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Started on	Monday, 26 June 2023, 4:40 PM
State	Finished
Completed on	Monday, 26 June 2023, 4:59 PM
Time taken	19 mins 23 secs
Marks	20.00/20.00
Grade	10.00 out of 10.00 (100%)

Question 1

Correct

Mark 1.00 out
of 1.00

A _____ is a piece of software that seems legitimate but actually harmful.

- ☐ a. Worm
- ☐ b. Rootkit
- ☒ c. Trojan
- ☐ d. Virus



Your answer is correct.

The correct answer is:
Trojan



Question 2

Correct

Mark 1.00 out of 1.00



What is the primary purpose of circuit switching in telecommunications?

- ☐ a. To dynamically route data packets across multiple network nodes
- ☒ b. To provide a dedicated communication path for the duration of a conversation ✓
- ☐ c. To prioritize network traffic based on Quality of Service (QoS) settings
- ☐ d. To establish a secure tunnel between two network devices

Your answer is correct.

The correct answer is:

To provide a dedicated communication path for the duration of a conversation



Question 3

Correct

Mark 1.00 out of 1.00

An ARP attack can lead to a,

- ☐ a. Session hijacking
- ☐ b. Denial of service
- ☒ c. All of these answers are correct
- ☐ d. Man-in-the-middle attack



Your answer is correct.

The correct answer is:

All of these answers are correct

Question 4

Correct

Mark 1.00 out of 1.00

Common DoS Attacks include,

- ☒ a. All of these answers are correct
- ☐ b. Ping of death
- ☐ c. Ping flood
- ☐ d. Smurf attack



Your answer is correct.

The correct answer is:

All of these answers are correct

Question 5

Correct

Mark 1.00 out of 1.00

Which of the following statements about ARP (Address Resolution Protocol) is true?

- ☒ a. ARP is used within a network and not across networks ✓
- ☐ b. ARP mappings (IP to MAC) are cached in a DNS table.
- ☐ c. ARP spoofing can only lead to denial of service attacks.
- ☐ d. ARP is a layer 3 protocol used for discovering hardware addresses.

Your answer is correct.

The correct answer is:

ARP is used within a network and not across networks



Question 6

Correct

Mark 1.00 out of 1.00

DNS Spoofing and Poisoning can be used for,

- ☐ a. Parental filtering
- ☒ b. All of these answers are correct
- ☐ c. Man-in-the-middle attack
- ☐ d. Prevent access to certain websites



Your answer is correct.

The correct answer is:

All of these answers are correct



Question 7

Correct

Mark 1.00 out of 1.00

Which of the following statements is true regarding the security of Telnet?

- ☐ a. Telnet authenticates users before establishing a connection
- ☐ b. Telnet uses strong encryption to protect data transmission
- ☐ c. Telnet is primarily used for secure remote file transfers
- ☒ d. Telnet is susceptible to eavesdropping and interception ✓

Your answer is correct.

The correct answer is:

Telnet is susceptible to eavesdropping and interception



Question 8

Correct

Mark 1.00 out
of 1.00

Which one of the following is a security issue with BGP?

- ☒ a. All of these answers are correct
- ☐ b. Anyone can claim any origin
- ☐ c. Anyone can claim any path and/or prefix
- ☐ d. Anyone between two routers can inject traffic



Your answer is correct.

The correct answer is:

All of these answers are correct



Question 9

Correct

Mark 1.00 out of 1.00

_____ is an attack which forces an end user to execute unwanted actions on a web application in which he/she is currently authenticated.

- ☐ a. Cross-site scoring scripting
- ☐ b. Two-factor authentication
- ☒ c. Cross-site request forgery
- ☐ d. Cross-site scripting



Your answer is correct.

The correct answer is:
Cross-site request forgery





Question 10

Correct

Mark 1.00 out of 1.00

Which of the following statements is false about cookies?

- ☐ a. Cookies are vulnerable to hijacking attacks
- ☒ b. Cookies are sent only to authenticate users
- ☐ c. For a cookie to be secure, it must be time-limited
- ☐ d. Cookies can be tampered with during transit



Your answer is correct.

The correct answer is:

Cookies are sent only to authenticate users

Question 11

Correct

Mark 1.00 out of 1.00

What do we need for cookies to be secure?

- ☒ a. All of these answers are correct
- ☐ b. Time-limited (i.e., must expire after some time)
- ☐ c. Must have authenticated user prior to the creation
- ☐ d. Unforgeable (i.e., only the server can create it)



Your answer is correct.

The correct answer is:

All of these answers are correct

Question 12

Correct

Mark 1.00 out
of 1.00

Considering the Same Origin Policy (SOP) in web application security, which of the following URLs would a script from "https://www.example.com/page1" be allowed to access under the policy?

- ☐ a. https://www.example.com:8080/page5
- ☐ b. All these answers are correct
- ☐ c. http://www.example.com/page3
- ☒ d. https://www.example.com/page2



Your answer is correct.

The correct answer is:

https://www.example.com/page2

Question 13

Correct

Mark 1.00 out of 1.00



Consider a website where users can search for books by their titles. Which of the following ways of processing the user's search input most likely could make the website vulnerable to an SQL Injection attack?

- ☒ a. The website directly adds the user's search input into an SQL command like: `SELECT * FROM books WHERE title = '[user's search input]'`. ✓
- ☐ b. The website first removes or escapes any special characters from the user's search input before adding it into an SQL command like: `SELECT * FROM books WHERE title = '[sanitized user's search input]'`.
- ☐ c. The website simply displays the user's search input on the search results page, but doesn't use it in any SQL command.
- ☐ d. The website uses the user's search input in an SQL command like: `SELECT * FROM books WHERE title = '[user's input reversed]'`.

Your answer is correct.

The correct answer is:

The website directly adds the user's search input into an SQL command like: `SELECT * FROM books WHERE title = '[user's search input]'`.

Question 14

Correct

Mark 1.00 out
of 1.00

Which of the following threats are most likely to be caused by poor input validation?

- ☒ a. Both SQL injection and XSS
- ☐ b. Insecure deserialization
- ☐ c. Cross-site scripting (XSS)
- ☐ d. SQL injection



Your answer is correct.

The correct answer is:

Both SQL injection and XSS



Question 15

Correct

Mark 1.00 out of 1.00

What is the primary goal of rate limiting in the context of broken access control?

- ☐ a. Enable scraping of all data from the web application
- ☐ b. Validate access control on secure pages
- ☐ c. Grant unlimited access to all users
- ☒ d. Slow down user access to data



Your answer is correct.

The correct answer is:

Slow down user access to data



Question 16

Correct

Mark 1.00 out of 1.00



Which of the following statements accurately describes the capabilities of Nmap?

- ☐ a. Nmap is a network visualization tool that generates graphical representations of network topologies.
- ☐ b. Nmap can actively block unauthorized access attempts and prevent network intrusions.
- ☒ c. Nmap can perform operating system fingerprinting, determining the underlying operating system running on a target system. ✓
- ☐ d. Nmap can crack encrypted passwords by utilizing advanced cryptographic algorithms.

Your answer is correct.

The correct answer is:

Nmap can perform operating system fingerprinting, determining the underlying operating system running on a target system.

Question 17

Correct

Mark 1.00 out
of 1.00

Which of the following is NOT an example of a data scrubbing technique used to preserve privacy?

- ☐ a. Replacing the data with pseudonyms
- ☐ b. Adding statistical noise to the data
- ☒ c. Reordering the data records
- ☐ d. Removal or deletion of data



Your answer is correct.

The correct answer is:

Reordering the data records



Question 18

Correct

Mark 1.00 out
of 1.00

Which of the following disclosures cannot be prevented by having k-anonymity?

- ☐ a. Identification disclosure
- ☐ b. Membership disclosure
- ☐ c. None of these answers are correct
- ☒ d. Attribute disclosure



Your answer is correct.

The correct answer is:

Attribute disclosure



Question 19

Correct

Mark 1.00 out of 1.00

What is the false statement about differentially private mechanisms?

- ☐ a. Adding noise to outputs is a common practice when designing differentially private mechanisms.
- ☐ b. It makes (almost) no assumption on external knowledge.
- ☐ c. Any computation on the output of the ϵ -differentially private mechanism is also ϵ -differentially private.
- ☒ d. The guarantee of differential privacy depends on the data set. ✓

Your answer is correct.

The correct answer is:

The guarantee of differential privacy depends on the data set.



Question 20

Correct

Mark 1.00 out of 1.00

Which one of the following mechanisms satisfies differential privacy?

- ☐ a. The mechanism $g(X)=f(X)$
- ☒ b. The mechanism $g(X)=f(X)+z$, where z is noise drawn from a Laplace distribution: $\text{Lap}(b)$ ✓
- ☐ c. The mechanism $g(X)=f(X)+u$, where u is noise drawn from a uniform distribution: $\text{Unif}(0,1)$
- ☐ d. All three choices are correct

Your answer is correct.

The correct answer is:

The mechanism $g(X)=f(X)+z$, where z is noise drawn from a Laplace distribution: $\text{Lap}(b)$

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 Data retention summary

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