

ISC2

Exam Questions SSCP

System Security Certified Practitioner (SSCP)



NEW QUESTION 1

- (Topic 1)

Which access control model achieves data integrity through well-formed transactions and separation of duties?

- A. Clark-Wilson model
- B. Biba model
- C. Non-interference model
- D. Sutherland model

Answer: A

Explanation:

The Clark-Wilson model differs from other models that are subject- and object- oriented by introducing a third access element programs resulting in what is called an access triple, which prevents unauthorized users from modifying data or programs. The Biba model uses objects and subjects and addresses integrity based on a hierarchical

lattice of integrity levels. The non-interference model is related to the information flow model with restrictions on the information flow. The Sutherland model approaches integrity by focusing on the problem of inference.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 12).

And: KRAUSE, Micki & TIPTON, Harold F., Handbook of Information Security Management, CRC Press, 1997, Domain 1: Access Control.

NEW QUESTION 2

- (Topic 1)

Which is the last line of defense in a physical security sense?

- A. people
- B. interior barriers
- C. exterior barriers
- D. perimeter barriers

Answer: A

Explanation:

"Ultimately, people are the last line of defense for your company's assets" (Pastore & Dulaney, 2006, p. 529).

Pastore, M. and Dulaney, E. (2006). CompTIA Security+ study guide: Exam SY0-101. Indianapolis, IN: Sybex.

NEW QUESTION 3

- (Topic 1)

What refers to legitimate users accessing networked services that would normally be restricted to them?

- A. Spoofing
- B. Piggybacking
- C. Eavesdropping
- D. Logon abuse

Answer: D

Explanation:

Unauthorized access of restricted network services by the circumvention of security access controls is known as logon abuse. This type of abuse refers to users who may be internal to the network but access resources they would not normally be allowed. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 3:

Telecommunications and Network Security (page 74).

NEW QUESTION 4

- (Topic 1)

What is called the type of access control where there are pairs of elements that have the least upper bound of values and greatest lower bound of values?

- A. Mandatory model
- B. Discretionary model
- C. Lattice model
- D. Rule model

Answer: C

Explanation:

In a lattice model, there are pairs of elements that have the least upper bound of values and greatest lower bound of values.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 34.

NEW QUESTION 5

- (Topic 1)

Which of the following biometric characteristics cannot be used to uniquely authenticate an individual's identity?

- A. Retina scans
- B. Iris scans
- C. Palm scans
- D. Skin scans

Answer: D

Explanation:

The following are typical biometric characteristics that are used to uniquely authenticate an individual's identity:

Fingerprints Retina scans Iris scans Facial scans Palm scans Hand geometry Voice

Handwritten signature dynamics

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 39.

And: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 127-131).

NEW QUESTION 6

- (Topic 1)

To control access by a subject (an active entity such as individual or process) to an object (a passive entity such as a file) involves setting up:

- A. Access Rules
- B. Access Matrix
- C. Identification controls
- D. Access terminal

Answer: A

Explanation:

Controlling access by a subject (an active entity such as individual or process) to an object (a passive entity such as a file) involves setting up access rules.

These rules can be classified into three access control models: Mandatory, Discretionary, and Non-Discretionary.

An access matrix is one of the means used to implement access control.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

NEW QUESTION 7

- (Topic 1)

Which of the following is a trusted, third party authentication protocol that was developed under Project Athena at MIT?

- A. Kerberos
- B. SESAME
- C. KryptoKnight
- D. NetSP

Answer: A

Explanation:

Kerberos is a trusted, third party authentication protocol that was developed under Project Athena at MIT.

Kerberos is a network authentication protocol. It is designed to provide strong authentication for client/server applications by using secret-key cryptography. A free implementation of this protocol is available from the Massachusetts Institute of Technology. Kerberos is available in many commercial products as well.

The Internet is an insecure place. Many of the protocols used in the Internet do not provide any security. Tools to "sniff" passwords off of the network are in common use by systems crackers. Thus, applications which send an unencrypted password over the network are extremely vulnerable. Worse yet, other client/server applications rely on the client program to be "honest" about the identity of the user who is using it. Other applications rely on the client to restrict its activities to those which it is allowed to do, with no other enforcement by the server.

Some sites attempt to use firewalls to solve their network security problems. Unfortunately, firewalls assume that "the bad guys" are on the outside, which is often a very bad

assumption. Most of the really damaging incidents of computer crime are carried out by insiders. Firewalls also have a significant disadvantage in that they restrict how your users can use the Internet. (After all, firewalls are simply a less extreme example of the dictum that there is nothing more secure than a computer which is not connected to the network --- and powered off!) In many places, these restrictions are simply unrealistic and unacceptable.

Kerberos was created by MIT as a solution to these network security problems. The Kerberos protocol uses strong cryptography so that a client can prove its identity to a server (and vice versa) across an insecure network connection. After a client and server have used Kerberos to prove their identity, they can also encrypt all of their communications to assure privacy and data integrity as they go about their business.

Kerberos is freely available from MIT, under a copyright permission notice very similar to the one used for the BSD operating and X11 Windowing system. MIT provides Kerberos in source form, so that anyone who wishes to use it may look over the code for themselves and assure themselves that the code is trustworthy. In addition, for those who prefer to rely on a professional supported product, Kerberos is available as a product from many different vendors.

In summary, Kerberos is a solution to your network security problems. It provides the tools of authentication and strong cryptography over the network to help you secure your information systems across your entire enterprise. We hope you find Kerberos as useful as it has been to us. At MIT, Kerberos has been invaluable to our Information/Technology architecture.

KryptoKnight is a Peer to Peer authentication protocol incorporated into the NetSP product from IBM.

SESAME is an authentication and access control protocol, that also supports communication confidentiality and integrity. It provides public key based authentication along with the Kerberos style authentication, that uses symmetric key cryptography. Sesame supports the Kerberos protocol and adds some security extensions like public key based authentication and an ECMA-style Privilege Attribute Service. The complete Sesame protocol is a two step process. In the first step, the client successfully authenticates itself to the Authentication Server and obtains a ticket that can be presented to the Privilege Attribute Server. In the second step, the initiator obtains proof of his access rights in the form of Privilege Attributes Certificate (PAC). The PAC is a specific form of Access Control Certificate as defined in the ECMA-219 document. This document describes the extensions to Kerberos for public key based authentication as adopted in Sesame. SESAME, KryptoKnight, and NetSP never took off and the protocols are no longer commonly used.

References:

<http://www.cmf.nrl.navy.mil/CCS/people/kenh/kerberos-faq.html#whatis> and

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 40.

NEW QUESTION 8

- (Topic 1)

Which of the following questions is less likely to help in assessing identification and authentication controls?

- A. Is a current list maintained and approved of authorized users and their access?
- B. Are passwords changed at least every ninety days or earlier if needed?
- C. Are inactive user identifications disabled after a specified period of time?
- D. Is there a process for reporting incidents?

Answer: D

Explanation:

Identification and authentication is a technical measure that prevents unauthorized people (or unauthorized processes) from entering an IT system. Access control usually requires that the system be able to identify and differentiate among users. Reporting incidents is more related to incident response capability (operational control) than to identification and authentication (technical control).

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self- Assessment Guide for Information Technology Systems, November 2001 (Pages A-30 to A-32).

NEW QUESTION 9

- (Topic 1)

Which integrity model defines a constrained data item, an integrity verification procedure and a transformation procedure?

- A. The Take-Grant model
- B. The Biba integrity model
- C. The Clark Wilson integrity model
- D. The Bell-LaPadula integrity model

Answer: C

Explanation:

The Clark Wilson integrity model addresses the three following integrity goals: 1) data is protected from modification by unauthorized users; 2) data is protected from unauthorized modification by authorized users; and 3) data is internally and externally consistent. It also defines a Constrained Data Item (CDI), an Integrity Verification Procedure (IVP), a Transformation Procedure (TP) and an Unconstrained Data item. The Bell-LaPadula and Take-Grant models are not integrity models.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architecture and Models (page 205).

NEW QUESTION 10

- (Topic 1)

Which one of the following authentication mechanisms creates a problem for mobile users?

- A. Mechanisms based on IP addresses
- B. Mechanism with reusable passwords
- C. one-time password mechanism.
- D. challenge response mechanism.

Answer: A

Explanation:

Anything based on a fixed IP address would be a problem for mobile users because their location and its associated IP address can change from one time to the next. Many providers will assign a new IP every time the device would be restarted. For example an insurance adjuster using a laptop to file claims online. He goes to a different client each time and the address changes every time he connects to the ISP.

NOTE FROM CLEMENT:

The term MOBILE in this case is synonymous with Road Warriors where a user is constantly traveling and changing location. With smartphone today that may not be an issue but it would be an issue for laptops or WIFI tablets. Within a carrier network the IP will tend to be the same and would change rarely. So this question is more applicable to devices that are not cellular devices but in some cases this issue could affect cellular devices as well.

The following answers are incorrect:

mechanism with reusable password. This is incorrect because reusable password mechanism would not present a problem for mobile users. They are the least secure and change only at specific interval.

one-time password mechanism. This is incorrect because a one-time password mechanism would not present a problem for mobile users. Many are based on a clock and not on the IP address of the user.

challenge response mechanism. This is incorrect because challenge response mechanism would not present a problem for mobile users.

NEW QUESTION 10

- (Topic 1)

What does the Clark-Wilson security model focus on?

- A. Confidentiality
- B. Integrity
- C. Accountability
- D. Availability

Answer: B

Explanation:

The Clark-Wilson model addresses integrity. It incorporates mechanisms to enforce internal and external consistency, a separation of duty, and a mandatory integrity policy.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 205).

NEW QUESTION 11

- (Topic 1)

Which of the following biometric devices has the lowest user acceptance level?

- A. Retina Scan
- B. Fingerprint scan
- C. Hand geometry
- D. Signature recognition

Answer: A

Explanation:

According to the cited reference, of the given options, the Retina scan has the lowest user acceptance level as it is needed for the user to get his eye close to a device and it is not user friendly and very intrusive.
However, retina scan is the most precise with about one error per 10 millions usage. Look at the 2 tables below. If necessary right click on the image and save it on your desktop for a larger view or visit the web site directly at <https://sites.google.com/site/biometricsecuritysolutions/crossover-accuracy> . Biometric Comparison Chart

BIOMETRICS COMPARISON CHART								
Biometric	Verify	ID	Accuracy	Reliability	Error Rate	Errors	False Pos.	False Neg.
Fingerprint	Yes	Yes	Very High	High	1 in 500+	thickness, dirt, age	Ext. Diff.	Ext. Diff.
Facial Recognition	Yes	No	High	Medium	no data	lighting, age, glasses, hair	Difficult	Easy
Hand Geometry	Yes	No	High	Medium	1 in 500	hand injury, age	Very Diff.	Medium
Speaker Recognition	Yes	No	Medium	Low	1 in 50	noise, weather, colds	Medium	Easy
Iris Scan	Yes	Yes	Very High	High	1 in 131,000	poor lighting	Very Diff.	Very Diff.
Retinal Scan	Yes	Yes	Very High	High	1 in 10,000,000	glasses	Ext. Diff.	Ext. Diff.
Signature Recognition	Yes	No	Medium	Low	1 in 50	changing signatures	Medium	Easy
Keystroke Recognition	Yes	No	Low	Low	no data	hand injury, tiredness	Difficult	Easy
DNA	Yes	Yes	Very High	High	no data	none	Ext. Diff.	Ext. Diff.

Biometric	Security Level	Long-term Stability	User Acceptance	Intrusive	Ease of Use	Low Cost	Hardware	Standards
Fingerprint	High	High	Medium	Somewhat	High	Yes	Special, cheap	Yes
Facial Recognition	Medium	Medium	Medium	Non	Medium	Yes	Common, cheap	?
Hand Geometry	Medium	Medium	Medium	Non	High	No	Special, mid-price	?
Speaker Recognition	Medium	Medium	High	Non	High	Yes	Common, cheap	?
Iris Scan	High	High	Medium	Non	Medium	No	Special, expensive	?
Retinal Scan	High	High	Medium	Very	Low	No	Special, expensive	?
Signature Recognition	Medium	Medium	Medium	Non	High	Yes	Special, mid-price	?
Keystroke Recognition	Medium	Low	High	Non	High	Yes	Common, cheap	?
DNA	High	High	Low	Extremely	Low	No	Special, expensive	Yes

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Aspect descriptions:	
Verify	Whether or not the Biometric is capable of verification. Verification is the process where an input is compared to specific data previously recorded from the user to see if the person is who they claim to be.
ID	Whether or not the Biometric is capable of identification. Identification is the process where an input is compared to a large data set previously recorded from many people to see which person the user is.
Accuracy	How well the Biometric is able to tell individuals apart. This is partially determined by the amount of information gathered as well as the number of possible different data results.
Reliability	How dependable the Biometric is for recognition purposes.
Error Rate	This is calculated as the crossing point when graphed of false positives and false negatives created using this Biometric.
Errors	Typical causes of errors for this Biometric.
False Pos.	How easy it is to create a false positive reading with this biometric (someone is able to impersonate someone else).
False Neg.	How easy it is to create a false negative reading with this biometric (someone is able to avoid identification as oneself).
Security Level	The highest level of security that this Biometric is capable of working at.
Long-term Stability	How well this Biometric continues to work without data updates over long periods of time.
User Acceptance	How willing the public is to use this Biometric.
Intrusiveness	How much the Biometric is considered to invade one's privacy or require interaction by the user.
Ease of Use	How easy this Biometric is for both the user and the personnel involved.
Low Cost	Whether or not there is a low-cost option for this Biometric to be used.
Hardware	Type and cost of hardware required to use this Biometric.
Standards	Whether or not standards exist for this Biometric.

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Biometric Aspect Descriptions Reference(s) used for this question:
RHODES, Keith A., Chief Technologist, United States General Accounting Office, National Preparedness, Technologies to Secure Federal Buildings, April 2002 (page 10).
and
<https://sites.google.com/site/biometricsecuritysolutions/crossover-accuracy>

NEW QUESTION 13

- (Topic 1)

Which of the following protocol was used by the INITIAL version of the Terminal Access Controller Access Control System TACACS for communication between clients and servers?

- A. TCP
- B. SSL
- C. UDP
- D. SSH

Answer: C

Explanation:

The original TACACS, developed in the early ARPANet days, had very limited functionality and used the UDP transport. In the early 1990s, the protocol was extended to include additional functionality and the transport changed to TCP.
TACACS is defined in RFC 1492, and uses (either TCP or UDP) port 49 by default. TACACS allows a client to accept a username and password and send a query to a TACACS authentication server, sometimes called a TACACS daemon or simply TACACSD. TACACSD uses TCP and usually runs on port 49. It would determine whether to accept or deny the authentication request and send a response back.
TACACS+
TACACS+ and RADIUS have generally replaced TACACS and XTACACS in more recently built or updated networks. TACACS+ is an entirely new protocol and is not compatible with TACACS or XTACACS. TACACS+ uses the Transmission Control Protocol (TCP) and RADIUS uses the User Datagram Protocol (UDP). Since TCP is connection oriented protocol, TACACS+ does not have to implement transmission control. RADIUS, however, does have to detect and correct transmission errors like packet loss, timeout etc. since it rides on UDP which is connectionless.
RADIUS encrypts only the users' password as it travels from the RADIUS client to RADIUS server. All other information such as the username, authorization, accounting are transmitted in clear text. Therefore it is vulnerable to different types of attacks. TACACS+ encrypts all the information mentioned above and therefore does not have the vulnerabilities present in the RADIUS protocol.
RADIUS and TACACS + are client/ server protocols, which means the server portion cannot send unsolicited commands to the client portion. The server portion can only speak when spoken to. Diameter is a peer-based protocol that allows either end to initiate communication. This functionality allows the Diameter server to send a message to the access server to request the user to provide another authentication credential if she is attempting to access a secure resource.
Reference(s) used for this question: <http://en.wikipedia.org/wiki/TACACS>
and

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 239). McGraw- Hill. Kindle Edition.

NEW QUESTION 14

- (Topic 1)

Which of the following is most relevant to determining the maximum effective cost of access control?

- A. the value of information that is protected
- B. management's perceptions regarding data importance
- C. budget planning related to base versus incremental spending.
- D. the cost to replace lost data

Answer: A

Explanation:

The cost of access control must be commensurate with the value of the information that is being protected.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 49.

NEW QUESTION 15

- (Topic 1)

The control measures that are intended to reveal the violations of security policy using software and hardware are associated with:

- A. Preventive/physical
- B. Detective/technical
- C. Detective/physical
- D. Detective/administrative

Answer: B

Explanation:

The detective/technical control measures are intended to reveal the violations of security policy using technical means.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 35.

NEW QUESTION 17

- (Topic 1)

Which access control model enables the OWNER of the resource to specify what subjects can access specific resources based on their identity?

- A. Discretionary Access Control
- B. Mandatory Access Control
- C. Sensitive Access Control
- D. Role-based Access Control

Answer: A

Explanation:

Data owners decide who has access to resources based only on the identity of the person accessing the resource.

The following answers are incorrect :

Mandatory Access Control : users and data owners do not have as much freedom to determine who can access files. The operating system makes the final decision and can override the users' wishes and access decisions are based on security labels.

Sensitive Access Control : There is no such access control in the context of the above question.

Role-based Access Control : uses a centrally administered set of controls to determine how subjects and objects interact , also called as non discretionary access control.

In a mandatory access control (MAC) model, users and data owners do not have as much freedom to determine who can access files. The operating system makes the final decision and can override the users' wishes. This model is much more structured and strict and is based on a security label system. Users are given a security clearance (secret, top secret, confidential, and so on), and data is classified in the same way. The clearance and classification data is stored in the security labels, which are bound to the specific subjects and objects. When the system makes a decision about fulfilling a request to access an object, it is based on the clearance of the subject, the classification of the object, and the security policy of the system. The rules for how subjects access objects are made by the security officer, configured by the administrator, enforced by the operating system, and supported by security technologies

Reference : Shon Harris , AIO v3 , Chapter-4 : Access Control , Page : 163-165

NEW QUESTION 22

- (Topic 1)

Which of the following would constitute the best example of a password to use for access to a system by a network administrator?

- A. holiday
- B. Christmas12
- C. Jenny
- D. GyN19Za!

Answer: D

Explanation:

GyN19Za! would be the best answer because it contains a mixture of upper and lower case characters, alphabetic and numeric characters, and a special character making it less vulnerable to password attacks.

All of the other answers are incorrect because they are vulnerable to brute force or dictionary attacks. Passwords should not be common words or names. The addition of a number to the end of a common word only marginally strengthens it because a common password attack would also check combinations of words: Christmas23 Christmas123 etc...

NEW QUESTION 24

- (Topic 1)

RADIUS incorporates which of the following services?

- A. Authentication server and PIN codes.
- B. Authentication of clients and static passwords generation.
- C. Authentication of clients and dynamic passwords generation.
- D. Authentication server as well as support for Static and Dynamic passwords.

Answer: D

Explanation:

A Network Access Server (NAS) operates as a client of RADIUS. The client is responsible for passing user information to designated RADIUS servers, and then acting on the response which is returned.

RADIUS servers are responsible for receiving user connection requests, authenticating the user, and then returning all configuration information necessary for the client to deliver service to the user.

RADIUS authentication is based on provisions of simple username/password credentials.

These credentials are encrypted

by the client using a shared secret between the client and the RADIUS server. OIG 2007, Page 513

RADIUS incorporates an authentication server and can make uses of both dynamic and static passwords.

Since it uses the PAP and CHAP protocols, it also includes static passwords.

RADIUS is an Internet protocol. RADIUS carries authentication, authorization, and configuration information between a Network Access Server and a shared Authentication Server. RADIUS features and functions are described primarily in the IETF (International Engineering Task Force) document RFC2138.

The term " RADIUS" is an acronym which stands for Remote Authentication Dial In User Service.

The main advantage to using a RADIUS approach to authentication is that it can provide a stronger form of authentication. RADIUS is capable of using a strong, two-factor form of authentication, in which users need to possess both a user ID and a hardware or software token to gain access.

Token-based schemes use dynamic passwords. Every minute or so, the token generates a unique 4-, 6- or 8-digit access number that is synchronized with the security server. To gain entry into the system, the user must generate both this one-time number and provide his or her user ID and password.

Although protocols such as RADIUS cannot protect against theft of an authenticated session via some realtime attacks, such as wiretapping, using unique, unpredictable authentication requests can protect against a wide range of active attacks.

RADIUS: Key Features and Benefits Features Benefits

RADIUS supports dynamic passwords and challenge/response passwords. Improved system security due to the fact that passwords are not static.

It is much more difficult for a bogus host to spoof users into giving up their passwords or password-generation algorithms.

RADIUS allows the user to have a single user ID and password for all computers in a network.

Improved usability due to the fact that the user has to remember only one login combination.

RADIUS is able to:

Prevent RADIUS users from logging in via login (or ftp). Require them to log in via login (or ftp)

Require them to login to a specific network access server (NAS); Control access by time of day.

Provides very granular control over the types of logins allowed, on a per-user basis. The time-out interval for failing over from an unresponsive primary RADIUS server to a

backup RADIUS server is site-configurable.

RADIUS gives System Administrator more flexibility in managing which users can login from which hosts or devices.

Stratus Technology Product Brief <http://www.stratus.com/products/vos/opencvos/radius.htm>

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Pages 43, 44.

Also check: MILLER, Lawrence & GREGORY, Peter, CISSP for Dummies, 2002, Wiley Publishing, Inc., pages 45-46.

NEW QUESTION 28

- (Topic 1)

Guards are appropriate whenever the function required by the security program involves which of the following?

- A. The use of discriminating judgment
- B. The use of physical force
- C. The operation of access control devices
- D. The need to detect unauthorized access

Answer: A

Explanation:

The Answer The use of discriminating judgment, a guard can make the determinations that hardware or other automated security devices cannot make due to its ability to adjust to rapidly changing conditions, to learn and alter recognizable patterns, and to respond to various conditions in the environment. Guards are better at making value decisions at times of incidents. They are appropriate whenever immediate, discriminating judgment is required by the security entity.

The following answers are incorrect:

The use of physical force This is not the best answer. A guard provides discriminating judgment, and the ability to discern the need for physical force.

The operation of access control devices A guard is often uninvolved in the operations of an automated access control device such as a biometric reader, a smart lock, mantrap, etc. The need to detect unauthorized access The primary function of a guard is not to detect unauthorized access, but to prevent unauthorized physical access attempts and may deter social engineering attempts.

The following reference(s) were/was used to create this question:

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 10: Physical security (page 339).

Source: ISC2 Official Guide to the CBK page 288-289.

NEW QUESTION 32

- (Topic 1)

Which of the following was developed by the National Computer Security Center (NCSC) for the US Department of Defense ?

- A. TCSEC
- B. ITSEC
- C. DIACAP
- D. NIACAP

Answer: A

Explanation:

The Answer TCSEC; The TCSEC, frequently referred to as the Orange Book, is the centerpiece of the DoD Rainbow Series publications. Initially issued by the National Computer Security Center (NCSC) an arm of the National Security Agency in 1983 and then updated in 1985, TCSEC was replaced with the development of the Common Criteria international standard originally published in 2005.

References:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, pages 197-199.

Wikipedia <http://en.wikipedia.org/wiki/TCSEC>

NEW QUESTION 35

- (Topic 1)

Which of the following statements pertaining to biometrics is false?

- A. Increased system sensitivity can cause a higher false rejection rate
- B. The crossover error rate is the point at which false rejection rate equals the false acceptance rate.
- C. False acceptance rate is also known as Type II error.
- D. Biometrics are based on the Type 2 authentication mechanism.

Answer: D

Explanation:

Authentication is based on three factor types: type 1 is something you know, type 2 is something you have and type 3 is something you are. Biometrics are based on the Type 3 authentication mechanism.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 37).

NEW QUESTION 38

- (Topic 1)

For maximum security design, what type of fence is most effective and cost-effective method (Foot are being used as measurement unit below)?

- A. 3' to 4' high
- B. 6' to 7' high
- C. 8' high and above with strands of barbed wire
- D. Double fencing

Answer: D

Explanation:

The most commonly used fence is the chain linked fence and it is the most affordable. The standard is a six-foot high fence with two-inch mesh square openings. The material should consist of nine-gauge vinyl or galvanized metal. Nine-gauge is a typical fence material installed in residential areas.

Additionally, it is recommended to place barbed wire strands angled out from the top of the fence at a 45° angle and away from the protected area with three strands running across the top. This will provide for a seven-foot fence. There are several variations of the use of “top guards” using V-shaped barbed wire or the use of concertina wire as an enhancement, which has been a replacement for more traditional three strand barbed wire “top guards.”

The fence should be fastened to ridged metal posts set in concrete every six feet with additional bracing at the corners and gate openings. The bottom of the fence should be stabilized against intruders crawling under by attaching posts along the bottom to keep the fence from being pushed or pulled up from the bottom. If the soil is sandy, the bottom edge of the fence should be installed below ground level.

For maximum security design, the use of double fencing with rolls of concertina wire positioned between the two fences is the most effective deterrent and cost-efficient method. In this design, an intruder is required to use an extensive array of ladders and equipment to breach the fences.

Most fencing is largely a psychological deterrent and a boundary marker rather than a barrier, because in most cases such fences can be rather easily penetrated unless added security measures are taken to enhance the security of the fence. Sensors attached to the fence to provide electronic monitoring of cutting or scaling the fence can be used.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 24416-24431). Auerbach Publications. Kindle Edition.

NEW QUESTION 41

- (Topic 1)

In the context of Biometric authentication, what is a quick way to compare the accuracy of devices. In general, the device that have the lowest value would be the most accurate. Which of the following would be used to compare accuracy of devices?

- A. the CER is used.
- B. the FRR is used
- C. the FAR is used
- D. the FER is used

Answer: A

Explanation:

equal error rate or crossover error rate (EER or CER): the rate at which both accept and reject errors are equal. The value of the EER can be easily obtained from the ROC curve. The EER is a quick way to compare the accuracy of devices with different ROC curves. In general, the device with the lowest EER is most accurate.

In the context of Biometric Authentication almost all types of detection permit a system's sensitivity to be increased or decreased during an inspection process. If the system's sensitivity is increased, such as in an airport metal detector, the system becomes increasingly selective and has a higher False Reject Rate (FRR). Conversely, if the sensitivity is decreased, the False Acceptance Rate (FAR) will increase. Thus, to have a valid measure of the system performance, the CrossOver Error Rate (CER) is used.

The following are used as performance metrics for biometric systems:

false accept rate or false match rate (FAR or FMR): the probability that the system incorrectly matches the input pattern to a non-matching template in the database. It measures the percent of invalid inputs which are incorrectly accepted. In case of similarity scale, if the person is imposter in real, but the matching score is higher than the threshold, then he is treated as genuine that increase the FAR and hence performance also depends upon the selection of threshold

value.

false reject rate or false non-match rate (FRR or FNMR): the probability that the system fails to detect a match between the input pattern and a matching template in the database. It measures the percent of valid inputs which are incorrectly rejected.

failure to enroll rate (FTE or FER): the rate at which attempts to create a template from an input is unsuccessful. This is most commonly caused by low quality inputs.

failure to capture rate (FTC): Within automatic systems, the probability that the system fails to detect a biometric input when presented correctly.

template capacity: the maximum number of sets of data which can be stored in the system. Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten

Domains of Computer Security, 2001, John Wiley & Sons, Page 37. and

Wikipedia at: <https://en.wikipedia.org/wiki/Biometrics>

NEW QUESTION 46

- (Topic 1)

Identification and authentication are the keystones of most access control systems. Identification establishes:

- A. User accountability for the actions on the system.
- B. Top management accountability for the actions on the system.
- C. EDP department accountability for the actions of users on the system.
- D. Authentication for actions on the system

Answer: A

Explanation:

Identification and authentication are the keystones of most access control systems. Identification establishes user accountability for the actions on the system. The control environment can be established to log activity regarding the identification, authentication, authorization, and use of privileges on a system. This can be used to detect the occurrence of errors, the attempts to perform an unauthorized action, or to validate when provided credentials were exercised. The logging system as a detective device provides evidence of actions (both successful and unsuccessful) and tasks that were executed by authorized users.

Once a person has been identified through the user ID or a similar value, she must be authenticated, which means she must prove she is who she says she is.

Three general factors can be used for authentication: something a person knows, something a person has, and something a person is. They are also commonly called authentication by knowledge, authentication by ownership, and authentication by characteristic.

For a user to be able to access a resource, he first must prove he is who he claims to be, has the necessary credentials, and has been given the necessary rights or privileges to perform the actions he is requesting. Once these steps are completed successfully, the user can access and use network resources; however, it is necessary to track the user's activities and enforce accountability for his actions.

Identification describes a method of ensuring that a subject (user, program, or process) is the entity it claims to be. Identification can be provided with the use of a username or account number. To be properly authenticated, the subject is usually required to provide a second piece to the credential set. This piece could be a password, passphrase,

cryptographic key, personal identification number (PIN), anatomical attribute, or token.

These two credential items are compared to information that has been previously stored for this subject. If these credentials match the stored information, the subject is authenticated. But we are not done yet. Once the subject provides its credentials and is properly identified, the system it is trying to access needs to determine if this subject has been given the necessary rights and privileges to carry out the requested actions. The system will look at some type of access control matrix or compare security labels to verify that this subject may indeed access the requested resource and perform the actions it is attempting. If the system determines that the subject may access the resource, it authorizes the subject.

Although identification, authentication, authorization, and accountability have close and complementary definitions, each has distinct functions that fulfill a specific requirement in the process of access control. A user may be properly identified and authenticated to the network, but he may not have the authorization to access the files on the file server. On the other hand, a user may be authorized to access the files on the file server, but until she is properly identified and authenticated, those resources are out of reach.

Reference(s) used for this question:

Schneiter, Andrew (2013-04-15). Official (ISC)2 Guide to the CISSP CBK, Third Edition: Access Control ((ISC)2 Press) (Kindle Locations 889-892). Auerbach Publications. Kindle Edition.

and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 3875-3878). McGraw-Hill. Kindle Edition.

and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 3833-3848). McGraw-Hill. Kindle Edition.

and

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 50

- (Topic 1)

Which of the following is not a security goal for remote access?

- A. Reliable authentication of users and systems
- B. Protection of confidential data
- C. Easy to manage access control to systems and network resources
- D. Automated login for remote users

Answer: D

Explanation:

An automated login function for remote users would imply a weak authentication, thus certainly not a security goal.

Source: TIPTON, Harold F. & KRAUSE, Micki, Information Security Management Handbook, 4th edition, volume 2, 2001, CRC Press, Chapter 5: An Introduction to Secure Remote Access (page 100).

NEW QUESTION 53

- (Topic 1)

Which of the following forms of authentication would most likely apply a digital signature algorithm to every bit of data that is sent from the claimant to the verifier?

- A. Dynamic authentication
- B. Continuous authentication
- C. Encrypted authentication
- D. Robust authentication

Answer: B

Explanation:

Continuous authentication is a type of authentication that provides protection against impostors who can see, alter, and insert information passed between the claimant and verifier even after the claimant/verifier authentication is complete. These are typically referred to as active attacks, since they assume that the imposter can actively influence the connection between claimant and verifier. One way to provide this form of authentication is to apply a digital signature algorithm to every bit of data that is sent from the claimant to the verifier. There are other combinations of cryptography that can provide this form of authentication but current strategies rely on applying some type of cryptography to every bit

of data sent. Otherwise, any unprotected bit would be suspect. Robust authentication relies on dynamic authentication data that changes with each authenticated session between a claimant and a verifier, but does not provide protection against active attacks. Encrypted authentication is a distracter.

Source: GUTTMAN, Barbara & BAGWILL, Robert, NIST Special Publication 800-xx, Internet Security Policy: A Technical Guide, Draft Version, May 25, 2000 (page 34).

NEW QUESTION 56

- (Topic 1)

Which of the following statements pertaining to access control is false?

- A. Users should only access data on a need-to-know basis.
- B. If access is not explicitly denied, it should be implicitly allowed.
- C. Access rights should be granted based on the level of trust a company has on a subject.
- D. Roles can be an efficient way to assign rights to a type of user who performs certain tasks.

Answer: B

Explanation:

Access control mechanisms should default to no access to provide the necessary level of security and ensure that no security holes go unnoticed. If access is not explicitly allowed, it should be implicitly denied.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 4: Access Control (page 143).

NEW QUESTION 57

- (Topic 1)

A department manager has read access to the salaries of the employees in his/her department but not to the salaries of employees in other departments. A database security mechanism that enforces this policy would typically be said to provide which of the following?

- A. Content-dependent access control
- B. Context-dependent access control
- C. Least privileges access control
- D. Ownership-based access control

Answer: A

Explanation:

When access control is based on the content of an object, it is considered to be content dependent access control.

Content-dependent access control is based on the content itself. The following answers are incorrect:

context-dependent access control. Is incorrect because this type of control is based on what the context is, facts about the data rather than what the object contains.

least privileges access control. Is incorrect because this is based on the least amount of rights needed to perform their jobs and not based on what is contained in the database. ownership-based access control. Is incorrect because this is based on the owner of the data and and not based on what is contained in the database.

References:

OIG CBK Access Control (page 191)

NEW QUESTION 62

- (Topic 1)

Which of the following attacks could capture network user passwords?

- A. Data diddling
- B. Sniffing
- C. IP Spoofing
- D. Smurfing

Answer: B

Explanation:

A network sniffer captures a copy every packet that traverses the network segment the sniffer is connect to.

Sniffers are typically devices that can collect information from a communication medium, such as a network. These devices can range from specialized equipment to basic workstations with customized software.

A sniffer can collect information about most, if not all, attributes of the communication. The most common method of sniffing is to plug a sniffer into an existing network device like a hub or switch. A hub (which is designed to relay all traffic passing through it to all of its ports) will automatically begin sending all the traffic on that network segment to the sniffing device. On the other hand, a switch (which is designed to limit what traffic gets sent to which port) will have to be specially configured to send all traffic to the port where the sniffer is plugged in.

Another method for sniffing is to use a network tap—a device that literally splits a network transmission into two identical streams; one going to the original network destination and the other going to the sniffing device. Each of these methods has its advantages and disadvantages, including cost, feasibility, and the desire to maintain the secrecy of the sniffing activity.

The packets captured by sniffer are decoded and then displayed by the sniffer. Therefore, if the username/password are contained in a packet or packets traversing the segment the sniffer is connected to, it will capture and display that information (and any other information on that segment it can see).

Of course, if the information is encrypted via a VPN, SSL, TLS, or similar technology, the information is still captured and displayed, but it is in an unreadable format.

The following answers are incorrect:

Data diddling involves changing data before, as it is entered into a computer, or after it is extracted.

Spoofing is forging an address and inserting it into a packet to disguise the origin of the communication - or causing a system to respond to the wrong address. Smurfing would refer to the smurf attack, where an attacker sends spoofed packets to the broadcast address on a gateway in order to cause a denial of service. The following reference(s) were/was used to create this question: CISA Review manual 2014 Page number 321
Official ISC2 Guide to the CISSP 3rd edition Page Number 153

NEW QUESTION 63

- (Topic 1)

Which of the following Operation Security controls is intended to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system?

- A. Detective Controls
- B. Preventative Controls
- C. Corrective Controls
- D. Directive Controls

Answer: B

Explanation:

In the Operations Security domain, Preventative Controls are designed to prevent unauthorized intruders from internally or externally accessing the system, and to lower the amount and impact of unintentional errors that are entering the system. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 217.

NEW QUESTION 67

- (Topic 1)

Which of the following floors would be most appropriate to locate information processing facilities in a 6-stories building?

- A. Basement
- B. Ground floor
- C. Third floor
- D. Sixth floor

Answer: C

Explanation:

You data center should be located in the middle of the facility or the core of a building to provide protection from natural disasters or bombs and provide easier access to emergency crewmembers if necessary. By being at the core of the facility the external wall would act as a secondary layer of protection as well. Information processing facilities should not be located on the top floors of buildings in case of a fire or flooding coming from the roof. Many crimes and theft have also been conducted by simply cutting a large hole on the roof.

They should not be in the basement because of flooding where water has a natural tendency to flow down :-). Even a little amount of water would affect your operation

considering the quantity of electrical cabling sitting directly on the cement floor under your raised floor.

The data center should not be located on the first floor due to the presence of the main entrance where people are coming in and out. You have a lot of high traffic areas such as the elevators, the loading docks, cafeteria, coffee shop, etc.. Really a bad location for a data center.

So it was easy to come up with the answer by using the process of elimination where the top, the bottom, and the basement are all bad choices. That left you with only one possible answer which is the third floor.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 5th Edition, Page 425.

NEW QUESTION 70

- (Topic 1)

This baseline sets certain thresholds for specific errors or mistakes allowed and the amount of these occurrences that can take place before it is considered suspicious?

- A. Checkpoint level
- B. Ceiling level
- C. Clipping level
- D. Threshold level

Answer: C

Explanation:

Organizations usually forgive a particular type, number, or pattern of violations, thus permitting a predetermined number of user errors before gathering this data for analysis. An organization attempting to track all violations, without sophisticated statistical computing ability, would be unable to manage the sheer quantity of such data. To make a violation listing effective, a clipping level must be established.

The clipping level establishes a baseline for violation activities that may be normal user errors. Only after this baseline is exceeded is a violation record produced.

This solution is particularly effective for small- to medium-sized installations. Organizations with large-scale computing facilities often track all violations and use statistical routines to cull out the minor infractions (e.g., forgetting a password or mistyping it several times).

If the number of violations being tracked becomes unmanageable, the first step in correcting the problems should be to analyze why the condition has occurred.

Do users understand how they are to interact with the computer resource? Are the rules too difficult to follow? Violation tracking and analysis can be valuable tools in assisting an organization to develop thorough but useable controls. Once these are in place and records are produced that accurately reflect serious violations, tracking and analysis become the first line of defense. With this procedure, intrusions are discovered before major damage occurs and sometimes early enough to catch the perpetrator. In addition, business protection and preservation are strengthened.

The following answers are incorrect:

All of the other choices presented were simply detractors. The following reference(s) were used for this question:

Handbook of Information Security Management

NEW QUESTION 72

- (Topic 1)

Which of the following questions is less likely to help in assessing physical access controls?

- A. Does management regularly review the list of persons with physical access to sensitive facilities?
- B. Is the operating system configured to prevent circumvention of the security software and application controls?
- C. Are keys or other access devices needed to enter the computer room and media library?
- D. Are visitors to sensitive areas signed in and escorted?

Answer: B

Explanation:

Physical security and environmental security are part of operational controls, and are measures taken to protect systems, buildings, and related supporting infrastructures against threats associated with their physical environment. All the questions above are useful in assessing physical access controls except for the one regarding operating system configuration, which is a logical access control.

Source: SWANSON, Marianne, NIST Special Publication 800-26, Security Self- Assessment Guide for Information Technology Systems, November 2001 (Pages A-21 to A-24).

NEW QUESTION 75

- (Topic 1)

What is the primary role of smartcards in a PKI?

- A. Transparent renewal of user keys
- B. Easy distribution of the certificates between the users
- C. Fast hardware encryption of the raw data
- D. Tamper resistant, mobile storage and application of private keys of the users

Answer: D

Explanation:

Reference: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 2001, McGraw- Hill/Osborne, page 139;

SNYDER, J., What is a SMART CARD?.

Wikipedia has a nice definition at: http://en.wikipedia.org/wiki/Tamper_resistance_Security

Tamper-resistant microprocessors are used to store and process private or sensitive information, such as private keys or electronic money credit. To prevent an attacker from

retrieving or modifying the information, the chips are designed so that the information is not accessible through external means and can be accessed only by the embedded software, which should contain the appropriate security measures.

Examples of tamper-resistant chips include all secure cryptoprocessors, such as the IBM 4758 and chips used in smartcards, as well as the Clipper chip.

It has been argued that it is very difficult to make simple electronic devices secure against tampering, because numerous attacks are possible, including:

physical attack of various forms (microprobing, drills, files, solvents, etc.) freezing the device

applying out-of-spec voltages or power surges applying unusual clock signals

inducing software errors using radiation

measuring the precise time and power requirements of certain operations (see power analysis)

Tamper-resistant chips may be designed to zeroise their sensitive data (especially cryptographic keys) if they detect penetration of their security encapsulation or out-of- specification environmental parameters. A chip may even be rated for "cold zeroisation", the ability to zeroise itself even after its power supply has been crippled.

Nevertheless, the fact that an attacker may have the device in his possession for as long as he likes, and perhaps obtain numerous other samples for testing and practice, means that it is practically impossible to totally eliminate tampering by a sufficiently motivated opponent. Because of this, one of the most important elements in protecting a system is overall system design. In particular, tamper-resistant systems should "fail gracefully" by ensuring that compromise of one device does not compromise the entire system. In this manner, the attacker can be practically restricted to attacks that cost less than the expected return from compromising a single device (plus, perhaps, a little more for kudos). Since the most sophisticated attacks have been estimated to cost several hundred thousand dollars to carry out, carefully designed systems may be invulnerable in practice.

NEW QUESTION 78

- (Topic 1)

Who developed one of the first mathematical models of a multilevel-security computer system?

- A. Diffie and Hellman.
- B. Clark and Wilson.
- C. Bell and LaPadula.
- D. Gasser and Lipner.

Answer: C

Explanation:

In 1973 Bell and LaPadula created the first mathematical model of a multi- level security system.

The following answers are incorrect:

Diffie and Hellman. This is incorrect because Diffie and Hellman was involved with cryptography.

Clark and Wilson. This is incorrect because Bell and LaPadula was the first model. The Clark-Wilson model came later, 1987.

Gasser and Lipner. This is incorrect, it is a distractor. Bell and LaPadula was the first model.

NEW QUESTION 81

- (Topic 1)

Which of the following is true about Kerberos?

- A. It utilizes public key cryptography.
- B. It encrypts data after a ticket is granted, but passwords are exchanged in plain text.
- C. It depends upon symmetric ciphers.
- D. It is a second party authentication system.

Answer: C

Explanation:

Kerberos depends on secret keys (symmetric ciphers). Kerberos is a third party authentication protocol. It was designed and developed in the mid 1980's by MIT.

It is considered open source but is copyrighted and owned by MIT. It relies on the user's secret keys. The password is used to encrypt and decrypt the keys. The following answers are incorrect:
It utilizes public key cryptography. Is incorrect because Kerberos depends on secret keys (symmetric ciphers).
It encrypts data after a ticket is granted, but passwords are exchanged in plain text. Is incorrect because the passwords are not exchanged but used for encryption and decryption of the keys.
It is a second party authentication system. Is incorrect because Kerberos is a third party authentication system, you authenticate to the third party (Kerberos) and not the system you are accessing.
References:
MIT <http://web.mit.edu/kerberos/>
Wikipedi http://en.wikipedia.org/wiki/Kerberos_%28protocol%29
OIG CBK Access Control (pages 181 - 184) AIOv3 Access Control (pages 151 - 155)

NEW QUESTION 86

- (Topic 1)

Which of the following remote access authentication systems is the most robust?

- A. TACACS+
- B. RADIUS
- C. PAP
- D. TACACS

Answer: A

Explanation:

TACACS+ is a proprietary Cisco enhancement to TACACS and is more robust than RADIUS. PAP is not a remote access authentication system but a remote node security protocol.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 3: Telecommunications and Network Security (page 122).

NEW QUESTION 89

- (Topic 1)

Which of the following would be true about Static password tokens?

- A. The owner identity is authenticated by the token
- B. The owner will never be authenticated by the token.
- C. The owner will authenticate himself to the system.
- D. The token does not authenticates the token owner but the system.

Answer: A

Explanation:

Password Tokens

Tokens are electronic devices or cards that supply a user's password for them. A token system can be used to supply either a static or a dynamic password. There is a big difference between the static and dynamic systems, a static system will normally log a user in but a dynamic system the user will often have to log themselves in.

Static Password Tokens:

The owner identity is authenticated by the token. This is done by the person who issues the token to the owner (normally the employer). The owner of the token is now authenticated by "something you have". The token authenticates the identity of the owner to the information system. An example of this occurring is when an employee swipes his or her smart card over an electronic lock to gain access to a store room.

Synchronous Dynamic Password Tokens:

This system is a lot more complex then the static token password. The synchronous dynamic password tokens generate new passwords at certain time intervals that are synched with the main system. The password is generated on a small device similar to a pager or a calculator that can often be attached to the user's key ring. Each password is only valid for a certain time period, typing in the wrong password in the wrong time period will invalidate the authentication. The time factor can also be the systems downfall. If a clock on the system or the password token device becomes out of synch, a user can have troubles authenticating themselves to the system.

Asynchronous Dynamic Password Tokens:

The clock synching problem is eliminated with asynchronous dynamic password tokens. This system works on the same principal as the synchronous one but it does not have a time frame. A lot of big companies use this system especially for employee's who may work from home on the companies VPN (Virtual private Network).

Challenge Response Tokens:

This is an interesting system. A user will be sent special "challenge" strings at either random or timed intervals. The user inputs this challenge string into their token device and the device will respond by generating a challenge response. The user then types this response into the system and if it is correct they are authenticated.

Reference(s) used for this question: <http://www.informit.com/guides/content.aspx?g=security&seqNum=146>

and

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 37.

NEW QUESTION 90

- (Topic 1)

In an organization where there are frequent personnel changes, non-discretionary access control using Role Based Access Control (RBAC) is useful because:

- A. people need not use discretion
- B. the access controls are based on the individual's role or title within the organization.
- C. the access controls are not based on the individual's role or title within the organization
- D. the access controls are often based on the individual's role or title within the organization

Answer: B

Explanation:

In an organization where there are frequent personnel changes, non-discretionary access control (also called Role Based Access Control) is useful because the access controls are based on the individual's role or title within the organization. You can easily configure a new employee access by assigning the user to a role that has been predefined. The user will implicitly inherit the permissions of the role by being a member of that role.

These access permissions defined within the role do not need to be changed whenever a new person takes over the role.

Another type of non-discretionary access control model is the Rule Based Access Control (RBAC or RuBAC) where a global set of rules is uniformly applied to all subjects accessing the resources. A good example of RuBAC would be a firewall.

This question is a sneaky one, one of the choices has only one added word to it which is often. Reading questions and their choices very carefully is a must for the real exam. Reading it twice if needed is recommended.

Shon Harris in her book lists the following ways of managing RBAC: Role-based access control can be managed in the following ways:

Non-RBAC Users are mapped directly to applications and no roles are used. (No roles being used)

Limited RBAC Users are mapped to multiple roles and mapped directly to other types of

applications that do not have role-based access functionality. (A mix of roles for applications that supports roles and explicit access control would be used for applications that do not support roles)

Hybrid RBAC Users are mapped to multiapplication roles with only selected rights assigned to those roles.

Full RBAC Users are mapped to enterprise roles. (Roles are used for all access being granted)

NIST defines RBAC as:

Security administration can be costly and prone to error because administrators usually specify access control lists for each user on the system individually. With RBAC, security is managed at a level that corresponds closely to the organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are permitted to users in that role. Security administration with RBAC consists of determining the operations that must be executed by persons in particular jobs, and assigning employees to the proper roles. Complexities introduced by mutually exclusive roles or role hierarchies are handled by the RBAC software, making security administration easier.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 32.

and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition McGraw-Hill. and

<http://csrc.nist.gov/groups/SNS/rbac/>

NEW QUESTION 91

- (Topic 1)

What is called a sequence of characters that is usually longer than the allotted number for a password?

- A. passphrase
- B. cognitive phrase
- C. anticipated phrase
- D. Real phrase

Answer: A

Explanation:

A passphrase is a sequence of characters that is usually longer than the allotted number for a password.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, page 37.

NEW QUESTION 92

- (Topic 1)

Which access control model was proposed for enforcing access control in government and military applications?

- A. Bell-LaPadula model
- B. Biba model
- C. Sutherland model
- D. Brewer-Nash model

Answer: A

Explanation:

The Bell-LaPadula model, mostly concerned with confidentiality, was proposed for enforcing access control in government and military applications. It supports mandatory access control by determining the access rights from the security levels associated with subjects and objects. It also supports discretionary access control by checking access rights from an access matrix. The Biba model, introduced in 1977, the Sutherland model, published in 1986, and the Brewer-Nash model, published in 1989, are concerned with integrity.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 11).

NEW QUESTION 93

- (Topic 1)

What does the simple integrity axiom mean in the Biba model?

- A. No write down
- B. No read down
- C. No read up
- D. No write up

Answer: B

Explanation:

The simple integrity axiom of the Biba access control model states that a subject at one level of integrity is not permitted to observe an object of a lower integrity (no read down).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 205).

NEW QUESTION 98

- (Topic 1)

Which of the following is NOT a compensating measure for access violations?

- A. Backups
- B. Business continuity planning
- C. Insurance
- D. Security awareness

Answer: D

Explanation:

Security awareness is a preventive measure, not a compensating measure for access violations.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 50).

NEW QUESTION 103

- (Topic 1)

What is called an automated means of identifying or authenticating the identity of a living person based on physiological or behavioral characteristics?

- A. Biometrics
- B. Micrometrics
- C. Macrometrics
- D. MicroBiometrics

Answer: A

Explanation:

The Answer Biometrics; Biometrics are defined as an automated means of identifying or authenticating the identity of a living person based on physiological or behavioral characteristics.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Pages 37,38.

NEW QUESTION 107

- (Topic 1)

Which of the following statements pertaining to Kerberos is TRUE?

- A. Kerberos does not address availability
- B. Kerberos does not address integrity
- C. Kerberos does not make use of Symmetric Keys
- D. Kerberos cannot address confidentiality of information

Answer: A

Explanation:

The question was asking for a TRUE statement and the only correct statement is "Kerberos does not address availability".

Kerberos addresses the confidentiality and integrity of information. It does not directly address availability.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 42).

NEW QUESTION 110

- (Topic 1)

Which of the following is not a preventive login control?

- A. Last login message
- B. Password aging
- C. Minimum password length
- D. Account expiration

Answer: A

Explanation:

The last login message displays the last login date and time, allowing a user to discover if their account was used by someone else. Hence, this is rather a detective control.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, July 1992 (page 63).

NEW QUESTION 112

- (Topic 1)

A confidential number used as an authentication factor to verify a user's identity is called a:

- A. PIN
- B. User ID
- C. Password
- D. Challenge

Answer: A

Explanation:

PIN Stands for Personal Identification Number, as the name states it is a combination of numbers.

The following answers are incorrect:

User ID This is incorrect because a Userid is not required to be a number and a Userid is only used to establish identity not verify it.

Password. This is incorrect because a password is not required to be a number, it could be any combination of characters.

Challenge. This is incorrect because a challenge is not defined as a number, it could be anything.

NEW QUESTION 113

- (Topic 1)

Examples of types of physical access controls include all EXCEPT which of the following?

- A. badges
- B. locks
- C. guards
- D. passwords

Answer: D

Explanation:

Passwords are considered a Preventive/Technical (logical) control. The following answers are incorrect:

badges Badges are a physical control used to identify an individual. A badge can include a smart device which can be used for authentication and thus a Technical control, but the actual badge itself is primarily a physical control.

locks Locks are a Preventative Physical control and has no Technical association. guards Guards are a Preventative Physical control and has no Technical association.

The following reference(s) were/was used to create this question:

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 2: Access control systems (page 35).

NEW QUESTION 116

- (Topic 1)

The number of violations that will be accepted or forgiven before a violation record is produced is called which of the following?

- A. clipping level
- B. acceptance level
- C. forgiveness level
- D. logging level

Answer: A

Explanation:

The correct answer is "clipping level". This is the point at which a system decides to take some sort of action when an action repeats a preset number of times.

That action may be to log the activity, lock a user account, temporarily close a port, etc.

Example: The most classic example of a clipping level is failed login attempts. If you have a system configured to lock a user's account after three failed login attempts, that is the "clipping level".

The other answers are not correct because:

Acceptance level, forgiveness level, and logging level are nonsensical terms that do not exist (to my knowledge) within network security.

Reference:

Official ISC2 Guide - The term "clipping level" is not in the glossary or index of that book. I cannot find it in the text either. However, I'm quite certain that it would be considered part of the CBK, despite its exclusion from the Official Guide.

All in One Third Edition page: 136 - 137

NEW QUESTION 117

- (Topic 1)

Which of the following Kerberos components holds all users' and services' cryptographic keys?

- A. The Key Distribution Service
- B. The Authentication Service
- C. The Key Distribution Center
- D. The Key Granting Service

Answer: C

Explanation:

The Key Distribution Center (KDC) holds all users' and services' cryptographic keys. It provides authentication services, as well as key distribution functionality.

The Authentication Service is the part of the KDC that authenticates a principal. The Key Distribution Service and Key Granting Service are distracters and are not defined Kerberos components.

Source: WALLHOFF, John, CISSP Summary 2002, April 2002, CBK#1 Access Control System & Methodology (page 3)

NEW QUESTION 122

- (Topic 1)

Which one of the following factors is NOT one on which Authentication is based?

- A. Type 1. Something you know, such as a PIN or password
- B. Type 2. Something you have, such as an ATM card or smart card
- C. Type 3. Something you are (based upon one or more intrinsic physical or behavioral traits), such as a fingerprint or retina scan
- D. Type 4. Something you are, such as a system administrator or security administrator

Answer: D

Explanation:

Authentication is based on the following three factor types:

Type 1. Something you know, such as a PIN or password

Type 2. Something you have, such as an ATM card or smart card

Type 3. Something you are (Unique physical characteristic), such as a fingerprint or retina scan

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

Also: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 132-133).

NEW QUESTION 125

- (Topic 1)

What is considered the most important type of error to avoid for a biometric access control system?

- A. Type I Error
- B. Type II Error
- C. Combined Error Rate
- D. Crossover Error Rate

Answer: B

Explanation:

When a biometric system is used for access control, the most important error is the false accept or false acceptance rate, or Type II error, where the system would accept an impostor.

A Type I error is known as the false reject or false rejection rate and is not as important in the security context as a type II error rate. A type one is when a valid company employee is rejected by the system and he cannot get access even thou it is a valid user.

The Crossover Error Rate (CER) is the point at which the false rejection rate equals the false acceptance rate if your would create a graph of Type I and Type II errors. The lower the CER the better the device would be.

The Combined Error Rate is a distracter and does not exist.

Source: TIPTON, Harold F. & KRAUSE, Micki, Information Security Management Handbook, 4th edition (volume 1), 2000, CRC Press, Chapter 1, Biometric Identification (page 10).

NEW QUESTION 126

- (Topic 1)

What kind of certificate is used to validate a user identity?

- A. Public key certificate
- B. Attribute certificate
- C. Root certificate
- D. Code signing certificate

Answer: A

Explanation:

In cryptography, a public key certificate (or identity certificate) is an electronic document which incorporates a digital signature to bind together a public key with an identity — information such as the name of a person or an organization, their address, and so forth. The certificate can be used to verify that a public key belongs to an individual.

In a typical public key infrastructure (PKI) scheme, the signature will be of a certificate authority (CA). In a web of trust scheme, the signature is of either the user (a self-signed certificate) or other users ("endorsements"). In either case, the signatures on a certificate are attestations by the certificate signer that the identity information and the public key belong together.

In computer security, an authorization certificate (also known as an attribute certificate) is a digital document that describes a written permission from the issuer to use a service or a resource that the issuer controls or has access to use. The permission can be delegated.

Some people constantly confuse PKCs and ACs. An analogy may make the distinction clear. A PKC can be considered to be like a passport: it identifies the holder, tends to last for a long time, and should not be trivial to obtain. An AC is more like an entry visa: it is typically issued by a different authority and does not last for as long a time. As acquiring an entry visa typically requires presenting a passport, getting a visa can be a simpler process.

A real life example of this can be found in the mobile software deployments by large service providers and are typically applied to platforms such as Microsoft Smartphone (and related), Symbian OS, J2ME, and others.

In each of these systems a mobile communications service provider may customize the mobile terminal client distribution (ie. the mobile phone operating system or application environment) to include one or more root certificates each associated with a set of capabilities or permissions such as "update firmware", "access address book", "use radio interface", and the most basic one, "install and execute". When a developer wishes to enable distribution and execution in one of these controlled environments they must acquire a certificate from an appropriate CA, typically a large commercial CA, and in the process they usually have their identity verified using out-of-band mechanisms such as a combination of phone call, validation of their legal entity through government and commercial databases, etc., similar to the high assurance SSL certificate vetting process, though often there are additional specific requirements imposed on would-be developers/publishers. Once the identity has been validated they are issued an identity certificate they can use to sign their software; generally the software signed by the developer or publisher's identity certificate is not distributed but rather it is submitted to processor to possibly test or profile the content before generating an authorization certificate which is unique to the particular software release. That certificate is then used with an ephemeral asymmetric key-pair to sign the software as the last step of preparation for distribution. There are many advantages to separating the identity and authorization certificates especially relating to risk mitigation of new content being accepted into the system and key management as well as recovery from errant software which can be used as attack vectors.

References:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 2001, McGraw-Hill/Osborne, page 540.

http://en.wikipedia.org/wiki/Attribute_certificate http://en.wikipedia.org/wiki/Public_key_certificate

NEW QUESTION 129

- (Topic 1)

Another type of access control is lattice-based access control. In this type of control a lattice model is applied. How is this type of access control concept applied?

- A. The pair of elements is the subject and object, and the subject has an upper bound equal or higher than the upper bound of the object being accessed.
- B. The pair of elements is the subject and object, and the subject has an upper bound lower then the upper bound of the object being accessed.
- C. The pair of elements is the subject and object, and the subject has no special upper or lower bound needed within the lattice.
- D. The pair of elements is the subject and object, and the subject has no access rights in relation to an object.

Answer: A

Explanation:

To apply this concept to access control, the pair of elements is the subject and object, and the subject has to have an upper bound equal or higher than the object being accessed.

WIKIPEDIA has a great explanation as well:

In computer security, lattice-based access control (LBAC) is a complex access control based on the interaction between any combination of objects (such as resources, computers, and applications) and subjects (such as individuals, groups or organizations). In this type of label-based mandatory access control model, a lattice is used to define the levels of security that an object may have and that a subject may have access to. The subject is only allowed to access an object if the security level of the subject is greater than or equal to that of the object.

Reference(s) used for this question:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 34.

and

http://en.wikipedia.org/wiki/Lattice-based_access_control

NEW QUESTION 131

- (Topic 1)

What is called the act of a user professing an identity to a system, usually in the form of a log-on ID?

- A. Authentication
- B. Identification
- C. Authorization
- D. Confidentiality

Answer: B

Explanation:

Identification is the act of a user professing an identity to a system, usually in the form of a log-on ID to the system.

Identification is nothing more than claiming you are somebody. You identify yourself when you speak to someone on the phone that you don't know, and they ask you who they're speaking to. When you say, "I'm Jason.", you've just identified yourself.

In the information security world, this is analogous to entering a username. It's not analogous to entering a password. Entering a password is a method for verifying that you are who you identified yourself as.

NOTE: The word "professing" used above means: "to say that you are, do, or feel something when other people doubt what you say". This is exactly what happen when you provide your identifier (identification), you claim to be someone but the system cannot take your word for it, you must further Authenticate to the system to prove who you claim to be.

The following are incorrect answers:

Authentication: is how one proves that they are who they say they are. When you claim to be Jane Smith by logging into a computer system as "jsmith", it's most likely going to ask you for a password. You've claimed to be that person by entering the name into the username field (that's the identification part), but now you have to prove that you are really that person.

Many systems use a password for this, which is based on "something you know", i.e. a secret between you and the system.

Another form of authentication is presenting something you have, such as a driver's license, an RSA token, or a smart card.

You can also authenticate via something you are. This is the foundation for biometrics. When you do this, you first identify yourself and then submit a thumb print, a retina scan, or another form of bio-based authentication.

Once you've successfully authenticated, you have now done two things: you've claimed to be someone, and you've proven that you are that person. The only thing that's left is for the

system to determine what you're allowed to do.

Authorization: is what takes place after a person has been both identified and authenticated; it's the step determines what a person can then do on the system.

An example in people terms would be someone knocking on your door at night. You say, "Who is it?", and wait for a response. They say, "It's John." in order to identify themselves. You ask them to back up into the light so you can see them through the peephole. They do so, and you authenticate them based on what they look like (biometric). At that point you decide they can come inside the house.

If they had said they were someone you didn't want in your house (identification), and you then verified that it was that person (authentication), the authorization phase would not include access to the inside of the house.

Confidentiality: Is one part of the CIA triad. It prevents sensitive information from reaching the wrong people, while making sure that the right people can in fact get it. A good example is a credit card number while shopping online, the merchant needs it to clear the transaction but you do not want your informaiton exposed over the network, you would use a secure link such as SSL, TLS, or some tunneling tool to protect the information from prying eyes between point A and point B. Data encryption is a common method of ensuring confidentiality.

The other parts of the CIA triad are listed below:

Integrity involves maintaining the consistency, accuracy, and trustworthiness of data over its entire life cycle. Data must not be changed in transit, and steps must be taken to ensure that data cannot be altered by unauthorized people (for example, in a breach of confidentiality). In addition, some means must be in place to detect any changes in data that might occur as a result of non-human-caused events such as an electromagnetic pulse (EMP) or server crash. If an unexpected change occurs, a backup copy must be available to restore the affected data to its correct state.

Availability is best ensured by rigorously maintaining all hardware, performing hardware repairs immediately when needed, providing a certain measure of redundancy and failover, providing adequate communications bandwidth and preventing the occurrence of bottlenecks, implementing emergency backup power systems, keeping current with all necessary system upgrades, and guarding against malicious actions such as denial-of- service (DoS) attacks.

Reference used for this question:

<http://whatis.techtarget.com/definition/Confidentiality-integrity-and-availability-CIA> <http://www.danielmiessler.com/blog/security-identification-authentication-and-authorization> <http://www.merriam-webster.com/dictionary/profess>

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 136

- (Topic 1)

Which of the following statements pertaining to the Bell-LaPadula is TRUE if you are NOT making use of the strong star property?

- A. It allows "read up."
- B. It addresses covert channels.
- C. It addresses management of access controls.
- D. It allows "write up."

Answer: D

Explanation:

Bell-LaPadula Confidentiality Model10 The Bell-LaPadula model is perhaps the most well-known and significant security model, in addition to being one of the oldest models used in the creation of modern secure computing systems. Like the Trusted Computer System Evaluation Criteria (or TCSEC), it was inspired by

early U.S. Department of Defense security policies and the need to prove that confidentiality could be maintained. In other words, its primary goal is to prevent disclosure as the model system moves from one state (one point in time) to another.

When the strong star property is not being used it means that both the property and the Simple Security Property rules would be applied.

The Star (*) property rule of the Bell-LaPadula model says that subjects cannot write down, this would compromise the confidentiality of the information if someone at the secret layer would write the object down to a confidential container for example.

The Simple Security Property rule states that the subject cannot read up which means that a subject at the secret layer would not be able to access objects at Top Secret for example.

You must remember: The model tells you about are NOT allowed to do. Anything else would be allowed. For example within the Bell LaPadula model you would be allowed to write up as it does not compromise the security of the information. In fact it would upgrade it to the point that you could lock yourself out of your own information if you have only a secret security clearance.

The following are incorrect answers because they are all FALSE:

"It allows read up" is incorrect. The "simple security" property forbids read up.

"It addresses covert channels" is incorrect. Covert channels are not addressed by the Bell- LaPadula model.

"It addresses management of access controls" is incorrect. Management of access controls are beyond the scope of the Bell-LaPadula model.

Reference(s) used for this question:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 17595-17600). Auerbach Publications. Kindle Edition.

NEW QUESTION 140

- (Topic 1)

In response to Access-request from a client such as a Network Access Server (NAS), which of the following is not one of the response from a RADIUS Server?

- A. Access-Accept
- B. Access-Reject
- C. Access-Granted
- D. Access-Challenge

Answer: C

Explanation:

In response to an access-request from a client, a RADIUS server returns one of three authentication responses: access-accept, access-reject, or access-challenge, the latter being a request for additional authentication information such as a one-time password from a token or a callback identifier.

Source: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, page 36.

NEW QUESTION 143

- (Topic 1)

Which access control model would a lattice-based access control model be an example of?

- A. Mandatory access control.
- B. Discretionary access control.
- C. Non-discretionary access control.
- D. Rule-based access control.

Answer: A

Explanation:

In a lattice model, there are pairs of elements that have the least upper bound of values and greatest lower bound of values. In a Mandatory Access Control (MAC) model, users and data owners do not have as much freedom to determine who can access files.

TIPS FROM CLEMENT

Mandatory Access Control is in place whenever you have permissions that are being imposed on the subject and the subject cannot arbitrarily change them. When the subject/owner of the file can change permissions at will, it is discretionary access control.

Here is a breakdown largely based on explanations provided by Doug Landoll. I am reproducing below using my own word and not exactly how Doug explained it: FIRST: The Lattice

A lattice is simply an access control tool usually used to implement Mandatory Access Control (MAC) and it could also be used to implement RBAC but this is not as common. The lattice model can be used for Integrity level or file permissions as well. The lattice has a least upper bound and greatest lower bound. It makes use of pair of elements such as the subject security clearance pairing with the object sensitivity label.

SECOND: DAC (Discretionary Access Control)

Let's get into Discretionary Access Control: It is an access control method where the owner (read the creator of the object) will decide who has access at his own discretion. As we all know, users are sometimes insane. They will share their files with other users based on their identity but nothing prevent the user from further sharing it with other users on the network. Very quickly you loose control on the flow of information and who has access to what. It is used in small and friendly environment where a low level of security is all that is required.

THIRD: MAC (Mandatory Access Control)

All of the following are forms of Mandatory Access Control: Mandatory Access control (MAC) (Implemented using the lattice)

You must remember that MAC makes use of Security Clearance for the subject and also Labels will be assigned to the objects. The clearance of the Subject must dominate (be equal or higher) the clearance of the Object being accessed. The label attached to the object will indicate the sensitivity level and the categories the object belongs to. The categories are used to implement the Need to Know.

All of the following are forms of Non Discretionary Access Control:

Role Based Access Control (RBAC)

Rule Based Access Control (Think Firewall in this case)

The official ISC2 book says that RBAC (synonymous with Non Discretionary Access Control) is a form of DAC but they are simply wrong. RBAC is a form of Non Discretionary Access Control. Non Discretionary DOES NOT equal mandatory access control as there is no labels and clearance involved.

I hope this clarifies the whole drama related to what is what in the world of access control. In the same line of taught, you should be familiar with the difference between Explicit

permission (the user has his own profile) versus Implicit (the user inherit permissions by being a member of a role for example).

The following answers are incorrect:

Discretionary access control. Is incorrect because in a Discretionary Access Control (DAC) model, access is restricted based on the authorization granted to the users. It is identity based access control only. It does not make use of a lattice.

Non-discretionary access control. Is incorrect because Non-discretionary Access Control (NDAC) uses the role-based access control method to determine access

rights and permissions. It is often times used as a synonym to RBAC which is Role Based Access Control. The user inherit permission from the role when they are assigned into the role. This type of access could make use of a lattice but could also be implemented without the use of a lattice in some case. Mandatory Access Control was a better choice than this one, but RBAC could also make use of a lattice. The BEST answer was MAC.

Rule-based access control. Is incorrect because it is an example of a Non-discretionary Access Control (NDAC) access control mode. You have rules that are globally applied to all users. There is no such thing as a lattice being use in Rule-Based Access Control.

References:

AI Ov3 Access Control (pages 161 - 168)

AI Ov3 Security Models and Architecture (pages 291 - 293)

NEW QUESTION 147

- (Topic 1)

Which access model is most appropriate for companies with a high employee turnover?

- A. Role-based access control
- B. Mandatory access control
- C. Lattice-based access control
- D. Discretionary access control

Answer: A

Explanation:

The underlying problem for a company with a lot of turnover is assuring that new employees are assigned the correct access permissions and that those permissions are removed when they leave the company.

Selecting the best answer requires one to think about the access control options in the context of a company with a lot of flux in the employee population. RBAC simplifies the task of assigning permissions because the permissions are assigned to roles which do not change based on who belongs to them. As employees join the company, it is simply a matter of assigning them to the appropriate roles and their permissions derive from their assigned role. They will implicitly inherit the permissions of the role or roles they have been assigned to. When they leave the company or change jobs, their role assignment is revoked/changed appropriately.

Mandatory access control is incorrect. While controlling access based on the clearance level of employees and the sensitivity of objects is a better choice than some of the other incorrect answers, it is not the best choice when RBAC is an option and you are looking for the best solution for a high number of employees constantly leaving or joining the company.

Lattice-based access control is incorrect. The lattice is really a mathematical concept that is used in formally modeling information flow (Bell-Lapadula, Biba, etc).

In the context of the question, an abstract model of information flow is not an appropriate choice. CBK, pp. 324- 325.

Discretionary access control is incorrect. When an employee joins or leaves the company, the object owner must grant or revoke access for that employee on all the objects they own. Problems would also arise when the owner of an object leaves the company. The complexity of assuring that the permissions are added and removed correctly makes this the least desirable solution in this situation.

References

All in One, third edition page 165

RBAC is discussed on pp. 189 through 191 of the ISC(2) guide.

NEW QUESTION 151

- (Topic 1)

Which TCSEC level is labeled Controlled Access Protection?

- A. C1
- B. C2
- C. C3
- D. B1

Answer: B

Explanation:

C2 is labeled Controlled Access Protection.

The TCSEC defines four divisions: D, C, B and A where division A has the highest security. Each division represents a significant difference in the trust an individual or organization

can place on the evaluated system. Additionally divisions C, B and A are broken into a series of hierarchical subdivisions called classes: C1, C2, B1, B2, B3 and A1.

Each division and class expands or modifies as indicated the requirements of the immediately prior division or class.

D — Minimal protection

Reserved for those systems that have been evaluated but that fail to meet the requirements for a higher division

C — Discretionary protection

C1 — Discretionary Security Protection Identification and authentication Separation of users and data

Discretionary Access Control (DAC) capable of enforcing access limitations on an individual basis

Required System Documentation and user manuals C2 — Controlled Access Protection

More finely grained DAC

Individual accountability through login procedures Audit trails

Object reuse Resource isolation

B — Mandatory protection

B1 — Labeled Security Protection

Informal statement of the security policy model Data sensitivity labels

Mandatory Access Control (MAC) over selected subjects and objects Label exportation capabilities

All discovered flaws must be removed or otherwise mitigated Design specifications and verification

B2 — Structured Protection

Security policy model clearly defined and formally documented DAC and MAC enforcement extended to all subjects and objects

Covert storage channels are analyzed for occurrence and bandwidth Carefully structured into protection-critical and non-protection-critical elements Design and implementation enable more comprehensive testing and review Authentication mechanisms are strengthened

Trusted facility management is provided with administrator and operator segregation Strict configuration management controls are imposed

B3 — Security Domains

Satisfies reference monitor requirements

Structured to exclude code not essential to security policy enforcement Significant system engineering directed toward minimizing complexity Security

administrator role defined

Audit security-relevant events

Automated imminent intrusion detection, notification, and response Trusted system recovery procedures

Covert timing channels are analyzed for occurrence and bandwidth

An example of such a system is the XTS-300, a precursor to the XTS-400 A — Verified protection

A1 — Verified Design Functionally identical to B3

Formal design and verification techniques including a formal top-level specification Formal management and distribution procedures

An example of such a system is Honeywell's Secure Communications Processor SCOMP, a precursor to the XTS-400

Beyond A1

System Architecture demonstrates that the requirements of self-protection and completeness for reference monitors have been implemented in the Trusted Computing Base (TCB).

Security Testing automatically generates test-case from the formal top-level specification or formal lower-level specifications.

Formal Specification and Verification is where the TCB is verified down to the source code level, using formal verification methods where feasible.

Trusted Design Environment is where the TCB is designed in a trusted facility with only trusted (cleared) personnel.

The following are incorrect answers: C1 is Discretionary security

C3 does not exist, it is only a detractor

B1 is called Labeled Security Protection.

Reference(s) used for this question:

HARE, Chris, Security management Practices CISSP Open Study Guide, version 1.0, april 1999.

and

AIOv4 Security Architecture and Design (pages 357 - 361) AIOv5 Security Architecture and Design (pages 358 - 362)

NEW QUESTION 152

- (Topic 1)

Which security model introduces access to objects only through programs?

- A. The Biba model
- B. The Bell-LaPadula model
- C. The Clark-Wilson model
- D. The information flow model

Answer: C

Explanation:

In the Clark-Wilson model, the subject no longer has direct access to objects but instead must access them through programs (well-formed transactions).

The Clark-Wilson integrity model provides a foundation for specifying and analyzing an integrity policy for a computing system.

The model is primarily concerned with formalizing the notion of information integrity. Information integrity is maintained by preventing corruption of data items in a system due to either error or malicious intent. An integrity policy describes how the data items in the system should be kept valid from one state of the system to the next and specifies the capabilities of various principals in the system. The model defines enforcement rules and certification rules.

Clark-Wilson is more clearly applicable to business and industry processes in which the integrity of the information content is paramount at any level of classification.

Integrity goals of Clark-Wilson model:

Prevent unauthorized users from making modification (Only this one is addressed by the Biba model).

Separation of duties prevents authorized users from making improper modifications. Well formed transactions: maintain internal and external consistency i.e. it is a series of operations that are carried out to transfer the data from one consistent state to the other.

The following are incorrect answers:

The Biba model is incorrect. The Biba model is concerned with integrity and controls access to objects based on a comparison of the security level of the subject to that of the object.

The Bell-LaPadula model is incorrect. The Bell-LaPadula model is concerned with confidentiality and controls access to objects based on a comparison of the clearance level of the subject to the classification level of the object.

The information flow model is incorrect. The information flow model uses a lattice where objects are labelled with security classes and information can flow either upward or at the

same level. It is similar in framework to the Bell-LaPadula model. References:

ISC2 Official Study Guide, Pages 325 - 327 AIO3, pp. 284 - 287

AIOv4 Security Architecture and Design (pages 338 - 342) AIOv5 Security Architecture and Design (pages 341 - 344) Wikipedia at:

https://en.wikipedia.org/wiki/Clark-Wilson_model

NEW QUESTION 156

- (Topic 1)

The Computer Security Policy Model the Orange Book is based on is which of the following?

- A. Bell-LaPadula
- B. Data Encryption Standard
- C. Kerberos
- D. Tempest

Answer: A

Explanation:

The Computer Security Policy Model Orange Book is based on the Bell-LaPadula Model. Orange Book Glossary.

The Data Encryption Standard (DES) is a cryptographic algorithm. National Information Security Glossary.

TEMPEST is related to limiting the electromagnetic emanations from electronic equipment. Reference: U.S. Department of Defense, Trusted Computer System Evaluation Criteria (Orange Book), DOD 5200.28-STD. December 1985 (also available here).

NEW QUESTION 161

- (Topic 1)

An attack initiated by an entity that is authorized to access system resources but uses them in a way not approved by those who granted the authorization is known as a(n):

- A. active attack
- B. outside attack

- C. inside attack
- D. passive attack

Answer: C

Explanation:

An inside attack is an attack initiated by an entity inside the security perimeter, an entity that is authorized to access system resources but uses them in a way not approved by those who granted the authorization whereas an outside attack is initiated from outside the perimeter, by an unauthorized or illegitimate user of the system. An active attack attempts to alter system resources to affect their operation and a passive attack attempts to learn or make use of the information from the system but does not affect system resources.

Source: SHIREY, Robert W., RFC2828: Internet Security Glossary, may 2000.

NEW QUESTION 162

- (Topic 1)

Which of the following are not Remote Access concerns?

- A. Justification for remote access
- B. Auditing of activities
- C. Regular review of access privileges
- D. Access badges

Answer: D

Explanation:

Access badges are more relevant to physical security rather than remote access.

"Justification for remote access" is incorrect. Justification for remote access is a relevant concern.

"Auditing of activities" is incorrect. Auditing of activities is an important aspect to assure that malicious or unauthorized activities are not occurring.

"Regular review of access privileges" is incorrect. Regular review of remote access privileges is an important management responsibility.

References:

AIO3, pp. 547 - 548

NEW QUESTION 167

- (Topic 1)

What would be the name of a Logical or Virtual Table dynamically generated to restrict the information a user can access in a database?

- A. Database Management system
- B. Database views
- C. Database security
- D. Database shadowing

Answer: B

Explanation:

The Answer Database views; Database views are mechanisms that restrict access to the information that a user can access in a database. Source: KRUTZ, Ronald L.

& VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 35.

Wikipedia has a detailed explanation as well:

In database theory, a view is a virtual or logical table composed of the result set of a query. Unlike ordinary tables (base tables) in a relational database, a view is not part of the physical schema: it is a dynamic, virtual table computed or collated from data in the database. Changing the data in a table alters the data shown in the view.

Views can provide advantages over tables; They can subset the data contained in a table

They can join and simplify multiple tables into a single virtual table

Views can act as aggregated tables, where aggregated data (sum, average etc.) are calculated and presented as part of the data

Views can hide the complexity of data, for example a view could appear as Sales2000 or Sales2001, transparently partitioning the actual underlying table

Views do not incur any extra storage overhead

Depending on the SQL engine used, views can provide extra security.

Limit the exposure to which a table or tables are exposed to outer world

Just like functions (in programming) provide abstraction, views can be used to create abstraction. Also, just like functions, views can be nested, thus one view can aggregate data from other views. Without the use of views it would be much harder to normalise databases above second normal form. Views can make it easier to create lossless join decomposition.

NEW QUESTION 170

- (Topic 1)

Which of the following is NOT a factor related to Access Control?

- A. integrity
- B. authenticity
- C. confidentiality
- D. availability

Answer: B

Explanation:

These factors cover the integrity, confidentiality, and availability components of information system security.

Integrity is important in access control as it relates to ensuring only authorized subjects can make changes to objects.

Authenticity is different from authentication. Authenticity pertains to something being authentic, not necessarily having a direct correlation to access control.

Confidentiality is pertinent to access control in that the access to sensitive information is controlled to protect confidentiality.

Availability is protected by access controls in that if an attacker attempts to disrupt availability they would first need access.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 49.

NEW QUESTION 174

- (Topic 1)

Which of the following is the most reliable, secure means of removing data from magnetic storage media such as a magnetic tape, or a cassette?

- A. Degaussing
- B. Parity Bit Manipulation
- C. Zeroization
- D. Buffer overflow

Answer: A

Explanation:

A "Degausser (Otherwise known as a Bulk Eraser) has the main function of reducing to near zero the magnetic flux stored in the magnetized medium. Flux density is measured in Gauss or Tesla. The operation is speedier than overwriting and done in one short operation. This is achieved by subjecting the subject in bulk to a series of fields of alternating polarity and gradually decreasing strength.

The following answers are incorrect: Parity Bit Manipulation. Parity has to do with disk lerror detection, not data removal. A bit or series of bits appended to a character or block of characters to ensure that the information received is the same as the information that was sent.

Zeroization. Zeroization involves overwriting data to sanitize it. It is time-consuming and not foolproof. The potential of restoration of data does exist with this method.

Buffer overflow. This is a detractor. Although many Operating Systems use a disk buffer to temporarily hold data read from disk, its primary purpose has no connection to data removal. An overflow goes outside the constraints defined for the buffer and is a method used by an attacker to attempt access to a system.

The following reference(s) were/was used to create this question: Shon Harris AIO v3. pg 908

Reference: What is degaussing.

NEW QUESTION 179

- (Topic 1)

What can be defined as a table of subjects and objects indicating what actions individual subjects can take upon individual objects?

- A. A capacity table
- B. An access control list
- C. An access control matrix
- D. A capability table

Answer: C

Explanation:

The matrix lists the users, groups and roles down the left side and the resources and functions across the top. The cells of the matrix can either indicate that access is allowed or indicate the type of access. CBK pp 317 - 318.

AIO3, p. 169 describes it as a table of subjects and objects specifying the access rights a certain subject possesses pertaining to specific objects.

In either case, the matrix is a way of analyzing the access control needed by a population of subjects to a population of objects. This access control can be applied using rules, ACL's, capability tables, etc.

"A capacity table" is incorrect.

This answer is a trap for the unwary -- it sounds a little like "capability table" but is just there to distract you.

"An access control list" is incorrect.

"It [ACL] specifies a list of users [subjects] who are allowed access to each object" CBK, p. 188 Access control lists (ACL) could be used to implement the rules identified by an access control matrix but is different from the matrix itself.

"A capability table" is incorrect.

"Capability tables are used to track, manage and apply controls based on the object and rights, or capabilities of a subject. For example, a table identifies the object, specifies access rights allowed for a subject, and permits access based on the user's possession of a capability (or ticket) for the object." CBK, pp. 191-192. To put it another way, as noted in AIO3 on p. 169, "A capability table is different from an ACL because the subject is bound to the capability table, whereas the object is bound to the ACL."

Again, a capability table could be used to implement the rules identified by an access control matrix but is different from the matrix itself.

References:

CBK pp. 191-192, 317-318

AIO3, p. 169

NEW QUESTION 180

- (Topic 1)

Which type of password provides maximum security because a new password is required for each new log-on?

- A. One-time or dynamic password
- B. Cognitive password
- C. Static password
- D. Passphrase

Answer: A

Explanation:

"one-time password" provides maximum security because a new password is required for each new log-on.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36.

NEW QUESTION 181

- (Topic 1)

In Discretionary Access Control the subject has authority, within certain limitations,

- A. but he is not permitted to specify what objects can be accessible and so we need to get an independent third party to specify what objects can be accessible.
- B. to specify what objects can be accessible.
- C. to specify on an aggregate basis without understanding what objects can be accessible.
- D. to specify in full detail what objects can be accessible.

Answer: B

Explanation:

With Discretionary Access Control, the subject has authority, within certain limitations, to specify what objects can be accessible.

For example, access control lists can be used. This type of access control is used in local, dynamic situations where the subjects must have the discretion to specify what resources certain users are permitted to access.

When a user, within certain limitations, has the right to alter the access control to certain objects, this is termed as user-directed discretionary access control. In some instances, a hybrid approach is used, which combines the features of user-based and identity-based discretionary access control.

References:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33.

and

HARRIS, Shon, All-In-One CISSP Certification Exam Guide 5th Edition, McGraw- Hill/Osborne, 2010, Chapter 4: Access Control (page 210-211).

NEW QUESTION 182

- (Topic 2)

Which of the following is BEST defined as a physical control?

- A. Monitoring of system activity
- B. Fencing
- C. Identification and authentication methods
- D. Logical access control mechanisms

Answer: B

Explanation:

Physical controls are items put into place to protect facility, personnel, and resources. Examples of physical controls are security guards, locks, fencing, and lighting.

The following answers are incorrect answers:

Monitoring of system activity is considered to be administrative control.

Identification and authentication methods are considered to be a technical control. Logical access control mechanisms is also considered to be a technical control.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 1280-1282). McGraw-Hill. Kindle Edition.

NEW QUESTION 183

- (Topic 2)

Which of the following is an advantage in using a bottom-up versus a top-down approach to software testing?

- A. Interface errors are detected earlier.
- B. Errors in critical modules are detected earlier.
- C. Confidence in the system is achieved earlier.
- D. Major functions and processing are tested earlier.

Answer: B

Explanation:

The bottom-up approach to software testing begins with the testing of atomic units, such as programs and modules, and work upwards until a complete system testing has taken place. The advantages of using a bottom-up approach to software testing are the fact that there is no need for stubs or drivers and errors in critical modules are found earlier. The other choices refer to advantages of a top down approach which follows the opposite path.

Source: Information Systems Audit and Control Association, Certified Information Systems Auditor 2002 review manual, chapter 6: Business Application System Development, Acquisition, Implementation and Maintenance (page 299).

NEW QUESTION 187

- (Topic 2)

Which of the following is less likely to be included in the change control sub-phase of the maintenance phase of a software product?

- A. Estimating the cost of the changes requested
- B. Recreating and analyzing the problem
- C. Determining the interface that is presented to the user
- D. Establishing the priorities of requests

Answer: D

Explanation:

Change control sub-phase includes Recreating and analyzing the problem, Determining the interface that is presented to the user, and Establishing the priorities of requests.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 7: Applications and Systems Development (page 252).

NEW QUESTION 191

- (Topic 2)

Which of the following should NOT be performed by an operator?

- A. Implementing the initial program load
- B. Monitoring execution of the system
- C. Data entry
- D. Controlling job flow

Answer: C

Explanation:

Under the principle of separation of duties, an operator should not be performing data entry. This should be left to data entry personnel. System operators represent a class of users typically found in data center environments where mainframe systems are used. They provide day-to-day operations of the mainframe environment, ensuring that scheduled jobs are running effectively and troubleshooting problems that may arise. They also act as the arms and legs of the mainframe environment, load and unloading tape and results of job print runs. Operators have elevated privileges, but less than those of system administrators. If misused, these privileges may be used to circumvent the system's security policy. As such, use of these privileges should be monitored through audit logs.

Some of the privileges and responsibilities assigned to operators include:

Implementing the initial program load: This is used to start the operating system. The boot process or initial program load of a system is a critical time for ensuring system security. Interruptions to this process may reduce the integrity of the system or cause the system to crash, precluding its availability.

Monitoring execution of the system: Operators respond to various events, to include errors, interruptions, and job completion messages.

Volume mounting: This allows the desired application access to the system and its data. Controlling job flow: Operators can initiate, pause, or terminate programs. This may allow an operator to affect the scheduling of jobs. Controlling job flow involves the manipulation of configuration information needed by the system. Operators with the ability to control a job or application can cause output to be altered or diverted, which can threaten the confidentiality.

Bypass label processing: This allows the operator to bypass security label information to run foreign tapes (foreign tapes are those from a different data center that would not be using the same label format that the system could run). This privilege should be strictly controlled to prevent unauthorized access.

Renaming and relabeling resources: This is sometimes necessary in the mainframe environment to allow programs to properly execute. Use of this privilege should be monitored, as it can allow the unauthorized viewing of sensitive information.

Reassignment of ports and lines: Operators are allowed to reassign ports or lines. If misused, reassignment can cause program errors, such as sending sensitive output to an unsecured location. Furthermore, an incidental port may be opened, subjecting the system to an attack through the creation of a new entry point into the system.

Reference(s) used for this question:
Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 19367-19395). Auerbach Publications. Kindle Edition.

NEW QUESTION 192

- (Topic 2)

Which of the following would be best suited to oversee the development of an information security policy?

- A. System Administrators
- B. End User
- C. Security Officers
- D. Security administrators

Answer: C

Explanation:

The security officer would be the best person to oversee the development of such policies.

Security officers and their teams have typically been charged with the responsibility of creating the security policies. The policies must be written and communicated appropriately to ensure that they can be understood by the end users. Policies that are poorly written, or written at too high of an education level (common industry practice is to focus the content for general users at the sixth- to eighth-grade reading level), will not be understood.

Implementing security policies and the items that support them shows due care by the company and its management staff. Informing employees of what is expected of them and the consequences of noncompliance can come down to a liability issue.

While security officers may be responsible for the development of the security policies, the effort should be collaborative to ensure that the business issues are addressed.

The security officers will get better corporate support by including other areas in policy development. This helps build buy-in by these areas as they take on a greater ownership of the final product. Consider including areas such as HR, legal, compliance, various IT areas and specific business area representatives who represent critical business units.

When policies are developed solely within the IT department and then distributed without business input, they are likely to miss important business considerations.

Once policy documents have been created, the basis for ensuring compliance is established. Depending on the organization, additional documentation may be necessary to support policy. This support may come in the form of additional controls described in standards, baselines, or procedures to help personnel with compliance. An important step after documentation is to make the most current version of the documents readily accessible to those who are expected to follow them. Many organizations place the documents on their intranets or in shared file folders to facilitate their accessibility. Such placement of these documents plus checklists, forms, and sample documents can make awareness more effective.

For your exam you should know the information below:

End User - The end user is responsible for protecting information assets on a daily basis through adherence to the security policies that have been communicated.

Executive Management/Senior Management - Executive management maintains the overall responsibility for protection of the information assets. The business operations are dependent upon information being available, accurate, and protected from individuals without a need to know.

Security Officer - The security officer directs, coordinates, plans, and organizes information security activities throughout the organization. The security officer works with many different individuals, such as executive management, management of the business units, technical staff, business partners, auditors, and third parties such as vendors. The security officer and his or her team are responsible for the design, implementation, management, and review of the organization's security policies, standards, procedures, baselines, and guidelines.

Information Systems Security Professional- Drafting of security policies, standards and supporting guidelines, procedures, and baselines is coordinated through these individuals. Guidance is provided for technical security issues, and emerging threats are considered for the adoption of new policies. Activities such as interpretation of government regulations and industry trends and analysis of vendor solutions to include in the security architecture that advances the security of the organization are performed in this role.

Data/Information/Business/System Owners - A business executive or manager is typically responsible for an information asset. These are the individuals that assign the appropriate classification to information assets. They ensure that the business information is protected with appropriate controls. Periodically, the information asset owners need to review the classification and access rights associated with information assets. The owners, or their delegates, may be required to approve access to the information. Owners also need to determine the criticality, sensitivity, retention, backups, and safeguards for the information. Owners or their delegates are responsible for understanding the risks that exist with regards to the information that they control.

Data/Information Custodian/Steward - A data custodian is an individual or function that takes care of the information on behalf of the owner. These individuals ensure that the information is available to the end users and is backed up to enable recovery in the event of data loss or corruption. Information may be stored in files, databases, or systems whose technical infrastructure must be managed, by systems administrators. This group administers access rights to the information assets.

Information Systems Auditor- IT auditors determine whether users, owners, custodians, systems, and networks are in compliance with the security policies, procedures, standards, baselines, designs, architectures, management direction, and other requirements placed on systems. The auditors provide independent assurance to the management on the appropriateness of the security controls. The auditor examines the information systems and determines whether they are designed, configured, implemented, operated, and managed in a way ensuring that the organizational objectives are being achieved. The auditors provide top

company management with an independent view of the controls and their effectiveness.

Business Continuity Planner - Business continuity planners develop contingency plans to prepare for any occurrence that could have the ability to impact the company's objectives negatively. Threats may include earthquakes, tornadoes, hurricanes, blackouts, changes in the economic/political climate, terrorist activities, fire, or other major actions potentially causing significant harm. The business continuity planner ensures that business processes can continue through the disaster and coordinates those activities with the business areas and information technology personnel responsible for disaster recovery.

Information Systems/ Technology Professionals- These personnel are responsible for designing security controls into information systems, testing the controls, and implementing the systems in production environments through agreed upon operating policies and procedures. The information systems professionals work with the business owners and the security professionals to ensure that the designed solution provides security controls commensurate with the acceptable criticality, sensitivity, and availability requirements of the application.

Security Administrator - A security administrator manages the user access request process and ensures that privileges are provided to those individuals who have been authorized for

access by application/system/data owners. This individual has elevated privileges and creates and deletes accounts and access permissions. The security administrator also terminates access privileges when individuals leave their jobs or transfer between company divisions. The security administrator maintains records of access request approvals and produces reports of access rights for the auditor during testing in an access controls audit to demonstrate compliance with the policies.

Network/Systems Administrator - A systems administrator (sysadmin/netadmin) configures network and server hardware and the operating systems to ensure that the information can be available and accessible. The administrator maintains the computing infrastructure using tools and utilities such as patch management and software distribution mechanisms to install updates and test patches on organization computers. The administrator tests and implements system upgrades to ensure the continued reliability of the servers and network devices. The administrator provides vulnerability management through either commercial off the shelf (COTS) and/or non-COTS solutions to test the computing environment and mitigate vulnerabilities appropriately.

Physical Security - The individuals assigned to the physical security role establish relationships with external law enforcement, such as the local police agencies, state police, or the Federal Bureau of Investigation (FBI) to assist in investigations. Physical security personnel manage the installation, maintenance, and ongoing operation of the closed circuit television (CCTV) surveillance systems, burglar alarm systems, and card reader access control systems. Guards are placed where necessary as a deterrent to unauthorized access and to provide safety for the company employees. Physical security personnel interface with systems security, human resources, facilities, and legal and business areas to ensure that the practices are integrated.

Security Analyst - The security analyst role works at a higher, more strategic level than the previously described roles and helps develop policies, standards, and guidelines, as well as set various baselines. Whereas the previous roles are "in the weeds" and focus on pieces and parts of the security program, a security analyst helps define the security program elements and follows through to ensure the elements are being carried out and practiced properly. This person works more at a design level than at an implementation level.

Administrative Assistants/Secretaries - This role can be very important to information security; in many companies of smaller size, this may be the individual who greets visitors, signs packages in and out, recognizes individuals who desire to enter the offices, and serves as the phone screener for executives. These individuals may be subject to social engineering attacks, whereby the potential intruder attempts to solicit confidential information that may be used for a subsequent attack. Social engineers prey on the goodwill of the helpful individual to gain entry. A properly trained assistant will minimize the risk of divulging useful company information or of providing unauthorized entry.

Help Desk Administrator - As the name implies, the help desk is there to field questions from users that report system problems. Problems may include poor response time, potential virus infections, unauthorized access, inability to access system resources, or questions on the use of a program. The help desk is also often where the first indications of security issues and incidents will be seen. A help desk individual would contact the computer security incident response team (CIRT) when a situation meets the criteria developed by the team. The help desk resets passwords, resynchronizes/reinitializes tokens and smart cards, and resolves other problems with access control.

Supervisor - The supervisor role, also called user manager, is ultimately responsible for all user activity and any assets created and owned by these users. For example, suppose Kathy is the supervisor of ten employees. Her responsibilities would include ensuring that these employees understand their responsibilities with respect to security; making sure the employees' account information is up-to-date; and informing the security administrator when an employee is fired, suspended, or transferred. Any change that pertains to an employee's role within the company usually affects what access rights they should and should not have, so the user manager must inform the security administrator of these changes immediately.

Change Control Analyst Since the only thing that is constant is change, someone must make sure changes happen securely. The change control analyst is responsible for approving or rejecting requests to make changes to the network, systems, or software. This role must make certain that the change will not introduce any vulnerabilities, that it has been properly tested, and that it is properly rolled out. The change control analyst needs to understand how various changes can affect security, interoperability, performance, and productivity. Or, a company can choose to just roll out the change and see what happens.

The following answers are incorrect:

Systems Administrator - A systems administrator (sysadmin/netadmin) configures network and server hardware and the operating systems to ensure that the information can be available and accessible. The administrator maintains the computing infrastructure using tools and utilities such as patch management and software distribution mechanisms to install updates and test patches on organization computers. The administrator tests and implements system upgrades to ensure the continued reliability of the servers and network devices. The administrator provides vulnerability management through either commercial off the shelf (COTS) and/or non-COTS solutions to test the computing environment and mitigate vulnerabilities appropriately.

End User - The end user is responsible for protecting information assets on a daily basis through adherence to the security policies that have been communicated.

Security Administrator - A security administrator manages the user access request process and ensures that privileges are provided to those individuals who have been authorized for access by application/system/data owners. This individual has elevated privileges and creates and deletes accounts and access permissions. The security administrator also terminates access privileges when individuals leave their jobs or transfer between company divisions. The security administrator maintains records of access request approvals and produces reports of access rights for the auditor during testing in an access controls audit to demonstrate compliance with the policies.

Following reference(s) were/was used to create this question: CISA review manual 2014 Page number 109
Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 108). McGraw- Hill. Kindle Edition.

NEW QUESTION 196

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