Course Name: ETHICAL HACKING

Assignment- Week 8

TYPE OF QUESTION: MCQ/MSQ/SA

Number of questions: 10 **Total mark: 10 x 1 = 10**

QUESTION 1:

Which one of the following best describes steganography?

a. Use encrypting/decryption technique so that data can be read only by intended recipient.
b. Hiding the existence of a message by embedding it inside another medium (audio/video/image).
c. Digitally sign a message to provide authenticity.
d. Compress data to reduce transmission size.

Correct Answer: b

Detail Solution: Steganography is the art of hiding the existence of a message by embedding it within another medium (image, audio, video, executable, etc.).

Thus the correct option is (b).

QUESTION 2:

Which of the following is/are true about LSB steganography in images?

a. It is simple to implement.
b. It is robust against lossy compression like JPEG.
c. It works well with 24-bit images.
d. It is vulnerable to image manipulation and filtering.

Correct Answer: a, c, d

Detail Solution: LSB steganography is straightforward and easy to implement. In JPEG compression the LSB bits are easily lost during compression, so it is not robust against it. More

bits per pixel → higher hiding capacity. Format conversion or filtering may also destroy the LSB, i.e. the hidden message.

The correct options are (a), (c) and (d).

QUESTION 3:

Consider a RGB image of size 200 x 150, where each pixel is stored in 24-bits (3-color channels, 8-bits each). The number of ***bytes*** of information that can be hidden in the image using LSB steganography (replacing 1 LSB-bit in each channel of every pixel) is _____.

Correct Answer: 11250

Detail Solution: Each pixel consists 3 channels, and hence 3 bits of information can be stored in each pixel. The number of bytes of hidden information that can be stored in the whole image can be calculated as follows.

Total number of pixels = 200 x 150 = 30,000

Total number of bytes that can be hidden = 30000 x 3 / 8 = 11250 bytes

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QUESTION 4:

Which of the following does not correspond to physiological biometrics?

a. Fingerprint
b. Iris
c. Retina
d. Signature

Correct Answer: d

Detail Solution: Physiological biometrics are physical body features (fingerprint, iris, retina, etc.). Signature dynamics, keystroke patterns and gait are behavioral biometrics.

The correct option is (d).

QUESTION 5:

Which biometric gives the highest uniqueness for identification but is often invasive?

a. Face
b. Voice
c. Signature
d. Iris/Retina

Correct Answer: d

Detail Solution: Iris and retina patterns are highly unique per individual and between eyes; retina recognition is particularly strong though it can be intrusive and stressful to subject. Face, voice and signature are less unique and more environment-dependent.

The correct option is (d)

QUESTION 6:

What is denial-of-service attack?

a. An attack on a system whereby stored files get modified or deleted.
b. An attack that prevents legitimate users from accessing some service.
c. An attack that modifies the stored password information in a system.
d. None of these.

Correct Answer: b

Detail Solution: In a denial-of-service attack, some services running on a victim machine are rendered inaccessible from legitimate users of the service.
The correct option is (b).

QUESTION 7:

A Smurf DoS attack works by:

a. Sending oversized IP packets to crash a host.
b. Sending forged ICMP echo requests to a broadcast address so that many hosts reply to the spoofed victim IP.
c. Exploiting a buffer overflow in web servers.
d. Using SQL injection to compromise database.

Correct Answer: b

Detail Solution: Smurf sends ICMP Echo requests to a network broadcast address, with the source address spoofed to the victim; many hosts reply to the victim and flood it. Oversized packets describe Ping-of-Death.

The correct option is (b).

QUESTION 8:

Which of the following is an example of denial-of-service attack?

a. Ping-of-death
b. SQL injection
c. Phishing
d. Smurf attack

Correct Answer: a, d

Detail Solution: (a) and (d) are examples of denial-of-service attack.

QUESTION 9:

What is the main purpose of Domain Name System (DNS)?

a. To provide end-to-end encryption for emails.
b. To map human-readable domain names to IP addresses.
c. To compress and segment long messages.
d. To hide secret data inside images.

Correct Answer: b

Detail Solution: DNS translates human-readable names (like www.google.com) into machine-usable IP addresses. This enables users to access websites using domain names instead of remembering numeric IPs.

The correct option is (b).

QUESTION 10:

A Distributed Denial-of-Service (DDoS) attack differs from DoS primarily because:

a. DDoS targets multiple victim servers at once.
b. DDoS uses multiple compromised machines (botnet) to attack a single target, increasing scale and obfuscation.
c. DDoS only uses UDP while DoS uses TCP.
d. There is no difference between DDoS and DoS.

Correct Answer: b

Detail Solution: DDoS involves many coordinated attackers (botnet) making tracing and mitigation harder; it is about multiple sources attacking one target. It is not limited to a specific protocol.

The correct option is (b).

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