principles of Information Security (CS814)

Max Marks: 40 Date: 08/10/2024 Duration: 90 Minutes Roll No: 24215015

1. Name and describe one security measure each to achieve Confidentiality, Integrity and Availability. **(3 Marks)**
2. Name and describe any 5 tactics of the MITRE ATT&CK framework. **(5 Marks)**
3. Name and describe any 6 types of security attacks **(12 Marks)**
4. What is TLS protocol? Why is it used? What are the messages /information exchanged as part of TLS handshake? **(1+2+4 Marks)**
5. What is a threat model? Why is it used? What does it generally include? **(1+2+5 Marks)**
6. List and describe security requirements and suitable measures to achieve them for a Hospital. **(5 Marks)**

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Department of Computer Science and Engineering

. End-Semester Exam

Principles of Information Security (CS814)

Max Marks: 80 Date: 04/12/2024 Duration: 3 Hours Roll No: 2421S028

1. Briefly describe the following with respect to security with a real-life scenario/example
a. Principle of Least Privilege
b. Separation of Duty (3×2 Marks)
2. Name and describe any 5 features that need to be considered while designing/implementing an access control system (5 Marks)
3. What is TLS protocol? Why is it used? What are the messages /information exchanged as part of TLS handshake? (1+2+4 Marks)
4. (a) What is SQL injection attack? Explain with an example. (4 Marks)
(b) List and describe different types of SQL injection attack (7 Marks)
5. (a) Define Auditing and list any 4 uses of it. (1+4 Marks)
(c) Explain Linux logging system (4 Marks)
6. List and describe the important security requirements (features) of a trusted computing base. Discuss them in detail with respect to operating system (6+6 Marks)
7. (a) What are the differences between Authentication and Authorization (2 Marks)
(b) What are the differences between Security and Privacy (2 Marks)
(c) Name and describe three main classes/approaches that can be used for Authentication. Give an example for each of them. (6 Marks)
8. (a) List and describe any 5 advantages of security standards (5 Marks)
(b) List and describe any 5 privacy rights given to users under the GDPR (5 Marks)
9. (a) What is Zeek? Describe its architecture and list any 4 advantages of it (1+4+2 Marks)
(b) Name and describe any 3 types of malwares (3 Marks)

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Quiz 1

Principles of Information Security(CS814)

Max Marks: 15 Date: 25/09/2025 Duration: 30 Minutes Roll No:

1. Name and describe the two types of integrity. Also specify how are they generally achieved
(3 Marks)
2. What is CVSS? How is it useful?
(2 Marks)
3. Describe the terms Salt and pepper with respect to hashing
(2 Marks)
4. What are the two uses of Randomized MAC addresses —
(1 Mark)
5. Name and describe any two types of threat agents
(1 Mark)
6. What is network segmentation? How is it useful with regards to security?
(2 Marks)
7. Describe the following
(1 * 4 Marks)
 - a. Supply Chain Attack
 - b. Out-of-band IDS
 - c. SQL Injection
 - d. Command and Control

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Quiz 2

Principles of Information Security(CS814)

Max Marks: 15 Date: 14/11/2025 Duration: 30 Minutes Roll No:

1. Describe Attribute-Based Access Control and specify its advantages and limitations **(3 Marks)**
2. What is the Type Enforcement Model? Give an Example **(2 Marks)**
3. Name and describe the main segments/regions of a process address space **(4 Marks)**
4. Name and describe multiple levels of log **(5 Mark)**
5. Briefly describe the stack overflow attack **(1 Mark)**

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Mid-Semester Exam
Principles of Information Security (CS814)

Max Marks: 40 Date: 09/10/2025 Duration: 90 Minutes Roll No: 252 Tso32

1. Name and describe any 5 tactics of the MITRE ATT&CK framework. **(5 Marks)**
2. What are the three requirements of a good hash function? Name and describe **(3 Marks)**
3. What is Cross-site Scripting attack? Name and describe its types with examples **(7 Marks)**
4. Name and describe any 3 types of malwares **(3 Marks)**
5. Explain how a DNS cache poisoning attack works? How can it be prevented? **(4+2 Marks)**
6. What is TLS protocol? Why is it used? What are the important messages /information exchanged as part of TLS handshake? **(1+1+2 Marks)**
7. Explain the STRIDE threat modeling. **(6 Marks)**
8. What is a digital signature? How is it useful? How is it created and verified? **(6 Marks)**

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End-Semester Exam
Principles of Information Security (CS814)

Max Marks: 80 Date: 03/12/2025 Duration: 3 Hours Roll No:

1. Name and explain any 6 common types of attacks **(6 Marks)**

2. a. Describe cryptanalysis? Name and describe its three types **(4 Marks)**
 b. Explain Firewall and its usage **(3 Marks)**
 c. Name and describe the four security features that must be supported by a secure programming language **(4 Marks)**
 d. Name and describe different classes of authentication with examples **(6 Marks)**
 e. What are the advantages of security standards **(5 Marks)**

3. Describe SQL injection attack? Name and describe its types with examples **(8 Marks)**

4. What is a Digital certificate? How is it useful in Web? Explain in detail the components of a certificate, entire certificate chain and how it is used? **(1+1+4 Marks)**

5. a. Name and describe the features that are useful in comparing different access control models. **(7 Marks)**
 b. Name and describe three types of Mandatory Access Control Models **(3 Marks)**

6. Explain in detail the Stack Overflow attack that you implemented as part of assignment. Explain each step with suitable diagram **(10 Marks)**

7. What is a TCB? Name and describe the three properties that should be satisfied by a TCB. Discuss these properties with respect to operating systems **(1+3+5 Marks)**

8. Name and describe any 7 privacy rights given to users under the GDPR **(7 Marks)**

9. Define the following
 - a. Principle of least privilege
 - b. Separation of duty**(1*2 Marks)**