Threats, Vulnerabilities, and Mitigations Assessment (Domain 2.0) Practice Test (Sample)

Study Guide

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Questions

1. What might a company experience as a result of a data breach?

A. Only positive publicity

B. Increased customer engagement

C. A decrease in customer trust

D. Improved regulatory adherence

2. What does application security aim to achieve?

A. Only fixing known vulnerabilities

B. Improving the security of applications

C. Training users on application use

D. Creating new applications from scratch

3. Which of the following best describes encrypted data?

A. Data that is easy to read

B. Data that is secure and unreadable without a key

C. Data that can be accessed by anyone

D. Data that is slowed down during transmission

4. Why is network segmentation important for large organizations?

A. It encourages collaboration between departments

B. It increases complexity of network management

C. It reduces overall visibility

D. It helps in controlling access to sensitive areas

5. Which action is essential when responding to detected unusual website activity in an e-commerce setting?

A. Alerting customers immediately

B. Changing all site passwords

C. Implementing intrusion detection systems

D. Shutting down the website temporarily

6. **Which of the following should companies assess regarding their BYOD policy?**

    A. Employee performance reviews

    B. Cost of device ownership

    C. Security risks associated with devices

    D. Corporate branding guidelines

7. **What type of motivation aligns with a threat actor who extracts sensitive data and threatens exposure if demands are not met?**

    A. Financial gain

    B. Extortion

    C. Revenge

    D. Disruption

8. **What are some common types of vulnerabilities found in software?**

    A. Common vulnerabilities include hardware failures and outdated network cables.

    B. Common vulnerabilities include buffer overflows, SQL injection, and cross-site scripting (XSS).

    C. Common vulnerabilities are related to user training and awareness.

    D. Common vulnerabilities arise from physical security measures.

9. **Which of the following best describes ESPIONAGE in the context of cyber security?**

    A. Stealing sensitive information for personal use

    B. Unauthorized access for political motives

    C. Infiltrating systems for financial gain

    D. Collecting intelligence on competitors

10. **In which phase of the cyber kill chain would an attacker typically use malware?**

    A. Actions on objectives

    B. Exploitation

    C. Installation

    D. Delivery

Answers

1. C
2. B
3. B
4. D
5. C
6. C
7. B
8. B
9. B
10. C

Explanations

1. What might a company experience as a result of a data breach?

A. Only positive publicity

B. Increased customer engagement

C. A decrease in customer trust

D. Improved regulatory adherence

A company's experience following a data breach often includes a significant decrease in customer trust. When a breach occurs, sensitive information such as personal data, financial details, or login credentials can be exposed, leading customers to feel insecure about their data's safety. This loss of trust can have far-reaching consequences; customers may choose to do business with competitors who they perceive as prioritizing data security. The implications of diminished customer trust are profound. Companies may see a direct impact on revenue as customers flee for alternatives. Moreover, a tarnished reputation can take years to repair, often requiring considerable investment in public relations and customer assurance efforts. Rebuilding trust typically involves implementing stronger security measures, enhancing transparency about data handling practices, and fostering better communication with stakeholders. In contrast, options that suggest positive outcomes, such as only positive publicity, increased customer engagement, or improved regulatory adherence, do not typically align with the realities of data breaches. Companies usually face criticism and scrutiny from the public and regulators, leading to negative publicity instead. Therefore, recognizing the potential fallout, particularly the decline in customer trust, is critical for organizations to understand the severe impact that data breaches can have on their business.

2. What does application security aim to achieve?

A. Only fixing known vulnerabilities

B. Improving the security of applications

C. Training users on application use

D. Creating new applications from scratch

Application security aims to improve the security of applications throughout their entire lifecycle. This includes designing, developing, testing, and maintaining applications with security in mind, thereby reducing vulnerabilities and the potential for exploitation. Focusing only on fixing known vulnerabilities does not take a proactive approach to security, which can allow for new threats to emerge without being addressed. Training users on application use is important for usability but does not inherently address the security aspects of the applications themselves. Likewise, creating new applications from scratch is a development process that does not necessarily align with the objectives of application security, which encompasses securing both new and existing applications. Overall, the goal of application security is to ensure that applications are built and maintained in a secure manner, reducing risks and protecting sensitive data.

3. Which of the following best describes encrypted data?

A. Data that is easy to read

B. Data that is secure and unreadable without a key

C. Data that can be accessed by anyone

D. Data that is slowed down during transmission

The description of encrypted data as secure and unreadable without a key captures the essence of encryption. Encryption is a process that transforms readable data into an unreadable format to protect its confidentiality and integrity. This transformation uses algorithms and keys to encode the information, meaning that only individuals with the correct key can decrypt and access the original readable data.   This is crucial for safeguarding sensitive information such as personal details, financial records, and proprietary business data. The key serves as a safeguard, ensuring that unauthorized individuals cannot easily interpret or manipulate the data, which reinforces the importance of keys in data security practices.   In contrast, options that present encrypted data as easy to read or accessible by anyone fundamentally misunderstand the purpose of encryption. Similarly, while data transmission can indeed be affected by various factors, stating that encrypted data is merely slowed down during transmission does not accurately convey the primary characteristics and advantages of encryption itself. Thus, option B provides the most accurate and comprehensive understanding of what encrypted data represents.

4. Why is network segmentation important for large organizations?

A. It encourages collaboration between departments

B. It increases complexity of network management

C. It reduces overall visibility

D. It helps in controlling access to sensitive areas

Network segmentation is an essential strategy for large organizations primarily because it helps in controlling access to sensitive areas. By dividing a larger network into smaller, manageable segments, organizations can implement specific security measures and access controls tailored to the needs of each segment. This means that sensitive data can be isolated and protected from less secure or public-facing areas of the network. Moreover, segmentation minimizes the potential attack surface by limiting lateral movement within the network. If a security breach occurs in one segment, the impacts can be contained, reducing the risk of widespread damage. Additionally, it facilitates compliance with regulatory requirements by ensuring that only authorized personnel can access sensitive information. In organizations where collaboration is crucial, proper segmentation can also retain the necessary access among departments while still protecting sensitive data, without encouraging unnecessary exposure or potential breaches. Thus, controlling access through network segmentation is a fundamental practice for maintaining security in large and complex network environments.

5. Which action is essential when responding to detected unusual website activity in an e-commerce setting?

A. Alerting customers immediately

B. Changing all site passwords

C. Implementing intrusion detection systems

D. Shutting down the website temporarily

Implementing intrusion detection systems is essential when responding to detected unusual website activity in an e-commerce setting because these systems are designed to monitor network traffic for suspicious behavior, detect potential threats, and provide real-time alerts. This proactive measure enables organizations to identify potentially malicious activities, understand the scale and nature of the threat, and respond accordingly to mitigate damage. Intrusion detection systems not only enhance the security posture of an organization but also help in forensic investigations by logging and analyzing unusual activities that may indicate an ongoing attack. By using such systems, e-commerce sites can maintain the integrity and availability of their service while minimizing the risk of severe breaches that could compromise sensitive customer information. Other options, while they might seem relevant, are not appropriate as an initial response. For instance, alerting customers immediately could lead to unnecessary alarm and confusion unless the threat has been thoroughly analyzed. Changing all site passwords could disrupt normal operations without resolving the underlying security issue. Shutting down the website temporarily could be a drastic measure that affects business operations and customer trust without first confirming the nature and extent of the threat. Thus, implementing intrusion detection systems provides a balanced, informed approach to recognizing and responding to unusual activity effectively.

6. Which of the following should companies assess regarding their BYOD policy?

A. Employee performance reviews

B. Cost of device ownership

C. Security risks associated with devices

D. Corporate branding guidelines

Assessing security risks associated with devices is essential for companies implementing a Bring Your Own Device (BYOD) policy. In a BYOD environment, employees use personal devices to access corporate data and systems, which can introduce various vulnerabilities. These vulnerabilities might stem from different operating systems, outdated software, or lack of security measures on personal devices, making them potential targets for cyber threats. By evaluating these security risks, companies can identify potential weaknesses in their infrastructure and develop strategies to mitigate them, such as implementing mobile device management (MDM) solutions, enforcing security policies (e.g., requiring strong passwords or encryption), and educating employees about best practices for security. This proactive approach helps protect sensitive information and maintain compliance with relevant regulations, ultimately safeguarding the organization from data breaches and other security incidents. While aspects like employee performance reviews, cost of device ownership, and corporate branding guidelines are important considerations for an overall corporate strategy, they do not directly address the specific security challenges posed by a BYOD environment. Hence, these elements may be secondary to ensuring that the devices used by employees comply with security standards and mitigate potential risks associated with data access and transmission.

7. What type of motivation aligns with a threat actor who extracts sensitive data and threatens exposure if demands are not met?

A. Financial gain

B. Extortion

C. Revenge

D. Disruption

The scenario described involves a threat actor who extracts sensitive data and threatens to expose it unless their demands are met. This behavior is characteristic of extortion, where individuals are coerced into complying with the threat actor's demands due to the risk of harm or disclosure of sensitive information.   Extortion typically involves a demand for money, services, or some other form of recompense in exchange for not disclosing damaging information. In this context, the primary motive is to exploit the threat of reputational damage or financial loss, which exactly aligns with the actions of the threat actor in the scenario.   While financial gain could be a motivation in extortion cases, the key element here is the act of coercion that defines extortion. Motivations such as revenge or disruption, while they may involve malicious behavior, do not necessarily involve the threat of disclosure tied to specific demands, making them less relevant in this context.

8. What are some common types of vulnerabilities found in software?

A. Common vulnerabilities include hardware failures and outdated network cables.

B. Common vulnerabilities include buffer overflows, SQL injection, and cross-site scripting (XSS).

C. Common vulnerabilities are related to user training and awareness.

D. Common vulnerabilities arise from physical security measures.

The identification of buffer overflows, SQL injection, and cross-site scripting (XSS) as common types of software vulnerabilities is correct due to their prevalence in software development and exploitation. Buffer overflows occur when a program writes more data to a buffer than it can hold, potentially leading to arbitrary code execution. SQL injection involves manipulating a web application's database queries by injecting malicious SQL code, which can expose sensitive data or even allow attackers to alter the database. Cross-site scripting (XSS) is a vulnerability that allows an attacker to inject malicious scripts into webpages viewed by users, facilitating data theft or session hijacking. These vulnerabilities are well-documented in cybersecurity resources and represent real-world examples that developers and security professionals must actively defend against. The other options refer to non-software specific vulnerabilities or issues that are not relevant to the context of software vulnerabilities, which is why this choice stands out as the most accurate.

9. Which of the following best describes ESPIONAGE in the context of cyber security?

- A. Stealing sensitive information for personal use
- B. Unauthorized access for political motives
- C. Infiltrating systems for financial gain
- D. Collecting intelligence on competitors

In the context of cybersecurity, espionage is defined as the act of secretly gathering information or intelligence, often for political or strategic purposes. The correct option, which highlights unauthorized access specifically for political motives, aligns closely with traditional espionage practices where individuals, organizations, or nation-states seek confidential information that can provide a competitive advantage or insight into political activities.   This form of information gathering typically involves sophisticated techniques to infiltrate systems and extract sensitive data without detection, aiming to influence or undermine adversaries. It is important to understand that this motive distinguishes espionage from other forms of cybercrimes that may be driven by personal gain or financial interests, which pertain more to economic espionage or theft. In contrast, the other options mention motives focused on personal use, financial gain, or competitive intelligence, which do not encapsulate the broader and often more complex motives of state-sponsored or politically motivated espionage.

10. In which phase of the cyber kill chain would an attacker typically use malware?

- A. Actions on objectives
- B. Exploitation
- C. Installation
- D. Delivery

The phase of the cyber kill chain where an attacker typically uses malware is during the Installation phase. In this stage, after the attacker has successfully exploited a vulnerability and gained access to the target system, they focus on establishing a foothold. This is typically done using malware, which is installed on the compromised system to maintain access and control over it. The malware allows the attacker to facilitate further actions, such as data exfiltration or reconnaissance, without needing to repeatedly exploit the original vulnerability. Looking at the context of the other phases, during the Delivery phase, the malware is being sent to the target, often through methods like phishing emails or malicious attachments. In the Exploitation phase, the attacker takes advantage of a vulnerability to execute code, but the actual installation of the malware happens afterward. In the Actions on Objectives phase, the attacker uses the established access to achieve their goals, such as stealing information or executing commands, but by that point, the malware would have already been installed. Thus, Installation is correctly identified as the phase most associated with the use of malware.