

Exam Questions SSCP

System Security Certified Practitioner (SSCP)

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NEW QUESTION 1

- (Topic 1)

The Terminal Access Controller Access Control System (TACACS) employs which of the following?

- A. a user ID and static password for network access
- B. a user ID and dynamic password for network access
- C. a user ID and symmetric password for network access
- D. a user ID and asymmetric password for network access

Answer: A

Explanation:

For networked applications, the Terminal Access Controller Access Control System (TACACS) employs a user ID and a static password for network access. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 44.

NEW QUESTION 2

- (Topic 1)

Detective/Technical measures:

- A. include intrusion detection systems and automatically-generated violation reports from audit trail information.
- B. do not include intrusion detection systems and automatically-generated violation reports from audit trail information.
- C. include intrusion detection systems but do not include automatically-generated violation reports from audit trail information.
- D. include intrusion detection systems and customised-generated violation reports from audit trail information.

Answer: A

Explanation:

Detective/Technical measures include intrusion detection systems and automatically-generated violation reports from audit trail information. These reports can indicate variations from "normal" operation or detect known signatures of unauthorized access episodes. In order to limit the amount of audit information flagged and reported by automated violation analysis and reporting mechanisms, clipping levels can be set. 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 3

- (Topic 1)

Smart cards are an example of which type of control?

- A. Detective control
- B. Administrative control
- C. Technical control
- D. Physical control

Answer: C

Explanation:

Logical or technical controls involve the restriction of access to systems and the protection of information. Smart cards and encryption are examples of these types of control.

Controls are put into place to reduce the risk an organization faces, and they come in three main flavors: administrative, technical, and physical. Administrative controls are commonly referred to as "soft controls" because they are more management-oriented. Examples of administrative controls are security documentation, risk management, personnel security, and training. Technical controls (also called logical controls) are software or hardware components, as in firewalls, IDS, encryption, identification and authentication mechanisms. And physical controls are items put into place to protect facility, personnel, and resources. Examples of physical controls are security guards, locks, fencing, and lighting.

Many types of technical controls enable a user to access a system and the resources within that system. A technical control may be a username and password combination, a Kerberos implementation, biometrics, public key infrastructure (PKI), RADIUS, TACACS +, or authentication using a smart card through a reader connected to a system. These technologies verify the user is who he says he is by using different types of authentication methods. Once a user is properly authenticated, he can be authorized and allowed access to network resources.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (p. 245). McGraw- Hill. Kindle Edition.

and

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 32).

NEW QUESTION 4

- (Topic 1)

A potential problem related to the physical installation of the Iris Scanner in regards to the usage of the iris pattern within a biometric system is:

- A. concern that the laser beam may cause eye damage
- B. the iris pattern changes as a person grows older.
- C. there is a relatively high rate of false accepts.
- D. the optical unit must be positioned so that the sun does not shine into the aperture.

Answer: D

Explanation:

Because the optical unit utilizes a camera and infrared light to create the images, sun light can impact the aperture so it must not be positioned in direct light of any type. Because the subject does not need to have direct contact with the optical reader, direct light can impact the reader.

An Iris recognition is a form of biometrics that is based on the uniqueness of a subject's iris. A camera like device records the patterns of the iris creating what is known as Iriscode.

It is the unique patterns of the iris that allow it to be one of the most accurate forms of biometric identification of an individual. Unlike other types of biometrics, the

iris rarely changes over time. Fingerprints can change over time due to scarring and manual labor, voice patterns can change due to a variety of causes, hand geometry can also change as well. But barring surgery or an accident it is not usual for an iris to change. The subject has a high-resolution image taken of their iris and this is then converted to Iriscode. The current standard for the Iriscode was developed by John Daugman. When the subject attempts to be authenticated an infrared light is used to capture the iris image and this image is then compared to the Iriscode. If there is a match the subject's identity is confirmed. The subject does not need to have direct contact with the optical reader so it is a less invasive means of authentication than retinal scanning would be.

Reference(s) used for this question: AIO, 3rd edition, Access Control, p 134. AIO, 4th edition, Access Control, p 182.

Wikipedia - http://en.wikipedia.org/wiki/Iris_recognition The following answers are incorrect:

concern that the laser beam may cause eye damage. The optical readers do not use laser so, concern that the laser beam may cause eye damage is not an issue. the iris pattern changes as a person grows older. The question asked about the physical installation of the scanner, so this was not the best answer. If the question would have been about long term problems then it could have been the best choice. Recent research has shown that Irises actually do change over time:

<http://www.nature.com/news/ageing-eyes-hinder-biometric-scans-1.10722>

there is a relatively high rate of false accepts. Since the advent of the Iriscode there is a very low rate of false accepts, in fact the algorithm used has never had a false match. This all depends on the quality of the equipment used but because of the uniqueness of the iris even when comparing identical twins, iris patterns are unique.

NEW QUESTION 5

- (Topic 1)

Which of following is not a service provided by AAA servers (Radius, TACACS and DIAMETER)?

- A. Authentication
- B. Administration
- C. Accounting
- D. Authorization

Answer: B

Explanation:

Radius, TACACS and DIAMETER are classified as authentication, authorization, and accounting (AAA) servers.

Source: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, Page 33.

also see:

The term "AAA" is often used, describing cornerstone concepts [of the AIC triad] Authentication, Authorization, and Accountability. Left out of the AAA acronym is Identification which is required before the three "A's" can follow. Identity is a claim, Authentication proves an identity, Authorization describes the action you can perform on a system once you have been identified and authenticated, and accountability holds users accountable for their actions.

Reference: CISSP Study Guide, Conrad Misenar, Feldman p. 10-11, (c) 2010 Elsevier.

NEW QUESTION 6

- (Topic 1)

What is the main concern with single sign-on?

- A. Maximum unauthorized access would be possible if a password is disclosed.
- B. The security administrator's workload would increase.
- C. The users' password would be too hard to remember.
- D. User access rights would be increased.

Answer: A

Explanation:

A major concern with Single Sign-On (SSO) is that if a user's ID and password are compromised, the intruder would have access to all the systems that the user was authorized for.

The following answers are incorrect:

The security administrator's workload would increase. Is incorrect because the security administrator's workload would decrease and not increase. The admin would not be responsible for maintaining multiple user accounts just the one.

The users' password would be too hard to remember. Is incorrect because the users would have less passwords to remember.

User access rights would be increased. Is incorrect because the user access rights would not be any different than if they had to log into systems manually.

NEW QUESTION 7

- (Topic 1)

Which of the following is implemented through scripts or smart agents that replays the users multiple log-ins against authentication servers to verify a user's identity which permit access to system services?

- A. Single Sign-On
- B. Dynamic Sign-On
- C. Smart cards
- D. Kerberos

Answer: A

Explanation:

SSO can be implemented by using scripts that replay the users multiple log- ins against authentication servers to verify a user's identity and to permit access to system services.

Single Sign on was the best answer in this case because it would include Kerberos. When you have two good answers within the 4 choices presented you must select the

BEST one. The high level choice is always the best. When one choice would include the other one that would be the best as well.

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 40.

NEW QUESTION 8

- (Topic 1)

Crime Prevention Through Environmental Design (CPTED) is a discipline that:

- A. Outlines how the proper design of a physical environment can reduce crime by directly affecting human behavior.
- B. Outlines how the proper design of the logical environment can reduce crime by directly affecting human behavior.
- C. Outlines how the proper design of the detective control environment can reduce crime by directly affecting human behavior.
- D. Outlines how the proper design of the administrative control environment can reduce crime by directly affecting human behavior.

Answer: A

Explanation:

Crime Prevention Through Environmental Design (CPTED) is a discipline that outlines how the proper design of a physical environment can reduce crime by directly affecting human behavior. It provides guidance about lost and crime prevention through proper facility construction and environmental components and procedures.

CPTED concepts were developed in the 1960s. They have been expanded upon and have matured as our environments and crime types have evolved. CPTED has been used not just to develop corporate physical security programs, but also for large-scale activities such as development of neighborhoods, towns, and cities. It addresses landscaping, entrances, facility and neighborhood layouts, lighting, road placement, and traffic circulation patterns. It looks at microenvironments, such as offices and rest-rooms, and macroenvironments, like campuses and cities.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 435). McGraw- Hill. Kindle Edition.

and
CPTED Guide Book

NEW QUESTION 9

- (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 10

- (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 10

- (Topic 1)

Which of the following offers advantages such as the ability to use stronger passwords, easier password administration, one set of credential, and faster resource access?

- A. Smart cards
- B. Single Sign-On (SSO)
- C. Symmetric Ciphers
- D. Public Key Infrastructure (PKI)

Answer: B

Explanation:

The advantages of SSO include having the ability to use stronger passwords, easier administration as far as changing or deleting the passwords, minimize the risks of orphan accounts, and requiring less time to access resources.

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

NEW QUESTION 14

- (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 16

- (Topic 1)

Which of the following access control techniques best gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure?

- A. Access control lists
- B. Discretionary access control
- C. Role-based access control
- D. Non-mandatory access control

Answer: C

Explanation:

Role-based access control (RBAC) gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are given to users in that role. An access control list (ACL) is a table that tells a system which access rights each user has to a particular system object. With discretionary access control, administration is decentralized and owners of resources control other users' access. Non-mandatory access control is not a defined access control technique.

Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 9).

NEW QUESTION 20

- (Topic 1)

Which of the following centralized access control mechanisms is the least appropriate for mobile workers accessing the corporate network over analog lines?

- A. TACACS
- B. Call-back
- C. CHAP
- D. RADIUS

Answer: B

Explanation:

Call-back allows for a distant user connecting into a system to be called back at a number already listed in a database of trusted users. The disadvantage of this system is that the user must be at a fixed location whose phone number is known to the authentication server. Being mobile workers, users are accessing the system from multiple

locations, making call-back inappropriate for them.

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 44).

NEW QUESTION 21

- (Topic 1)

Rule-Based Access Control (RuBAC) access is determined by rules. Such rules would fit within what category of access control ?

- A. Discretionary Access Control (DAC)
- B. Mandatory Access control (MAC)
- C. Non-Discretionary Access Control (NDAC)
- D. Lattice-based Access control

Answer: C

Explanation:

Rule-based access control is a type of non-discretionary access control because this access is determined by rules and the subject does not decide what those rules will be, the rules are uniformly applied to ALL of the users or subjects.

In general, all access control policies other than DAC are grouped in the category of non- discretionary access control (NDAC). As the name implies, policies in this category have rules that are not established at the discretion of the user. Non-discretionary policies establish controls that cannot be changed by users, but only through administrative action.

Both Role Based Access Control (RBAC) and Rule Based Access Control (RuBAC) fall within Non Discretionary Access Control (NDAC). If it is not DAC or MAC then it is most likely NDAC.

IT IS NOT ALWAYS BLACK OR WHITE

The different access control models are not totally exclusive of each others. MAC is making use of Rules to be implemented. However with MAC you have requirements above and beyond having simple access rules. The subject would get formal approval from management, the subject must have the proper security clearance, objects must have labels/sensitivity levels attached to them, subjects must have the proper security clearance. If all of this is in place then you have MAC.

BELOW YOU HAVE A DESCRIPTION OF THE DIFFERENT CATEGORIES:

MAC = Mandatory Access Control

Under a mandatory access control environment, the system or security administrator will define what permissions subjects have on objects. The administrator does not dictate user's access but simply configure the proper level of access as dictated by the Data Owner.

The MAC system will look at the Security Clearance of the subject and compare it with the object sensitivity level or classification level. This is what is called the dominance relationship.

The subject must DOMINATE the object sensitivity level. Which means that the subject must have a security clearance equal or higher than the object he is attempting to access.

MAC also introduce the concept of labels. Every objects will have a label attached to them indicating the classification of the object as well as categories that are used to impose the need to know (NTK) principle. Even thou a user has a security clearance of Secret it does not mean he would be able to access any Secret documents within the system. He would be allowed to access only Secret document for which he has a Need To Know, formal approval, and object where the user belong to one of the categories attached to the object.

If there is no clearance and no labels then IT IS NOT Mandatory Access Control.

Many of the other models can mimic MAC but none of them have labels and a dominance relationship so they are NOT in the MAC category.

NISTR-7316 Says:

Usually a labeling mechanism and a set of interfaces are used to determine access based on the MAC policy; for example, a user who is running a process at the Secret classification should not be allowed to read a file with a label of Top Secret. This is known as the "simple security rule," or "no read up." Conversely, a user who is running a process with a label of Secret should not be allowed to write to a file with a label of Confidential. This rule is called the "*" -property" (pronounced "star property") or "no write down." The *- property is required to maintain system security in an automated environment. A variation on this rule called the "strict *-property" requires that information can be written at, but not above, the subject's clearance level. Multilevel security models such as the Bell-La Padula Confidentiality and Biba Integrity models are used to formally specify this kind of MAC policy.

DAC = Discretionary Access Control

DAC is also known as: Identity Based access control system.

The owner of an object is define as the person who created the object. As such the owner has the discretion to grant access to other users on the network. Access will be granted based solely on the identity of those users.

Such system is good for low level of security. One of the major problem is the fact that a user who has access to someone's else file can further share the file with other users without the knowledge or permission of the owner of the file. Very quickly this could become the wild wild west as there is no control on the dissimulation of the information.

RBAC = Role Based Access Control

RBAC is a form of Non-Discretionary access control.

Role Based access control usually maps directly with the different types of jobs performed by employees within a company.

For example there might be 5 security administrator within your company. Instead of creating each of their profile one by one, you would simply create a role and assign the administrators to the role. Once an administrator has been assigned to a role, he will IMPLICITLY inherit the permissions of that role.

RBAC is great tool for environment where there is a a large rotation of employees on a daily basis such as a very large help desk for example.

RBAC or RuBAC = Rule Based Access Control RuBAC is a form of Non-Discretionary access control.

A good example of a Rule Based access control device would be a Firewall. A single set of rules is imposed to all users attempting to connect through the firewall.

NOTE FROM CLEMENT:

Lot of people tend to confuse MAC and Rule Based Access Control.

Mandatory Access Control must make use of LABELS. If there is only rules and no label, it cannot be Mandatory Access Control. This is why they call it Non Discretionary Access control (NDAC).

There are even books out there that are WRONG on this subject. Books are sometimes opiniated and not strictly based on facts.

In MAC subjects must have clearance to access sensitive objects. Objects have labels that contain the classification to indicate the sensitivity of the object and the label also has categories to enforce the need to know.

Today the best example of rule based access control would be a firewall. All rules are imposed globally to any user attempting to connect through the device. This is NOT the case with MAC.

I strongly recommend you read carefully the following document:

NISTIR-7316 at <http://csrc.nist.gov/publications/nistir/7316/NISTIR-7316.pdf>

It is one of the best Access Control Study document to prepare for the exam. Usually I tell people not to worry about the hundreds of NIST documents and other reference. This document is an exception. Take some time to read it.

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 33. and

NISTIR-7316 at <http://csrc.nist.gov/publications/nistir/7316/NISTIR-7316.pdf> and

Conrad, Eric; Misenar, Seth; Feldman, Joshua (2012-09-01). CISSP Study Guide (Kindle Locations 651-652). Elsevier Science (reference). Kindle Edition.

NEW QUESTION 23

- (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 27

- (Topic 1)

Controls to keep password sniffing attacks from compromising computer systems include which of the following?

- A. static and recurring passwords.
- B. encryption and recurring passwords.
- C. one-time passwords and encryption.
- D. static and one-time passwords.

Answer: C

Explanation:

To minimize the chance of passwords being captured one-time passwords would prevent a password sniffing attack because once used it is no longer valid. Encryption will also minimize these types of attacks.

The following answers are correct:

static and recurring passwords. This is incorrect because if there is no encryption then someone password sniffing would be able to capture the password much easier if it never changed.

encryption and recurring passwords. This is incorrect because while encryption helps, recurring passwords do nothing to minimize the risk of passwords being captured.

static and one-time passwords. This is incorrect because while one-time passwords will prevent these types of attacks, static passwords do nothing to minimize the risk of passwords being captured.

NEW QUESTION 29

- (Topic 1)

Which of the following is NOT a system-sensing wireless proximity card?

- A. magnetically striped card
- B. passive device
- C. field-powered device
- D. transponder

Answer: A

Explanation:

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, page 342.

NEW QUESTION 31

- (Topic 1)

A network-based vulnerability assessment is a type of test also referred to as:

- A. An active vulnerability assessment.
- B. A routing vulnerability assessment.
- C. A host-based vulnerability assessment.
- D. A passive vulnerability assessment.

Answer: A

Explanation:

A network-based vulnerability assessment tool/system either re-enacts system attacks, noting and recording responses to the attacks, or probes different targets to infer weaknesses from their responses.

Since the assessment is actively attacking or scanning targeted systems, network-based vulnerability assessment systems are also called active vulnerability systems.

There are mostly two main types of test:

PASSIVE: You don't send any packet or interact with the remote target. You make use of public database and other techniques to gather information about your target.

ACTIVE: You do send packets to your target, you attempt to stimulate response which will help you in gathering information about hosts that are alive, services runnings, port state, and more.

See example below of both types of attacks:

Eavesdropping and sniffing data as it passes over a network are considered passive attacks because the attacker is not affecting the protocol, algorithm, key, message, or any parts of the encryption system. Passive attacks are hard to detect, so in most cases methods are put in place to try to prevent them rather than to detect and stop them.

Altering messages, modifying system files, and masquerading as another individual are acts that are considered active attacks because the attacker is actually doing something instead of sitting back and gathering data. Passive attacks are usually used to gain information prior to carrying out an active attack.

IMPORTANT NOTE:

On the commercial vendors will sometimes use different names for different types of scans. However, the exam is product agnostic. They do not use vendor terms but general terms. Experience could trick you into selecting the wrong choice sometimes. See feedback from Jason below:

"I am a system security analyst. It is my daily duty to perform system vulnerability analysis. We use Nessus and Retina (among other tools) to perform our network based vulnerability scanning. Both commercially available tools refer to a network based vulnerability scan as a "credentialed" scan. Without credentials, the scan tool cannot login to the system being scanned, and as such will only receive a port scan to see what ports are open and exploitable"

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 865). McGraw- Hill. Kindle Edition.

and
DUPUIS, Clement, Access Control Systems and Methodology CISSP Open Study Guide, version 1.0, march 2002 (page 97).

NEW QUESTION 34

- (Topic 1)

Which of the following access control models is based on sensitivity labels?

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

Answer: B

Explanation:

Access decisions are made based on the clearance of the subject and the sensitivity label of the object.

Example: Eve has a "Secret" security clearance and is able to access the "Mugwump Missile Design Profile" because its sensitivity label is "Secret." She is denied access to the "Presidential Toilet Tissue Formula" because its sensitivity label is "Top Secret."

The other answers are not correct because:

Discretionary Access Control is incorrect because in DAC access to data is determined by the data owner. For example, Joe owns the "Secret Chili Recipe" and grants read access to Charles.

Role Based Access Control is incorrect because in RBAC access decisions are made based on the role held by the user. For example, Jane has the role "Auditor" and that role includes read permission on the "System Audit Log."

Rule Based Access Control is incorrect because it is a form of MAC. A good example would be a Firewall where rules are defined and apply to anyone connecting through the firewall.

References:

All in One third edition, page 164. Official ISC2 Guide page 187.

NEW QUESTION 37

- (Topic 1)

Logical or technical controls involve the restriction of access to systems and the protection of information. Which of the following statements pertaining to these types of controls is correct?

- A. Examples of these types of controls include policies and procedures, securityawareness training, background checks, work habit checks but do not include a review of vacation history, and also do not include increased supervision.
- B. Examples of these types of controls do not include encryption, smart cards, access lists, and transmission protocols.
- C. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.
- D. Examples of these types of controls include policies and procedures, security awareness training, background checks, work habit checks, a review of vacation history, and increased supervision.

Answer: C

Explanation:

Logical or technical controls involve the restriction of access to systems and the protection of information. Examples of these types of controls are encryption, smart cards, access lists, and transmission protocols.

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 40

- (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 42

- (Topic 1)

Organizations should consider which of the following first before allowing external access to their LANs via the Internet?

- A. plan for implementing workstation locking mechanisms.
- B. plan for protecting the modem pool.
- C. plan for providing the user with his account usage information.
- D. plan for considering proper authentication options.

Answer: D

Explanation:

Before a LAN is connected to the Internet, you need to determine what the access controls mechanisms are to be used, this would include how you are going to authenticate individuals that may access your network externally through access control.

The following answers are incorrect:

plan for implementing workstation locking mechanisms. This is incorrect because locking the workstations have no impact on the LAN or Internet access.

plan for protecting the modem pool. This is incorrect because protecting the modem pool has no impact on the LAN or Internet access, it just protects the modem.

plan for providing the user with his account usage information. This is incorrect because the question asks what should be done first. While important your primary concern should be focused on security.

NEW QUESTION 47

- (Topic 1)

Which of the following security models does NOT concern itself with the flow of data?

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

Answer: D

Explanation:

The goal of a noninterference model is to strictly separate differing security levels to assure that higher-level actions do not determine what lower-level users can see. This is in contrast to other security models that control information flows between differing levels of users, By maintaining strict separation of security levels, a noninterference model minimizes leakages that might happen through a covert channel.

The Bell-LaPadula model is incorrect. The Bell-LaPadula model is concerned with confidentiality and bases access control decisions on the classification of objects and the clearances of subjects.

The information flow model is incorrect. The information flow models have a similar framework to the Bell-LaPadula model and control how information may flow between objects based on security classes.

The Biba model is incorrect. The Biba model is concerned with integrity and is a complement to the Bell-LaPadula model in that higher levels of integrity are more trusted than lower levels. Access control is based on these integrity levels to assure that read/write operations do not decrease an object's integrity.

References:

CBK, pp 325 - 326

AIO3, pp. 290 - 291

NEW QUESTION 50

- (Topic 1)

Which access control type has a central authority that determine to what objects the subjects have access to and it is based on role or on the organizational security policy?

- A. Mandatory Access Control
- B. Discretionary Access Control
- C. Non-Discretionary Access Control
- D. Rule-based Access control

Answer: C

Explanation:

Non Discretionary Access Control include Role Based Access Control (RBAC) and Rule Based Access Control (RBAC or RuBAC). RBAC being a subset of NDAC, it was easy to eliminate RBAC as it was covered under NDAC already.

Some people think that RBAC is synonymous with NDAC but RuBAC would also fall into this category.

Discretionary Access control is for environment with very low level of security. There is no control on the dissemination of the information. A user who has access to a file can copy the file or further share it with other users.

Rule Based Access Control is when you have ONE set of rules applied uniformly to all users. A good example would be a firewall at the edge of your network. A single rule based is applied against any packets received from the internet.

Mandatory Access Control is a very rigid type of access control. The subject must dominate the object and the subject must have a Need To Know to access the information. Objects have labels that indicate the sensitivity (classification) and there are also categories to enforce the Need To Know (NTK).

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 53

- (Topic 1)

Single Sign-on (SSO) is characterized by which of the following advantages?

- A. Convenience
- B. Convenience and centralized administration
- C. Convenience and centralized data administration
- D. Convenience and centralized network administration

Answer: B

Explanation:

Convenience -Using single sign-on users have to type their passwords only once when they first log in to access all the network resources; and Centralized Administration as some single sign-on systems are built around a unified server administration system. This allows a single administrator to add and delete accounts across the entire network from one user interface.

The following answers are incorrect:

Convenience - alone this is not the correct answer.

Centralized Data or Network Administration - these are thrown in to mislead the student. Neither are a benefit to SSO, as these specifically should not be allowed

with just an SSO.

References: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 1, page 35.

TIPTON, Harold F. & HENRY, Kevin, Official (ISC)2 Guide to the CISSP CBK, 2007, page 180.

NEW QUESTION 56

- (Topic 1)

What is the PRIMARY use of a password?

- A. Allow access to files.
- B. Identify the user.
- C. Authenticate the user.
- D. Segregate various user's accesses.

Answer: C

Explanation:

Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 59

- (Topic 1)

Which of the following is used by RADIUS for communication between clients and servers?

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

Answer: C

Explanation:

Source: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, Page 33.

NEW QUESTION 61

- (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 65

- (Topic 1)

Which of the following describes the major disadvantage of many Single Sign-On (SSO) implementations?

- A. Once an individual obtains access to the system through the initial log-on, they have access to all resources within the environment that the account has access to.
- B. The initial logon process is cumbersome to discourage potential intruders.
- C. Once a user obtains access to the system through the initial log-on, they only need to logon to some applications.
- D. Once a user obtains access to the system through the initial log-on, he has to logout from all other systems

Answer: A

Explanation:

Single Sign-On is a distributed Access Control methodology where an individual only has to authenticate once and would have access to all primary and secondary network domains. The individual would not be required to re-authenticate when they needed additional resources. The security issue that this creates is if a fraudster is able to compromise those credential they too would have access to all the resources that account has access to.

All the other answers are incorrect as they are distractors.

NEW QUESTION 70

- (Topic 1)

Which of the following would assist the most in Host Based intrusion detection?

- A. audit trails.
- B. access control lists.
- C. security clearances.
- D. host-based authentication.

Answer: A

Explanation:

To assist in Intrusion Detection you would review audit logs for access violations.

The following answers are incorrect:

access control lists. This is incorrect because access control lists determine who has access to what but do not detect intrusions.

security clearances. This is incorrect because security clearances determine who has access to what but do not detect intrusions.

host-based authentication. This is incorrect because host-based authentication determine who have been authenticated to the system but do not detect intrusions.

NEW QUESTION 71

- (Topic 1)

What is called a password that is the same for each log-on session?

- A. "one-time password"
- B. "two-time password"
- C. static password
- D. dynamic password

Answer: C

Explanation:

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 76

- (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 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 81

- (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 86

- (Topic 1)

Which of the following control pairings include: organizational policies and procedures, pre- employment background checks, strict hiring practices, employment agreements, employee termination procedures, vacation scheduling, labeling of sensitive materials, increased supervision, security awareness training, behavior awareness, and sign-up procedures to obtain access to information systems and networks?

- A. Preventive/Administrative Pairing
- B. Preventive/Technical Pairing
- C. Preventive/Physical Pairing
- D. Detective/Administrative Pairing

Answer: A

Explanation:

The Answer: Preventive/Administrative Pairing: These mechanisms include organizational policies and procedures, pre-employment background checks, strict hiring practices, employment agreements, friendly and unfriendly employee termination procedures, vacation scheduling, labeling of sensitive materials, increased supervision, security awareness training, behavior awareness, and sign-up procedures to obtain access to information systems and networks.

Source: 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 90

- (Topic 1)

Which of the following statements relating to the Bell-LaPadula security model is FALSE (assuming the Strong Star property is not being used) ?

- A. A subject is not allowed to read up.
- B. The property restriction can be escaped by temporarily downgrading a high level subject.
- C. A subject is not allowed to read down.
- D. It is restricted to confidentiality.

Answer: C

Explanation:

It is not a property of Bell LaPadula model. The other answers are incorrect because:

A subject is not allowed to read up is a property of the 'simple security rule' of Bell LaPadula model.

The property restriction can be escaped by temporarily downgrading a high level subject can be escaped by temporarily downgrading a high level subject or by identifying a set of trusted objects which are permitted to violate the property as long as it is not in the middle of an operation.

It is restricted to confidentiality as it is a state machine model that enforces the confidentiality aspects of access control.

Reference: Shon Harris AIO v3 , Chapter-5 : Security Models and Architecture , Page:279-282

NEW QUESTION 95

- (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 100

- (Topic 1)

Which of the following control pairing places emphasis on "soft" mechanisms that support the access control objectives?

- A. Preventive/Technical Pairing
- B. Preventive/Administrative Pairing
- C. Preventive/Physical Pairing
- D. Detective/Administrative Pairing

Answer: B

Explanation:

Soft Control is another way of referring to Administrative control.
Technical and Physical controls are NOT soft control, so any choice listing them was not the best answer.
Preventative/Technical is incorrect because although access control can be technical control, it is commonly not referred to as a "soft" control
Preventative/Administrative is correct because access controls are preventative in nature. it is always best to prevent a negative event, however there are times where controls might fail and you cannot prevent everything. Administrative controls are roles, responsibilities, policies, etc which are usually paper based. In the administrative category you would find audit, monitoring, and security awareness as well.
Preventative/Physical pairing is incorrect because Access controls with an emphasis on "soft" mechanisms conflict with the basic concept of physical controls, physical controls are usually tangible objects such as fences, gates, door locks, sensors, etc...
Detective/Administrative Pairing is incorrect because access control is a preventative control used to control access, not to detect violations to access.
Source: 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 104

- (Topic 1)

What can be defined as a list of subjects along with their access rights that are authorized to access a specific object?

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

Answer: B

Explanation:

"It [ACL] specifies a list of users [subjects] who are allowed access to each object" CBK, p. 188
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. The distinction that makes this an incorrect choice is that access is based on possession of a capability by the subject.
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."
An access control matrix is incorrect. The access control matrix is a way of describing the rules for an access control strategy. 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 role-based matrix is incorrect. Again, a matrix of roles vs objects could be used as a tool for thinking about the access control to be applied to a set of objects. The results of the analysis could then be implemented using RBAC.
References:
CBK, Domain 2: Access Control. AIO3, Chapter 4: Access Control

NEW QUESTION 105

- (Topic 1)

In biometric identification systems, at the beginning, it was soon apparent that truly positive identification could only be based on physical attributes of a person. This raised the necessity of answering 2 questions :

- A. what was the sex of a person and his age
- B. what part of body to be used and how to accomplish identification that is viable
- C. what was the age of a person and his income level
- D. what was the tone of the voice of a person and his habits

Answer: B

Explanation:

Today implementation of fast, accurate reliable and user-acceptable biometric identification systems is already taking place. Unique physical attributes or behavior of a person are used for that purpose.
From: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 1, Page 7.

NEW QUESTION 110

- (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 113

- (Topic 1)

How would nonrepudiation be best classified as?

- A. A preventive control
- B. A logical control
- C. A corrective control
- D. A compensating control

Answer: A

Explanation:

Systems accountability depends on the ability to ensure that senders cannot deny sending information and that receivers cannot deny receiving it. Because the mechanisms implemented in nonrepudiation prevent the ability to successfully repudiate an action, it can be considered as a preventive control.

Source: STONEBURNER, Gary, NIST Special Publication 800-33: Underlying Technical Models for Information Technology Security, National Institute of Standards and Technology, December 2001, page 7.

NEW QUESTION 117

- (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 121

- (Topic 1)

Which of the following choices describe a Challenge-response tokens generation?

- A. A workstation or system that generates a random challenge string that the user enters into the token when prompted along with the proper PIN.
- B. A workstation or system that generates a random login id that the user enters when prompted along with the proper PIN.
- C. A special hardware device that is used to generate random text in a cryptography system.
- D. The authentication mechanism in the workstation or system does not determine if the owner should be authenticated.

Answer: A

Explanation:

Challenge-response tokens are:

- A workstation or system generates a random challenge string and the owner enters the string into the token along with the proper PIN.
- The token generates a response that is then entered into the workstation or system.
- The authentication mechanism in the workstation or system then determines if the owner should be authenticated.

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

Also: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, chapter 4: Access Control (pages 136-137).

NEW QUESTION 124

- (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 128

- (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 130

- (Topic 1)

Which of the following is an example of discretionary access control?

- A. Identity-based access control
- B. Task-based access control
- C. Role-based access control
- D. Rule-based access control

Answer: A

Explanation:

An identity-based access control is an example of discretionary access control that is based on an individual's identity. Identity-based access control (IBAC) is access control based on the identity of the user (typically relayed as a characteristic of the process acting on behalf of that user) where access authorizations to specific objects are assigned based on user identity.

Rule Based Access Control (RuBAC) and Role Based Access Control (RBAC) are examples of non-discretionary access controls.

Rule-based access control is a type of non-discretionary access control because this access is determined by rules and the subject does not decide what those rules will be, the rules are uniformly applied to ALL of the users or subjects.

In general, all access control policies other than DAC are grouped in the category of non-discretionary access control (NDAC). As the name implies, policies in this category have rules that are not established at the discretion of the user. Non-discretionary policies establish controls that cannot be changed by users, but only through administrative action.

Both Role Based Access Control (RBAC) and Rule Based Access Control (RuBAC) fall within Non Discretionary Access Control (NDAC). If it is not DAC or MAC then it is most likely NDAC.

BELOW YOU HAVE A DESCRIPTION OF THE DIFFERENT CATEGORIES:

MAC = Mandatory Access Control

Under a mandatory access control environment, the system or security administrator will define what permissions subjects have on objects. The administrator does not dictate user's access but simply configure the proper level of access as dictated by the Data Owner.

The MAC system will look at the Security Clearance of the subject and compare it with the object sensitivity level or classification level. This is what is called the dominance relationship.

The subject must DOMINATE the object sensitivity level. Which means that the subject must have a security clearance equal or higher than the object he is attempting to access.

MAC also introduce the concept of labels. Every objects will have a label attached to them indicating the classification of the object as well as categories that are used to impose the need to know (NTK) principle. Even thou a user has a security clearance of Secret it does not mean he would be able to access any Secret documents within the system. He would be allowed to access only Secret document for which he has a Need To Know, formal approval, and object where the user belong to one of the categories attached to the object.

If there is no clearance and no labels then IT IS NOT Mandatory Access Control.

Many of the other models can mimic MAC but none of them have labels and a dominance relationship so they are NOT in the MAC category.

DAC = Discretionary Access Control

DAC is also known as: Identity Based access control system.

The owner of an object is define as the person who created the object. As such the owner has the discretion to grant access to other users on the network. Access will be granted based solely on the identity of those users.

Such system is good for low level of security. One of the major problem is the fact that a user who has access to someone's else file can further share the file with other users without the knowledge or permission of the owner of the file. Very quickly this could become the wild wild west as there is no control on the dissimulation of the information.

RBAC = Role Based Access Control

RBAC is a form of Non-Discretionary access control.

Role Based access control usually maps directly with the different types of jobs performed by employees within a company.

For example there might be 5 security administrator within your company. Instead of creating each of their profile one by one, you would simply create a role and assign the administrators to the role. Once an administrator has been assigned to a role, he will IMPLICITLY inherit the permissions of that role.

RBAC is great tool for environment where there is a a large rotation of employees on a daily basis such as a very large help desk for example.

RBAC or RuBAC = Rule Based Access Control RuBAC is a form of Non-Discretionary access control.

A good example of a Rule Based access control device would be a Firewall. A single set of rules is imposed to all users attempting to connect through the firewall.

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

Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 33. and

NISTIR-7316 at <http://csrc.nist.gov/publications/nistir/7316/NISTIR-7316.pdf> and

http://itlaw.wikia.com/wiki/Identity-based_access_control

NEW QUESTION 133

- (Topic 1)

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 a biometric authentication system, the system becomes increasingly selective and has the possibility of generating:

- A. Lower False Rejection Rate (FRR)

- B. Higher False Rejection Rate (FRR)
- C. Higher False Acceptance Rate (FAR)
- D. It will not affect either FAR or FRR

Answer: B

Explanation:

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 a biometric authentication system, the system becomes increasingly selective and has a higher False Rejection 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 Cross Over Error (CER) rate is used. The Crossover Error Rate (CER) is the point at which the false rejection rates and the false acceptance rates are equal. The lower the value of the CER, the more accurate the system.

There are three categories of biometric accuracy measurement (all represented as percentages):

False Reject Rate (a Type I Error): When authorized users are falsely rejected as unidentified or unverified.

False Accept Rate (a Type II Error): When unauthorized persons or imposters are falsely accepted as authentic.

Crossover Error Rate (CER): The point at which the false rejection rates and the false acceptance rates are equal. The smaller the value of the CER, the more accurate the system.

NOTE:

Within the ISC2 book they make use of the term Accept or Acceptance and also Reject or Rejection when referring to the type of errors within biometrics. Below we make use of Acceptance and Rejection throughout the text for consistency. However, on the real exam you could see either of the terms.

Performance of biometrics

Different metrics can be used to rate the performance of a biometric factor, solution or application. The most common performance metrics are the False Acceptance Rate FAR and the False Rejection Rate FRR.

When using a biometric application for the first time the user needs to enroll to the system. The system requests fingerprints, a voice recording or another biometric factor from the

operator, this input is registered in the database as a template which is linked internally to a user ID. The next time when the user wants to authenticate or identify himself, the biometric input provided by the user is compared to the template(s) in the database by a matching algorithm which responds with acceptance (match) or rejection (no match).

FAR and FRR

The FAR or False Acceptance rate is the probability that the system incorrectly authorizes a non-authorized person, due to incorrectly matching the biometric input with a valid template. The FAR is normally expressed as a percentage, following the FAR definition this is the percentage of invalid inputs which are incorrectly accepted.

The FRR or False Rejection Rate is the probability that the system incorrectly rejects access to an authorized person, due to failing to match the biometric input provided by the user with a stored template. The FRR is normally expressed as a percentage, following the FRR definition this is the percentage of valid inputs which are incorrectly rejected.

FAR and FRR are very much dependent on the biometric factor that is used and on the technical implementation of the biometric solution. Furthermore the FRR is strongly person dependent, a personal FRR can be determined for each individual.

Take this into account when determining the FRR of a biometric solution, one person is insufficient to establish an overall FRR for a solution. Also FRR might increase due to environmental conditions or incorrect use, for example when using dirty fingers on a fingerprint reader. Mostly the FRR lowers when a user gains more experience in how to use the biometric device or software.

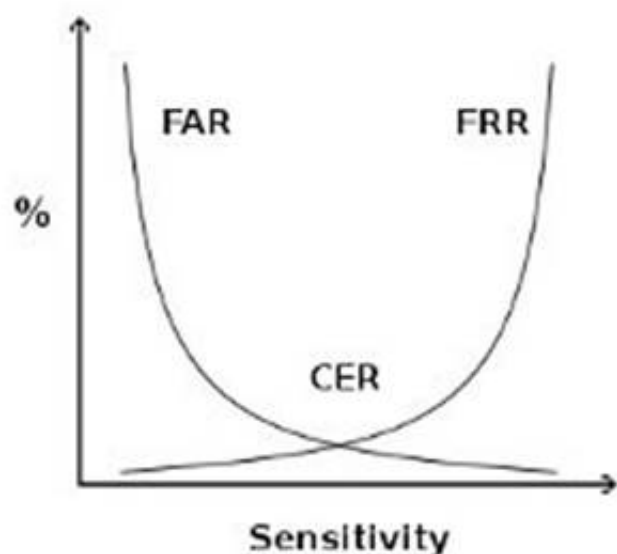
FAR and FRR are key metrics for biometric solutions, some biometric devices or software even allow to tune them so that the system more quickly matches or rejects. Both FRR and FAR are important, but for most applications one of them is considered most important. Two examples to illustrate this:

When biometrics are used for logical or physical access control, the objective of the application is to disallow access to unauthorized individuals under all circumstances. It is clear that a very low FAR is needed for such an application, even if it comes at the price of a higher FRR.

When surveillance cameras are used to screen a crowd of people for missing children, the objective of the application is to identify any missing children that come up on the screen. When the identification of those children is automated using a face recognition software, this software has to be set up with a low FRR. As such a higher number of matches will be false positives, but these can be reviewed quickly by surveillance personnel.

False Acceptance Rate is also called False Match Rate, and False Rejection Rate is sometimes referred to as False Non-Match Rate.

crossover error rate



crossover error rate

Above see a graphical representation of FAR and FRR errors on a graph, indicating the CER

CER

The Crossover Error Rate or CER is illustrated on the graph above. It is the rate where both FAR and FRR are equal.

The matching algorithm in a biometric software or device uses a (configurable) threshold which determines how close to a template the input must be for it to be considered a match. This threshold value is in some cases referred to as sensitivity, it is marked on the X axis of the plot. When you reduce this threshold there will be more false acceptance errors (higher FAR) and less false rejection errors (lower FRR), a higher threshold will lead to lower FAR and higher FRR.

Speed

Most manufacturers of biometric devices and softwares can give clear numbers on the time it takes to enroll as well on the time for an individual to be authenticated or identified using their application. If speed is important then take your time to consider this, 5 seconds might seem a short time on paper or when testing a device but if hundreds of people will use the device multiple times a day the cumulative loss of time might be significant.

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 2723-2731). Auerbach Publications. Kindle Edition.

and

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

and
http://www.biometric-solutions.com/index.php?story=performance_biometrics

NEW QUESTION 138

- (Topic 1)

Which of the following is the WEAKEST authentication mechanism?

- A. Passphrases
- B. Passwords
- C. One-time passwords
- D. Token devices

Answer: B

Explanation:

Most of the time users usually choose passwords which can be guessed , hence passwords is the BEST answer out of the choices listed above.

The following answers are incorrect because :

Passphrases is incorrect as it is more secure than a password because it is longer.

One-time passwords is incorrect as the name states , it is good for only once and cannot be reused.

Token devices is incorrect as this is also a password generator and is an one time password mechanism.

Reference : Shon Harris AIO v3 , Chapter-4 : Access Control , Page : 139 , 142.

NEW QUESTION 141

- (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 143

- (Topic 1)

Why should batch files and scripts be stored in a protected area?

- A. Because of the least privilege concept.
- B. Because they cannot be accessed by operators.
- C. Because they may contain credentials.
- D. Because of the need-to-know concept.

Answer: C

Explanation:

Because scripts contain credentials, they must be stored in a protected area and the transmission of the scripts must be dealt with carefully. Operators might need access to batch files and scripts. The least privilege concept requires that each subject in a system be granted the most restrictive set of privileges needed for the performance of authorized tasks. The need-to-know principle requires a user having necessity for access to, knowledge of, or possession of specific information required to perform official tasks or services.

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

NEW QUESTION 145

- (Topic 1)

What does the (star) integrity axiom mean in the Biba model?

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

Answer: D

Explanation:

The (star) integrity axiom of the Biba access control model states that an object at one level of integrity is not permitted to modify an object of a higher level of integrity (no write up).

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 147

- (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 148

- (Topic 1)

What physical characteristic does a retinal scan biometric device measure?

- A. The amount of light reaching the retina
- B. The amount of light reflected by the retina
- C. The pattern of light receptors at the back of the eye
- D. The pattern of blood vessels at the back of the eye

Answer: D

Explanation:

The retina, a thin nerve (1/50th of an inch) on the back of the eye, is the part of the eye which senses light and transmits impulses through the optic nerve to the brain - the equivalent of film in a camera. Blood vessels used for biometric identification are located along the neural retina, the outermost of retina's four cell layers.

The following answers are incorrect:

The amount of light reaching the retina The amount of light reaching the retina is not used in the biometric scan of the retina.

The amount of light reflected by the retina The amount of light reflected by the retina is not used in the biometric scan of the retina.

The pattern of light receptors at the back of the eye This is a distractor The following reference(s) were/was used to create this question: Reference: Retina Scan Technology.

ISC2 Official Guide to the CBK, 2007 (Page 161)

NEW QUESTION 153

- (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 156

- (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 159

- (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 160

- (Topic 1)

Which of the following is NOT part of the Kerberos authentication protocol?

- A. Symmetric key cryptography
- B. Authentication service (AS)
- C. Principals
- D. Public Key

Answer: D

Explanation:

There is no such component within kerberos environment. Kerberos uses only symmetric encryption and does not make use of any public key component.

The other answers are incorrect because :

Symmetric key cryptography is a part of Kerberos as the KDC holds all the users' and services' secret keys.

Authentication service (AS) : KDC (Key Distribution Center) provides an authentication service

Principals : Key Distribution Center provides services to principals , which can be users , applications or network services.

References: Shon Harris , AIO v3 , Chapter - 4: Access Control , Pages : 152-155.

NEW QUESTION 163

- (Topic 1)

The following is NOT a security characteristic we need to consider while choosing a biometric identification systems:

- A. data acquisition process
- B. cost
- C. enrollment process
- D. speed and user interface

Answer: B

Explanation:

Cost is a factor when considering Biometrics but it is not a security characteristic.

All the other answers are incorrect because they are security characteristics related to Biometrics.

data acquisition process can cause a security concern because if the process is not fast and efficient it can discourage individuals from using the process.

enrollment process can cause a security concern because the enrollment process has to be quick and efficient. This process captures data for authentication.

speed and user interface can cause a security concern because this also impacts the users acceptance rate of biometrics. If they are not comfortable with the interface and speed they might sabotage the devices or otherwise attempt to circumvent them.

References:

OIG Access Control (Biometrics) (pgs 165-167)

From: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 1, Pages 5-6.

in process of correction

NEW QUESTION 166

- (Topic 1)

The National Institute of Standards and Technology (NIST) standard pertaining to perimeter protection states that critical areas should be illuminated up to?

- A. Illuminated at nine feet high with at least three foot-candles
- B. Illuminated at eight feet high with at least three foot-candles
- C. Illuminated at eight feet high with at least two foot-candles
- D. Illuminated at nine feet high with at least two foot-candles

Answer: B

Explanation:

The National Institute of Standards and Technology (NIST) standard pertaining to perimeter protection states that critical areas should be illuminated eight feet high with at least two foot-candles.

It can also be referred to as illuminating to a height of eight feet, with a BRIGHTNESS of two foot-candles.

One footcandle 10.764 lux. The footcandle (or lumen per square foot) is a non-SI unit of illuminance. Like the BTU, it is obsolete but it is still in fairly common use in the United States, particularly in construction-related engineering and in building codes. Because lux and footcandles are different units of the same quantity, it is perfectly valid to convert footcandles to lux and vice versa.

The name "footcandle" conveys "the illuminance cast on a surface by a one-candela source one foot away." As natural as this sounds, this style of name is now frowned upon, because the dimensional formula for the unit is not foot • candela, but lumens per square foot.

Some sources do however note that the "lux" can be thought of as a "metre-candle" (i.e. the illuminance cast on a surface by a one-candela source one meter away). A source that is farther away casts less illumination than one that is close, so one lux is less illuminance than one footcandle. Since illuminance follows the inverse-square law, and since one foot = 0.3048 m, one lux = 0.30482 footcandle 1/10.764 footcandle.

TIPS FROM CLEMENT:

Illuminance (light level) – The amount of light, measured in foot-candles (US unit), that falls on a surface, either horizontal or vertical.

Parking lots lighting needs to be an average of 2 foot candles; uniformity of not more than 3:1, no area less than 1 fc.

All illuminance measurements are to be made on the horizontal plane with a certified light meter calibrated to NIST standards using traceable light sources.

The CISSP Exam Cram 2 from Michael Gregg says: Lighting is a commonly used form of perimeter protection.

Some studies have found that up to 80% of criminal acts at businesses and shopping centers happen in adjacent parking lots. Therefore, it's easy to see why lighting can be such an important concern.

Outside lighting discourages prowlers and thieves.

The National Institute of Standards and Technologies (NIST) states that, for effective perimeter control, buildings should be illuminated 8 feet high, with 2-foot candle power.

Reference used for this question:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 325.

and

Shon's AIO v5 pg 459 and

<http://en.wikipedia.org/wiki/Foot-candle>

NEW QUESTION 171

- (Topic 1)

When a biometric system is used, which error type deals with the possibility of GRANTING access to impostors who should be REJECTED?

- A. Type I error
- B. Type II error
- C. Type III error
- D. Crossover error

Answer: B

Explanation:

When the biometric system accepts impostors who should have been rejected, it is called a Type II error or False Acceptance Rate or False Accept Rate.

Biometrics verifies an individual's identity by analyzing a unique personal attribute or behavior, which is one of the most effective and accurate methods of verifying identification.

Biometrics is a very sophisticated technology; thus, it is much more expensive and complex than the other types of identity verification processes. A biometric system can make authentication decisions based on an individual's behavior, as in signature dynamics, but these can change over time and possibly be forged. Biometric systems that base authentication decisions on physical attributes (iris, retina, fingerprint) provide more accuracy, because physical attributes typically don't change much, absent some disfiguring injury, and are harder to impersonate.

When a biometric system rejects an authorized individual, it is called a Type I error (False Rejection Rate (FRR) or False Reject Rate (FRR)).

When the system accepts impostors who should be rejected, it is called a Type II error (False Acceptance Rate (FAR) or False Accept Rate (FAR)). Type II errors are the most dangerous and thus the most important to avoid.

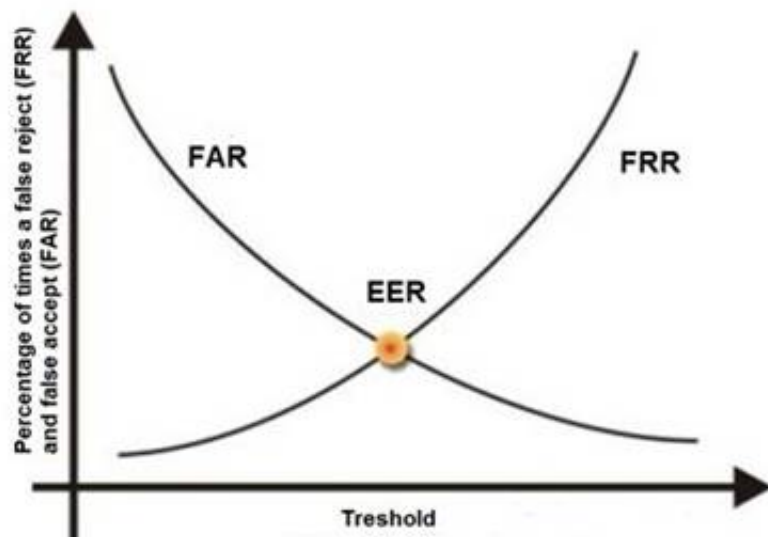
The goal is to obtain low numbers for each type of error, but When comparing different biometric systems, many different variables are used, but one of the most important metrics is the crossover error rate (CER).

The accuracy of any biometric method is measured in terms of Failed Acceptance Rate (FAR) and Failed Rejection Rate (FRR). Both are expressed as percentages. The FAR is the rate at which attempts by unauthorized users are incorrectly accepted as valid. The FRR is just the opposite. It measures the rate at which authorized users are denied access.

The relationship between FRR (Type I) and FAR (Type II) is depicted in the graphic below. As one rate increases, the other decreases. The Cross-over Error Rate (CER) is sometimes considered a good indicator of the overall accuracy of a biometric system. This

is the point at which the FRR and the FAR have the same value. Solutions with a lower CER are typically more accurate.

See graphic below from Biometria showing this relationship. The Cross-over Error Rate (CER) is also called the Equal Error Rate (EER), the two are synonymous.



C:\Users\MCS\Desktop\1.jpg Cross Over Error Rate

The other answers are incorrect:

Type I error is also called as False Rejection Rate where a valid user is rejected by the system.

Type III error : there is no such error type in biometric system.

Crossover error rate stated in percentage, represents the point at which false rejection equals the false acceptance rate.

Reference(s) used for this question: <http://www.biometria.sk/en/principles-of-biometrics.html>

and

Shon Harris, CISSP All In One (AIO), 6th Edition, Chapter 3, Access Control, Page 188- 189

and

NEW QUESTION 175

- (Topic 1)

Which of the following division is defined in the TCSEC (Orange Book) as minimal protection?

- A. Division D
- B. Division C
- C. Division B
- D. Division A

Answer: A

Explanation:

The criteria are divided into four divisions: D, C, B, and A ordered in a hierarchical manner with the highest division (A) being reserved for systems providing the most comprehensive security.

Each division represents a major improvement in the overall confidence one can place in the system for the protection of sensitive information.

Within divisions C and B there are a number of subdivisions known as classes. The classes are also ordered in a hierarchical manner with systems representative of division C and lower classes of division B being characterized by the set of computer security mechanisms that they possess.

Assurance of correct and complete design and implementation for these systems is gained mostly through testing of the security- relevant portions of the system.

The security-relevant portions of a system are referred to throughout this document as the Trusted Computing Base (TCB).

Systems representative of higher classes in division B and division A derive their security attributes more from their design and implementation structure.

Increased assurance that the required features are operative, correct, and tamperproof under all circumstances is gained through progressively more rigorous analysis during the design process.

TCSEC provides a classification system that is divided into hierarchical divisions of assurance levels:

Division D - minimal security Division C - discretionary protection Division B - mandatory protection Division A - verified protection

Reference: page 358 AIO V.5 Shon Harris

also

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

Also:

THE source for all TCSEC "level" questions: <http://csrc.nist.gov/publications/secpubs/rainbow/std001.txt>

NEW QUESTION 180

- (Topic 1)

The throughput rate is the rate at which individuals, once enrolled, can be processed and identified or authenticated by a biometric system. Acceptable throughput rates are in the range of:

- A. 100 subjects per minute.
- B. 25 subjects per minute.
- C. 10 subjects per minute.
- D. 50 subjects per minute.

Answer: C

Explanation:

The throughput rate is the rate at which individuals, once enrolled, can be processed and identified or authenticated by a biometric system.

Acceptable throughput rates are in the range of 10 subjects per minute.

Things that may impact the throughput rate for some types of biometric systems may include:

A concern with retina scanning systems may be the exchange of body fluids on the eyepiece.

Another concern would be the retinal pattern that could reveal changes in a person's health, such as diabetes or high blood pressure.

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

NEW QUESTION 184

- (Topic 1)

Which of the following is the LEAST user accepted biometric device?

- A. Fingerprint
- B. Iris scan
- C. Retina scan
- D. Voice verification

Answer: C

Explanation:

The biometric device that is least user accepted is the retina scan, where a system scans the blood-vessel pattern on the backside of the eyeball. When using this device, an individual has to place their eye up to a device, and may require a puff of air to be blown into the eye. The iris scan only needs for an individual to glance at a camera that could be placed above a door.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 4: Access Control (page 131).

NEW QUESTION 186

- (Topic 1)

Controls provide accountability for individuals who are accessing sensitive information. This accountability is accomplished:

- A. through access control mechanisms that require identification and authentication and through the audit function.
- B. through logical or technical controls involving the restriction of access to systems and the protection of information.
- C. through logical or technical controls but not involving the restriction of access to systems and the protection of information.
- D. through access control mechanisms that do not require identification and authentication and do not operate through the audit function.

Answer: A

Explanation:

Controls provide accountability for individuals who are accessing sensitive information. This accountability is accomplished through access control mechanisms that require identification and authentication and through the audit function. These controls must be in accordance with and accurately represent the organization's security policy. Assurance procedures ensure that the control mechanisms correctly implement the security policy for the entire life cycle of an information system. 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 188

- (Topic 1)

Which of the following is NOT an advantage that TACACS+ has over TACACS?

- A. Event logging
- B. Use of two-factor password authentication
- C. User has the ability to change his password
- D. Ability for security tokens to be resynchronized

Answer: A

Explanation:

Although TACACS+ provides better audit trails, event logging is a service that is provided with TACACS.

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 121).

NEW QUESTION 189

- (Topic 1)

What does the simple security (ss) property mean in the Bell-LaPadula model?

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

Answer: A

Explanation:

The ss (simple security) property of the Bell-LaPadula access control model states that reading of information by a subject at a lower sensitivity level from an object at a higher sensitivity level is not permitted (no read up).

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 202).

NEW QUESTION 190

- (Topic 1)

The "vulnerability of a facility" to damage or attack may be assessed by all of the following except:

- A. Inspection
- B. History of losses
- C. Security controls
- D. security budget

Answer: D

Explanation:

Source: The CISSP Examination Textbook- Volume 2: Practice by S. Rao Vallabhaneni.

NEW QUESTION 193

- (Topic 1)

Why do buffer overflows happen? What is the main cause?

- A. Because buffers can only hold so much data
- B. Because of improper parameter checking within the application
- C. Because they are an easy weakness to exploit
- D. Because of insufficient system memory

Answer: B

Explanation:

Buffer Overflow attack takes advantage of improper parameter checking within the application. This is the classic form of buffer overflow and occurs because the programmer accepts whatever input the user supplies without checking to make sure that the length of the input is less than the size of the buffer in the program. The buffer overflow problem is one of the oldest and most common problems in software development and programming, dating back to the introduction of interactive computing. It can result when a program fills up the assigned buffer of memory with more data than its buffer can hold. When the program begins to write beyond the end of the buffer, the program's execution path can be changed, or data can be written into areas used by the operating system itself. This can lead to the insertion of malicious code that can be used to gain administrative privileges on the program or system.

As explained by Gaurab, it can become very complex. At the time of input even if you are checking the length of the input, it has to be check against the buffer size. Consider a case where entry point of data is stored in Buffer1 of Application1 and then you copy it to Buffer2 within Application2 later on, if you are just checking the length of data against Buffer1, it will

not ensure that it will not cause a buffer overflow in Buffer2 of Application2.

A bit of reassurance from the ISC2 book about level of Coding Knowledge needed for the exam:

It should be noted that the CISSP is not required to be an expert programmer or know the inner workings of developing application software code, like the FORTRAN programming language, or how to develop Web applet code using Java. It is not even necessary that the CISSP know detailed security-specific coding practices such as the major divisions of buffer overflow exploits or the reason for preferring str(n)cpy to strcpy in the C language (although all such knowledge is, of

course, helpful). Because the CISSP may be the person responsible for ensuring that security is included in such developments, the CISSP should know the basic procedures and concepts involved during the design and development of software programming. That is, in order for the CISSP to monitor the software development process and verify that security is included, the CISSP must understand the fundamental concepts of programming developments and the security strengths and weaknesses of various application development processes.

The following are incorrect answers:

"Because buffers can only hold so much data" is incorrect. This is certainly true but is not the best answer because the finite size of the buffer is not the problem -- the problem is that the programmer did not check the size of the input before moving it into the buffer.

"Because they are an easy weakness to exploit" is incorrect. This answer is sometimes true but is not the best answer because the root cause of the buffer overflow is that the programmer did not check the size of the user input.

"Because of insufficient system memory" is incorrect. This is irrelevant to the occurrence of a buffer overflow.

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 13319-13323). Auerbach Publications. Kindle Edition.

NEW QUESTION 197

- (Topic 1)

In Mandatory Access Control, sensitivity labels attached to object contain what information?

- A. The item's classification
- B. The item's classification and category set
- C. The item's category
- D. The items's need to know

Answer: B

Explanation:

A Sensitivity label must contain at least one classification and one category set.

Category set and Compartment set are synonyms, they mean the same thing. The sensitivity label must contain at least one Classification and at least one Category. It is common in some environments for a single item to belong to multiple categories. The list of all the categories to which an item belongs is called a compartment set or category set.

The following answers are incorrect:

the item's classification. Is incorrect because you need a category set as well.

the item's category. Is incorrect because category set and classification would be both be required.

The item's need to know. Is incorrect because there is no such thing. The need to know is indicated by the categories the object belongs to. This is NOT the best answer.

Reference(s) used for this question:

OIG CBK, Access Control (pages 186 - 188)

AIO, 3rd Edition, Access Control (pages 162 - 163) AIO, 4th Edition, Access Control, pp 212-214.

Wikipedia - http://en.wikipedia.org/wiki/Mandatory_Access_Control

NEW QUESTION 198

- (Topic 1)

Which of the following does not apply to system-generated passwords?

- A. Passwords are harder to remember for users.
- B. If the password-generating algorithm gets to be known, the entire system is in jeopardy.
- C. Passwords are more vulnerable to brute force and dictionary attacks.
- D. Passwords are harder to guess for attackers.

Answer: C

Explanation:

Users tend to choose easier to remember passwords. System-generated

passwords can provide stronger, harder to guess passwords. Since they are based on rules provided by the administrator, they can include combinations of uppercase/lowercase letters, numbers and special characters, making them less vulnerable to brute force and dictionary attacks. One danger is that they are also harder to remember for users, who will tend to write them down, making them more vulnerable to anyone having access to the user's desk. Another danger with system-generated passwords is that if the password- generating algorithm gets to be known, the entire system is in jeopardy.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, July 1992 (page 64).

NEW QUESTION 201

- (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 206

- (Topic 1)

How are memory cards and smart cards different?

- A. Memory cards normally hold more memory than smart cards
- B. Smart cards provide a two-factor authentication whereas memory cards don't
- C. Memory cards have no processing power
- D. Only smart cards can be used for ATM cards

Answer: C

Explanation:

The main difference between memory cards and smart cards is their capacity to process information. A memory card holds information but cannot process information. A smart card holds information and has the necessary hardware and software to actually process that information.

A memory card holds a user's authentication information, so that this user needs only type in a user ID or PIN and presents the memory card to the system. If the entered information and the stored information match and are approved by an authentication service, the user is successfully authenticated.

A common example of a memory card is a swipe card used to provide entry to a building. The user enters a PIN and swipes the memory card through a card reader. If this is the correct combination, the reader flashes green and the individual can open the door and enter the building.

Memory cards can also be used with computers, but they require a reader to process the information. The reader adds cost to the process, especially when one is needed for every computer. Additionally, the overhead of PIN and card generation adds additional overhead and complexity to the whole authentication process. However, a memory card provides a more secure authentication method than using only a password because the attacker would need to obtain the card and know the correct PIN.

Administrators and management need to weigh the costs and benefits of a memory card implementation as well as the security needs of the organization to determine if it is the right authentication mechanism for their environment.

One of the most prevalent weaknesses of memory cards is that data stored on the card are not protected. Unencrypted data on the card (or stored on the magnetic strip) can be extracted or copied. Unlike a smart card, where security controls and logic are embedded in the integrated circuit, memory cards do not employ an inherent mechanism to protect the data from exposure.

Very little trust can be associated with confidentiality and integrity of information on the memory cards.

The following answers are incorrect:

"Smart cards provide two-factor authentication whereas memory cards don't" is incorrect. This is not necessarily true. A memory card can be combined with a pin or password to offer two factors authentication where something you have and something you know are used for factors.

"Memory cards normally hold more memory than smart cards" is incorrect. While a memory card may or may not have more memory than a smart card, this is certainly not the best answer to the question.

"Only smart cards can be used for ATM cards" is incorrect. This depends on the decisions made by the particular institution and is not the best answer to the question.

Reference(s) used for this question:

Shon Harris, CISSP All In One, 6th edition , Access Control, Page 199 and also for people using the Kindle edition of the book you can look at Locations 4647-4650.

Schneider, Andrew (2013-04-15). Official (ISC)2 Guide to the CISSP CBK, Third Edition : Access Control ((ISC)2 Press) (Kindle Locations 2124-2139). Auerbach Publications. Kindle Edition.

NEW QUESTION 209

- (Topic 1)

Which of the following protects a password from eavesdroppers and supports the encryption of communication?

- A. Challenge Handshake Authentication Protocol (CHAP)
- B. Challenge Handshake Identification Protocol (CHIP)
- C. Challenge Handshake Encryption Protocol (CHEP)
- D. Challenge Handshake Substitution Protocol (CHSP)

Answer: A

Explanation:

CHAP: A protocol that uses a three way handshake The server sends the client a challenge which includes a random value(a nonce) to thwart replay attacks. The client responds with the MD5 hash of the nonce and the password.

The authentication is successful if the client's response is the one that the server expected. Reference: Page 450, OIG 2007.

CHAP protects the password from eavesdroppers and supports the encryption of communication.

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

NEW QUESTION 210

- (Topic 1)

Which of the following was developed to address some of the weaknesses in Kerberos and uses public key cryptography for the distribution of secret keys and provides additional access control support?

- A. SESAME
- B. RADIUS

C. KryptoKnight
D. TACACS+

Answer: A

Explanation:

Secure European System for Applications in a Multi-vendor Environment (SESAME) was developed to address some of the weaknesses in Kerberos and uses public key cryptography for the distribution of secret keys and provides additional access control support.

Reference:

TIPTON, Harold, Official (ISC)2 Guide to the CISSP CBK (2007), page 184. ISC OIG Second Edition, Access Controls, Page 111

NEW QUESTION 212

- (Topic 1)

Which type of control is concerned with restoring controls?

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

Answer: B

Explanation:

Corrective controls are concerned with remedying circumstances and restoring controls.

Detective controls are concerned with investigating what happen after the fact such as logs and video surveillance tapes for example.

Compensating controls are alternative controls, used to compensate weaknesses in other controls.

Preventive controls are concerned with avoiding occurrences of risks. Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

NEW QUESTION 214

- (Topic 1)

Which of the following is NOT a technique used to perform a penetration test?

- A. traffic padding
- B. scanning and probing
- C. war dialing
- D. sniffing

Answer: A

Explanation:

Traffic padding is a countermeasure to traffic analysis.

Even if perfect cryptographic routines are used, the attacker can gain knowledge of the amount of traffic that was generated. The attacker might not know what Alice and Bob were talking about, but can know that they were talking and how much they talked. In certain circumstances this can be very bad. Consider for example when a military is organising a secret attack against another nation: it may suffice to alert the other nation for them to know merely that there is a lot of secret activity going on.

As another example, when encrypting Voice Over IP streams that use variable bit rate encoding, the number of bits per unit of time is not obscured, and this can be exploited to guess spoken phrases.

Padding messages is a way to make it harder to do traffic analysis. Normally, a number of random bits are appended to the end of the message with an indication at the end how much this random data is. The randomness should have a minimum value of 0, a maximum number of N and an even distribution between the two extremes. Note, that increasing 0 does not help, only increasing N helps, though that also means that a lower percentage of the channel will be used to transmit real data. Also note, that since the cryptographic routine is assumed to be uncrackable (otherwise the padding length itself is crackable), it does not help to put the padding anywhere else, e.g. at the beginning, in the middle, or in a sporadic manner.

The other answers are all techniques used to do Penetration Testing. References:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, pages 233, 238.

and https://secure.wikimedia.org/wikipedia/en/wiki/Padding_%28cryptography%29#Traffic_analysis

NEW QUESTION 215

- (Topic 1)

What security model is dependent on security labels?

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

Answer: C

Explanation:

With mandatory access control (MAC), the authorization of a subject's access to an object is dependant upon labels, which indicate the subject's clearance, and the classification or sensitivity of the object. Label-based access control is not defined. 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 33).

NEW QUESTION 219

- (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 a 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 221

- (Topic 1)

Passwords can be required to change monthly, quarterly, or at other intervals:

- A. depending on the criticality of the information needing protection
- B. depending on the criticality of the information needing protection and the password's frequency of use
- C. depending on the password's frequency of use
- D. not depending on the criticality of the information needing protection but depending on the password's frequency of use

Answer: B

Explanation:

Passwords can be compromised and must be protected. In the ideal case, a password should only be used once. The changing of passwords can also fall between these two extremes. Passwords can be required to change monthly, quarterly, or at other intervals, depending on the criticality of the information needing protection and the password's frequency of use. Obviously, the more times a password is used, the more chance there is of it being compromised.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 36 & 37.

NEW QUESTION 225

- (Topic 1)

Which of the following statements pertaining to Kerberos is false?

- A. The Key Distribution Center represents a single point of failure.
- B. Kerberos manages access permissions.
- C. Kerberos uses a database to keep a copy of all users' public keys.
- D. Kerberos uses symmetric key cryptography.

Answer: C

Explanation:

Kerberos is a trusted, credential-based, third-party authentication protocol that uses symmetric (secret) key cryptography to provide robust authentication to clients accessing services on a network.

One weakness of Kerberos is its Key Distribution Center (KDC), which represents a single point of failure.

The KDC contains a database that holds a copy of all of the symmetric/secret keys for the principals.

Reference(s) used for this question:

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 (page40).

NEW QUESTION 227

- (Topic 2)

Related to information security, availability is the opposite of which of the following?

- A. delegation
- B. distribution
- C. documentation
- D. destruction

Answer: D

Explanation:

Availability is the opposite of "destruction."

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 59.

NEW QUESTION 228

- (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 233

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