CompTIA

Exam Questions SY0-701

CompTIA Security+ Exam

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NEW QUESTION 1
Employees in the research and development business unit receive extensive training to ensure they understand how to best protect company data. Which of the following is the type of data these employees are most likely to use in day-to-day work activities?

A. Encrypted
B. Intellectual property
C. Critical
D. Data in transit

Answer: B

Explanation:
Intellectual property is a type of data that consists of ideas, inventions, designs, or other creative works that have commercial value and are protected by law. Employees in the research and development business unit are most likely to use intellectual property data in their day-to-day work activities, as they are involved in creating new products or services for the company. Intellectual property data needs to be protected from unauthorized use, disclosure, or theft, as it can give the company a competitive advantage in the market. Therefore, these employees receive extensive training to ensure
they understand how to best protect this type of data. References = CompTIA Security+ SY0-701 Certification Study Guide, page 90; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 1.2 - Security Concepts, 7:57 - 9:03.

NEW QUESTION 2
Which of the following must be considered when designing a high-availability network? (Choose two).

A. Ease of recovery
B. Ability to patch
C. Physical isolation
D. Responsiveness
E. Attack surface
F. Extensible authentication

Answer: AE

Explanation:
A high-availability network is a network that is designed to minimize downtime and ensure continuous operation even in the event of a failure or disruption. A high-availability network must consider the following factors12:
? Ease of recovery: This refers to the ability of the network to restore normal functionality quickly and efficiently after a failure or disruption. Ease of recovery can be achieved by implementing backup and restore procedures, redundancy and failover mechanisms, fault tolerance and resilience, and disaster recovery plans.
? Attack surface: This refers to the amount of exposure and vulnerability of the network to potential threats and attacks. Attack surface can be reduced by implementing security controls such as firewalls, encryption, authentication, access control, segmentation, and hardening.
The other options are not directly related to high-availability network design:
? Ability to patch: This refers to the process of updating and fixing software components to address security issues, bugs, or performance improvements. Ability to patch is important for maintaining the security and functionality of the network, but it is not a specific factor for high-availability network design.
? Physical isolation: This refers to the separation of network components or devices from other networks or physical environments. Physical isolation can enhance the security and performance of the network, but it can also reduce the availability and accessibility of the network resources.
? Responsiveness: This refers to the speed and quality of the network's performance and service delivery. Responsiveness can be measured by metrics such as latency, throughput, jitter, and packet loss. Responsiveness is important for ensuring customer satisfaction and user experience, but it is not a specific factor for high-availability network design.
? Extensible authentication: This refers to the ability of the network to support multiple and flexible authentication methods and protocols. Extensible authentication can improve the security and convenience of the network, but it is not a specific factor for high-availability network design.
References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: High Availability – CompTIA Security+ SY0-701 – 3.4, video by Professor Messer.

NEW QUESTION 3
Which of the following can be used to identify potential attacker activities without affecting production servers?

A. Honey pot
B. Video surveillance
C. Zero Trust
D. Geofencing

Answer: A

Explanation:
A honey pot is a system or a network that is designed to mimic a real production server and attract potential attackers. A honey pot can be used to identify the attacker's methods, techniques, and objectives without affecting the actual production servers. A honey pot can also divert the attacker's attention from the real targets and waste their time and resources12.
The other options are not effective ways to identify potential attacker activities without affecting production servers:
? Video surveillance: This is a physical security technique that uses cameras and monitors to record and observe the activities in a certain area. Video surveillance can help to deter, detect, and investigate physical intrusions, but it does not directly identify the attacker's activities on the network or the servers3.
? Zero Trust: This is a security strategy that assumes that no user, device, or network is trustworthy by default and requires strict verification and validation for every request and transaction. Zero Trust can help to improve the security posture and reduce the attack surface of an organization, but it does not directly identify the attacker's activities on the network or the servers4.
? Geofencing: This is a security technique that uses geographic location as a criterion to restrict or allow access to data or resources. Geofencing can help to protect the data sovereignty and compliance of an organization, but it does not directly identify the attacker's activities on the network or the servers5.
References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 542: Honeypots and Deception – SY0-601 CompTIA Security+ : 2.1, video by Professor Messer3: CompTIA Security+ SY0-701 Certification Study Guide, page 974: CompTIA Security+ SY0-701 Certification Study Guide, page 985: CompTIA Security+ SY0-701 Certification Study Guide, page 99.

NEW QUESTION 4

An enterprise is trying to limit outbound DNS traffic originating from its internal network. Outbound DNS requests will only be allowed from one device with the IP address 10.50.10.25. Which of the following firewall ACLs will accomplish this goal?

A. Access list outbound permit 0.0.0.0/0 0.0.0.0/0 port 53 Access list outbound deny 10.50.10.25/32 0.0.0.0/0 port 53
B. Access list outbound permit 0.0.0.0/0 10.50.10.25/32 port 53 Access list outbound deny 0.0.0.0/0 0.0.0.0/0 port 53
C. Access list outbound permit 0.0.0.0/0 0.0.0.0/0 port 53Access list outbound deny 0.0.0.0/0 10.50.10.25/32 port 53
D. Access list outbound permit 10.50.10.25/32 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0/0 0.0.0.0/0 port 53

Answer: D

Explanation:
A firewall ACL (access control list) is a set of rules that determines which traffic is allowed or denied by the firewall. The rules are processed in order, from top to bottom, until a match is found. The syntax of a firewall ACL rule is:
Access list <direction> <action> <source address> <destination address> <protocol>
<port>
To limit outbound DNS traffic originating from the internal network, the firewall ACL should allow only the device with the IP address 10.50.10.25 to send DNS requests to any destination on port 53, and deny all other outbound traffic on port 53. The correct firewall ACL is:
Access list outbound permit 10.50.10.25/32 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0/0 0.0.0.0/0 port 53
The first rule permits outbound traffic from the source address 10.50.10.25/32 (a single host) to any destination address (0.0.0.0/0) on port 53 (DNS). The second rule denies all other outbound traffic on port 532.
References: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 4, page 175.

NEW QUESTION 5
Security controls in a data center are being reviewed to ensure data is properly protected and that human life considerations are included. Which of the following best describes how the controls should be set up?

A. Remote access points should fail closed.
B. Logging controls should fail open.
C. Safety controls should fail open.
D. Logical security controls should fail closed.

Answer: C

Explanation:
Safety controls are security controls that are designed to protect human life and physical assets from harm or damage. Examples of safety controls include fire alarms, sprinklers, emergency exits, backup generators, and surge protectors. Safety controls should fail open, which means that they should remain operational or allow access when a failure or error occurs. Failing open can prevent or minimize the impact of a disaster, such as a fire, flood, earthquake, or power outage, on human life and physical assets. For example, if a fire alarm fails, it should still trigger the sprinklers and unlock the emergency exits, rather than remain silent and locked. Failing open can also ensure that essential services, such as healthcare, transportation, or communication, are available during a crisis. Remote access points, logging controls, and logical security controls are other types of security controls, but they should not fail open in a data center. Remote access points are security controls that allow users or systems to access a network or a system from a remote location, such as a VPN, a web portal, or a wireless access point. Remote access points should fail closed, which means that they should deny access when a failure or error occurs. Failing closed can prevent unauthorized or malicious access to the data center's network or systems, such as by hackers, malware, or rogue devices. Logging controls are security controls that record and monitor the activities and events that occur on a network or a system, such as user actions, system errors, security incidents, or performance metrics. Logging controls should also fail closed, which means that they should stop or suspend the activities or events when a failure or error occurs. Failing closed can prevent data loss, corruption, or tampering, as well as ensure compliance with regulations and standards. Logical security controls are security controls that use software or code to protect data and systems from unauthorized or malicious access, modification, or destruction, such as encryption, authentication, authorization, or firewall. Logical security controls should also fail closed, which means that they should block or restrict access when a failure or error occurs. Failing closed can prevent data breaches, cyberattacks, or logical flaws, as well as ensure confidentiality, integrity, and availability of data and systems. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 142-143, 372-373, 376-377

NEW QUESTION 6
Which of the following enables the use of an input field to run commands that can view or manipulate data?

A. Cross-site scripting
B. Side loading
C. Buffer overflow
D. SQL injection

Answer: D

Explanation:
= SQL injection is a type of attack that enables the use of an input field to run commands that can view or manipulate data in a database. SQL stands for Structured Query Language, which is a language used to communicate with databases. By injecting malicious SQL statements into an input field, an attacker can bypass authentication, access sensitive information, modify or delete data, or execute commands on the server.
SQL injection is one of the most common and dangerous web application
vulnerabilities. References = CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 5, page 195. CompTIA Security+ SY0-701 Exam Objectives, Domain 1.1, page 8.

NEW QUESTION 7
A client asked a security company to provide a document outlining the project, the cost, and the completion time frame. Which of the following documents should the company provide to the client?

A. MSA
B. SLA
C. BPA
D. SOW

Answer: D

Explanation:
An ISOW is a document that outlines the project, the cost, and the completion time frame for a security company to provide a service to a client. ISOW stands for Information Security Operations Work, and it is a type of contract that specifies the scope, deliverables, milestones, and payment terms of a security project. An ISOW is usually used for one-time or short-term projects that have a clear and defined objective and outcome. For example, an ISOW can be used for a security assessment, a penetration test, a security audit, or a security training.
The other options are not correct because they are not documents that outline the project, the cost, and the completion time frame for a security company to provide a service to a client. A MSA is a master service agreement, which is a type of contract that establishes the general terms and conditions for a long-term or ongoing relationship between a security company and a client. A MSA does not specify the details of each individual project, but rather sets the framework for future projects that will be governed by separate statements of work (SOWs). A SLA is a service level agreement, which is a type of contract that defines the quality and performance standards for a security service provided by a security company to a client. A SLA usually includes the metrics, targets, responsibilities, and penalties for measuring and ensuring the service level. A BPA is a business partnership agreement, which is a type of contract that establishes the roles and expectations for a strategic alliance between two or more security companies that collaborate to provide a joint service to a client. A BPA usually covers the objectives, benefits, risks, and obligations
of the partnership. References = CompTIA Security+ Study Guide (SY0-701), Chapter 8: Governance, Risk, and Compliance, page 387. Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 8.2: Compliance and Controls, video: Contracts and Agreements (5:12).

NEW QUESTION 8
Which of the following practices would be best to prevent an insider from introducing malicious code into a company's development process?

A. Code scanning for vulnerabilities
B. Open-source component usage
C. Quality assurance testing
D. Peer review and approval

Answer: D

Explanation:
Peer review and approval is a practice that involves having other developers or experts review the code before it is deployed or released. Peer review and approval can help detect and prevent malicious code, errors, bugs, vulnerabilities, and poor quality in the development process. Peer review and approval can also enforce coding standards, best practices, and compliance requirements. Peer review and approval can be done manually or with the help of tools, such as code analysis, code review, and code
signing. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 11: Secure Application Development, page 543 2

NEW QUESTION 9
A hacker gained access to a system via a phishing attempt that was a direct result of a user clicking a suspicious link. The link laterally deployed ransomware, which laid dormant for multiple weeks, across the network. Which of the following would have mitigated the spread?

A. IPS
B. IDS
C. WAF
D. UAT

Answer: A

Explanation:
IPS stands for intrusion prevention system, which is a network security device that monitors and blocks malicious traffic in real time. IPS is different from IDS, which only detects and alerts on malicious traffic, but does not block it. IPS would have mitigated the spread of ransomware by preventing the hacker from accessing the system via the phishing link, or by stopping the ransomware from communicating with its command and control server or encrypting the files.

NEW QUESTION 10
An employee clicked a link in an email from a payment website that asked the employee to update contact information. The employee entered the log-in information but received a "page not found" error message. Which of the following types of social engineering attacks occurred?

A. Brand impersonation
B. Pretexting
C. Typosquatting
D. Phishing

Answer: D

Explanation:
Phishing is a type of social engineering attack that involves sending fraudulent emails that appear to be from legitimate sources, such as payment websites, banks, or other trusted entities. The goal of phishing is to trick the recipients into clicking on malicious links, opening malicious attachments, or providing sensitive information, such as log-in credentials, personal data, or financial details. In this scenario, the employee received an email from a payment website that asked the employee to update contact information. The email contained a link that directed the employee to a fake website that mimicked the appearance of the real one. The employee entered the log-in information, but received a "page not found" error message. This indicates that the employee fell victim to a phishing attack, and the attacker may have captured the employee's credentials for the payment website. References = Other Social Engineering Attacks – CompTIA Security+ SY0-701 – 2.2, CompTIA Security+: Social Engineering Techniques & Other Attack … - NICCS, [CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition]

NEW QUESTION 10
Which of the following actions could a security engineer take to ensure workstations and servers are properly monitored for unauthorized changes and software?

A. Configure all systems to log scheduled tasks.
B. Collect and monitor all traffic exiting the network.
C. Block traffic based on known malicious signatures.
D. Install endpoint management software on all systems.

Answer: D

Explanation:
Endpoint management software is a tool that allows security engineers to monitor and control the configuration, security, and performance of workstations and servers from a central console. Endpoint management software can help detect and prevent unauthorized changes and software installations, enforce policies and compliance, and provide reports and alerts on the status of the endpoints. The other options are not as effective or comprehensive as endpoint management software for this
purpose. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page
137 1

NEW QUESTION 14
A security engineer is implementing FDE for all laptops in an organization. Which of the following are the most important for the engineer to consider as part of the planning process? (Select two).

A. Key escrow
B. TPM presence
C. Digital signatures
D. Data tokenization
E. Public key management
F. Certificate authority linking

Answer: AB

Explanation:
? Key escrow is a method of storing encryption keys in a secure location, such as a trusted third party or a hardware security module (HSM). Key escrow is important for FDE because it allows the recovery of encrypted data in case of lost or forgotten passwords, device theft, or hardware failure. Key escrow also enables authorized access to encrypted data for legal or forensic purposes.
? TPM presence is a feature of some laptops that have a dedicated chip for storing encryption keys and other security information. TPM presence is important for FDE because it enhances the security and performance of encryption by generating and protecting the keys within the chip, rather than relying on software or external devices. TPM presence also enables features such as secure boot, remote attestation, and device authentication.

NEW QUESTION 17
After a security awareness training session, a user called the IT help desk and reported a suspicious call. The suspicious caller stated that the Chief Financial Officer wanted credit card information in order to close an invoice. Which of the following topics did the user recognize from the training?

A. Insider threat
B. Email phishing
C. Social engineering
D. Executive whaling

Answer: C

Explanation:
Social engineering is the practice of manipulating people into performing actions or divulging confidential information, often by impersonating someone else or creating a sense of urgency or trust. The suspicious caller in this scenario was trying to use social engineering to trick the user into giving away credit card information by pretending to be the CFO and asking for a payment. The user recognized this as a potential scam and reported it to the IT help desk. The other topics are not relevant to this
situation. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 19 1

NEW QUESTION 21
A security analyst reviews domain activity logs and notices the following:

```
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
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Which of the following is the best explanation for what the security analyst has discovered?

A. The user jsmith's account has been locked out.
B. A keylogger is installed on [smith's workstation
C. An attacker is attempting to brute force ismith's account.
D. Ransomware has been deployed in the domain.

Answer: C

Explanation:
Brute force is a type of attack that tries to guess the password or other credentials of a user account by using a large number of possible combinations. An attacker can use automated tools or scripts to perform a brute force attack and gain unauthorized access to the account. The domain activity logs show that the user ismith has failed to log in 10 times in a row within a short period of time, which is a strong indicator of a brute force attack. The logs also show that the source IP address of the failed logins is different from the usual IP address of ismith, which suggests that the attacker is using a different device or location to launch the attack. The security analyst should take immediate action to block the attacker's IP address, reset ismith's password, and notify ismith of the incident. References = CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 1, page 14. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 1.1, page 2. Threat Actors and Attributes – SY0-601 CompTIA Security+ : 1.1

NEW QUESTION 25
A company has begun labeling all laptops with asset inventory stickers and associating them with employee IDs. Which of the following security benefits do these actions provide? (Choose two.)

A. If a security incident occurs on the device, the correct employee can be notified.
B. The security team will be able to send user awareness training to the appropriate device.

C. Users can be mapped to their devices when configuring software MFA tokens.
D. User-based firewall policies can be correctly targeted to the appropriate laptops.
E. When conducting penetration testing, the security team will be able to target the desired laptops.
F. Company data can be accounted for when the employee leaves the organization.

Answer: AF

Explanation:
Labeling all laptops with asset inventory stickers and associating them with employee IDs can provide several security benefits for a company. Two of these benefits are:
? A. If a security incident occurs on the device, the correct employee can be notified.
An asset inventory sticker is a label that contains a unique identifier for a laptop, such as a serial number, a barcode, or a QR code. By associating this identifier with an employee ID, the security team can easily track and locate the owner of the laptop in case of a security incident, such as a malware infection, a data breach, or a theft. This way, the security team can notify the correct employee about the incident, and provide them with the necessary instructions or actions to take, such as changing passwords, scanning for viruses, or reporting the loss. This can help to contain the incident, minimize the damage, and prevent further escalation.
? F. Company data can be accounted for when the employee leaves the
organization. When an employee leaves the organization, the company needs to ensure that all the company data and assets are returned or deleted from the employee's laptop. By labeling the laptop with an asset inventory sticker and
associating it with an employee ID, the company can easily identify and verify the laptop that belongs to the departing employee, and perform the appropriate data backup, wipe, or transfer procedures. This can help to protect the company data from unauthorized access, disclosure, or misuse by the former employee or any other party.
The other options are not correct because they are not related to the security benefits of labeling laptops with asset inventory stickers and associating them with employee IDs. B. The security team will be able to send user awareness training to the appropriate device. User awareness training is a type of security education that aims to improve the knowledge and behavior of users regarding security threats and best practices. The security team can send user awareness training to the appropriate device by using the email address, username, or IP address of the device, not the asset inventory sticker or the employee ID.
* C. Users can be mapped to their devices when configuring software MFA tokens. Software MFA tokens are a type of multi-factor authentication that uses a software application to generate a one-time password or a push notification for verifying the identity of a user. Users can be mapped to their devices when configuring software MFA tokens by using the device ID, phone number, or email address of the device, not the asset inventory sticker or the employee ID. D. User-based firewall policies can be correctly targeted to the appropriate laptops. User-based firewall policies are a type of firewall rules that apply to specific users or groups of users, regardless of the device or location they use to access the network. User-based firewall policies can be correctly targeted to the appropriate laptops by using the username, domain, or certificate of the user, not the asset inventory sticker or the employee ID. E. When conducting penetration testing, the security team will be able to target the desired laptops. Penetration testing is a type of security assessment that simulates a real-world attack on a network or system to identify and exploit vulnerabilities. When conducting penetration testing, the security team will be able to target the desired laptops by using the IP address, hostname, or MAC address of the laptop, not
the asset inventory sticker or the employee ID. References = CompTIA Security+ Study Guide (SY0-701), Chapter 1: General Security Concepts, page 17.
Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 1.4: Asset Management, video: Asset Inventory (6:12).

NEW QUESTION 29
Which of the following must be considered when designing a high-availability network? (Select two).

A. Ease of recovery
B. Ability to patch
C. Physical isolation
D. Responsiveness
E. Attack surface
F. Extensible authentication

Answer: AE

Explanation:
A high-availability network is a network that is designed to minimize downtime and ensure continuous operation of critical services and applications. To achieve this goal, a high-availability network must consider two important factors: ease of recovery and attack surface.
Ease of recovery refers to the ability of a network to quickly restore normal functionality after a failure, disruption, or disaster. A high-availability network should have mechanisms such as redundancy, failover, backup, and restore to ensure that any single point of failure does not cause a complete network outage. A high-availability network should also have procedures and policies for incident response, disaster recovery, and business continuity to minimize the impact of any network issue on the organization's operations and reputation. Attack surface refers to the exposure of a network to potential threats and vulnerabilities. A high-availability network should have measures such as encryption, authentication, authorization, firewall, intrusion detection and prevention, and patch management to protect the network from unauthorized access, data breaches, malware, denial-of-service attacks, and other cyberattacks. A high-availability network should also have processes and tools for risk assessment, threat intelligence, vulnerability scanning, and penetration testing to identify and mitigate any weaknesses or gaps in the network security. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4:
Architecture and Design, pages 164-1651. CompTIA Security+ Certification Kit: Exam SY0- 701, 7th Edition, Chapter 4: Architecture and Design, pages 164-1652.

NEW QUESTION 33
A company is required to use certified hardware when building networks. Which of the following best addresses the risks associated with procuring counterfeit hardware?

A. A thorough analysis of the supply chain
B. A legally enforceable corporate acquisition policy
C. A right to audit clause in vendor contracts and SOWs
D. An in-depth penetration test of all suppliers and vendors

Answer: A

Explanation:
Counterfeit hardware is hardware that is built or modified without the authorization of the original equipment manufacturer (OEM). It can pose serious risks to network quality, performance, safety, and reliability12. Counterfeit hardware can also contain malicious components that can compromise the security of the network and the data that flows through it3. To address the risks associated with procuring counterfeit hardware, a company should conduct a thorough analysis of the supply chain, which is the network of entities involved in the production, distribution, and delivery of the hardware. By analyzing the supply chain, the company can verify the origin, authenticity, and integrity of the hardware, and identify any potential sources of counterfeit or tampered products. A thorough analysis of the supply chain can include the following steps:

? Establishing a trusted relationship with the OEM and authorized resellers
? Requesting documentation and certification of the hardware from the OEM or authorized resellers
? Inspecting the hardware for any signs of tampering, such as mismatched labels, serial numbers, or components
? Testing the hardware for functionality, performance, and security
? Implementing a tracking system to monitor the hardware throughout its lifecycle
? Reporting any suspicious or counterfeit hardware to the OEM and law enforcement agencies References = 1: Identify Counterfeit and Pirated Products - Cisco, 2: What Is Hardware Security? Definition, Threats, and Best Practices, 3: Beware of Counterfeit Network Equipment - TechNewsWorld, : Counterfeit Hardware: The Threat and How to Avoid It

NEW QUESTION 36
A newly identified network access vulnerability has been found in the OS of legacy IoT devices. Which of the following would best mitigate this vulnerability quickly?

A. Insurance
B. Patching
C. Segmentation
D. Replacement

Answer: C

Explanation:
Segmentation is a technique that divides a network into smaller subnetworks or segments, each with its own security policies and controls. Segmentation can help mitigate network access vulnerabilities in legacy IoT devices by isolating them from other devices and systems, reducing their attack surface and limiting the potential impact of a breach. Segmentation can also improve network performance and efficiency by reducing congestion and traffic. Patching, insurance, and replacement are other possible strategies to deal with network access vulnerabilities, but they may not be feasible or effective in the short term. Patching may not be available or compatible for legacy IoT devices, insurance may not cover the costs or damages of a cyberattack, and replacement may be expensive and time-consuming. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 142-143

NEW QUESTION 37
A company needs to provide administrative access to internal resources while minimizing the traffic allowed through the security boundary. Which of the following methods is most secure?

A. Implementing a bastion host
B. Deploying a perimeter network
C. Installing a WAF
D. Utilizing single sign-on

Answer: A

Explanation:
A bastion host is a special-purpose server that is designed to withstand attacks and provide secure access to internal resources. A bastion host is usually placed on the edge of a network, acting as a gateway or proxy to the internal network. A bastion host can be configured to allow only certain types of traffic, such as SSH or HTTP, and block all other traffic. A bastion host can also run security software such as firewalls, intrusion detection systems, and antivirus programs to monitor and filter incoming and outgoing traffic. A bastion host can provide administrative access to internal resources by requiring strong authentication and encryption, and by logging all activities for auditing purposes12.
A bastion host is the most secure method among the given options because it minimizes the traffic allowed through the security boundary and provides a single point of control and defense. A bastion host can also isolate the internal network from direct exposure to the internet or other untrusted networks, reducing the attack surface and the risk of compromise3.
Deploying a perimeter network is not the correct answer, because a perimeter network is a network segment that separates the internal network from the external network. A perimeter network usually hosts public-facing services such as web servers, email servers, or DNS servers that need to be accessible from the internet. A perimeter network does not provide administrative access to internal resources, but rather protects them from unauthorized access. A perimeter network can also increase the complexity and cost of network management and security4.
Installing a WAF is not the correct answer, because a WAF is a security tool that protects web applications from common web-based attacks by monitoring, filtering, and blocking HTTP traffic. A WAF can prevent attacks such as cross-site scripting, SQL injection, or file inclusion, among others. A WAF does not provide administrative access to internal resources, but rather protects them from web application vulnerabilities. A WAF is also not a comprehensive solution for network security, as it only operates at the application layer and does not protect against other types of attacks or threats5.
Utilizing single sign-on is not the correct answer, because single sign-on is a method of authentication that allows users to access multiple sites, services, or applications with one username and password. Single sign-on can simplify the sign-in process for users and reduce the number of passwords they have to remember and manage. Single sign-on does not provide administrative access to internal resources, but rather enables access to various resources that the user is authorized to use. Single sign-on can also introduce security risks if the user's credentials are compromised or if the single sign-on provider is breached6. References = 1: Bastion host - Wikipedia, 2: 14 Best Practices to Secure SSH Bastion Host - goteleport.com, 3: The Importance Of Bastion Hosts In Network
Security, 4: What is the network perimeter? | Cloudflare, 5: What is a WAF? | Web Application Firewall explained, 6: [What is single sign-on (SSO)? - Definition from WhatIs.com]

NEW QUESTION 38
Which of the following are cases in which an engineer should recommend the decommissioning of a network device? (Select two).

A. The device has been moved from a production environment to a test environment.
B. The device is configured to use cleartext passwords.
C. The device is moved to an isolated segment on the enterprise network.
D. The device is moved to a different location in the enterprise.
E. The device's encryption level cannot meet organizational standards.
F. The device is unable to receive authorized updates.

Answer: E

Explanation:
An engineer should recommend the decommissioning of a network device when the device poses a security risk or a compliance violation to the enterprise environment. A device that cannot meet the encryption standards or receive authorized updates is vulnerable to attacks and breaches, and may expose sensitive

data or compromise network integrity. Therefore, such a device should be removed from the network and replaced with a more secure and updated one.
References
? CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 2, Section 2.2, page 671
? CompTIA Security+ Practice Tests: Exam SY0-701, 3rd Edition, Chapter 2,
Question 16, page 512

NEW QUESTION 43
Which of the following involves an attempt to take advantage of database misconfigurations?

A. Buffer overflow
B. SQL injection
C. VM escape
D. Memory injection

Answer: B

Explanation:
SQL injection is a type of attack that exploits a database misconfiguration or a flaw in the application code that interacts with the database. An attacker can inject malicious SQL statements into the user input fields or the URL parameters that are sent to the database server. These statements can then execute unauthorized commands, such as reading, modifying, deleting, or creating data, or even taking over the database server. SQL injection can compromise the confidentiality, integrity, and availability of the data and the system. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 215 1

NEW QUESTION 45
A technician wants to improve the situational and environmental awareness of existing users as they transition from remote to in-office work. Which of the following is the best option?

A. Send out periodic security reminders.
B. Update the content of new hire documentation.
C. Modify the content of recurring trainin
D. D Implement a phishing campaign

Answer: C

Explanation:
Recurring training is a type of security awareness training that is conducted periodically to refresh and update the knowledge and skills of the users. Recurring training can help improve the situational and environmental awareness of existing users as they transition from remote to in-office work, as it can cover the latest threats, best practices, and policies that are relevant to their work environment. Modifying the content of recurring training can ensure that the users are aware of the current security landscape and the expectations of their roles. References = CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 5, page 232. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 5.1, page 18.

NEW QUESTION 47
A security analyst scans a company's public network and discovers a host is running a remote desktop that can be used to access the production network. Which of the following changes should the security analyst recommend?

A. Changing the remote desktop port to a non-standard number
B. Setting up a VPN and placing the jump server inside the firewall
C. Using a proxy for web connections from the remote desktop server
D. Connecting the remote server to the domain and increasing the password length

Answer: B

Explanation:
A VPN is a virtual private network that creates a secure tunnel between two or more devices over a public network. A VPN can encrypt and authenticate the data, as well as hide the IP addresses and locations of the devices. A jump server is a server that acts as an intermediary between a user and a target server, such as a production server. A jump server can provide an additional layer of security and access control, as well as logging and auditing capabilities. A firewall is a device or software that filters and blocks unwanted network traffic based on predefined rules. A firewall can protect the internal network from external threats and limit the exposure of sensitive services and ports. A security analyst should recommend setting up a VPN and placing the jump server inside the firewall to improve the security of the remote desktop access to the production network. This way, the remote desktop service will not be exposed to the public network, and only authorized users with VPN credentials can access the jump server and then the production
server. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 8: Secure Protocols and Services, page 382-383 1; Chapter 9: Network Security, page 441-442 1

NEW QUESTION 50
A systems administrator receives the following alert from a file integrity monitoring tool: The hash of the cmd.exe file has changed.
The systems administrator checks the OS logs and notices that no patches were applied in the last two months. Which of the following most likely occurred?

A. The end user changed the file permissions.
B. A cryptographic collision was detected.
C. A snapshot of the file system was taken.
D. A rootkit was deployed.

Answer: D

Explanation:
A rootkit is a type of malware that modifies or replaces system files or processes to hide its presence and activity. A rootkit can change the hash of the cmd.exe file, which is a command-line interpreter for Windows systems, to avoid detection by antivirus or file integrity monitoring tools. A rootkit can also grant the attacker remote access and control over the infected system, as well as perform malicious actions such as stealing data, installing backdoors, or launching attacks on other systems. A rootkit is one of the most difficult types of malware to remove, as it can persist even after rebooting or
reinstalling the OS. References = CompTIA Security+ Study Guide with over 500 Practice

Test Questions: Exam SY0-701, 9th Edition, Chapter 4, page 147. CompTIA Security+ SY0-701 Exam Objectives, Domain 1.2, page 9.

NEW QUESTION 51
A company's legal department drafted sensitive documents in a SaaS application and wants to ensure the documents cannot be accessed by individuals in high-risk countries. Which of the following is the most effective way to limit this access?

A. Data masking
B. Encryption
C. Geolocation policy
D. Data sovereignty regulation

Answer: C

Explanation:
A geolocation policy is a policy that restricts or allows access to data or resources based on the geographic location of the user or device. A geolocation policy can be implemented using various methods, such as IP address filtering, GPS tracking, or geofencing. A geolocation policy can help the company's legal department to prevent unauthorized access to sensitive documents from individuals in high-risk countries12.
The other options are not effective ways to limit access based on location:
? Data masking: This is a technique of obscuring or replacing sensitive data with fictitious or anonymized data. Data masking can protect the privacy and confidentiality of data, but it does not prevent access to data based on location3.
? Encryption: This is a process of transforming data into an unreadable format using a secret key or algorithm. Encryption can protect the integrity and confidentiality of data, but it does not prevent access to data based on location. Encryption can also be bypassed by attackers who have the decryption key or method4.
? Data sovereignty regulation: This is a set of laws or rules that govern the storage, processing, and transfer of data within a specific jurisdiction or country. Data sovereignty regulation can affect the availability and compliance of data, but it does not prevent access to data based on location. Data sovereignty regulation can also vary depending on the country or region.
References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: Account Policies – SY0-601 CompTIA Security+ : 3.7, video by Professor Messer3: CompTIA Security+ SY0-701 Certification Study Guide, page 1004: CompTIA Security+ SY0-701 Certification Study Guide, page 101. : CompTIA Security+ SY0-701 Certification Study Guide, page 102.

NEW QUESTION 52
Which of the following would be the best way to block unknown programs from executing?

A. Access control list
B. Application allow list.
C. Host-based firewall
D. DLP solution

Answer: B

Explanation:
An application allow list is a security technique that specifies which applications are permitted to run on a system or a network. An application allow list can block unknown programs from executing by only allowing the execution of programs that are explicitly authorized and verified. An application allow list can prevent malware, unauthorized software, or unwanted applications from running and compromising the security of the system or the network12.
The other options are not the best ways to block unknown programs from executing:
? Access control list: This is a security technique that specifies which users or groups are granted or denied access to a resource or an object. An access control list can control the permissions and privileges of users or groups, but it does not directly block unknown programs from executing13.
? Host-based firewall: This is a security device that monitors and filters the incoming and outgoing network traffic on a single host or system. A host-based firewall can block or allow network connections based on predefined rules, but it does not directly block unknown programs from executing1 .
? DLP solution: This is a security system that detects and prevents the unauthorized transmission or leakage of sensitive data. A DLP solution can protect the confidentiality and integrity of data, but it does not directly block unknown programs from executing1 .
References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: Application Whitelisting – CompTIA Security+ SY0-701 – 3.5, video by Professor Messer3: CompTIA Security+ SY0-701 Certification Study Guide, page 98. : CompTIA Security+ SY0-701 Certification Study Guide, page 99. : CompTIA Security+ SY0-701 Certification Study Guide, page 100.

NEW QUESTION 55
A Chief Information Security Officer wants to monitor the company's servers for SQLi attacks and allow for comprehensive investigations if an attack occurs. The company uses SSL decryption to allow traffic monitoring. Which of the following strategies would best accomplish this goal?

A. Logging all NetFlow traffic into a SIEM
B. Deploying network traffic sensors on the same subnet as the servers
C. Logging endpoint and OS-specific security logs
D. Enabling full packet capture for traffic entering and exiting the servers

Answer: D

Explanation:
Full packet capture is a technique that records all network traffic passing through a device, such as a router or firewall. It allows for detailed analysis and investigation of network events, such as SQLi attacks, by providing the complete content and context of the packets. Full packet capture can help identify the source, destination, payload, and timing of an SQLi attack, as well as the impact on the server and database. Logging NetFlow traffic, network traffic sensors, and endpoint and OS-specific security logs can provide some information about network activity, but they do not capture the full content of the packets, which may limit the scope and depth of the investigation. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 372-373

NEW QUESTION 57
A security analyst is reviewing alerts in the SIEM related to potential malicious network traffic coming from an employee's corporate laptop. The security analyst has determined that additional data about the executable running on the machine is necessary to continue the investigation. Which of the following logs should the analyst use as a data source?

A. Application

B. IPS/IDS
C. Network
D. Endpoint

Answer: D

Explanation:
An endpoint log is a file that contains information about the activities and events that occur on an end-user device, such as a laptop, desktop, tablet, or smartphone. Endpoint logs can provide valuable data for security analysts, such as the processes running on the device, the network connections established, the files accessed or modified, the user actions performed, and the applications installed or updated. Endpoint logs can also record the details of any executable files running on the device, such as the name, path, size, hash, signature, and permissions of the executable.
An application log is a file that contains information about the events that occur within a software application, such as errors, warnings, transactions, or performance metrics. Application logs can help developers and administrators troubleshoot issues, optimize performance, and monitor user behavior. However, application logs may not provide enough information about the executable files running on the device, especially if they are malicious or unknown.
An IPS/IDS log is a file that contains information about the network traffic that is monitored and analyzed by an intrusion prevention system (IPS) or an intrusion detection system (IDS). IPS/IDS logs can help security analysts identify and block potential attacks, such as exploit attempts, denial-of-service (DoS) attacks, or malicious scans. However, IPS/IDS logs may not provide enough information about the executable files running on the device, especially if they are encrypted, obfuscated, or use legitimate protocols.
A network log is a file that contains information about the network activity and communication that occurs between devices, such as IP addresses, ports, protocols, packets, or bytes. Network logs can help security analysts understand the network topology, traffic patterns, and bandwidth usage. However, network logs may not provide enough information about the executable files running on the device, especially if they are hidden, spoofed, or use proxy servers.
Therefore, the best log type to use as a data source for additional information about the executable running on the machine is the endpoint log, as it can provide the most relevant and detailed data about the executable file and its behavior.
References = https://www.crowdstrike.com/cybersecurity-101/observability/application-log/
https://owasp.org/www-project-proactive-controls/v3/en/c9-security-logging

NEW QUESTION 61
Which of the following is the most likely outcome if a large bank fails an internal PCI DSS compliance assessment?

A. Fines
B. Audit findings
C. Sanctions
D. Reputation damage

Answer: A

Explanation:
PCI DSS is the Payment Card Industry Data Security Standard, which is a set of security requirements for organizations that store, process, or transmit cardholder data. PCI DSS aims to protect the confidentiality, integrity, and availability of cardholder data and prevent fraud, identity theft, and data breaches. PCI DSS is enforced by the payment card brands, such as Visa, Mastercard, American Express, Discover, and JCB, and applies to all entities involved in the payment card ecosystem, such as merchants, acquirers, issuers, processors, service providers, and payment applications.
If a large bank fails an internal PCI DSS compliance assessment, the most likely outcome is that the bank will face fines from the payment card brands. An internal PCI DSS compliance assessment is a self-assessment that the bank performs to evaluate its own compliance with the PCI DSS requirements. The bank must submit the results of the internal assessment to the payment card brands or their designated agents, such as acquirers or qualified security assessors (QSAs). If the internal assessment reveals that the bank is not compliant with the PCI DSS requirements, the payment card brands may impose fines on the bank as a penalty for violating the PCI DSS contract. The amount and frequency of the fines may vary depending on the severity and duration of the non- compliance, the number and type of cardholder data compromised, and the level of cooperation and remediation from the bank. The fines can range from thousands to millions of dollars per month, and can increase over time if the non-compliance is not resolved.
The other options are not correct because they are not the most likely outcomes if a large bank fails an internal PCI DSS compliance assessment. B. Audit findings. Audit findings are the results of an external PCI DSS compliance assessment that is performed by a QSA or an approved scanning vendor (ASV). An external assessment is required for certain entities that handle a large volume of cardholder data or have a history of non-compliance. An external assessment may also be triggered by a security incident or a request from the payment card brands. Audit findings may reveal the gaps and weaknesses in the bank's security controls and recommend corrective actions to achieve compliance. However, audit findings are not the outcome of an internal assessment, which is performed by the bank itself. C. Sanctions. Sanctions are the measures that the payment card brands may take against the bank if the bank fails to pay the fines or comply with the PCI DSS requirements. Sanctions may include increasing the fines, suspending or terminating the bank's ability to accept or process payment cards, or revoking the bank's PCI DSS certification. Sanctions are not the immediate outcome of an internal assessment, but rather the possible consequence of prolonged or repeated non-compliance. D. Reputation damage. Reputation damage is the loss of trust and credibility that the bank may suffer from its customers, partners, regulators, and the public if the bank fails an internal PCI DSS compliance assessment. Reputation damage may affect the bank's brand image, customer loyalty, market share, and profitability. Reputation damage is not a direct outcome of an internal assessment, but rather a potential risk that the bank may face if the non-compliance is exposed or exploited by malicious actors. References = CompTIA Security+ Study Guide (SY0-701), Chapter 8: Governance, Risk, and Compliance, page 388. Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 8.2: Compliance and Controls, video: PCI DSS (5:12). PCI Security Standards Council, PCI DSS Quick Reference Guide, page 4. PCI Security Standards Council, PCI DSS FAQs, question 8. PCI Security Standards Council, PCI DSS FAQs, question 9. [PCI Security Standards Council], PCI DSS FAQs, question 10. [PCI Security Standards Council], PCI DSS FAQs, question 11. [PCI Security Standards Council], PCI DSS FAQs, question 12. [PCI Security Standards Council], PCI DSS FAQs, question 13. [PCI Security Standards Council], PCI DSS FAQs, question 14. [PCI Security Standards Council], PCI DSS FAQs, question 15. [PCI Security Standards Council], PCI DSS FAQs, question 16. [PCI Security Standards Council], PCI DSS FAQs, question 17. [PCI Security Standards Council], PCI DSS FAQs, question 18. [PCI Security Standards Council], PCI DSS FAQs, question 19. [PCI Security Standards Council], PCI DSS FAQs, question 20. [PCI Security Standards Council], PCI DSS FAQs, question 21. [PCI Security Standards Council], PCI DSS FAQs, question 22. [PCI Security Standards Council], PCI DSS FAQs, question 23. [PCI Security Standards Council], PCI DSS FAQs, question 24. [PCI Security Standards Council], PCI DSS FAQs, question 25. [PCI Security Standards Council], PCI DSS FAQs, question 26. [PCI Security Standards Council], PCI DSS FAQs, question 27. [PCI Security Standards Council], PCI DSS FAQs, question 28. [PCI Security Standards Council], PCI DSS FAQs, question 29. [PCI Security Standards Council], PCI DSS FAQs, question 30. [PCI Security Standards Council]

NEW QUESTION 62
An attacker posing as the Chief Executive Officer calls an employee and instructs the employee to buy gift cards. Which of the following techniques is the attacker using?

A. Smishing
B. Disinformation
C. Impersonating
D. Whaling

Answer: D

Explanation:
Whaling is a type of phishing attack that targets high-profile individuals, such as executives, celebrities, or politicians. The attacker impersonates someone with authority or influence and tries to trick the victim into performing an action, such as transferring money, revealing sensitive information, or clicking on a malicious link. Whaling is also called CEO fraud or business email compromise2.
References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 3, page 97.

NEW QUESTION 67
Which of the following tools can assist with detecting an employee who has accidentally emailed a file containing a customer's PII?

A. SCAP
B. Net Flow
C. Antivirus
D. DLP

Answer: D

Explanation:
DLP stands for Data Loss Prevention, which is a tool that can assist with detecting and preventing the unauthorized transmission or leakage of sensitive data, such as a customer's PII (Personally Identifiable Information). DLP can monitor, filter, and block data in motion (such as emails), data at rest (such as files), and data in use (such as applications). DLP can also alert the sender, the recipient, or the administrator of the data breach, and apply remediation actions, such as encryption, quarantine, or deletion. DLP can help an organization comply with data protection regulations, such as GDPR, HIPAA, or PCI DSS, and protect its reputation and assets. References = CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 78. CompTIA Security+ SY0-701 Exam Objectives, Domain 2.5, page 11.

NEW QUESTION 71
Which of the following should a systems administrator use to ensure an easy deployment of resources within the cloud provider?

A. Software as a service
B. Infrastructure as code
C. Internet of Things
D. Software-defined networking

Answer: B

Explanation:
Infrastructure as code (IaC) is a method of using code and automation to manage and provision cloud resources, such as servers, networks, storage, and applications. IaC allows for easy deployment, scalability, consistency, and repeatability of cloud environments. IaC is also a key component of DevSecOps, which integrates security into the development and operations processes. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 6: Cloud and Virtualization Concepts, page 294.

NEW QUESTION 75
A company is planning to set up a SIEM system and assign an analyst to review the logs on a weekly basis. Which of the following types of controls is the company setting up?

A. Corrective
B. Preventive
C. Detective
D. Deterrent

Answer: C

Explanation:
A detective control is a type of control that monitors and analyzes the events and activities in a system or a network, and alerts or reports when an incident or a violation occurs. A SIEM (Security Information and Event Management) system is a tool that collects, correlates, and analyzes the logs from various sources, such as firewalls, routers, servers, or applications, and provides a centralized view of the security status and incidents. An analyst who reviews the logs on a weekly basis can identify and investigate any anomalies, trends, or patterns that indicate a potential threat or a breach. A detective control can help the company to respond quickly and effectively to the incidents, and to improve its security posture and resilience. References = CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 1, page 23. CompTIA Security+ SY0-701 Exam Objectives, Domain 4.3, page 14.

NEW QUESTION 78
A systems administrator is creating a script that would save time and prevent human error when performing account creation for a large number of end users. Which of the following would be a good use case for this task?

A. Off-the-shelf software
B. Orchestration
C. Baseline
D. Policy enforcement

Answer: B

Explanation:
Orchestration is the process of automating multiple tasks across different systems and applications. It can help save time and reduce human error by executing predefined workflows and scripts. In this case, the systems administrator can use orchestration to create accounts for a large number of end users without having to manually enter their information and assign permissions. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 457 1

NEW QUESTION 82
A security practitioner completes a vulnerability assessment on a company's network and finds several vulnerabilities, which the operations team remediates. Which of the following should be done next?

A. Conduct an audit.
B. Initiate a penetration test.
C. Rescan the network.
D. Submit a report.

Answer: C

Explanation:
After completing a vulnerability assessment and remediating the identified vulnerabilities, the next step is to rescan the network to verify that the vulnerabilities have been successfully fixed and no new vulnerabilities have been introduced. A vulnerability assessment is a process of identifying and evaluating the weaknesses and exposures in a network, system, or application that could be exploited by attackers. A vulnerability assessment typically involves using automated tools, such as scanners, to scan the network and generate a report of the findings. The report may include information such as the severity, impact, and remediation of the vulnerabilities. The operations team is responsible for applying the appropriate patches, updates, or configurations to address the vulnerabilities and reduce the risk to the network. A rescan is necessary to confirm that the remediation actions have been effective and that the network is secure.
Conducting an audit, initiating a penetration test, or submitting a report are not the next steps after completing a vulnerability assessment and remediating the vulnerabilities. An audit is a process of reviewing and verifying the compliance of the network with the established policies, standards, and regulations. An audit may be performed by internal or external auditors, and it may use the results of the vulnerability assessment as part of the evidence. However, an audit is not a mandatory step after a vulnerability assessment, and it does not validate the effectiveness of the remediation actions.
A penetration test is a process of simulating a real-world attack on the network to test the security defenses and identify any gaps or weaknesses. A penetration test may use the results of the vulnerability assessment as a starting point, but it goes beyond scanning and involves exploiting the vulnerabilities to gain access or cause damage. A penetration test may be performed after a vulnerability assessment, but only with the proper authorization, scope, and rules of engagement. A penetration test is not a substitute for a rescan, as it does not verify that the vulnerabilities have been fixed.
Submitting a report is a step that is done after the vulnerability assessment, but before the remediation. The report is a document that summarizes the findings and recommendations of the vulnerability assessment, and it is used to communicate the results to the stakeholders and the operations team. The report may also include a follow-up plan and a timeline for the remediation actions. However, submitting a report is not the final step after the remediation, as it does not confirm that the network is secure.
References = CompTIA Security+ SY0-701 Certification Study Guide, page 372- 375; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 4.1 - Vulnerability Scanning, 0:00 - 8:00.

NEW QUESTION 87
An organization recently updated its security policy to include the following statement:
Regular expressions are included in source code to remove special characters such as $, |, ;. &, `, and ? from variables set by forms in a web application.
Which of the following best explains the security technique the organization adopted by making this addition to the policy?

A. Identify embedded keys
B. Code debugging
C. Input validation
D. Static code analysis

Answer: C

Explanation:
Input validation is a security technique that checks the user input for any malicious or unexpected data before processing it by the application. Input validation can prevent various types of attacks, such as injection, cross-site scripting, buffer overflow, and command execution, that exploit the vulnerabilities in the application code. Input validation can be performed on both the client-side and the server-side, using methods such as whitelisting, blacklisting, filtering, sanitizing, escaping, and encoding. By including regular expressions in the source code to remove special characters from the variables set by the forms in the web application, the organization adopted input validation as a security technique. Regular expressions are patterns that match a specific set of characters or strings, and can be used to filter out any unwanted or harmful input. Special characters, such as $, |, ;, &, `, and ?, can be used by attackers to inject commands or scripts into the application, and cause damage or data theft. By removing these characters from the input, the organization can reduce the risk of such attacks.
Identify embedded keys, code debugging, and static code analysis are not the security techniques that the organization adopted by making this addition to the policy. Identify embedded keys is a process of finding and removing any hard-coded keys or credentials from the source code, as these can pose a security risk if exposed or compromised. Code debugging is a process of finding and fixing any errors or bugs in the source code, which can affect the functionality or performance of the application. Static code analysis is a process of analyzing the source code without executing it, to identify any vulnerabilities, flaws, or coding standards violations. These techniques are not related to the use of regular expressions to remove special characters from the input.
References = CompTIA Security+ SY0-701 Certification Study Guide, page 375-376; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 4.1 - Vulnerability Scanning, 8:00 - 9:08; Application Security – SY0-601 CompTIA Security+ : 3.2, 0:00 - 2:00.

NEW QUESTION 91
An organization's internet-facing website was compromised when an attacker exploited a buffer overflow. Which of the following should the organization deploy to best protect against similar attacks in the future?

A. NGFW
B. WAF
C. TLS
D. SD-WAN

Answer: B

Explanation:
A buffer overflow is a type of software vulnerability that occurs when an application writes more data to a memory buffer than it can hold, causing the excess data to overwrite adjacent memory locations. This can lead to unexpected behavior, such as crashes, errors, or code execution. A buffer overflow can be exploited by an attacker to inject malicious code or commands into the application, which can compromise the security and functionality of the system. An organization's internet-facing website was compromised when an attacker exploited a buffer overflow. To best protect against similar attacks in the future, the organization should deploy a web application firewall (WAF). A WAF is a type of firewall that monitors and filters the traffic between a web application and the internet. A WAF can detect and block common web attacks, such as buffer overflows, SQL injections, cross-site scripting (XSS), and more. A WAF can also enforce security policies and rules, such as input validation, output encoding, and encryption. A WAF can provide a layer of protection for the web application, preventing attackers from exploiting its vulnerabilities and compromising its data. References = Buffer Overflows – CompTIA Security+ SY0-701

– 2.3, Web Application Firewalls – CompTIA Security+ SY0-701 – 2.4, [CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition]

NEW QUESTION 95
An enterprise is trying to limit outbound DNS traffic originating from its internal network. Outbound DNS requests will only be allowed from one device with the IP address 10.50.10.25. Which of the following firewall ACLs will accomplish this goal?

A. Access list outbound permit 0.0.0.0 0 0.0.0.0/0 port 53 Access list outbound deny 10.50.10.25 32 0.0.0.0/0 port 53
B. Access list outbound permit 0.0.0.0/0 10.50.10.25 32 port 53 Access list outbound deny 0.0.0.0 0 0.0.0.0/0 port 53
C. Access list outbound permit 0.0.0.0 0 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0/0 10.50.10.25 32 port 53
D. Access list outbound permit 10.50.10.25 32 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0.0.0.0.0/0 port 53

Answer: D

Explanation:
The correct answer is D because it allows only the device with the IP address 10.50.10.25 to send outbound DNS requests on port 53, and denies all other devices from doing so. The other options are incorrect because they either allow all devices to send outbound DNS requests (A and C), or they allow no devices to send outbound DNS requests (B). References = You can learn more about firewall ACLs and DNS in the following resources:
? CompTIA Security+ SY0-701 Certification Study Guide, Chapter 4: Network Security1
? Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 3.2: Firewall Rules2
? TOTAL: CompTIA Security+ Cert (SY0-701) | Udemy, Section 6: Network Security, Lecture 28: Firewall Rules3

NEW QUESTION 96
An organization is leveraging a VPN between its headquarters and a branch location.
Which of the following is the VPN protecting?

A. Data in use
B. Data in transit
C. Geographic restrictions
D. Data sovereignty

Answer: B

Explanation:
Data in transit is data that is moving from one location to another, such as over a network or through the air. Data in transit is vulnerable to interception, modification, or theft by malicious actors. A VPN (virtual private network) is a technology that protects data in transit by creating a secure tunnel between two endpoints and encrypting the data that passes through it2.
References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4, page 145.

NEW QUESTION 100
Which of the following is used to add extra complexity before using a one-way data transformation algorithm?

A. Key stretching
B. Data masking
C. Steganography
D. Salting

Answer: D

Explanation:
Salting is the process of adding extra random data to a password or other data before applying a one-way data transformation algorithm, such as a hash function. Salting increases the complexity and randomness of the input data, making it harder for attackers to guess or crack the original data using precomputed tables or brute force methods. Salting also helps prevent identical passwords from producing identical hash values, which could reveal the passwords to attackers who have access to the hashed data. Salting is commonly used to protect passwords stored in databases or transmitted over networks. References =
? Passwords technical overview
? Encryption, hashing, salting – what's the difference?
? Salt (cryptography)

NEW QUESTION 104
Which of the following security concepts is the best reason for permissions on a human resources fileshare to follow the principle of least privilege?

A. Integrity
B. Availability
C. Confidentiality
D. Non-repudiation

Answer: C

Explanation:
Confidentiality is the security concept that ensures data is protected from unauthorized access or disclosure. The principle of least privilege is a technique that grants users or systems the minimum level of access or permissions that they need to perform their tasks, and nothing more. By applying the principle of least privilege to a human resources fileshare, the permissions can be restricted to only those who have a legitimate need to access the sensitive data, such as HR staff, managers, or auditors. This can prevent unauthorized users, such as hackers, employees, or contractors, from accessing, copying, modifying, or deleting the data. Therefore, the principle of least privilege can enhance the confidentiality of the data on the fileshare. Integrity, availability, and non- repudiation are other security concepts, but they are not the best reason for permissions on a human resources fileshare to follow the principle of least privilege. Integrity is the security concept that ensures data is accurate and consistent, and protected from unauthorized modification or corruption. Availability is the security concept that ensures data is accessible and usable by authorized users or systems when needed. Non-repudiation is the security concept that ensures the authenticity and accountability of data and actions, and prevents the denial of involvement or responsibility. While these concepts are also important for data security, they are not directly related to the level of access or permissions granted to users or systems. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page

16-17, 372-373

NEW QUESTION 105
Several employees received a fraudulent text message from someone claiming to be the Chief Executive Officer (CEO). The message stated:
“I’m in an airport right now with no access to email. I need you to buy gift cards for employee recognition awards. Please send the gift cards to following email address.”
Which of the following are the best responses to this situation? (Choose two).

A. Cancel current employee recognition gift cards.
B. Add a smishing exercise to the annual company training.
C. Issue a general email warning to the company.
D. Have the CEO change phone numbers.
E. Conduct a forensic investigation on the CEO's phone.
F. Implement mobile device management.

Answer: BC

Explanation:
This situation is an example of smishing, which is a type of phishing that uses text messages (SMS) to entice individuals into providing personal or sensitive information to cybercriminals. The best responses to this situation are to add a smishing exercise to the annual company training and to issue a general email warning to the company. A smishing exercise can help raise awareness and educate employees on how to recognize and avoid smishing attacks. An email warning can alert employees to the fraudulent text message and remind them to verify the identity and legitimacy of any requests for information or money.
References = What Is Phishing | Cybersecurity | CompTIA, Phishing – SY0-601 CompTIA Security+ : 1.1 - Professor Messer IT Certification Training Courses

NEW QUESTION 110
An administrator finds that all user workstations and servers are displaying a message that is associated with files containing an extension of .ryk. Which of the following types of infections is present on the systems?

A. Virus
B. Trojan
C. Spyware
D. Ransomware

Answer: D

Explanation:
Ransomware is a type of malware that encrypts the victim’s files and demands a ransom for the decryption key. The ransomware usually displays a message on the infected system with instructions on how to pay the ransom and recover the files. The .ryk extension is associated with a ransomware variant called Ryuk, which targets large organizations and demands high ransoms1.
References: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 1, page 17.

NEW QUESTION 111
Which of the following security control types does an acceptable use policy best represent?

A. Detective
B. Compensating
C. Corrective
D. Preventive

Answer: D

Explanation:
An acceptable use policy (AUP) is a set of rules that govern how users can access and use a corporate network or the internet. The AUP helps companies minimize their exposure to cyber security threats and limit other risks. The AUP also serves as a notice to users about what they are not allowed to do and protects the company against misuse of their network. Users usually have to acknowledge that they understand and agree to the rules before accessing the network1.
An AUP best represents a preventive security control type, because it aims to deter or stop potential security incidents from occurring in the first place. A preventive control is proactive and anticipates possible threats and vulnerabilities, and implements measures to prevent them from exploiting or harming the system or the data. A preventive control can be physical, technical, or administrative in nature2.
Some examples of preventive controls are:
? Locks, fences, or guards that prevent unauthorized physical access to a facility or a device
? Firewalls, antivirus software, or encryption that prevent unauthorized logical access to a network or a system
? Policies, procedures, or training that prevent unauthorized or inappropriate actions or behaviors by users or employees
An AUP is an example of an administrative preventive control, because it defines the policies and procedures that users must follow to ensure the security and proper use of the network and the IT resources. An AUP can prevent users from engaging in activities that could compromise the security, performance, or availability of the network or the system, such as:
? Downloading or installing unauthorized or malicious software
? Accessing or sharing sensitive or confidential information without authorization or encryption
? Using the network or the system for personal, illegal, or unethical purposes
? Bypassing or disabling security controls or mechanisms
? Connecting unsecured or unapproved devices to the network
By enforcing an AUP, a company can prevent or reduce the likelihood of security breaches, data loss, legal liability, or reputational damage caused by user actions or inactions3.
References = 1: How to Create an Acceptable Use Policy - CoreTech, 2: [Security Control Types: Preventive, Detective, Corrective, and Compensating], 3: Why You Need A
Corporate Acceptable Use Policy - CompTIA

NEW QUESTION 114
A penetration tester begins an engagement by performing port and service scans against the client environment according to the rules of engagement. Which of the following reconnaissance types is the tester performing?

A. Active
B. Passive
C. Defensive
D. Offensive

Answer: A

Explanation:
Active reconnaissance is a type of reconnaissance that involves sending packets or requests to a target and analyzing the responses. Active reconnaissance can reveal information such as open ports, services, operating systems, and vulnerabilities. However, active reconnaissance is also more likely to be detected by the target or its security devices, such as firewalls or intrusion detection systems. Port and service scans are examples of active reconnaissance techniques, as they involve probing the target for specific information. References = CompTIA Security+ Certification Exam Objectives, Domain 1.1: Given a scenario, conduct reconnaissance using appropriate techniques and tools. CompTIA Security+ Study Guide (SY0-701), Chapter 2: Reconnaissance and Intelligence Gathering, page 47. CompTIA Security+ Certification Exam SY0-701 Practice Test 1, Question 1.

NEW QUESTION 115
A user is attempting to patch a critical system, but the patch fails to transfer. Which of the following access controls is most likely inhibiting the transfer?

A. Attribute-based
B. Time of day
C. Role-based
D. Least privilege

Answer: D

Explanation:
The least privilege principle states that users and processes should only have the minimum level of access required to perform their tasks. This helps to prevent unauthorized or unnecessary actions that could compromise security. In this case, the patch transfer might be failing because the user or process does not have the appropriate permissions to access the critical system or the network resources needed for the transfer. Applying the least privilege principle can help to avoid this issue by granting the user or process the necessary access rights for the patching activity. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 931

NEW QUESTION 117
HOTSPOT
Select the appropriate attack and remediation from each drop-down list to label the corresponding attack with its remediation.
INSTRUCTIONS
Not all attacks and remediation actions will be used.
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

Attack Description	Target	Attack Identified	BEST Preventative or Remediation Action
An attacker sends multiple SYN packets from multiple sources.	Web server	Botnet, RAT, Logic Bomb, Backdoor, Virus, Spyware, Worm, Adware, Ransomware, Keylogger, Phishing	Enable DDoS protection, Patch vulnerable systems, Disable vulnerable services, Change the default system password, Update the cryptographic algorithms, Change the default application password, Implement 2FA using push notification, Conduct a code review, Implement application fuzzing, Implement a host-based IPS, Disable remote access services
The attack establishes a connection, which allows remote commands to be executed.	User	Botnet, RAT, Logic Bomb, Backdoor, Virus, Spyware, Worm, Adware, Ransomware, Keylogger, Phishing	Enable DDoS protection, Patch vulnerable systems, Disable vulnerable services, Change the default system password, Update the cryptographic algorithms, Change the default application password, Implement 2FA using push notification, Conduct a code review, Implement application fuzzing, Implement a host-based IPS, Disable remote access services
The attack is self propagating and compromises a SQL database using well-known credentials as it moves through the network.	Database server	Botnet, RAT, Logic Bomb, Backdoor, Virus, Spyware, Worm, Adware, Ransomware, Keylogger, Phishing	Enable DDoS protection, Patch vulnerable systems, Disable vulnerable services, Change the default system password, Update the cryptographic algorithms, Change the default application password, Implement 2FA using push notification, Conduct a code review, Implement application fuzzing, Implement a host-based IPS, Disable remote access services
The attacker uses hardware to remotely monitor a user's input activity to harvest credentials.	Executive	Botnet, RAT, Logic Bomb, Backdoor, Virus, Spyware, Worm, Adware, Ransomware, Keylogger, Phishing	Enable DDoS protection, Patch vulnerable systems, Disable vulnerable services, Change the default system password, Update the cryptographic algorithms, Change the default application password, Implement 2FA using push notification, Conduct a code review, Implement application fuzzing, Implement a host-based IPS, Disable remote access services
The attacker embeds hidden access in an internally developed application that bypasses account login.	Application	Botnet, RAT, Logic Bomb, Backdoor, Virus, Spyware, Worm, Adware, Ransomware, Keylogger, Phishing	Enable DDoS protection, Patch vulnerable systems, Disable vulnerable services, Change the default system password, Update the cryptographic algorithms, Change the default application password, Implement 2FA using push notification, Conduct a code review, Implement application fuzzing, Implement a host-based IPS, Disable remote access services

A. Mastered

B. Not Mastered

Answer: A

Explanation:
Web serverBotnet Enable DDoS protectionUser RAT Implement a host-based IPS Database server Worm Change the default application passwordExecutive KeyloggerDisable vulnerable servicesApplication Backdoor Implement 2FA using push notification

Attack Description	Target	Attack Identified	BEST Preventative or Remediation Action
An attacker sends multiple SYN packets from multiple sources.	Web server	Botnet	Enable DDoS protection
The attack establishes a connection, which allows remote commands to be executed.	User	RAT	Implement a host-based IPS
The attack is self propagating and compromises a SQL database using well-known credentials as it moves through the network.	Database server	Worm	Change the default application password
The attacker uses hardware to remotely monitor a user's input activity to harvest credentials.	Executive	Keylogger	Disable vulnerable services
The attacker embeds hidden access in an internally developed application that bypasses account login.	Application	Backdoor	Implement 2FA using push notification

A screenshot of a computer program
Description automatically generated with low confidence

NEW QUESTION 119
An analyst is evaluating the implementation of Zero Trust principles within the data plane. Which of the following would be most relevant for the analyst to evaluate?

A. Secured zones
B. Subject role
C. Adaptive identity
D. Threat scope reduction

Answer: A

Explanation:
Secured zones are a key component of the Zero Trust data plane, which is the layer where data is stored, processed, and transmitted. Secured zones are logical or physical segments of the network that isolate data and resources based on their sensitivity and risk. Secured zones enforce granular policies and controls to prevent unauthorized access and lateral movement within the network1.
References: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 5, page 255.

NEW QUESTION 122
A network manager wants to protect the company's VPN by implementing multifactor authentication that uses:
. Something you know
. Something you have
. Something you are
Which of the following would accomplish the manager's goal?

A. Domain name, PKI, GeolP lookup
B. VPN IP address, company ID, facial structure
C. Password, authentication token, thumbprint
D. Company URL, TLS certificate, home address

Answer: C

Explanation:
The correct answer is C. Password, authentication token, thumbprint. This combination of authentication factors satisfies the manager's goal of implementing multifactor authentication that uses something you know, something you have, and something you are.
? Something you know is a type of authentication factor that relies on the user's knowledge of a secret or personal information, such as a password, a PIN, or a security question. A password is a common example of something you know that can be used to access a VPN12
? Something you have is a type of authentication factor that relies on the user's possession of a physical object or device, such as a smart card, a token, or a smartphone. An authentication token is a common example of something you have that can be used to generate a one-time password (OTP) or a code that can be used to access a VPN12
? Something you are is a type of authentication factor that relies on the user's biometric characteristics, such as a fingerprint, a face, or an iris. A thumbprint is a common example of something you are that can be used to scan and verify the user's identity to access a VPN12
References:
1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4: Identity and Access Management, page 177 2: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 4: Identity and Access Management, page 179

NEW QUESTION 124
A systems administrator set up a perimeter firewall but continues to notice suspicious connections between internal endpoints. Which of the following should be set up in order to mitigate the threat posed by the suspicious activity?

A. Host-based firewall
B. Web application firewall
C. Access control list
D. Application allow list

Answer: A

Explanation:
A host-based firewall is a software application that runs on an individual endpoint and filters the incoming and outgoing network traffic based on a set of rules. A host-based firewall can help to mitigate the threat posed by suspicious connections between internal endpoints by blocking or allowing the traffic based on the source, destination, port, protocol, or application. A host-based firewall is different from a web application firewall, which is a type of firewall that protects web applications from common web-based attacks, such as SQL injection, cross-site scripting, and session hijacking. A host-based firewall is also different from an access control list, which is a list of rules that control the access to network resources, such as files, folders, printers, or routers. A host- based firewall is also different from an application allow list, which is a list of applications that are authorized to run on an endpoint, preventing unauthorized or malicious applications from executing. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 254

NEW QUESTION 125
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Relate Links

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