

[Dashboard](#) / [My courses](#) / [S1-23 MERGEDCS](#) / General / [Quiz 2](#)

Started on Thursday, 23 November 2023, 6:53 PM

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Time taken 8 mins 56 secs

Grade 3.35 out of 5.00 (67%)

Question **1**

Correct

Mark 0.33 out of 0.33

What does the accept() system call in the server program specifically do?

- ☐ a. Establishes a connection
- ☐ b. Sends a connection request
- ☒ c. Fetches a connection from the queue ✓
- ☐ d. Initiates the data transfer

The correct answer is: Fetches a connection from the queue

Question **2**

Incorrect

Mark 0.00 out of 0.33

In a telnet session where A types commands and B executes them, which side does the attacker typically target in a TCP session hijacking attack?

- ☐ a. Both side A and side B simultaneously
- ☐ b. Side A, as it initiates the commands
- ☐ c. Neither side, as telnet sessions are inherently secure
- ☒ d. Side B, as it executes the commands ✗

The correct answer is: Both side A and side B simultaneously

Question 3

Incorrect

Mark 0.00 out of 0.33

Which statement accurately describes the relationship between SSL/TLS connections and sessions?

- ☒ a. Sessions can consist of multiple connections and have enduring security parameters. ✖
- ☐ b. Connections are created by the SSL/TLS Handshaking Protocol.
- ☐ c. The SSL/TLS Heartbeat Extension facilitates secure data transfer between two endpoints.
- ☐ d. A session is a one-time transport of information between two nodes.

The correct answer is: Connections are created by the SSL/TLS Handshaking Protocol.

Question 4

Correct

Mark 0.33 out of 0.33

In the context of TCP session hijacking, what crucial factors allow an attacker to inject data into an existing TCP connection?

- ☐ a. Matching the destination IP and port numbers
- ☒ b. Generating packets with correct sequence numbers and matching four-tuple information ✔
- ☐ c. Creating packets with matching source and destination IP addresses
- ☐ d. Ensuring the payload size of the injected packet is identical to the original data packets

The correct answer is: Generating packets with correct sequence numbers and matching four-tuple information

Question 5

Incorrect

Mark 0.00 out of 0.33

Consider the resolution of the domain name www.gate.org.in by a DNS resolver. Assume that no resource records are cached anywhere across the DNS servers and that an iterative query mechanism is used in the resolution. The number of DNS query-response pairs involved in completely resolving the domain name is:

- ☒ a. 4 ✖
- ☐ b. 8
- ☐ c. 2
- ☐ d. 6

The correct answer is: 6

Question 6

Incorrect

Mark 0.00 out of 0.33

What distinguishes the TCP reset packet in contrast to the FIN packet in the context of terminating connections?

- ☒ a. The FIN packet involves a sequence number that must match the receiver's expectation, unlike the reset packet that disregards sequence number verification. ❌
- ☐ b. The FIN packet is used for emergency situations, while the reset packet is a standard termination method.
- ☐ c. The FIN packet triggers an immediate connection termination without acknowledgement, whereas the reset packet requires acknowledgement before termination.
- ☐ d. The FIN packet initiates a one-way termination, while the reset packet terminates communication instantly in both directions.

The correct answer is: The FIN packet initiates a one-way termination, while the reset packet terminates communication instantly in both directions.

Question 7

Correct

Mark 0.33 out of 0.33

Which scenario accurately depicts the potential impact of a successful TCP session hijacking attack?

- ☒ a. Compromising the integrity of the ongoing communication between A and B ✔️
- ☐ b. Redirecting the communication flow to a different server
- ☐ c. Tampering with the encryption keys in the communication channel
- ☐ d. Triggering a denial-of-service attack on the targeted system

The correct answer is: Compromising the integrity of the ongoing communication between A and B

Question 8

Correct

Mark 0.33 out of 0.33

Which one of the following protocols is NOT used to resolve one form of address to another one?

- ☐ a. DNS
- ☐ b. RARP
- ☐ c. ARP
- ☒ d. DHCP ✔️

The correct answer is: DHCP

Question **9**

Correct

Mark 0.38 out of 0.38

Why is salting beneficial in password hashing?

- ☐ a. It minimizes the computational load on the hashing algorithm
- ☐ b. It simplifies the hashing process for longer passwords
- ☐ c. It reduces the number of iterations required for hashing
- ☒ d. It prevents dictionary attacks and rainbow table usage ✓

The correct answer is: It prevents dictionary attacks and rainbow table usage

Question **10**

Correct

Mark 0.33 out of 0.33

Which of the following statements accurately describes the potential impact of spoofing attacks in the DNS query process, according to the lecture?

- ☐ a. Spoofing attacks against both the user machine and the local DNS server have equal damaging effects on the DNS query process.
- ☐ b. Spoofing attacks against the root server significantly disrupt the DNS query process compared to other attack points.
- ☐ c. Spoofing attacks against the user machine are more damaging due to continuous requests sent from the affected machine.
- ☒ d. Spoofing attacks against the local DNS server have a greater impact as the spoofed information is stored in the server's cache. ✓

The correct answer is: Spoofing attacks against the local DNS server have a greater impact as the spoofed information is stored in the server's cache.

Question **11**

Incorrect

Mark 0.00 out of 0.33

What distinguishes the TCP reset packet in contrast to the FIN packet in the context of terminating connections?

- ☐ a. The FIN packet triggers an immediate connection termination without acknowledgement, whereas the reset packet requires acknowledgment before termination.
- ☒ b. The FIN packet involves a sequence number that must match the receiver's expectation, unlike the reset packet that disregards sequence number verification. ✗
- ☐ c. The FIN packet initiates a one-way termination, while the reset packet terminates communication instantly in both directions.
- ☐ d. The FIN packet is used for emergency situations, while the reset packet is a standard termination method.

The correct answer is: The FIN packet initiates a one-way termination, while the reset packet terminates communication instantly in both directions.

Question **12**

Correct

Mark 0.33 out of 0.33

In the TCP server program, what purpose does the bind() system call serve?

- ☐ a. Creates a socket
- ☐ b. Sets destination information
- ☒ c. Registers for a port number ✓
- ☐ d. Sets up the listening state

The correct answer is: Registers for a port number

Question **13**

Correct

Mark 0.33 out of 0.33

What are the main responsibilities of the SSL/TLS Handshake Protocol?

- ☐ a. Encrypting the data sent between the client and server.
- ☐ b. Negotiating the transfer of certificates between the client and server.
- ☒ c. Authenticating both the server and client, establishing cryptographic keys, and defining security algorithms. ✓
- ☐ d. Maintaining the session ID and cipher suite for ongoing connections.

The correct answer is: Authenticating both the server and client, establishing cryptographic keys, and defining security algorithms.

Question **14**

Correct

Mark 0.33 out of 0.33

The DNS maps the IP addresses to

- ☐ a. An alphanumeric address
- ☒ b. A hierarchy of domain names ✓
- ☐ c. A hexadecimal address
- ☐ d. A binary address as strings

The correct answer is: A hierarchy of domain names

Question **15**

Correct

Mark 0.33 out of 0.33

What fundamental concept is exemplified by a zero-knowledge proof?

- ☐ a. Authentication through a chain of trust
- ☐ b. Complete encryption of sensitive data
- ☒ c. Verification of identity without revealing specific information ✓
- ☐ d. Demonstration of absolute secrecy

The correct answer is: Verification of identity without revealing specific information

[◀ Quiz 1](#)[Assignment 1-Packet Sniffing and Spoofing ►](#)