Key security tools

TOTAL POINTS 12

1. What is the primary function of a firewall?   `1 point`

   ○ Uses malware definitions.

   ○ Scans the system and search for matches against the malware definitions.

   ○ Secures communication that may be understood by the intended recipient only.

   ● Filter traffic between networks.

2. How many unique encryption keys are required for 2 people to exchange a series of messages using symmetric key cryptography?   `1 point`

   ● 1

   ○ 2

   ○ 4

   ○ no keys are required

3. What are the three (3) types of modern encryption?   `1 point`

   ☑ Asymmetric

   ☐ Ciphertext

   ☑ Hash

   ☑ Symmetric

4. What is Locard's exchange principle?   `1 point`

   ○ Refers to the chronological documentation or paper trail that records the sequence of custody, control, transfer, analysis, and disposition of physical or electronic evidence.

   ○ An entity that is partially or wholly responsible for an incident that affects or potentially affects an organization's security.

   ○ Includes the identification, recovery, investigation, validation, and presentation of facts regarding digital evidence found on computers or similar digital storage media devices.

   ● The perpetrator of a crime will bring something into the crime scene and leave with something from it, and that both can be used as forensic evidence.

5. Which two (2) are types of firewall?   `1 point`

   ☐ Statutory

   ☑ Packet-filtering

   ☑ Application-level

   ☐ Protocol-filtering

6. Which type of data does a packet-filtering firewall inspect when it decides whether to forward or drop a packet?   `1 point`

   ○ Source and destination IP addresses.

   ○ TCP/UDP source and destination port numbers.

   ○ ICMP message type.

   ○ TCP SYN and ACK bits.

   ● All of the above.

7. Which three (3) of the following are limitations of Application gateways?   `1 point`

   ☐ Application gateways are not good at understanding protocols such as telnet.

- ☑ Application gateways are susceptible to IP spoofing.

- ☑ Client software must be "smart" and know to contact the gateway.

- ☑ Each application to be managed needs its own gateway.

8. Which type of firewall inspects XML packet payloads for things like executable code, a target IP address that make sense, and a known source IP address?

`1 point`

- ⦿ An XML Gateway.
- ○ An application-level firewall.
- ○ A packet-filtering firewall.
- ○ All of the above.

9. Which statement about Stateful firewalls is True?

`1 point`

- ⦿ They have state tables that allow them to compare current packets with previous packets.
- ○ They are less secure in general than Stateless firewalls.
- ○ They are faster than Stateless firewalls.
- ○ All of the above.

10. True or False: Most Antivirus/Antimalware software works by comparing a hash of every file encountered on your system against a table of hashs of known virus and malware previously made by the antivirus/antimalware vendor.

`1 point`

- ○ False
- ⦿ True

11. Which type of cryptographic attack is characterized by comparing a captured hashed password against a table of many millions of previously hashed words or strings?

`1 point`

- ○ Known Plaintext
- ○ Brute force
- ○ Known Ciphertext
- ⦿ Rainbow tables
- ○ Social Engineering

12. What are two (2) drawbacks to using symmetric key encryption?

`1 point`

- ☐ Symmetric key encryption is slower than asymmetric key encryption.

- ☑ You need to use a different encryption key with everyone you communicate with, otherwise anyone who has ever received an encrypted message from you could open any message you sent to anyone else using that key.

- ☑ The sender and recipient must find a secure way to share the key itself.

- ☐ A modern supercomputer can break even the most advanced symmetric key in a matter of minutes.

- ☑ I, **Thomas John James**, understand that submitting another's work as my own can result in zero credit for this assignment. Repeated violations of the Coursera Honor Code may result in removal from this course or deactivation of my Coursera account.

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