Course Name: ETHICAL HACKING

Assignment- Week 1

TYPE OF QUESTION: MCQ/MSQ/SA

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

QUESTION 1:

What is the main objective of ethical hacking?

a. Deletes files from a system.
b. Inserts malwares in a system.
c. Legally Identify system vulnerabilities.
d. Steal sensitive information.

Correct Answer: c

Detail Solution: Ethical hacking involves simulating the actions of a malicious hacker to identify security vulnerabilities, but legally and with permission. This helps organizations strengthen their defenses.

Thus the correct option is (c).

QUESTION 2:

Which of the following are types of penetration testing methodologies?

a. White Box
b. Black Box
c. Red Box
d. Trojan Horse

Correct Answer: a, b

Detail Solution: There are mainly 3 methodologies are used for penetration testing; (a) white box model: in which the tester has complete information about the network, (b) black box model in which tester does not have any information about the network, (c) gray box model in

which partial information about the network is provide to tester. There is nothing called red box model. Trojan Horse is a malware technique.

Thus the correct options are (a) and (b).

QUESTION 3:

Which of the following switching techniques is more efficient for bursty data traffic?

a. Circuit Switching
b. Message Switching
c. Packet Switching
d. None of these

Correct Answer: c

Detail Solution: Packet switching allows multiple communications over shared links (dynamic bandwidth), making it suitable for bursty data. Circuit switched network is acceptable for voice communication but is very inefficient for high traffic like data streaming. In Message switching store-and-forward approach is used which incurs higher delay.

Thus, option (c) is true.

QUESTION 4:

Which protocol in TCP/IP is connectionless and does not provide reliability?

a. TCP
b. UDP
c. FTP
d. TELNET

Correct Answer: b

Detail Solution: UDP sends datagrams without establishing a connection and thus it is fast but unreliable. TCP, FTP and TELNET are connection oriented in which connection is established prior otodata transfer.

Thus, the correct option is (b).

QUESTION 5:

Which IP header field prevents infinite looping of packets?

a. Header Checksum
b. Time to Live
c. Fragment offset
d. HLEN

Correct Answer: b

Detail Solution: Time to Live **(**TTL) value is decremented at each router hop, and when it reaches 0, the packet is discarded. HLEN defines the header length, header checksum is used for header integrity, fragment offset is used for reassembling of packets.

Thus, the correct option is (b).

QUESTION 6:

What are the responsibilities of the IP layer?

a. Framing
b. Route packets
c. Provide reliable transmission
d. None of these

Correct Answer: b

Detail Solution: The transport layer provides reliability in transmission. The IP layer handles routing and addressing, framing and error-detection is handled by data-link layer.

Thus the correct option is (b).

QUESTION 7:

Which of the following is/are not a valid field of IP header?

a. TTL
b. Port Number
c. Protocols
d. MAC address

Correct Answer: b, d

Detail Solution: TTL prevents looping, whereas Protocols defines the protocols used in upper layer. Port number is a field of transport layer. MAC address is added in data-link layer.

Thus the correct options are (b) and (d).

QUESTION 8:

Which of the following statements is/are ***true*** about datagram packet switching?

a. Requires prior route establishment.
b. Faster for fewer packet.
c. Uses dynamic routing.
d. All packets follow the same path.

Correct Answer: b, c

Detail Solution: Datagram packets are independent, routed dynamically and can follow different paths. It does not require prior route establishment. As it does not require route establishment and termination, it is considered faster to transmit fewer packets.

Thus the correct options are (b) and (c).

QUESTION 9:

The max value (in decimal) for HLEN field (header length) is _____.

Correct Answer: 15

Detail Solution: for HLEN 4-bits are used; thus the max value which can be assigned is 1111 = 15.

QUESTION 10:

The header checksum field in the IP header is _____ bits wide.

Correct Answer: 16

Detail Solution: The header checksum which is used for header integrity is 16-bit wide.

**********END*******