

## SSCP Dumps

### System Security Certified Practitioner (SSCP)

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### NEW QUESTION 1

- (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 2

- (Topic 1)

Controlling access to information systems and associated networks is necessary for the preservation of their:

- A. Authenticity, confidentiality and availability
- B. Confidentiality, integrity, and availability.
- C. integrity and availability.
- D. authenticity, confidentiality, integrity and availability.

**Answer:** B

#### **Explanation:**

Controlling access to information systems and associated networks is necessary for the preservation of their confidentiality, integrity and availability. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 31.

### NEW QUESTION 3

- (Topic 1)

Physical security is accomplished through proper facility construction, fire and water protection, anti-theft mechanisms, intrusion detection systems, and security procedures that are adhered to and enforced. Which of the following is not a component that achieves this type of security?

- A. Administrative control mechanisms
- B. Integrity control mechanisms
- C. Technical control mechanisms
- D. Physical control mechanisms

**Answer:** B

#### **Explanation:**

Integrity Controls Mechanisms are not part of physical security. All of the other detractors were correct this one was the wrong one that does not belong to Physical Security. Below you have more details extracted from the SearchSecurity web site: Information security depends on the security and management of the physical space in which computer systems operate. Domain 9 of the CISSP exam's Common Body of Knowledge addresses the challenges of securing the physical space, its systems and the people who work within it by use of administrative, technical and physical controls. The following QUESTION NO: s are covered:

Facilities management: The administrative processes that govern the maintenance and protection of the physical operations space, from site selection through emergency response.

Risks, issues and protection strategies: Risk identification and the selection of security protection components.

Perimeter security: Typical physical protection controls.

Facilities management

Facilities management is a complex component of corporate security that ranges from the planning of a secure physical site to the management of the physical information system environment. Facilities management responsibilities include site selection and physical security planning (i.e. facility construction, design and layout, fire and water damage protection, antitheft mechanisms, intrusion detection and security procedures.) Protections must extend to both people and assets. The necessary level of protection depends on the value of the assets and data. CISSP® candidates must learn the concept of critical-path analysis as a means of determining a component's business function criticality relative to the cost of operation and replacement. Furthermore, students need to gain an understanding of the optimal location and physical attributes of a secure facility. Among the QUESTION NO: s covered in this domain are site inspection, location, accessibility and obscurity, considering the area crime rate, and the likelihood of natural hazards such as floods or earthquakes.

This domain also covers the quality of construction material, such as its protective qualities and load capabilities, as well as how to lay out the structure to minimize risk of forcible entry and accidental damage. Regulatory compliance is also touched on, as is preferred proximity to civil protection services, such as fire and police stations. Attention is given to computer and equipment rooms, including their location, configuration (entrance/egress requirements) and their proximity to wiring distribution centers at the site.

Physical risks, issues and protection strategies

An overview of physical security risks includes risk of theft, service interruption, physical damage, compromised system integrity and unauthorized disclosure of information. Interruptions to business can manifest due to loss of power, services, telecommunications connectivity and water supply. These can also seriously compromise electronic security monitoring alarm/response devices. Backup options are also covered in this domain, as is a strategy for quantifying the risk exposure by simple formula.

Investment in preventive security can be costly. Appropriate redundancy of people skills, systems and infrastructure must be based on the criticality of the data and assets to be preserved. Therefore a strategy is presented that helps determine the selection of cost appropriate controls. Among the QUESTION NO: s covered in this domain are regulatory and legal requirements, common standard security protections such as locks and fences, and the importance of establishing service level agreements for maintenance and disaster support. Rounding out the optimization approach are simple calculations for determining mean time between failure and mean time to repair (used to estimate average equipment life expectancy) ?? essential for estimating the cost/benefit of purchasing and maintaining redundant equipment.

As the lifeblood of computer systems, special attention is placed on adequacy, quality and protection of power supplies. CISSP candidates need to understand

power supply concepts and terminology, including those for quality (i.e. transient noise vs. clean power); types of interference (EMI and RFI); and types of interruptions such as power excess by spikes and surges, power loss by fault or blackout, and power degradation from sags and brownouts. A simple formula is presented for determining the total cost per hour for backup power. Proving power reliability through testing is recommended and the advantages of three power protection approaches are discussed (standby UPS, power line conditioners and backup sources) including minimum requirements for primary and alternate power provided.

Environmental controls are explored in this domain, including the value of positive pressure water drains and climate monitoring devices used to control temperature, humidity and reduce static electricity. Optimal temperatures and humidity settings are provided.

Recommendations include strict procedures during emergencies, preventing typical risks (such as blocked fans), and the use of antistatic armbands and hygrometers. Positive pressurization for proper ventilation and monitoring for air born contaminants is stressed.

The pros and cons of several detection response systems are deeply explored in this domain. The concept of combustion, the classes of fire and fire extinguisher ratings are detailed. Mechanisms behind smoke-activated, heat-activated and flame-activated devices and Automatic Dial-up alarms are covered, along with their advantages, costs and shortcomings. Types of fire sources are distinguished and the effectiveness of fire suppression methods for each is included. For instance, Halon and its approved replacements are covered, as are the advantages and the inherent risks to equipment of the use of water sprinklers.

Administrative controls

The physical security domain also deals with administrative controls applied to physical sites and assets. The need for skilled personnel, knowledge sharing between them, separation of duties, and appropriate oversight in the care and maintenance of equipment and environments is stressed. A list of management duties including hiring checks, employee maintenance activities and recommended termination procedures is offered. Emergency measures include accountability for evacuation and system shutdown procedures, integration with disaster and business continuity plans, assuring documented procedures are easily available during different types of emergencies, the scheduling of periodic equipment testing, administrative reviews of documentation, procedures and recovery plans, responsibilities delegation, and personnel training and drills.

Perimeter security

Domain nine also covers the devices and techniques used to control access to a space. These include access control devices, surveillance monitoring, intrusion detection and corrective actions. Specifications are provided for optimal external boundary protection, including fence heights and placement, and lighting placement and types. Selection of door types and lock characteristics are covered. Surveillance methods and intrusion-detection methods are explained, including the use of video monitoring, guards, dogs, proximity detection systems, photoelectric/photometric systems, wave pattern devices, passive infrared systems, and sound and motion detectors, and current flow sensitivity devices that specifically address computer theft. Room lock types ?? both preset and cipher locks (and their variations) -- device locks, such as portable laptop locks, lockable server bays, switch control locks and slot locks, port controls, peripheral switch controls and cable trap locks are also covered. Personal access control methods used to identify authorized users for site entry are covered at length, noting social engineering risks such as piggybacking. Wireless proximity devices, both user access and system sensing readers are covered (i.e. transponder based, passive devices and field powered devices) in this domain.

Now that you've been introduced to the key concepts of Domain 9, watch the Domain 9, Physical Security video

Return to the CISSP Essentials Security School main page

See all SearchSecurity.com's resources on CISSP certification training Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 280.

#### 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 scaring 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 then 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](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)

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 6

- (Topic 1)

Which of the following would be used to implement Mandatory Access Control (MAC)?

- A. Clark-Wilson Access Control
- B. Role-based access control
- C. Lattice-based access control
- D. User dictated access control

**Answer: C**

#### Explanation:

The lattice is a mechanism use to implement Mandatory Access Control (MAC)

Under Mandatory Access Control (MAC) you have: Mandatory Access Control

Under Non Discretionary Access Control (NDAC) you have: Rule-Based Access Control

Role-Based Access Control

Under Discretionary Access Control (DAC) you have: Discretionary Access Control

The Lattice Based Access Control is a type of access control used to implement other access control method. A lattice is an ordered list of elements that has a least upper bound and a most lower bound. The lattice can be used for MAC, DAC, Integrity level, File Permission, and more

For example in the case of MAC, if we look at common government classifications, we have the following:

TOP SECRET

SECRET -----I am the user at secret CONFIDENTIAL

SENSITIVE BUT UNCLASSIFIED UNCLASSIFIED

If you look at the diagram above where I am a user at SECRET it means that I can access document at lower classification but not document at TOP SECRET.

The lattice is a list of ORDERED ELEMENT, in this case the ordered elements are classification levels. My least upper bound is SECRET and my most lower bound is UNCLASSIFIED.

However the lattice could also be used for Integrity Levels such as: VERY HIGH

HIGH

MEDIUM -----I am a user, process, application at the medium level LOW

VERY LOW

In the case of of Integrity levels you have to think about TRUST. Of course if I take for example the the VISTA operating system which is based on Biba then Integrity Levels would be used. As a user having access to the system I cannot tell a process running with administrative privilege what to do. Else any users on the system could take control of the system by getting highly privilege process to do things on their behalf. So no read down would be allowed in this case and this is an example of the Biba model.

Last but not least the lattice could be use for file permissions: RWX

RW -----User at this level

R

If I am a user with READ and WRITE (RW) access privilege then I cannot execute the file

because I do not have execute permission which is the X under linux and UNIX.

Many people confuse the Lattice Model and many books says MAC = LATTICE, however the lattice can be use for other purposes.

There is also Role Based Access Control (RBAC) that exists out there. It COULD be used to simulate MAC but it is not MAC as it does not make use of Label on objects indicating sensitivity and categories. MAC also require a clearance that dominates the object.

You can get more info about RBAC at:<http://csrc.nist.gov/groups/SNS/rbac/faq.html#03> Also note that many book uses the same acronym for Role Based Access Control and Rule

Based Access Control which is RBAC, this can be confusing.

The proper way of writing the acronym for Rule Based Access Control is RuBAC, unfortunately it is not commonly used.

References:

There is a great article on technet that talks about the lattice in VISTA: <http://blogs.technet.com/b/steriley/archive/2006/07/21/442870.aspx>

also see:

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).

and

[http://www.microsoft-watch.com/content/vista/gaging\\_vistas\\_integrity.html](http://www.microsoft-watch.com/content/vista/gaging_vistas_integrity.html)

### NEW QUESTION 7

- (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 8**

- (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 9**

- (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, security awareness 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 10**

- (Topic 1)

Which of the following statements pertaining to biometrics is FALSE?

- A. User can be authenticated based on behavior.
- B. User can be authenticated based on unique physical attributes.
- C. User can be authenticated by what he knows.
- D. A biometric system's accuracy is determined by its crossover error rate (CER).

**Answer: C**

**Explanation:**

As this is not a characteristic of Biometrics this is the right choice for this question. This is one of the three basic way authentication can be performed and it is not related to Biometrics. Example of something you know would be a password or PIN for example.

Please make a note of the negative 'FALSE' within the question. This question may seem tricky to some of you but you would be amazed at how many people cannot deal with negative questions. There will be a few negative questions within the real exam, just like this one the keyword NOT or FALSE will be in Uppercase to clearly indicate that it is negative.

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 performing authentication (one to one matching) or identification (a one to many matching).

A biometric system scans an attribute or behavior of a person and compares it to a template store within an authentication server database, such template would be created in an earlier enrollment process. Because this system inspects the grooves of a person's fingerprint, the pattern of someone's retina, or the pitches of someone's voice, it has to be extremely sensitive.

The system must perform accurate and repeatable measurements of anatomical or physiological characteristics. This type of sensitivity can easily cause false positives or false negatives. The system must be calibrated so that these false positives and false negatives occur infrequently and the results are as accurate as possible.

There are two types of failures in biometric identification:

False Rejection also called False Rejection Rate (FRR) ?? The system fail to recognize a legitimate user. While it could be argued that this has the effect of keeping the protected area extra secure, it is an intolerable frustration to legitimate users who are refused access because the scanner does not recognize them.

False Acceptance or False Acceptance Rate (FAR) ?? This is an erroneous recognition, either by confusing one user with another or by accepting an imposter as a legitimate user.

Physiological Examples:

Unique Physical Attributes:

Fingerprint (Most commonly accepted) Hand Geometry

Retina Scan (Most accurate but most intrusive) Iris Scan

Vascular Scan Behavioral Examples:

Repeated Actions Keystroke Dynamics

(Dwell time (the time a key is pressed) and Flight time (the time between "key up" and the next "key down").

Signature Dynamics

(Stroke and pressure points)

EXAM TIP:

Retina scan devices are the most accurate but also the most invasive biometrics system available today. The continuity of the retinal pattern throughout life and the difficulty in fooling such a device also make it a great long-term, high-security option. Unfortunately, the cost of the proprietary hardware as well the stigma of users thinking it is potentially harmful to the eye makes retinal scanning a bad fit for most situations.

Remember for the exam that fingerprints are the most commonly accepted type of biometrics system.

The other answers are incorrect:

'Users can be authenticated based on behavior.' is incorrect as this choice is TRUE as it pertains to BIOMETRICS.

Biometrics systems makes use of unique physical characteristics or behavior of users.

'User can be authenticated based on unique physical attributes.' is also incorrect as this choice is also TRUE as it pertains to BIOMETRICS. Biometrics systems makes use of unique physical characteristics or behavior of users.

'A biometric system's accuracy is determined by its crossover error rate (CER)' is also incorrect as this is TRUE as it also pertains to BIOMETRICS. The CER is 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.

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 25353-25356). Auerbach Publications. Kindle Edition.

and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 25297-25303). Auerbach Publications. Kindle Edition.

#### NEW QUESTION 10

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

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

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

#### NEW QUESTION 13

- (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 18

- (Topic 1)

Which TCSEC class specifies discretionary protection?

- A. B2
- B. B1
- C. C2
- D. C1

**Answer:** D

#### Explanation:

C1 involves discretionary protection, C2 involves controlled access protection, B1 involves labeled security protection and B2 involves structured protection.

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

#### NEW QUESTION 20

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

The Answer TCSEC; The TCSEC, frequently referred to as the Orange Book, is the centerpiece of the DoD Rainbow Series publications.

Initially issued by the National Computer Security Center (NCSC) an arm of the National Security Agency in 1983 and then updated in 1985, TCSEC was replaced with the development of the Common Criteria international standard originally published in 2005.

References:

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

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

### NEW QUESTION 23

- (Topic 1)

Which of the following statements pertaining to biometrics is false?

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

**Answer:** D

#### Explanation:

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

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

### NEW QUESTION 26

- (Topic 1)

In regards to information classification what is the main responsibility of information (data) owner?

- A. determining the data sensitivity or classification level
- B. running regular data backups
- C. audit the data users
- D. periodically check the validity and accuracy of the data

**Answer:** A

#### Explanation:

Making the determination to decide what level of classification the information requires is the main responsibility of the data owner.

The data owner within classification is a person from Management who has been entrusted with a data set that belong to the company. It could be for example the Chief Financial Officer (CFO) who has been entrusted with all financial data or it could be the Human Resource Director who has been entrusted with all Human Resource data. The information owner will decide what classification will be applied to the data based on Confidentiality, Integrity, Availability, Criticality, and Sensitivity of the data.

The Custodian is the technical person who will implement the proper classification on objects in accordance with the Data Owner. The custodian DOES NOT decide what classification to apply, it is the Data Owner who will dictate to the Custodian what is the classification to apply.

NOTE:

The term Data Owner is also used within Discretionary Access Control (DAC). Within DAC it means the person who has created an object. For example, if I create a file on my system then I am the owner of the file and I can decide who else could get access to the file. It is left to my discretion. Within DAC access is granted based solely on the Identity of the subject, this is why sometimes DAC is referred to as Identity Based Access Control.

The other choices were not the best answer

Running regular backups is the responsibility of custodian. Audit the data users is the responsibility of the auditors

Periodically check the validity and accuracy of the data is not one of the data owner responsibility

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, Page 14, Chapter 1: Security Management Practices.

### NEW QUESTION 28

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

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

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

The following are used as performance metrics for biometric systems:

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

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

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

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

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

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

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

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

**NEW QUESTION 32**

- (Topic 1)

In the CIA triad, what does the letter A stand for?

- A. Auditability
- B. Accountability
- C. Availability
- D. Authentication

**Answer: C**

**Explanation:**

The CIA triad stands for Confidentiality, Integrity and Availability.

**NEW QUESTION 35**

- (Topic 1)

The Orange Book is founded upon which security policy model?

- A. The Biba Model
- B. The Bell LaPadula Model
- C. Clark-Wilson Model
- D. TEMPEST

**Answer: B**

**Explanation:**

From the glossary of Computer Security Basics:

The Bell-LaPadula model is the security policy model on which the Orange Book requirements are based. From the Orange Book definition, "A formal state transition model of computer security policy that describes a set of access control rules. In this formal model, the entities in a computer system are divided into abstract sets of subjects and objects. The notion of secure state is defined and it is proven that each state transition preserves security by moving from secure state to secure state; thus, inductively proving the system is secure. A system state is defined to be 'secure' if the only permitted access modes of subjects to objects are in accordance with a specific security policy. In order to determine whether or not a specific access mode is allowed, the clearance of a subject is compared to the classification of the object and a determination is made as to whether the subject is authorized for the specific access mode."

The Biba Model is an integrity model of computer security policy that describes a set of rules. In this model, a subject may not depend on any object or other subject that is less trusted than itself.

The Clark Wilson Model is an integrity model for computer security policy designed for a commercial environment. It addresses such concepts as nondiscretionary access control, privilege separation, and least privilege. TEMPEST is a government program that prevents the compromising electrical and electromagnetic signals that emanate from computers and related equipment from being intercepted and deciphered.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, 1991.

Also: U.S. Department of Defense, Trusted Computer System Evaluation Criteria (Orange Book), DOD 5200.28-STD. December 1985 (also available here).

**NEW QUESTION 37**

- (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 42**

- (Topic 1)

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

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

**Answer: C**

**Explanation:**

Your data center should be located in the middle of the facility or the core of a building to provide protection from natural disasters or bombs and provide easier

access to emergency crewmembers if necessary. By being at the core of the facility the external wall would act as a secondary layer of protection as well. Information processing facilities should not be located on the top floors of buildings in case of a fire or flooding coming from the roof. Many crimes and theft have also been conducted by simply cutting a large hole on the roof. They should not be in the basement because of flooding where water has a natural tendency to flow down :-). Even a little amount of water would affect your operation considering the quantity of electrical cabling sitting directly on the cement floor under your raise floor. The data center should not be located on the first floor due to the presence of the main entrance where people are coming in and out. You have a lot of high traffic areas such as the elevators, the loading docks, cafeteria, coffee shop, etc.. Really a bad location for a data center. So it was easy to come up with the answer by using the process of elimination where the top, the bottom, and the basement are all bad choices. That left you with only one possible answer which is the third floor.  
Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, 5th Edition, Page 425.

**NEW QUESTION 44**

- (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.

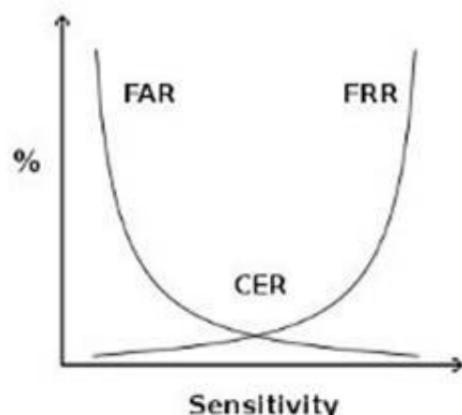
FAR and FRR are key metrics for biometric solutions, some biometric devices or software even allow to tune them so that the system more quickly matches or rejects. Both FRR and FAR are important, but for most applications one of them is considered most important. Two examples to illustrate this:

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](http://www.biometric-solutions.com/index.php?story=performance_biometrics)

#### NEW QUESTION 47

- (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](http://en.wikipedia.org/wiki/Kerberos_%28protocol%29)

OIG CBK Access Control (pages 181 - 184) AIOv3 Access Control (pages 151 - 155)

#### NEW QUESTION 49

- (Topic 1)

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

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

**Answer: A**

#### Explanation:

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

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

#### NEW QUESTION 54

- (Topic 1)

Which of the following is not a logical control when implementing logical access security?

- A. access profiles.
- B. userids.
- C. employee badges.
- D. passwords.

**Answer: C**

#### Explanation:

Employee badges are considered Physical so would not be a logical control. The following answers are incorrect:

userids. Is incorrect because userids are a type of logical control.

access profiles. Is incorrect because access profiles are a type of logical control. passwords. Is incorrect because passwords are a type of logical control.

#### NEW QUESTION 59

- (Topic 1)

Which of the following can be defined as a framework that supports multiple, optional authentication mechanisms for PPP, including cleartext passwords, challenge-response, and arbitrary dialog sequences?

- A. Extensible Authentication Protocol
- B. Challenge Handshake Authentication Protocol
- C. Remote Authentication Dial-In User Service
- D. Multilevel Authentication Protocol.

**Answer:** A

**Explanation:**

RFC 2828 (Internet Security Glossary) defines the Extensible Authentication Protocol as a framework that supports multiple, optional authentication mechanisms for PPP, including cleartext passwords, challenge-response, and arbitrary dialog sequences. It is intended for use primarily by a host or router that connects to a PPP network server via switched circuits or dial-up lines. The Remote Authentication Dial-In User Service (RADIUS) is defined as an Internet protocol for carrying dial-in user's authentication information and configuration information between a shared, centralized authentication server and a network access server that needs to authenticate the users of its network access ports. The other option is a distracter.

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

**NEW QUESTION 64**

- (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) ?C 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 65**

- (Topic 1)

What is the main focus of the Bell-LaPadula security model?

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

**Answer:** C

**Explanation:**

The Bell-LaPadula model is a formal model dealing with confidentiality.

The Bell-LaPadula Model (abbreviated BLP) is a state machine model used for enforcing access control in government and military applications. It was developed by David Elliott Bell and Leonard J. LaPadula, subsequent to strong guidance from Roger R. Schell to formalize the U.S. Department of Defense (DoD) multilevel security (MLS) policy. The model is a formal state transition model of computer security policy that describes a set of access control rules which use security labels on objects and clearances for subjects. Security labels range from the most sensitive (e.g. "Top Secret"), down to the least sensitive (e.g., "Unclassified" or "Public").

The Bell-LaPadula model focuses on data confidentiality and controlled access to classified information, in contrast to the Biba Integrity Model which describes rules for the protection of data integrity. In this formal model, the entities in an information system are divided into subjects and objects.

The notion of a "secure state" is defined, and it is proven that each state transition preserves security by moving from secure state to secure state, thereby inductively proving that the system satisfies the security objectives of the model. The Bell-LaPadula model is built on the concept of a state machine with a set of allowable states in a computer network system. The transition from one state to another state is defined by transition functions.

A system state is defined to be "secure" if the only permitted access modes of subjects to objects are in accordance with a security policy. To determine whether a specific access mode is allowed, the clearance of a subject is compared to the classification of the object (more precisely, to the combination of classification and set of compartments, making up the security level) to determine if the subject is authorized for the specific access mode.

The clearance/classification scheme is expressed in terms of a lattice. The model defines two mandatory access control (MAC) rules and one discretionary access control (DAC) rule with three security properties:

The Simple Security Property - a subject at a given security level may not read an object at a higher security level (no read-up).

The -property (read "star"-property) - a subject at a given security level must not write to any object at a lower security level (no write-down). The -property is also known as the Confinement property.

The Discretionary Security Property - use of an access matrix to specify the discretionary access control.

The following are incorrect answers:

Accountability is incorrect. Accountability requires that actions be traceable to the user that performed them and is not addressed by the Bell-LaPadula model.

Integrity is incorrect. Integrity is addressed in the Biba model rather than Bell-Lapadula. Availability is incorrect. Availability is concerned with assuring that data/services are available to authorized users as specified in service level objectives and is not addressed by the Bell-Lapadula model.

References: CBK, pp. 325-326

AIO3, pp. 279 - 284

AIOv4 Security Architecture and Design (pages 333 - 336) AIOv5 Security Architecture and Design (pages 336 - 338)

Wikipedia at [https://en.wikipedia.org/wiki/Bell-La\\_Padula\\_model](https://en.wikipedia.org/wiki/Bell-La_Padula_model)

### NEW QUESTION 68

- (Topic 1)

What security model implies a central authority that define rules and sometimes global rules, dictating what subjects can have access to what objects?

- A. Flow Model
- B. Discretionary access control
- C. Mandatory access control
- D. Non-discretionary access control

**Answer: D**

#### Explanation:

As a security administrator you might configure user profiles so that users cannot change the system's time, alter system configuration files, access a command prompt, or install unapproved applications. This type of access control is referred to as nondiscretionary, meaning that access decisions are not made at the discretion of the user. Nondiscretionary access controls are put into place by an authoritative entity (usually a security administrator) with the goal of protecting the organization's most critical assets.

Non-discretionary access control is when a central authority determines what subjects can have access to what objects based on the organizational security policy. Centralized access control is not an existing security model.

Both, Rule Based Access Control (RuBAC or RBAC) and Role Based Access Controls (RBAC) falls into this category.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 221). 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 33).

### NEW QUESTION 69

- (Topic 1)

Which of the following exemplifies proper separation of duties?

- A. Operators are not permitted modify the system time.
- B. Programmers are permitted to use the system console.
- C. Console operators are permitted to mount tapes and disks.
- D. Tape operators are permitted to use the system console.

**Answer: A**

#### Explanation:

This is an example of Separation of Duties because operators are prevented from modifying the system time which could lead to fraud. Tasks of this nature should be performed by they system administrators.

AIO defines Separation of Duties as a security principle that splits up a critical task among two or more individuals to ensure that one person cannot complete a risky task by himself.

The following answers are incorrect:

Programmers are permitted to use the system console. Is incorrect because programmers should not be permitted to use the system console, this task should be performed by operators. Allowing programmers access to the system console could allow fraud to occur so this is not an example of Separation of Duties..

Console operators are permitted to mount tapes and disks. Is incorrect because operators should be able to mount tapes and disks so this is not an example of Separation of Duties.

Tape operators are permitted to use the system console. Is incorrect because operators should be able to use the system console so this is not an example of Separation of Duties.

References:

OIG CBK Access Control (page 98 - 101) AIOv3 Access Control (page 182)

### NEW QUESTION 70

- (Topic 1)

Kerberos is vulnerable to replay in which of the following circumstances?

- A. When a private key is compromised within an allotted time window.
- B. When a public key is compromised within an allotted time window.
- C. When a ticket is compromised within an allotted time window.
- D. When the KSD is compromised within an allotted time window.

**Answer: C**

**Explanation:**

Replay can be accomplished on Kerberos if the compromised tickets are used within an allotted time window.

The security depends on careful implementation: enforcing limited lifetimes for authentication credentials minimizes the threat of of replayed credentials, the KDC must be physically secured, and it should be hardened, not permitting any non-kerberos activities.

Reference:

Official ISC2 Guide to the CISSP, 2007 Edition, page 184 also see:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 42.

**NEW QUESTION 72**

- (Topic 1)

Sensitivity labels are an example of what application control type?

- A. Preventive security controls
- B. Detective security controls
- C. Compensating administrative controls
- D. Preventive accuracy controls

**Answer:** A

**Explanation:**

Sensitivity labels are a preventive security application controls, such as are firewalls, reference monitors, traffic padding, encryption, data classification, one-time passwords, contingency planning, separation of development, application and test environments.

The incorrect answers are:

Detective security controls - Intrusion detection systems (IDS), monitoring activities, and audit trails.

Compensating administrative controls - There no such application control. Preventive accuracy controls - data checks, forms, custom screens, validity checks, contingency planning, and backups. Sources:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 7: Applications and Systems Development (page 264).

KRUTZ, Ronald & VINES, Russel, The CISSP Prep Guide: Gold Edition, Wiley Publishing Inc., 2003, Chapter 7: Application Controls, Figure 7.1 (page 360).

**NEW QUESTION 74**

- (Topic 1)

Which of the following protection devices is used for spot protection within a few inches of the object, rather than for overall room security monitoring?

- A. Wave pattern motion detectors
- B. Capacitance detectors
- C. Field-powered devices
- D. Audio detectors

**Answer:** B

**Explanation:**

Capacitance detectors monitor an electrical field surrounding the object being monitored. They are used for spot protection within a few inches of the object, rather than for overall room security monitoring used by wave detectors. Penetration of this field changes the electrical capacitance of the field enough to generate and alarm. Wave pattern motion detectors generate a frequency wave pattern and send an alarm if the pattern is disturbed as it is reflected back to its receiver. Field-powered devices are a type of personnel access control devices. Audio detectors simply monitor a room for any abnormal sound wave generation and trigger an alarm.

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 344).

**NEW QUESTION 75**

- (Topic 1)

What mechanism automatically causes an alarm originating in a data center to be transmitted over the local municipal fire or police alarm circuits for relaying to both the local police/fire station and the appropriate headquarters?

- A. Central station alarm
- B. Proprietary alarm
- C. A remote station alarm
- D. An auxiliary station alarm

**Answer:** D

**Explanation:**

Auxiliary station alarms automatically cause an alarm originating in a data center to be transmitted over the local municipal fire or police alarm circuits for relaying to both the local police/fire station and the appropriate headquarters. They are usually Municipal Fire Alarm Boxes are installed at your business or building, they are wired directly into the fire station.

Central station alarms are operated by private security organizations. It is very similar to a proprietary alarm system (see below). However, the biggest difference is the monitoring and receiving of alarm is done off site at a central location manned by non staff members. It is a third party.

Proprietary alarms are similar to central stations alarms except that monitoring is performed directly on the protected property. This type of alarm is usually use to protect large industrials or commercial buildings. Each of the buildings in the same vicinity has their own alarm system, they are all wired together at a central location within one of the building acting as a common receiving point. This point is usually far away from the other building so it is not under the same danger. It is usually man 24 hours a day by a trained team who knows how to react under different conditions.

A remote station alarm is a direct connection between the signal-initiating device at the protected property and the signal-receiving device located at a remote station, such as the fire station or usually a monitoring service. This is the most popular type of implementation and the owner of the premise must pay a monthly monitoring fee. This is what most people use in their home where they get a company like ADT to receive the alarms on their behalf.

A remote system differs from an auxiliary system in that it does not use the municipal fire of police alarm circuits.

Reference(s) used for this question:

ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 11: Physical Security (page 211).

and

Great presentation J.T.A. Stone on SlideShare

**NEW QUESTION 78**

- (Topic 1)

Which of the following is not a preventive login control?

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

**Answer: A**

**Explanation:**

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

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

**NEW QUESTION 82**

- (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 84**

- (Topic 1)

In non-discretionary access control using Role Based Access Control (RBAC), a central authority determines what subjects can have access to certain objects based on the organizational security policy. The access controls may be based on:

- A. The societies role in the organization
- B. The individual's role in the organization
- C. The group-dynamics as they relate to the individual's role in the organization
- D. The group-dynamics as they relate to the master-slave role in the organization

**Answer: B**

**Explanation:**

In Non-Discretionary Access Control, when Role Based Access Control is being used, a central authority determines what subjects can have access to certain objects based on the organizational security policy. The access controls may be based on the individual's role in the organization.

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.

**NEW QUESTION 85**

- (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 87

- (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 88

- (Topic 1)

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

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

**Answer: C**

#### Explanation:

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

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

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

#### NEW QUESTION 89

- (Topic 1)

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

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

**Answer: B**

#### Explanation:

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

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

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

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

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

#### NEW QUESTION 92

- (Topic 1)

Which of the following best ensures accountability of users for the actions taken within a system or domain?

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

**Answer: B**

#### Explanation:

Details:

The only way to ensure accountability is if the subject is uniquely identified and authenticated. Identification alone does not provide proof the user is who they claim to be. After showing proper credentials, a user is authorized access to resources.

References:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2002, Chapter 4: Access Control (page 126).

**NEW QUESTION 94**

- (Topic 1)

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

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

**Answer:** A

**Explanation:**

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

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

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

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

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

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

References:

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

[http://en.wikipedia.org/wiki/Attribute\\_certificate](http://en.wikipedia.org/wiki/Attribute_certificate) [http://en.wikipedia.org/wiki/Public\\_key\\_certificate](http://en.wikipedia.org/wiki/Public_key_certificate)

**NEW QUESTION 97**

- (Topic 1)

There are parallels between the trust models in Kerberos and Public Key Infrastructure (PKI). When we compare them side by side, Kerberos tickets correspond most closely to which of the following?

- A. public keys
- B. private keys
- C. public-key certificates
- D. private-key certificates

**Answer:** C

**Explanation:**

A Kerberos ticket is issued by a trusted third party. It is an encrypted data structure that includes the service encryption key. In that sense it is similar to a public-key certificate. However, the ticket is not the key.

The following answers are incorrect:

public keys. Kerberos tickets are not shared out publicly, so they are not like a PKI public key.

private keys. Although a Kerberos ticket is not shared publicly, it is not a private key. Private keys are associated with Asymmetric crypto system which is not used by Kerberos. Kerberos uses only the Symmetric crypto system.

private key certificates. This is a detractor. There is no such thing as a private key certificate.

**NEW QUESTION 102**

- (Topic 1)

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

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

**Answer:** C

**Explanation:**

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

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

**NEW QUESTION 103**

- (Topic 1)

Which of the following logical access exposures INVOLVES CHANGING data before, or as it is entered into the computer?

- A. Data diddling
- B. Salami techniques
- C. Trojan horses
- D. Viruses

**Answer:** A

**Explanation:**

It involves changing data before , or as it is entered into the computer or in

other words , it refers to the alteration of the existing data. The other answers are incorrect because :

Salami techniques : A salami attack is the one in which an attacker commits several small crimes with the hope that the overall larger crime will go unnoticed.

Trojan horses: A Trojan Horse is a program that is disguised as another program. Viruses:A Virus is a small application , or a string of code , that infects applications.

Reference: Shon Harris , AIO v3

Chapter - 11: Application and System Development, Page : 875-880 Chapter - 10: Law, Investigation and Ethics , Page : 758-759

**NEW QUESTION 105**

- (Topic 1)

In biometric identification systems, the parts of the body conveniently available for identification are:

- A. neck and mouth
- B. hands, face, and eyes
- C. feet and hair
- D. voice and neck

**Answer:** B

**Explanation:**

Today implementation of fast, accurate, reliable, and user-acceptable biometric identification systems are already under way. Because most identity authentication takes place when a people are fully clothed (neck to feet and wrists), the parts of the body conveniently available for this purpose are hands, face, and eyes. From: TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 1, Page 7.

**NEW QUESTION 106**

- (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 110**

- (Topic 1)

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

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

**Answer:** A

**Explanation:**

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

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

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

Lattice-based access control is incorrect. The lattice is really a mathematical concept that is used in formally modeling information flow (Bell-Lapadula, Biba, etc). In the context of the question, an abstract model of information flow is not an appropriate choice. CBK, pp. 324- 325.

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

removed correctly makes this the least desirable solution in this situation.

References

All in One, third edition page 165

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

#### NEW QUESTION 114

- (Topic 1)

In which of the following security models is the subject's clearance compared to the object's classification such that specific rules can be applied to control how the subject-to-object interactions take place?

- A. Bell-LaPadula model
- B. Biba model
- C. Access Matrix model
- D. Take-Grant model

**Answer: A**

#### Explanation:

The Bell-LAPadula model is also called a multilevel security system because users with different clearances use the system and the system processes data with different classifications. Developed by the US Military in the 1970s.

A security model maps the abstract goals of the policy to information system terms by specifying explicit data structures and techniques necessary to enforce the security policy. A security model is usually represented in mathematics and analytical ideas, which are mapped to system specifications and then developed by programmers through programming code. So we have a policy that encompasses security goals, such as ??each subject must be authenticated and authorized before accessing an object.?? The security model takes this requirement and provides the necessary mathematical formulas, relationships, and logic structure to be followed to accomplish this goal.

A system that employs the Bell-LaPadula model is called a multilevel security system because users with different clearances use the system, and the system processes data at different classification levels. The level at which information is classified determines the handling procedures that should be used. The Bell-LaPadula model is a state machine model that enforces the confidentiality aspects of access control. A matrix and security levels are used to determine if subjects can access different objects. The subject??s clearance is compared to the object??s classification and then specific rules are applied to control how subject-to-object subject-to-object interactions can take place.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (p. 369). McGraw- Hill. Kindle Edition.

#### NEW QUESTION 119

- (Topic 1)

Password management falls into which control category?

- A. Compensating
- B. Detective
- C. Preventive
- D. Technical

**Answer: C**

#### Explanation:

Password management is an example of preventive control. Proper passwords prevent unauthorized users from accessing a system.

There are literally hundreds of different access approaches, control methods, and technologies, both in the physical world and in the virtual electronic world. Each method addresses a different type of access control or a specific access need.

For example, access control solutions may incorporate identification and authentication mechanisms, filters, rules, rights, logging and monitoring, policy, and a plethora of other

controls. However, despite the diversity of access control methods, all access control systems can be categorized into seven primary categories.

The seven main categories of access control are:

1. Directive: Controls designed to specify acceptable rules of behavior within an organization
2. Deterrent: Controls designed to discourage people from violating security directives
3. Preventive: Controls implemented to prevent a security incident or information breach
4. Compensating: Controls implemented to substitute for the loss of primary controls and mitigate risk down to an acceptable level
5. Detective: Controls designed to signal a warning when a security control has been breached
6. Corrective: Controls implemented to remedy circumstance, mitigate damage, or restore controls
7. Recovery: Controls implemented to restore conditions to normal after a security incident

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 1156-1176). Auerbach Publications. Kindle Edition.

#### NEW QUESTION 123

- (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 127**

- (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. &amp; 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](https://secure.wikimedia.org/wikipedia/en/wiki/Padding_%28cryptography%29#Traffic_analysis)**NEW QUESTION 129**

- (Topic 1)

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

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

**Answer: B****Explanation:**

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

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

Wikipedia has a detailed explanation as well:

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

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

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

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

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

Views do not incur any extra storage overhead

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

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

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

**NEW QUESTION 133**

- (Topic 1)

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

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

**Answer: B****Explanation:**

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

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

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

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

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

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

**NEW QUESTION 135**

- (Topic 1)

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

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

**Answer:** A

**Explanation:**

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

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

**NEW QUESTION 136**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

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

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

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

References:

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

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

**NEW QUESTION 138**

- (Topic 1)

Which of the following is addressed by Kerberos?

- A. Confidentiality and Integrity
- B. Authentication and Availability
- C. Validation and Integrity
- D. Auditability and Integrity

**Answer:** A

**Explanation:**

Kerberos addresses the confidentiality and integrity of information. It also addresses primarily authentication but does not directly address availability.

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 42.

and <https://www.ietf.org/rfc/rfc4120.txt> and

<http://learn-networking.com/network-security/how-kerberos-authentication-works>

**NEW QUESTION 141**

- (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 142**

- (Topic 1)

Which of the following is NOT a form of detective administrative control?

- A. Rotation of duties
- B. Required vacations
- C. Separation of duties

D. Security reviews and audits

**Answer:** C

**Explanation:**

Detective administrative controls warn of administrative control violations. Rotation of duties, required vacations and security reviews and audits are forms of detective administrative controls. Separation of duties is the practice of dividing the steps in a system function among different individuals, so as to keep a single individual from subverting the process, thus a preventive control rather than a detective control.

Source: DUPUIS, Clément, Access Control Systems and Methodology CISSP Open Study Guide, version 1.0 (march 2002).

**NEW QUESTION 146**

- (Topic 2)

Which software development model is actually a meta-model that incorporates a number of the software development models?

- A. The Waterfall model
- B. The modified Waterfall model
- C. The Spiral model
- D. The Critical Path Model (CPM)

**Answer:** C

**Explanation:**

The spiral model is actually a meta-model that incorporates a number of the software development models. This model depicts a spiral that incorporates the various phases of software development. The model states that each cycle of the spiral involves the same series of steps for each part of the project. CPM refers to the Critical Path Methodology.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 7: Applications and Systems Development (page 246).

**NEW QUESTION 150**

- (Topic 2)

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

- A. abstraction
- B. alteration
- C. accreditation
- D. application

**Answer:** B

**Explanation:**

Integrity is the opposite of "alteration."

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 152**

- (Topic 2)

Which of the following is best defined as a mode of system termination that automatically leaves system processes and components in a secure state when a failure occurs or is detected in a system?

- A. Fail proof
- B. Fail soft
- C. Fail safe
- D. Fail Over

**Answer:** C

**Explanation:**

NOTE: This question is referring to a system which is Logical/Technical, so it is in the context of a system that you must choose the right answer. This is very important to read the question carefully and to identify the context whether it is in the Physical world or in the Technical/Logical world.

RFC 2828 (Internet Security Glossary) defines fail safe as a mode of system termination that automatically leaves system processes and components in a secure state when a failure occurs or is detected in the system.

A secure state means in the Logical/Technical world that no access would be granted or no packets would be allowed to flow through the system inspecting the packets such as a firewall for example.

If the question would have made reference to a building or something specific to the Physical world then the answer would have been different. In the Physical World everything becomes open and full access would be granted. See the valid choices below for the Physical context.

Fail-safe in the physical security world is when doors are unlocked automatically in case of emergency. Used in environment where humans work around. As human safety is prime concern during Fire or other hazards.

The following were all wrong choices:

Fail-secure in the physical security world is when doors are locked automatically in case of emergency. Can be in an area like Cash Locker Room provided there should be alternative manually operated exit door in case of emergency.

Fail soft is selective termination of affected non-essential system functions and processes when a failure occurs or is detected in the system.

Fail Over is a redundancy mechanism and does not apply to this question.

There is a great post within the CCCure Forums on this specific QUESTION NO: :

saintrockz who is a long term contributor to the forums did outstanding research and you have the results below. The CCCure forum is a gold mine where thousands of QUESTION NO: s related to the CBK have been discussed.

According to the Official ISC2 Study Guide (OIG):

Fault Tolerance is defined as built-in capability of a system to provide continued correct execution in the presence of a limited number of hardware or software faults. It means a system can operate in the presence of hardware component failures. A single component failure in a fault-tolerant system will not cause a system interruption because the alternate component will take over the task transparently. As the cost of components continues to drop, and the demand for system availability increases, many non-fault-tolerant systems have redundancy built-in at the subsystem level. As a result, many non-fault-tolerant systems can tolerate hardware faults - consequently, the line between a fault-tolerant system and a non-fault-tolerant system becomes increasingly blurred.

According to Common Criteria:

Fail Secure - Failure with preservation of secure state, which requires that the TSF (TOE security functions) preserve a secure state in the face of the identified failures.

Acc. to The CISSP Prep Guide, Gold Ed.:

Fail over - When one system/application fails, operations will automatically switch to the backup system.

Fail safe - Pertaining to the automatic protection of programs and/or processing systems to maintain safety when a hardware or software failure is detected in a system.

Fail secure - The system preserves a secure state during and after identified failures occur. Fail soft - Pertaining to the selective termination of affected non-essential processing when a hardware or software failure is detected in a system.

Acc. to CISSP for Dummies:

Fail closed - A control failure that results all accesses blocked. Fail open - A control failure that results in all accesses permitted.

Failover - A failure mode where, if a hardware or software failure is detected, the system automatically transfers processing to a hot backup component, such as a clustered server. Fail-safe - A failure mode where, if a hardware or software failure is detected, program execution is terminated, and the system is protected from compromise.

Fail-soft (or resilient) - A failure mode where, if a hardware or software failure is detected, certain, noncritical processing is terminated, and the computer or network continues to function in a degraded mode.

Fault-tolerant - A system that continues to operate following failure of a computer or network component.

It's good to differentiate this concept in Physical Security as well: Fail-safe

- Door defaults to being unlocked
- Dictated by fire codes

Fail-secure

- Door defaults to being locked

Reference(s) used for this question:

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

### NEW QUESTION 156

- (Topic 2)

Which of the following is used to interrupt the opportunity to use or perform collusion to subvert operation for fraudulent purposes?

- A. Key escrow
- B. Rotation of duties
- C. Principle of need-to-know
- D. Principle of least privilege

**Answer: B**

#### Explanation:

Job rotations reduce the risk of collusion of activities between individuals. Companies with individuals working with sensitive information or systems where there might be the opportunity for personal gain through collusion can benefit by integrating job rotation with segregation of duties. Rotating the position may uncover activities that the individual is performing outside of the normal operating procedures, highlighting errors or fraudulent behavior.

Rotation of duties is a method of reducing the risk associated with a subject performing a

(sensitive) task by limiting the amount of time the subject is assigned to perform the task before being moved to a different task.

The following are incorrect answers:

Key escrow is related to the protection of keys in storage by splitting the key in pieces that will be controlled by different departments. Key escrow is the process of ensuring a third party maintains a copy of a private key or key needed to decrypt information. Key escrow also should be considered mandatory for most organization's use of cryptography as encrypted information belongs to the organization and not the individual; however often an individual's key is used to encrypt the information.

Separation of duties is a basic control that prevents or detects errors and irregularities by assigning responsibility for different parts of critical tasks to separate individuals, thus limiting the effect a single person can have on a system. One individual should not have the capability to execute all of the steps of a particular process. This is especially important in critical business areas, where individuals may have greater access and capability to modify, delete, or add data to the system. Failure to separate duties could result in individuals embezzling money from the company without the involvement of others.

The need-to-know principle specifies that a person must not only be cleared to access classified or other sensitive information, but have requirement for such information to carry out assigned job duties. Ordinary or limited user accounts are what most users are assigned. They should be restricted only to those privileges that are strictly required, following the principle of least privilege. Access should be limited to specific objects following the principle of need-to-know.

The principle of least privilege requires that each subject in a system be granted the most restrictive set of privileges (or lowest clearance) needed for the performance of authorized tasks. Least privilege refers to granting users only the accesses that are required to perform their job functions. Some employees will require greater access than others based upon their job functions. For example, an individual performing data entry on a mainframe system may have no need for Internet access or the ability to run reports regarding the information that they are entering into the system. Conversely, a supervisor may have the need to run reports, but should not be provided the capability to change information in the database.

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 10628-10631). Auerbach Publications. Kindle Edition. and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 10635-10638). Auerbach Publications. Kindle Edition. and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 10693-10697). Auerbach Publications. Kindle Edition. and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 16338-16341). Auerbach Publications. Kindle Edition.

### NEW QUESTION 159

- (Topic 2)

If an operating system permits shared resources such as memory to be used sequentially by multiple users/application or subjects without a refresh of the objects/memory area, what security problem is MOST likely to exist?

- A. Disclosure of residual data.
- B. Unauthorized obtaining of a privileged execution state.
- C. Data leakage through covert channels.

D. Denial of service through a deadly embrace.

**Answer:** A

**Explanation:**

Allowing objects to be used sequentially by multiple users without a refresh of the objects can lead to disclosure of residual data. It is important that steps be taken to eliminate the chance for the disclosure of residual data.

Object reuse refers to the allocation or reallocation of system resources to a user or, more appropriately, to an application or process. Applications and services on a computer system may create or use objects in memory and in storage to perform programmatic functions. In some cases, it is necessary to share these resources between various system applications. However, some objects may be employed by an application to perform privileged tasks on behalf of an authorized user or upstream application. If object usage is not controlled or the data in those objects is not erased after use, they may become available to unauthorized users or processes.

Disclosure of residual data and Unauthorized obtaining of a privileged execution state are both a problem with shared memory and resources. Not clearing the heap/stack can result in residual data and may also allow the user to step on somebody's session if the security token/identify was maintained in that space. This is generally more malicious and intentional than accidental though. The MOST common issue would be Disclosure of residual data.

The following answers are incorrect:

Unauthorized obtaining of a privileged execution state. Is incorrect because this is not a problem with Object Reuse.

Data leakage through covert channels. Is incorrect because it is not the best answer. A covert channel is a communication path. Data leakage would not be a problem created by Object Reuse. In computer security, a covert channel is a type of computer security attack that creates a capability to transfer information objects between processes that are not supposed to be allowed to communicate by the computer security policy. The term, originated in 1973 by Lampson is defined as "(channels) not intended for information transfer at all, such as the service program's effect on system load." to distinguish it from Legitimate channels that are subjected to access controls by COMPUSEC.

Denial of service through a deadly embrace. Is incorrect because it is only a detractor. References:

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 4174-4179). Auerbach Publications. Kindle Edition.

and <https://www.fas.org/irp/nsa/rainbow/tg018.htm> and [http://en.wikipedia.org/wiki/Covert\\_channel](http://en.wikipedia.org/wiki/Covert_channel)

**NEW QUESTION 163**

- (Topic 2)

Which of the following embodies all the detailed actions that personnel are required to follow?

- A. Standards
- B. Guidelines
- C. Procedures
- D. Baselines

**Answer:** C

**Explanation:**

Procedures are step-by-step instructions in support of of the policies, standards, guidelines and baselines. The procedure indicates how the policy will be implemented and who does what to accomplish the tasks."

Standards is incorrect. Standards are a "Mandatory statement of minimum requirements that support some part of a policy, the standards in this case is your own company standards and not standards such as the ISO standards"

Guidelines is incorrect. "Guidelines are discretionary or optional controls used to enable individuals to make judgments with respect to security actions."

Baselines is incorrect. Baselines "are a minimum acceptable level of security. This minimum is implemented using specific rules necessary to implement the security controls in support of the policy and standards." For example, requiring a password of at least 8 character would be an example. Requiring all users to have a minimum of an antivirus, a personal firewall, and an anti spyware tool could be another example.

References:

CBK, pp. 12 - 16. Note especially the discussion of the "hammer policy" on pp. 16-17 for the differences between policy, standard, guideline and procedure.

AIO3, pp. 88-93.

**NEW QUESTION 168**

- (Topic 2)

Within the context of the CBK, which of the following provides a MINIMUM level of security ACCEPTABLE for an environment ?

- A. A baseline
- B. A standard
- C. A procedure
- D. A guideline

**Answer:** A

**Explanation:**

Baselines provide the minimum level of security necessary throughout the organization.

Standards specify how hardware and software products should be used throughout the organization.

Procedures are detailed step-by-step instruction on how to achieve certain tasks. Guidelines are recommendation actions and operational guides to personnel when a

specific standard does not apply.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, chapter 3: Security Management Practices (page 94).

**NEW QUESTION 172**

- (Topic 2)

Who is ultimately responsible for the security of computer based information systems within an organization?

- A. The tech support team
- B. The Operation Team.
- C. The management team.
- D. The training team.

**Answer:** C

**Explanation:**

If there is no support by management to implement, execute, and enforce security policies and procedure, then they won't work. Senior management must be involved in this because they have an obligation to the organization to protect the assets. The requirement here is for management to show due diligence in establishing an effective compliance, or security program.

The following answers are incorrect:

The tech support team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

The Operation Team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

The Training Team. Is incorrect because the ultimate responsibility is with management for the security of computer-based information systems.

Reference(s) used for this question:

OIG CBK Information Security Management and Risk Management (page 20 - 22)

**NEW QUESTION 173**

- (Topic 2)

Which of the following is responsible for MOST of the security issues?

- A. Outside espionage
- B. Hackers
- C. Personnel
- D. Equipment failure

**Answer:** C

**Explanation:**

Personnel cause more security issues than hacker attacks, outside espionage, or equipment failure.

The following answers are incorrect because:

Outside espionage is incorrect as it is not the best answer. Hackers is also incorrect as it is not the best answer. Equipment failure is also incorrect as it is not the best answer.

Reference : Shon Harris AIO v3 , Chapter-3: Security Management Practices , Page : 56

**NEW QUESTION 177**

- (Topic 2)

Which of the following exemplifies proper separation of duties?

- A. Operators are not permitted modify the system time.
- B. Programmers are permitted to use the system console.
- C. Console operators are permitted to mount tapes and disks.
- D. Tape operators are permitted to use the system console.

**Answer:** A

**Explanation:**

This is an example of Separation of Duties because operators are prevented from modifying the system time which could lead to fraud. Tasks of this nature should be performed by they system administrators.

AIO defines Separation of Duties as a security principle that splits up a critical task among two or more individuals to ensure that one person cannot complete a risky task by himself.

The following answers are incorrect:

Programmers are permitted to use the system console. Is incorrect because programmers should not be permitted to use the system console, this task should be performed by operators. Allowing programmers access to the system console could allow fraud to occur so this is not an example of Separation of Duties..

Console operators are permitted to mount tapes and disks. Is incorrect because operators should be able to mount tapes and disks so this is not an example of Separation of Duties.

Tape operators are permitted to use the system console. Is incorrect because operators should be able to use the system console so this is not an example of Separation of Duties.

References:

OIG CBK Access Control (page 98 - 101) AIOv3 Access Control (page 182)

**NEW QUESTION 178**

- (Topic 2)

Whose role is it to assign classification level to information?

- A. Security Administrator
- B. User
- C. Owner
- D. Auditor

**Answer:** C

**Explanation:**

The Data/Information Owner is ultimately responsible for the protection of the data. It is the Data/Information Owner that decides upon the classifications of that data they are responsible for.

The data owner decides upon the classification of the data he is responsible for and alters that classification if the business need arises.

The following answers are incorrect:

Security Administrator. Is incorrect because this individual is responsible for ensuring that the access right granted are correct and support the polices and directives that the Data/Information Owner defines.

User. Is Incorrect because the user uses/access the data according to how the Data/Information Owner defined their access.

Auditor. Is incorrect because the Auditor is responsible for ensuring that the access levels are appropriate. The Auditor would verify that the Owner classified the data properly.

References:

CISSP All In One Third Edition, Shon Harris, Page 121

**NEW QUESTION 181**

- (Topic 2)

Which of the following phases of a system development life-cycle is most concerned with establishing a good security policy as the foundation for design?

- A. Development/acquisition
- B. Implementation
- C. Initiation
- D. Maintenance

**Answer: C**

**Explanation:**

A security policy is an important document to develop while designing an information system. The security policy begins with the organization's basic commitment to information security formulated as a general policy statement.

The policy is then applied to all aspects of the system design or security solution. The policy identifies security goals (e.g., confidentiality, integrity, availability, accountability, and assurance) the system should support, and these goals guide the procedures, standards and controls used in the IT security architecture design.

The policy also should require definition of critical assets, the perceived threat, and security-related roles and responsibilities.

Source: STONEBURNER, Gary & al, National Institute of Standards and Technology (NIST), NIST Special Publication 800-27, Engineering Principles for Information Technology Security (A Baseline for Achieving Security), June 2001 (page 6).

**NEW QUESTION 183**

- (Topic 2)

Which of the following security mode of operation does NOT require all users to have the clearance for all information processed on the system?

- A. Compartmented security mode
- B. Multilevel security mode
- C. System-high security mode
- D. Dedicated security mode

**Answer: B**

**Explanation:**

The multilevel security mode permits two or more classification levels of information to be processed at the same time when all the users do not have the clearance of formal approval to access all the information being processed by the system.

In dedicated security mode, all users have the clearance or authorization and need-to-know to all data processed within the system.

In system-high security mode, all users have a security clearance or authorization to access the information but not necessarily a need-to-know for all the information processed on the system (only some of the data).

In compartmented security mode, all users have the clearance to access all the information processed by the system, but might not have the need-to-know and formal access approval.

Generally, Security modes refer to information systems security modes of operations used in mandatory access control (MAC) systems. Often, these systems contain information at various levels of security classification.

The mode of operation is determined by:

The type of users who will be directly or indirectly accessing the system.

The type of data, including classification levels, compartments, and categories, that are processed on the system.

The type of levels of users, their need to know, and formal access approvals that the users will have.

Dedicated security mode

In this mode of operation, all users must have:

Signed NDA for ALL information on the system. Proper clearance for ALL information on the system.

Formal access approval for ALL information on the system. A valid need to know for ALL information on the system.

All users can access ALL data. System high security mode

In this mode of operation, all users must have: Signed NDA for ALL information on the system.

Proper clearance for ALL information on the system.

Formal access approval for ALL information on the system. A valid need to know for SOME information on the system.

All users can access SOME data, based on their need to know. Compartmented security mode

In this mode of operation, all users must have:

Signed NDA for ALL information on the system. Proper clearance for ALL information on the system.

Formal access approval for SOME information they will access on the system. A valid need to know for SOME information on the system.

All users can access SOME data, based on their need to know and formal access approval.

Multilevel security mode

In this mode of operation, all users must have:

Signed NDA for ALL information on the system. Proper clearance for SOME information on the system.

Formal access approval for SOME information on the system. A valid need to know for SOME information on the system.

All users can access SOME data, based on their need to know, clearance and formal

access approval. REFERENCES:

WALLHOFF, John, CBK#6 Security Architecture and Models (CISSP Study Guide), April 2002 (page 6).

and [http://en.wikipedia.org/wiki/Security\\_Modes](http://en.wikipedia.org/wiki/Security_Modes)

**NEW QUESTION 186**

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