



# ISC2

## Exam Questions SSCP

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)

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

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

**Answer:** A

#### Explanation:

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

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

### NEW QUESTION 3

- (Topic 1)

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)

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

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

**Answer: C**

#### Explanation:

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

Reference(s) used for this question:

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

#### NEW QUESTION 5

- (Topic 1)

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

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

**Answer: D**

#### Explanation:

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

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

Handwritten signature dynamics

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

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

#### NEW QUESTION 6

- (Topic 1)

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

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

**Answer: C**

**Explanation:**

Role-based access control (RBAC) gives the security officers the ability to specify and enforce enterprise-specific security policies in a way that maps naturally to an organization's structure. Each user is assigned one or more roles, and each role is assigned one or more privileges that are given to users in that role. An access control list (ACL) is a table that tells a system which access rights each user has to a particular system object. With discretionary access control, administration is decentralized and owners of resources control other users' access. Non-mandatory access control is not a defined access control technique. Source: ANDRESS, Mandy, Exam Cram CISSP, Coriolis, 2001, Chapter 2: Access Control Systems and Methodology (page 9).

**NEW QUESTION 7**

- (Topic 1)

What does the (star) property mean in the Bell-LaPadula model?

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

**Answer: C**

**Explanation:**

The (star) property of the Bell-LaPadula access control model states that writing of information by a subject at a higher level of sensitivity to an object at a lower level of sensitivity is not permitted (no write down).

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 202).

Also check out: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, Chapter 5: Security Models and Architecture (page 242, 243).

**NEW QUESTION 8**

- (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 9**

- (Topic 1)

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

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

**Answer: A**

**Explanation:**

The correct answer is "clipping level". This is the point at which a system decides to take some sort of action when an action repeats a preset number of times. That action may be to log the activity, lock a user account, temporarily close a port, etc.

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

The other answers are not correct because:

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

Reference:

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

All in One Third Edition page: 136 - 137

**NEW QUESTION 10**

- (Topic 1)

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

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

**Answer: C**



**Explanation:**

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

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

**NEW QUESTION 10**

- (Topic 1)

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

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

**Answer: A**

**Explanation:**

According to the cited reference, of the given options, the Retina scan has the lowest user acceptance level as it is needed for the user to get his eye close to a device and it is not user friendly and very intrusive.

However, retina scan is the most precise with about one error per 10 millions usage. Look at the 2 tables below. If necessary right click on the image and save it on your

desktop for a larger view or visit the web site directly at

<https://sites.google.com/site/biometricsecuritysolutions/crossover-accuracy> . Biometric Comparison Chart

**BIOMETRICS COMPARISON CHART**

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

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

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Aspect descriptions:

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

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Biometric Aspect Descriptions Reference(s) used for this question:

RHODES, Keith A., Chief Technologist, United States General Accounting Office, National Preparedness, Technologies to Secure Federal Buildings, April 2002 (page 10).

and

<https://sites.google.com/site/biometricsecuritysolutions/crossover-accuracy>

**NEW QUESTION 14**

- (Topic 1)

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

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

**Answer: A**

**Explanation:**

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

The following answers are incorrect :

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

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

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

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

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

#### NEW QUESTION 17

- (Topic 1)

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

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

**Answer: B**

#### Explanation:

Soft Control is another way of referring to Administrative control.

Technical and Physical controls are NOT soft control, so any choice listing them was not the best answer.

Preventative/Technical is incorrect because although access control can be technical control, it is commonly not referred to as a "soft" control

Preventative/Administrative is correct because access controls are preventative in nature. it is always best to prevent a negative event, however there are times where controls might fail and you cannot prevent everything. Administrative controls are roles, responsibilities, policies, etc which are usually paper based. In the administrative category you would find audit, monitoring, and security awareness as well.

Preventative/Physical pairing is incorrect because Access controls with an emphasis on "soft" mechanisms conflict with the basic concept of physical controls, physical controls are usually tangible objects such as fences, gates, door locks, sensors, etc...

Detective/Administrative Pairing is incorrect because access control is a preventative control used to control access, not to detect violations to access.

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

#### NEW QUESTION 19

- (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 21

- (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.

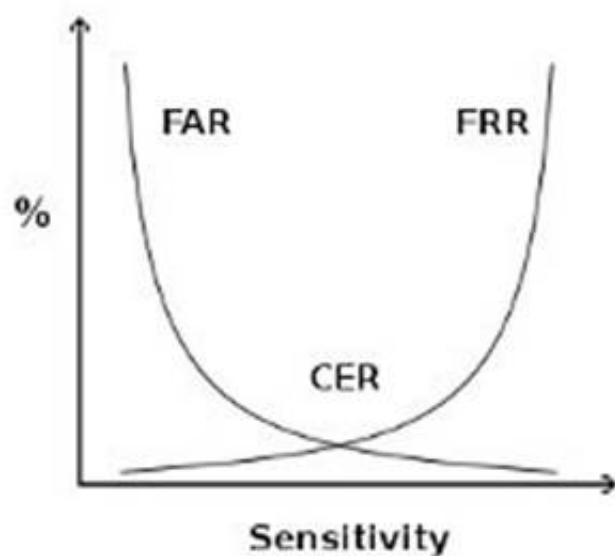
FAR and FRR are key metrics for biometric solutions, some biometric devices or software even allow to tune them so that the system more quickly matches or rejects. Both FRR and FAR are important, but for most applications one of them is considered most important. Two examples to illustrate this:

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 24

- (Topic 1)

Who first described the DoD multilevel military security policy in abstract, formal terms?

- A. David Bell and Leonard LaPadula
- B. Rivest, Shamir and Adleman
- C. Whitfield Diffie and Martin Hellman
- D. David Clark and David Wilson

**Answer:** A

### Explanation:

It was David Bell and Leonard LaPadula who, in 1973, first described the DoD multilevel military security policy in abstract, formal terms. The Bell-LaPadula is a Mandatory Access Control (MAC) model concerned with confidentiality. Rivest, Shamir and Adleman (RSA) developed the RSA encryption algorithm. Whitfield Diffie and Martin Hellman published the Diffie-Hellman key agreement algorithm in 1976. David Clark and David Wilson developed the Clark-Wilson integrity model, more appropriate for security in commercial activities.

Source: RUSSEL, Deborah & GANGEMI, G.T. Sr., Computer Security Basics, O'Reilly, July 1992 (pages 78,109).



#### NEW QUESTION 26

- (Topic 1)

What is the name of the first mathematical model of a multi-level security policy used to define the concept of a secure state, the modes of access, and rules for granting access?

- A. Clark and Wilson Model
- B. Harrison-Ruzzo-Ullman Model
- C. Rivest and Shamir Model
- D. Bell-LaPadula Model

**Answer: D**

#### Explanation:

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

#### NEW QUESTION 27

- (Topic 1)

Which type of control is concerned with avoiding occurrences of risks?

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

**Answer: C**

#### Explanation:

Preventive controls are concerned with avoiding occurrences of risks while deterrent controls are concerned with discouraging violations. Detecting controls identify occurrences and compensating controls are alternative controls, used to compensate weaknesses in other controls. Supervision is an example of compensating control. Source: TIPTON, Hal, (ISC)2, Introduction to the CISSP Exam presentation.

#### NEW QUESTION 31

- (Topic 1)

What is called the percentage at which the False Rejection Rate equals the False Acceptance Rate?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. Failure to enroll rate (FTE or FER)

**Answer: C**

#### Explanation:

The percentage at which the False Rejection Rate equals the False Acceptance Rate is called the Crossover Error Rate (CER). Another name for the CER is the Equal Error Rate (EER), any of the two terms could be used.

Equal error rate or crossover error rate (EER or CER)

It is the rate at which both accept and reject errors are equal. 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.

The other choices were all wrong answers:

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. This is when an impostor would be accepted by the system.

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. This is when a valid company employee would be rejected by the system.

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.

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 38.

and <https://en.wikipedia.org/wiki/Biometrics>

#### NEW QUESTION 33

- (Topic 1)

Which of the following is not a two-factor authentication mechanism?

- A. Something you have and something you know.
- B. Something you do and a password.
- C. A smartcard and something you are.
- D. Something you know and a password.

**Answer: D**

#### Explanation:

Something you know and a password fits within only one of the three ways authentication could be done. A password is an example of something you know, thereby something you know and a password does not constitute a two-factor authentication as both are in the same category of factors.

A two-factor (strong) authentication relies on two different kinds of authentication factors out of a list of three possible choice:

something you know (e.g. a PIN or password),

something you have (e.g. a smart card, token, magnetic card),

something you are is mostly Biometrics (e.g. a fingerprint) or something you do (e.g. signature dynamics).

TIP FROM CLEMENT:

On the real exam you can expect to see synonyms and sometimes sub-categories under the main categories. People are familiar with Pin, Passphrase, Password as subset of Something you know.

However, when people see choices such as Something you do or Something you are they immediately get confused and they do not think of them as subset of Biometrics where you have Biometric implementation based on behavior and physiological attributes. So something you do falls under the Something you are category as a subset.

Something your do would be signing your name or typing text on your keyboard for example.

Strong authentication is simply when you make use of two factors that are within two different categories.

Reference(s) used for this question:

Shon Harris, CISSP All In One, Fifth Edition, pages 158-159

#### NEW QUESTION 35

- (Topic 1)

Which security model ensures that actions that take place at a higher security level do not affect actions that take place at a lower level?

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

**Answer: C**

#### Explanation:

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

The model ensures that any actions that take place at a higher security level do not affect, or interfere with, actions that take place at a lower level.

It is not concerned with the flow of data, but rather with what a subject knows about the state of the system. So if an entity at a higher security level performs an action, it can not change the state for the entity at the lower level.

The model also addresses the inference attack that occurs when some one has access to some type of information and can infer(guess) something that he does not have the clearance level or authority to know.

The following are incorrect answers:

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

The information flow model is incorrect. The information flow models have a similar framework to the Bell-LaPadula model and control how information may flow between objects based on security classes. Information will be allowed to flow only in accordance with the security policy.

The Clark-Wilson model is incorrect. The Clark-Wilson model is concerned with change control and assuring that all modifications to objects preserve integrity by means of well- formed transactions and usage of an access triple (subject - interface - object).

References:

CBK, pp 325 - 326

AIO3, pp. 290 - 291

AIOv4 Security Architecture and Design (page 345)

AIOv5 Security Architecture and Design (pages 347 - 348)

[https://en.wikibooks.org/wiki/Security\\_Architecture\\_and\\_Design/Security\\_Models#Noninterference\\_Models](https://en.wikibooks.org/wiki/Security_Architecture_and_Design/Security_Models#Noninterference_Models)

#### NEW QUESTION 39

- (Topic 1)

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

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

**Answer: D**

#### Explanation:

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

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

#### NEW QUESTION 42

- (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 44

- (Topic 1)

Which division of the Orange Book deals with discretionary protection (need-to-know)?

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

**Answer:** B

**Explanation:**

C deals with discretionary protection. See matrix below:

### TNI/TCSEC MATRIX

	A1	B3	B2	B1	C2	C1
<b>DISCRETIONARY ACCESS</b>						
Discretionary Access Control						
Identification and Authentication						
System Integrity						
System Architecture						
Security Testing						
Security Features User's Guide Trusted Facility						
Manual Design Documentation Test Documentation						
<b>CONTROLLED ACCESS</b>						
Protect Audit Trails						
Object Reuse						
<b>MANDATORY ACCESS CONTROL</b>						
Labels						
Mandatory Access Control						
Process isolation in system architecture						
Design Specification & Verification						
Device labels						
Subject Sensitivity Labels						
Trusted Path						
Separation of Administrator and User functions						
Covert Channel Analysis (Only Covert Storage Channel at B2)						
Trusted Facility Management						
Configuration Management						
Trusted Recovery						
Covert Channel Analysis (Both Timing and Covert Channel analysis at B3)						
Security Administrator Role Defined						
Monitor events and notify security personnel						
Trusted Distribution						
Formal Methods						
	A1	B3	B2	B1	C2	C1

C:\Users\MCS\Desktop\1.jpg

TCSEC Matric

The following are incorrect answers:

D is incorrect. D deals with minimal security.

B is incorrect. B deals with mandatory protection. A is incorrect. A deals with verified protection. Reference(s) used for this question:

CBK, p. 329 – 330

and

Shon Harris, CISSP All In One (AIO), 6th Edition , page 392-393

#### NEW QUESTION 49

- (Topic 1)

This is a common security issue that is extremely hard to control in large environments. It occurs when a user has more computer rights, permissions, and access than what is required for the tasks the user needs to fulfill. What best describes this scenario?

- A. Excessive Rights
- B. Excessive Access
- C. Excessive Permissions
- D. Excessive Privileges

**Answer:** D

**Explanation:**

Even thou all 4 terms are very close to each other, the best choice is Excessive Privileges which would include the other three choices presented.

Reference(s) used for this question:

HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw-Hill/Osborne, 2001, Page 645.

and

#### NEW QUESTION 52

- (Topic 1)

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

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

D. passwords

**Answer:** D

**Explanation:**

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

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

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

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

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

**NEW QUESTION 54**

- (Topic 1)

The controls that usually require a human to evaluate the input from sensors or cameras to determine if a real threat exists are associated with:

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

**Answer:** C

**Explanation:**

Detective/physical controls usually require a human to evaluate the input from sensors or cameras to determine if a real threat exists.

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 57**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

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

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

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

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

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

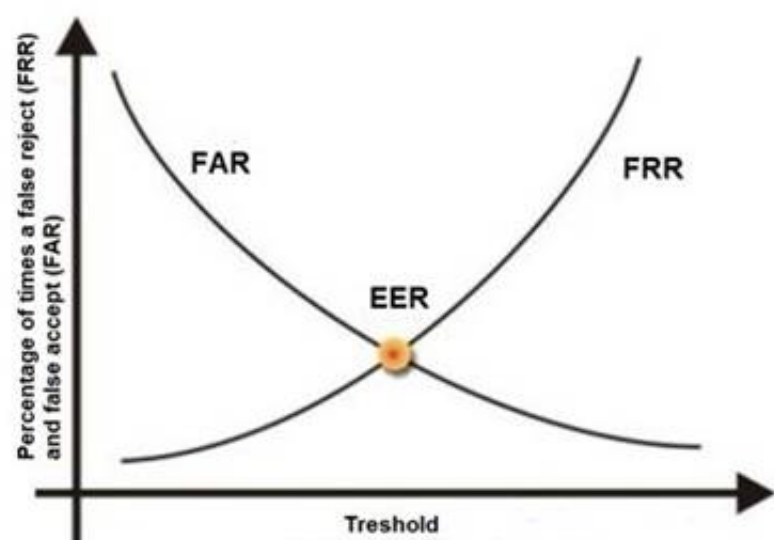
The goal is to obtain low numbers for each type of error, but When comparing different biometric systems, many different variables are used, but one of the most important metrics is the crossover error rate (CER).

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

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

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

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



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

The other answers are incorrect:

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

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



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

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

and

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

and

Tech Republic, Reduce Multi\_Factor Authentication Cost

#### NEW QUESTION 58

- (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 61

- (Topic 1)

What is called the percentage of valid subjects that are falsely rejected by a Biometric Authentication system?

- A. False Rejection Rate (FRR) or Type I Error
- B. False Acceptance Rate (FAR) or Type II Error
- C. Crossover Error Rate (CER)
- D. True Rejection Rate (TRR) or Type III Error

**Answer:** A

#### Explanation:

The percentage of valid subjects that are falsely rejected is called the False Rejection Rate (FRR) or Type I Error.

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 63

- (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 66

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

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

The following answers are incorrect:

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

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

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

#### NEW QUESTION 70

- (Topic 1)

Which type of attack involves impersonating a user or a system?

- A. Smurfing attack
- B. Spoofing attack
- C. Spamming attack
- D. Sniffing attack

**Answer:** B

#### Explanation:

A spoofing attack is when an attempt is made to gain access to a computer system by posing as an authorized user or system. Spamming refers to sending out or posting junk advertising and unsolicited mail. A smurf attack is a type of denial-of-service attack using PING and a spoofed address. Sniffing refers to observing packets passing on a network.

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 77).

#### NEW QUESTION 73

- (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 77

- (Topic 1)

Which of the following would be an example of the best password?

- A. golf001
- B. Elizabeth
- C. T1me4g0lF
- D. password

**Answer:** C

#### Explanation:

The best passwords are those that are both easy to remember and hard to crack using a dictionary attack. The best way to create passwords that fulfil both criteria is to use two small unrelated words or phonemes, ideally with upper and lower case characters, a special character, and/or a number. Shouldn't be used: common names, DOB, spouse, phone numbers, words found in dictionaries or system defaults.

Source: ROTHKE, Ben, CISSP CBK Review presentation on domain 1.

#### NEW QUESTION 81

- (Topic 1)

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

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

**Answer:** B

#### Explanation:

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

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

The following answers are incorrect:

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

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

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

Reference(s) used for this question:

OIG CBK, Access Control (pages 186 - 188)

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

Wikipedia - [http://en.wikipedia.org/wiki/Mandatory\\_Access\\_Control](http://en.wikipedia.org/wiki/Mandatory_Access_Control)

#### NEW QUESTION 86

- (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 87

- (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 88

- (Topic 1)

Which TCSEC level is labeled Controlled Access Protection?

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

**Answer:** B

#### Explanation:

C2 is labeled Controlled Access Protection.

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

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

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

D — Minimal protection

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

C — Discretionary protection

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

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

Required System Documentation and user manuals C2 — Controlled Access Protection

More finely grained DAC

Individual accountability through login procedures Audit trails

Object reuse Resource isolation

B — Mandatory protection

B1 — Labeled Security Protection

Informal statement of the security policy model Data sensitivity labels

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

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

B2 — Structured Protection

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

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

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

B3 — Security Domains

Satisfies reference monitor requirements

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

Audit security-relevant events

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

Covert timing channels are analyzed for occurrence and bandwidth

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

A1 — Verified Design Functionally identical to B3

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

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

Beyond A1

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

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

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

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

The following are incorrect answers: C1 is Discretionary security

C3 does not exist, it is only a detractor

B1 is called Labeled Security Protection.

Reference(s) used for this question:

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

and

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

#### NEW QUESTION 91

- (Topic 1)

The primary service provided by Kerberos is which of the following?

- A. non-repudiation
- B. confidentiality
- C. authentication
- D. authorization

**Answer: C**

#### Explanation:

The Answer authentication. Kerberos is an authentication service. It can use single-factor or multi-factor authentication methods.

The following answers are incorrect:

non-repudiation. Since Kerberos deals primarily with symmetric cryptography, it does not help with non-repudiation.

confidentiality. Once the client is authenticated by Kerberos and obtains its session key and ticket, it may use them to assure confidentiality of its communication with a server; however, that is not a Kerberos service as such.

authorization. Although Kerberos tickets may include some authorization information, the meaning of the authorization fields is not standardized in the Kerberos specifications, and authorization is not a primary Kerberos service.

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

ISC2 OIG, 2007 p. 179-184

Shon Harris AIO v.3 152-155

#### NEW QUESTION 96

- (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 happens 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 101

- (Topic 1)

What is the difference between Access Control Lists (ACLs) and Capability Tables?

- A. Access control lists are related/attached to a subject whereas capability tables are related/attached to an object.
- B. Access control lists are related/attached to an object whereas capability tables are related/attached to a subject.
- C. Capability tables are used for objects whereas access control lists are used for users.
- D. They are basically the same.

**Answer: B**

#### Explanation:

Capability tables are used to track, manage and apply controls based on the object and rights, or capabilities of a subject. For example, a table identifies the object, specifies access rights allowed for a subject, and permits access based on the user's possession of a capability (or ticket) for the object. It is a row within the matrix.

To put it another way, A capability table is different from an ACL because the subject is bound to the capability table, whereas the object is bound to the ACL.

CLEMENT NOTE:

If we wish to express this very simply:

Capabilities are attached to a subject and it describes what access the subject has to each of the objects on the row that matches with the subject within the matrix.

It is a row within the matrix.

ACL's are attached to objects, it describes who has access to the object and what type of access they have. It is a column within the matrix.



The following are incorrect answers:

"Access control lists are subject-based whereas capability tables are object-based" is incorrect.

"Capability tables are used for objects whereas access control lists are used for users" is incorrect.

"They are basically the same" is incorrect. References used for this question:

CBK, pp. 191 - 192

AIO3 p. 169

#### NEW QUESTION 102

- (Topic 1)

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

A. depending on the criticality of the information needing protection

B. depending on the criticality of the information needing protection and the password's frequency of use

C. depending on the password's frequency of use

D. not depending on the criticality of the information needing protection but depending on the password's frequency of use

**Answer: B**

#### Explanation:

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

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

#### NEW QUESTION 106

- (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 110

- (Topic 1)

How should a doorway of a manned facility with automatic locks be configured?

A. It should be configured to be fail-secure.

B. It should be configured to be fail-safe.

C. It should have a door delay cipher lock.

D. It should not allow piggybacking.

**Answer: B**

#### Explanation:

Access controls are meant to protect facilities and computers as well as people.

In some situations, the objectives of physical access controls and the protection of people's lives may come into conflict. In these situations, a person's life always takes precedence.

Many physical security controls make entry into and out of a facility hard, if not impossible. However, special consideration needs to be taken when this could affect lives. In an information processing facility, different types of locks can be used and piggybacking should be prevented, but the issue here with automatic locks is that they can either be configured as fail-safe or fail-secure.

Since there should only be one access door to an information processing facility, the

automatic lock to the only door to a man-operated room must be configured to allow people out in case of emergency, hence to be fail-safe (sometimes called fail-open), meaning that upon fire alarm activation or electric power failure, the locking device unlocks. This is because the solenoid that maintains power to the lock to keep it in a locked state fails and thus opens or unlocks the electronic lock.

Fail Secure works just the other way. The lock device is in a locked or secure state with no power applied. Upon authorized entry, a solenoid unlocks the lock temporarily. Thus in a Fail Secure lock, loss of power or fire alarm activation causes the lock to remain in a secure mode.

Reference(s) used for this question:

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 451). McGraw-Hill. Kindle Edition.

and

Hernandez CISSP, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 20249-20251). Auerbach Publications. Kindle Edition.

#### NEW QUESTION 111

- (Topic 1)

Which of the following statements pertaining to RADIUS is incorrect:

A. A RADIUS server can act as a proxy server, forwarding client requests to other authentication domains.

B. Most of RADIUS clients have a capability to query secondary RADIUS servers for redundancy.

- C. Most RADIUS servers have built-in database connectivity for billing and reporting purposes.
- D. Most RADIUS servers can work with DIAMETER servers.

**Answer: D**

**Explanation:**

This is the correct answer because it is FALSE.

Diameter is an AAA protocol, AAA stands for authentication, authorization and accounting protocol for computer networks, and it is a successor to RADIUS.

The name is a pun on the RADIUS protocol, which is the predecessor (a diameter is twice the radius).

The main differences are as follows:

Reliable transport protocols (TCP or SCTP, not UDP)

The IETF is in the process of standardizing TCP Transport for RADIUS Network or transport layer security (IPsec or TLS)

The IETF is in the process of standardizing Transport Layer Security for RADIUS Transition support for RADIUS, although Diameter is not fully compatible with

RADIUS Larger address space for attribute-value pairs (AVPs) and identifiers (32 bits instead of 8 bits)

Client-server protocol, with exception of supporting some server-initiated messages as well Both stateful and stateless models can be used

Dynamic discovery of peers (using DNS SRV and NAPTR) Capability negotiation

Supports application layer acknowledgements, defines failover methods and state machines (RFC 3539)

Error notification Better roaming support

More easily extended; new commands and attributes can be defined Aligned on 32-bit boundaries

Basic support for user-sessions and accounting

A Diameter Application is not a software application, but a protocol based on the Diameter base protocol (defined in RFC 3588). Each application is defined by an application identifier and can add new command codes and/or new mandatory AVPs. Adding a new optional AVP does not require a new application.

Examples of Diameter applications:

Diameter Mobile IPv4 Application (MobileIP, RFC 4004)

Diameter Network Access Server Application (NASREQ, RFC 4005) Diameter Extensible Authentication Protocol (EAP) Application (RFC 4072) Diameter Credit-Control Application (DCCA, RFC 4006)

Diameter Session Initiation Protocol Application (RFC 4740) Various applications in the 3GPP IP Multimedia Subsystem

All of the other choices presented are true. So Diameter is backward compatible with Radius (to some extent) but the opposite is false.

Reference(s) used for this question:

TIPTON, Harold F. & KRAUSE, MICKI, Information Security Management Handbook, 4th Edition, Volume 2, 2001, CRC Press, NY, Page 38.

and [https://secure.wikimedia.org/wikipedia/en/wiki/Diameter\\_%28protocol%29](https://secure.wikimedia.org/wikipedia/en/wiki/Diameter_%28protocol%29)

**NEW QUESTION 115**

- (Topic 2)

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

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

**Answer: B**

**Explanation:**

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

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

**NEW QUESTION 120**

- (Topic 2)

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

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

**Answer: D**

**Explanation:**

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

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

**NEW QUESTION 122**

- (Topic 2)

Which of the following choice is NOT normally part of the questions that would be asked in regards to an organization's information security policy?

- A. Who is involved in establishing the security policy?
- B. Where is the organization's security policy defined?
- C. What are the actions that need to be performed in case of a disaster?
- D. Who is responsible for monitoring compliance to the organization's security policy?

**Answer: C**

**Explanation:**

Actions to be performed in case of a disaster are not normally part of an information security policy but part of a Disaster Recovery Plan (DRP).

Only personnel implicated in the plan should have a copy of the Disaster Recovery Plan whereas everyone should be aware of the contents of the organization's information security policy.

Source: ALLEN, Julia H., The CERT Guide to System and Network Security Practices, Addison-Wesley, 2001, Appendix B, Practice-Level Policy Considerations (page 398).

#### NEW QUESTION 124

- (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 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 126

- (Topic 2)

A 'Pseudo flaw' is which of the following?

- A. An apparent loophole deliberately implanted in an operating system program as a trap for intruders.
- B. An omission when generating Psuedo-code.
- C. Used for testing for bounds violations in application programming.
- D. A normally generated page fault causing the system to halt.

**Answer: A**

#### Explanation:

A Pseudo flaw is something that looks like it is vulnerable to attack, but really acts as an alarm or triggers automatic actions when an intruder attempts to exploit the flaw.

The following answers are incorrect:

An omission when generating Psuedo-code. Is incorrect because it is a distractor. Used for testing for bounds violations in application programming. Is incorrect, this is a testing methodology.

A normally generated page fault causing the system to halt. This is incorrect because it is distractor.

#### NEW QUESTION 130

- (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 131

- (Topic 2)

Which of the following statements pertaining to protection rings is false?

- A. They provide strict boundaries and definitions on what the processes that work within each ring can access.
- B. Programs operating in inner rings are usually referred to as existing in a privileged mode.
- C. They support the CIA triad requirements of multitasking operating systems.
- D. They provide users with a direct access to peripherals

**Answer: D**

**Explanation:**

In computer science, hierarchical protection domains, often called protection rings, are mechanisms to protect data and functionality from faults (fault tolerance) and malicious behaviour (computer security). This approach is diametrically opposite to that of capability-based security. Computer operating systems provide different levels of access to resources. A protection ring is one of two or more hierarchical levels or layers of privilege within the architecture of a computer system. This is generally hardware-enforced by some CPU architectures that provide different CPU modes at the hardware or microcode level.

Rings are arranged in a hierarchy from most privileged (most trusted, usually numbered zero) to least privileged (least trusted, usually with the highest ring number). On most operating systems, Ring 0 is the level with the most privileges and interacts most directly with the physical hardware such as the CPU and memory.

Special gates between rings are provided to allow an outer ring to access an inner ring's resources in a predefined manner, as opposed to allowing arbitrary usage. Correctly gating access between rings can improve security by preventing programs from one ring or privilege level from misusing resources intended for programs in another. For example,

spyware running as a user program in Ring 3 should be prevented from turning on a web camera without informing the user, since hardware access should be a Ring 1 function reserved for device drivers. Programs such as web browsers running in higher numbered rings must request access to the network, a resource restricted to a lower numbered ring.

"They provide strict boundaries and definitions on what the processes that work within each ring can access" is incorrect. This is in fact one of the characteristics of a ring protection system.

"Programs operating in inner rings are usually referred to as existing in a privileged mode" is incorrect. This is in fact one of the characteristics of a ring protection system.

"They support the CIA triad requirements of multitasking operating systems" is incorrect. This is in fact one of the characteristics of a ring protection system.

Reference(s) used for this question: CBK, pp. 310-311

AIO3, pp. 253-256

AIOv4 Security Architecture and Design (pages 308 - 310) AIOv5 Security Architecture and Design (pages 309 - 312)

**NEW QUESTION 135**

- (Topic 2)

Which of the following refers to the data left on the media after the media has been erased?

- A. remanence
- B. recovery
- C. sticky bits
- D. semi-hidden

**Answer: A**

**Explanation:**

Actually the term "remanence" comes from electromagnetism, the study of the electromagnetics. Originally referred to (and still does in that field of study) the magnetic flux that remains in a magnetic circuit after an applied magnetomotive force has been removed. Absolutely no way a candidate will see anywhere near that much detail on any similar CISSP question, but having read this, a candidate won't be likely to forget it either.

It is becoming increasingly commonplace for people to buy used computer equipment, such as a hard drive, or router, and find information on the device left there by the previous owner; information they thought had been deleted. This is a classic example of data remanence: the remains of partial or even the entire data set of digital information. Normally, this refers to the data that remain on media after they are written over or degaussed. Data remanence is most common in storage systems but can also occur in memory.

Specialized hardware devices known as degaussers can be used to erase data saved to magnetic media. The measure of the amount of energy needed to reduce the magnetic field on the media to zero is known as coercivity.

It is important to make sure that the coercivity of the degausser is of sufficient strength to meet object reuse requirements when erasing data. If a degausser is used with insufficient coercivity, then a remanence of the data will exist. Remanence is the measure of the existing magnetic field on the media; it is the residue that remains after an object is degaussed or written over.

Data is still recoverable even when the remanence is small. While data remanence exists, there is no assurance of safe object reuse.

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 4207-4210). 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 19694-19699). Auerbach Publications. Kindle Edition.

**NEW QUESTION 139**

- (Topic 2)

According to private sector data classification levels, how would salary levels and medical information be classified?

- A. Public.
- B. Internal Use Only.
- C. Restricted.
- D. Confidential.

**Answer: D**

**Explanation:**

Typically there are three to four levels of information classification used by most organizations:

**Confidential:** Information that, if released or disclosed outside of the organization, would create severe problems for the organization. For example, information that provides a competitive advantage is important to the technical or financial success (like trade secrets, intellectual property, or research designs), or protects the privacy of individuals would be considered confidential. Information may include payroll information, health records, credit information, formulas, technical designs, restricted regulatory information, senior management internal correspondence, or business strategies or plans. These may also be called top secret, privileged, personal, sensitive, or highly confidential. In other words this information is ok within a defined group in the company such as marketing or sales, but is not suited for release to anyone else in the company without permission.

The following answers are incorrect:

**Public:** Information that may be disclosed to the general public without concern for harming the company, employees, or business partners. No special protections are required, and information in this category is sometimes referred to as unclassified. For example, information that is posted to a company's public Internet site, publicly released announcements, marketing materials, cafeteria menus, and any internal documents that would not present harm to the company if they were disclosed would be classified as public. While there is little concern for confidentiality, integrity and availability should be considered.

**Internal Use Only:** Information that could be disclosed within the company, but could harm the company if disclosed externally. Information such as customer lists,



vendor pricing, organizational policies, standards and procedures, and internal organization announcements would need baseline security protections, but do not rise to the level of protection as confidential information. In other words, the information may be used freely within the company but any unapproved use outside the company can pose a chance of harm.

Restricted: Information that requires the utmost protection or, if discovered by unauthorized personnel, would cause irreparable harm to the organization would have the highest level of classification. There may be very few pieces of information like this within an organization, but data classified at this level requires all the access control and protection mechanisms available to the organization. Even when information classified at this level exists, there will be few copies of it

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 952-976). Auerbach Publications. Kindle Edition.

#### NEW QUESTION 144

- (Topic 2)

A channel within a computer system or network that is designed for the authorized transfer of information is identified as a(n)?

- A. Covert channel
- B. Overt channel
- C. Opened channel
- D. Closed channel

**Answer: B**

#### Explanation:

An overt channel is a path within a computer system or network that is designed for the authorized transfer of data. The opposite would be a covert channel which is an unauthorized path.

A covert channel is a way for an entity to receive information in an unauthorized manner. It is an information flow that is not controlled by a security mechanism.

This type of information path was not developed for communication; thus, the system does not properly protect this path, because the developers never envisioned information being passed in this way. Receiving information in this manner clearly violates the system's security policy.

All of the other choices are bogus detractors. 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 219. and

Shon Harris, CISSP All In One (AIO), 6th Edition , page 380 and

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (p. 378). McGraw- Hill. Kindle Edition.

#### NEW QUESTION 146

- (Topic 2)

One of the following assertions is NOT a characteristic of Internet Protocol Security (IPsec)

- A. Data cannot be read by unauthorized parties
- B. The identity of all IPsec endpoints are confirmed by other endpoints
- C. Data is delivered in the exact order in which it is sent
- D. The number of packets being exchanged can be counted.

**Answer: C**

#### Explanation:

IPSec provide replay protection that ensures data is not delivered multiple times, however IPsec does not ensure that data is delivered in the exact order in which it is sent. IPSEC uses TCP and packets may be delivered out of order to the receiving side depending which route was taken by the packet.

Internet Protocol Security (IPsec) has emerged as the most commonly used network layer security control for protecting communications. IPsec is a framework of open standards for ensuring private communications over IP networks. Depending on how IPsec is implemented and configured, it can provide any combination of the following types of protection:

Confidentiality. IPsec can ensure that data cannot be read by unauthorized parties. This is accomplished by encrypting data using a cryptographic algorithm and a secret key a value known only to the two parties exchanging data. The data can only be decrypted by someone who has the secret key.

Integrity. IPsec can determine if data has been changed (intentionally or unintentionally) during transit. The integrity of data can be assured by generating a message authentication code (MAC) value, which is a cryptographic checksum of the data. If the data is altered and the MAC is recalculated, the old and new MACs will differ.

Peer Authentication. Each IPsec endpoint confirms the identity of the other IPsec endpoint with which it wishes to communicate, ensuring that the network traffic and data is being sent from the expected host.

Replay Protection. The same data is not delivered multiple times, and data is not delivered grossly out of order. However, IPsec does not ensure that data is delivered in the exact order in which it is sent.

Traffic Analysis Protection. A person monitoring network traffic does not know which parties are communicating, how often communications are occurring, or how much data is being exchanged. However, the number of packets being exchanged can be counted.

Access Control. IPsec endpoints can perform filtering to ensure that only authorized IPsec users can access particular network resources. IPsec endpoints can also allow or block certain types of network traffic, such as allowing Web server access but denying file sharing.

The following are incorrect answers because they are all features provided by IPSEC:

"Data cannot be read by unauthorized parties" is wrong because IPsec provides confidentiality through the usage of the Encapsulating Security Protocol (ESP), once encrypted the data cannot be read by unauthorized parties because they have access only to the ciphertext. This is accomplished by encrypting data using a cryptographic algorithm and a session key, a value known only to the two parties exchanging data. The data can only be decrypted by someone who has a copy of the session key.

"The identity of all IPsec endpoints are confirmed by other endpoints" is wrong because IPsec provides peer authentication: Each IPsec endpoint confirms the identity of the other IPsec endpoint with which it wishes to communicate, ensuring that the network traffic and data is being sent from the expected host.

"The number of packets being exchanged can be counted" is wrong because although IPsec provides traffic protection where a person monitoring network traffic does not know which parties are communicating, how often communications are occurring, or how much data is being exchanged, the number of packets being exchanged still can be counted.

Reference(s) used for this question:

NIST 800-77 Guide to IPsec VPNs . Pages 2-3 to 2-4

#### NEW QUESTION 147

- (Topic 2)

What is the main issue with media reuse?

- A. Degaussing
- B. Data remanence
- C. Media destruction
- D. Purging

**Answer: B**

**Explanation:**

The main issue with media reuse is data remanence, where residual information still resides on a media that has been erased. Degaussing, purging and destruction are ways to handle media that contains data that is no longer needed or used. Source: WALLHOFF, John, CBK#10 Physical Security (CISSP Study Guide), April 2002 (page 5).

**NEW QUESTION 151**

- (Topic 2)

The Orange Book states that "Hardware and software features shall be provided that can be used to periodically validate the correct operation of the on-site hardware and firmware elements of the TCB [Trusted Computing Base]." This statement is the formal requirement for:

- A. Security Testing.
- B. Design Verification.
- C. System Integrity.
- D. System Architecture Specification.

**Answer: C**

**Explanation:**

This is a requirement starting as low as C1 within the TCSEC rating.

The Orange book requires the following for System Integrity Hardware and/or software features shall be provided that can be used to periodically validate the correct operation of the on-site hardware and firmware elements of the TCB.

NOTE FROM CLEMENT:

This is a question that confuses a lot of people because most people take for granted that the orange book with its associated Bell LaPadula model has nothing to do with integrity. However you have to be careful about the context in which the word integrity is being used. You can have Data Integrity and you can have System Integrity which are two completely different things.

Yes, the Orange Book does not specifically address the Integrity requirements, however it has to run on top of systems that must meet some integrity requirements.

This is part of what they call operational assurance which is defined as a level of confidence of a trusted system's architecture and implementation that enforces the system's security policy. It includes:

System architecture Covert channel analysis System integrity Trusted recovery

DATA INTEGRITY

Data Integrity is very different from System Integrity. When you have integrity of the data, there are three goals:

- \* 1. Prevent authorized users from making unauthorized modifications
- \* 2. Prevent unauthorized users from making modifications
- \* 3. Maintaining internal and external consistency of the data

Bell LaPadula which is based on the Orange Book address does not address Integrity, it addresses only Confidentiality.

Biba address only the first goal of integrity.

Clark-Wilson addresses the three goals of integrity.

In the case of this question, there is a system integrity requirement within the TCB. As mentioned above here is an extract of the requirements: Hardware and/or software features shall be provided that can be used to periodically validate the correct operation of the on-site hardware and firmware elements of the TCB.

The following answers are incorrect:

Security Testing. Is incorrect because Security Testing has no set of requirements in the Orange book.

Design Verification. Is incorrect because the Orange book's requirements for Design Verification include: A formal model of the security policy must be clearly identified and documented, including a mathematical proof that the model is consistent with its axioms and is sufficient to support the security policy.

System Architecture Specification. Is incorrect because there are no requirements for System Architecture Specification in the Orange book.

The following reference(s) were used for this question:

Trusted Computer Security Evaluation Criteria (TCSEC), DoD 5200.28-STD, page 15, 18, 25, 31, 40, 50.

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition, Security Architecture and Design, Page 392-397, for users with the Kindle Version see Kindle Locations 28504-28505.

and

DOD TCSEC - <http://www.cerberussystems.com/INFOSEC/stds/d520028.htm>

**NEW QUESTION 156**

- (Topic 2)

What can best be defined as the sum of protection mechanisms inside the computer, including hardware, firmware and software?

- A. Trusted system
- B. Security kernel
- C. Trusted computing base
- D. Security perimeter

**Answer: C**

**Explanation:**

The Trusted Computing Base (TCB) is defined as the total combination of protection mechanisms within a computer system. The TCB includes hardware, software, and firmware. These are part of the TCB because the system is sure that these components will enforce the security policy and not violate it.

The security kernel is made up of hardware, software, and firmware components that fall within the TCB and implements and enforces the reference monitor concept.

Reference:

AI0v4 Security Models and Architecture pgs 268, 273

**NEW QUESTION 157**

- (Topic 2)

What is the appropriate role of the security analyst in the application system development or acquisition project?

- A. policeman
- B. control evaluator & consultant
- C. data owner
- D. application user

**Answer: B**

**Explanation:**

The correct answer is "control evaluator & consultant". During any system development or acquisition, the security staff should evaluate security controls and advise (or consult) on the strengths and weaknesses with those responsible for making the final decisions on the project.

The other answers are not correct because:

policeman - It is never a good idea for the security staff to be placed into this type of role (though it is sometimes unavoidable). During system development or acquisition, there should be no need of anyone filling the role of policeman.

data owner - In this case, the data owner would be the person asking for the new system to manage, control, and secure information they are responsible for. While it is possible the security staff could also be the data owner for such a project if they happen to have responsibility for the information, it is also possible someone else would fill this role. Therefore, the best answer remains "control evaluator & consultant".

application user - Again, it is possible this could be the security staff, but it could also be many other people or groups. So this is not the best answer.

Reference:

Official ISC2 Guide page: 555 - 560

All in One Third Edition page: 832 - 846

**NEW QUESTION 159**

- (Topic 2)

When backing up an applications system's data, which of the following is a key question to be answered first?

- A. When to make backups
- B. Where to keep backups
- C. What records to backup
- D. How to store backups

**Answer: C**

**Explanation:**

It is critical that a determination be made of WHAT data is important and should be retained and protected. Without determining the data to be backed up, the potential for error increases. A record or file could be vital and yet not included in a backup routine. Alternatively, temporary or insignificant files could be included in a backup routine unnecessarily.

The following answers were incorrect:

When to make backups Although it is important to consider schedules for backups, this is done after the decisions are made of what should be included in the backup routine.

Where to keep backups The location of storing backup copies of data (Such as tapes, on- line backups, etc) should be made after determining what should be included in the backup routine and the method to store the backup.

How to store backups The backup methodology should be considered after determining what data should be included in the backup routine.

**NEW QUESTION 162**

- (Topic 2)

A security evaluation report and an accreditation statement are produced in which of the following phases of the system development life cycle?

- A. project initiation and planning phase
- B. system design specification phase
- C. development & documentation phase
- D. acceptance phase

**Answer: D**

**Explanation:**

The Answer: "acceptance phase". Note the question asks about an

"evaluation report" - which details how the system evaluated, and an "accreditation statement" which describes the level the system is allowed to operate at.

Because those two activities are a part of testing and testing is a part of the acceptance phase, the only answer above that can be correct is "acceptance phase".

The other answers are not correct because:

The "project initiation and planning phase" is just the idea phase. Nothing has been developed yet to be evaluated, tested, accredited, etc.

The "system design specification phase" is essentially where the initiation and planning phase is fleshed out. For example, in the initiation and planning phase, we might decide we want the system to have authentication. In the design specification phase, we decide that that authentication will be accomplished via username/password. But there is still nothing actually developed at this point to evaluate or accredit.

The "development & documentation phase" is where the system is created and documented. Part of the documentation includes specific evaluation and accreditation criteria. That is the criteria that will be used to evaluate and accredit the system during the "acceptance phase".

In other words - you cannot evaluate or accredit a system that has not been created yet. Of the four answers listed, only the acceptance phase is dealing with an existing system. The others deal with planning and creating the system, but the actual system isn't there yet.

Reference:

Official ISC2 Guide Page: 558 - 559

All in One Third Edition page: 832 - 833 (recommended reading)

**NEW QUESTION 166**

- (Topic 2)

Degaussing is used to clear data from all of the following medias except:

- A. Floppy Disks
- B. Read-Only Media

- C. Video Tapes
- D. Magnetic Hard Disks

**Answer: B**

**Explanation:**

Atoms and Data

Shon Harris says: "A device that performs degaussing generates a coercive magnetic force that reduces the magnetic flux density of the storage media to zero.

This magnetic force is what properly erases data from media. Data are stored on magnetic media by the representation of the polarization of the atoms.

Degaussing changes"

The latest ISC2 book says:

"Degaussing can also be a form of media destruction. High-power degaussers are so strong in some cases that they can literally bend and warp the platters in a hard drive. Shredding and burning are effective destruction methods for non-rigid magnetic media. Indeed, some shredders are capable of shredding some rigid media such as an optical disk. This may be an effective alternative for any optical media containing nonsensitive information due to the residue size remaining after feeding the disk into the machine. However, the residue size might be too large for media containing sensitive information. Alternatively, grinding and pulverizing are acceptable choices for rigid and solid-state media. Specialized devices are available for grinding the face of optical media that either sufficiently scratches the surface to render the media unreadable or actually grinds off the data layer of the disk. Several services also exist which will collect drives, destroy them on site if requested and provide certification of completion. It will be the responsibility of the security professional to help, select, and maintain the most appropriate solutions for media cleansing and disposal."

Degaussing is achieved by passing the magnetic media through a powerful magnet field to rearrange the metallic particles, completely removing any resemblance of the previously recorded signal (from the "all about degaussers link below). Therefore, degaussing will work on any electronic based media such as floppy disks, or hard disks - all of these are examples of electronic storage. However, "read-only media" includes items such as paper printouts and CD-ROM which do not store data in an electronic form or is not magnetic storage. Passing them through a magnet field has no effect on them.

Not all clearing/ purging methods are applicable to all media— for example, optical media is not susceptible to degaussing, and overwriting may not be effective against Flash devices. The degree to which information may be recoverable by a sufficiently motivated and capable adversary must not be underestimated or guessed at in ignorance. For the

highest-value commercial data, and for all data regulated by government or military classification rules, read and follow the rules and standards.

I will admit that this is a bit of a trick question. Determining the difference between "read- only media" and "read-only memory" is difficult for the question taker.

However, I believe it is representative of the type of question you might one day see on an exam.

The other answers are incorrect because:

Floppy Disks, Magnetic Tapes, and Magnetic Hard Disks are all examples of magnetic storage, and therefore are erased by degaussing.

A videotape is a recording of images and sounds on to magnetic tape as opposed to film stock used in filmmaking or random access digital media. Videotapes are also used for storing scientific or medical data, such as the data produced by an electrocardiogram. In most cases, a helical scan video head rotates against the moving tape to record the data in two dimensions, because video signals have a very high bandwidth, and static heads would require extremely high tape speeds. Videotape is used in both video tape recorders (VTRs) or, more commonly and more recently, videocassette recorder (VCR) and camcorders. A Tape use a linear method of storing information and since nearly all video recordings made nowadays are digital direct to disk recording (DDR), videotape is expected to gradually lose importance as non-linear/random-access methods of storing digital video data become more common.

Reference(s) used for this question:

Harris, Shon (2012-10-25). CISSP All-in-One Exam Guide, 6th Edition (Kindle Locations 25627-25630). McGraw-Hill. Kindle Edition.

Schneider, Andrew (2013-04-15). Official (ISC)2 Guide to the CISSP CBK, Third Edition : Security Operations (Kindle Locations 580-588). . Kindle Edition.

All About Degaussers and Erasure of Magnetic Media: <http://www.degausser.co.uk/degauss/degabout.htm> <http://www.degaussing.net/>

<http://www.cerberussystems.com/INFOSEC/stds/ncsctg25.htm>

**NEW QUESTION 167**

- (Topic 2)

Which of the following is used in database information security to hide information?

- A. Inheritance
- B. Polyinstantiation
- C. Polymorphism
- D. Delegation

**Answer: B**

**Explanation:**

Polyinstantiation enables a relation to contain multiple tuples with the same primary keys with each instance distinguished by a security level. When this information is inserted into a database, lower-level subjects need to be restricted from this information. Instead of just restricting access, another set of data is created to fool the lower-level subjects into thinking that the information actually means something else.

Source: HARRIS, Shon, All-In-One CISSP Certification Exam Guide, McGraw- Hill/Osborne, 2002, chapter 11: Application and System Development (page 727).

**NEW QUESTION 169**

- (Topic 2)

What is called a system that is capable of detecting that a fault has occurred and has the ability to correct the fault or operate around it?

- A. A fail safe system
- B. A fail soft system
- C. A fault-tolerant system
- D. A failover system

**Answer: C**

**Explanation:**

A fault-tolerant system is capable of detecting that a fault has occurred and has the ability to correct the fault or operate around it. In a fail-safe system, program execution is terminated, and the system is protected from being compromised when a hardware or software failure occurs and is detected. In a fail-soft system, when a hardware or software failure occurs and is detected, selected, non-critical processing is terminated. The term failover refers to switching to a duplicate "hot" backup component in real-time when a hardware or software failure occurs, enabling processing to continue.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architecture and Models (page 196).

**NEW QUESTION 171**



- (Topic 2)

Which of the following is considered the weakest link in a security system?

- A. People
- B. Software
- C. Communications
- D. Hardware

**Answer:** A

**Explanation:**

The Answer People. The other choices can be strengthened and counted on (For the most part) to remain consistent if properly protected. People are fallible and unpredictable. Most security intrusions are caused by employees. People get tired, careless, and greedy. They are not always reliable and may falter in following defined guidelines and best practices. Security professionals must install adequate prevention and detection controls and properly train all systems users Proper hiring and firing practices can eliminate certain risks. Security Awareness training is key to ensuring people are aware of risks and their responsibilities.

The following answers are incorrect: Software. Although software exploits are major threat and cause for concern, people are the weakest point in a security posture. Software can be removed, upgraded or patched to reduce risk.

Communications. Although many attacks from inside and outside an organization use communication methods such as the network infrastructure, this is not the weakest point in

a security posture. Communications can be monitored, devices installed or upgraded to reduce risk and react to attack attempts.

Hardware. Hardware components can be a weakness in a security posture, but they are not the weakest link of the choices provided. Access to hardware can be minimized by such measures as installing locks and monitoring access in and out of certain areas.

The following reference(s) were/was used to create this question: Shon Harris AIO v.3 P.19, 107-109

ISC2 OIG 2007, p.51-55

**NEW QUESTION 174**

- (Topic 2)

Which of the following is a set of data processing elements that increases the performance in a computer by overlapping the steps of different instructions?

- A. pipelining
- B. complex-instruction-set-computer (CISC)
- C. reduced-instruction-set-computer (RISC)
- D. multitasking

**Answer:** A

**Explanation:**

Pipelining is a natural concept in everyday life, e.g. on an assembly line. Consider the assembly of a car: assume that certain steps in the assembly line are to install the engine, install the hood, and install the wheels (in that order, with arbitrary interstitial steps). A car on the assembly line can have only one of the three steps done at once. After the car has its engine installed, it moves on to having its hood installed, leaving the engine installation facilities available for the next car. The first car then moves on to wheel installation, the second car to hood installation, and a third car begins to have its engine installed. If engine installation takes 20 minutes, hood installation takes 5 minutes, and wheel installation takes 10 minutes, then finishing all three cars when only one car can be assembled at once would take 105 minutes. On the other hand, using the assembly line, the total time to complete all three is 75 minutes. At this point, additional cars will come off the assembly line at 20 minute increments.

In computing, a pipeline is a set of data processing elements connected in series, so that the output of one element is the input of the next one. The elements of a pipeline are often executed in parallel or in time-sliced fashion; in that case, some amount of buffer storage is often inserted between elements. Pipelining is used in processors to allow overlapping execution of multiple instructions within the same circuitry. The circuitry is usually divided into stages, including instruction decoding, arithmetic, and register fetching stages, wherein each stage processes one instruction at a time.

The following were not correct answers:

CISC: is a CPU design where single instructions execute several low-level operations (such as a load from memory, an arithmetic operation, and a memory store) within a single instruction.

RISC: is a CPU design based on simplified instructions that can provide higher performance as the simplicity enables much faster execution of each instruction.

Multitasking: is a method where multiple tasks share common processing resources, such as a CPU, through a method of fast scheduling that gives the appearance of parallelism, but in reality only one task is being performed at any one time.

Reference:

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, pages 188-189.

Also see [http://en.wikipedia.org/wiki/Pipeline\\_\(computing\)](http://en.wikipedia.org/wiki/Pipeline_(computing))

**NEW QUESTION 178**

- (Topic 2)

What are the three FUNDAMENTAL principles of security?

- A. Accountability, confidentiality and integrity
- B. Confidentiality, integrity and availability
- C. Integrity, availability and accountability
- D. Availability, accountability and confidentiality

**Answer:** B

**Explanation:**

The following answers are incorrect because:

Accountability, confidentiality and integrity is not the correct answer as Accountability is not one of the fundamental principle of security.

Integrity, availability and accountability is not the correct answer as Accountability is not one of the fundamental principle of security.

Availability, accountability and confidentiality is not the correct answer as Accountability is not one of the fundamental objective of security.

References : Shon Harris AIO v3 , Chapter - 3: Security Management Practices , Pages : 49-52

**NEW QUESTION 181**

- (Topic 2)

What is the act of obtaining information of a higher sensitivity by combining information from lower levels of sensitivity?

- A. Polyinstantiation
- B. Inference
- C. Aggregation
- D. Data mining

**Answer: C**

**Explanation:**

Aggregation is the act of obtaining information of a higher sensitivity by combining information from lower levels of sensitivity.

The incorrect answers are:

Polyinstantiation is the development of a detailed version of an object from another object using different values in the new object.

Inference is the ability of users to infer or deduce information about data at sensitivity levels for which they do not have access privilege.

Data mining refers to searching through a data warehouse for data correlations. 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 261).

KRUTZ, Ronald & VINES, Russel, The CISSP Prep Guide: Gold Edition, Wiley Publishing Inc., 2003, Chapter 7: Database Security Issues (page 358).

**NEW QUESTION 186**

- (Topic 2)

Which property ensures that only the intended recipient can access the data and nobody else?

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

**Answer: A**

**Explanation:**

Confidentiality is defined as the property that ensures that only the intended recipient can access the data and nobody else. It is usually achieved using cryptographic methods, tools, and protocols.

Confidentiality supports the principle of "least privilege" by providing that only authorized individuals, processes, or systems should have access to information on a need-to-know basis. The level of access that an authorized individual should have is at the level necessary for them to do their job. In recent years, much press has been dedicated to the privacy of information and the need to protect it from individuals, who may be able to commit crimes by viewing the information. Identity theft is the act of assuming one's identity through knowledge of confidential information obtained from various sources.

The following are incorrect answers:

Capability is incorrect. Capability is relevant to access control. Capability-based security is a concept in the design of secure computing systems, one of the existing security models. A capability (known in some systems as a key) is a communicable, unforgeable token of authority. It refers to a value that references an object along with an associated set of access rights. A user program on a capability-based operating system must use a capability to access an object. Capability-based security refers to the principle of designing user programs such that they directly share capabilities with each other according to the principle of least privilege, and to the operating system infrastructure necessary to make such transactions efficient and secure.

Integrity is incorrect. Integrity protects information from unauthorized modification or loss. Availability is incorrect. Availability assures that information and services are available for use by authorized entities according to the service level objective.

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 9345-9349). Auerbach Publications. Kindle Edition.

[http://en.wikipedia.org/wiki/Capability-based\\_security](http://en.wikipedia.org/wiki/Capability-based_security)

**NEW QUESTION 190**

- (Topic 2)

The Information Technology Security Evaluation Criteria (ITSEC) was written to address which of the following that the Orange Book did not address?

- A. integrity and confidentiality.
- B. confidentiality and availability.
- C. integrity and availability.
- D. none of the above.

**Answer: C**

**Explanation:**

TCSEC focused on confidentiality while ITSEC added integrity and availability as security goals.

The following answers are incorrect:

integrity and confidentiality. Is incorrect because TCSEC addressed confidentiality. confidentiality and availability. Is incorrect because TCSEC addressed confidentiality. none of the above. Is incorrect because ITSEC added integrity and availability as security goals.

**NEW QUESTION 192**

- (Topic 2)

Who is responsible for initiating corrective measures and capabilities used when there are security violations?

- A. Information systems auditor
- B. Security administrator
- C. Management
- D. Data owners

**Answer: C**

**Explanation:**

Management is responsible for protecting all assets that are directly or indirectly under their control.

They must ensure that employees understand their obligations to protect the company's assets, and implement security in accordance with the company policy.

Finally, management is responsible for initiating corrective actions when there are security violations.  
Source: HARE, Chris, Security management Practices CISSP Open Study Guide, version 1.0, april 1999.

#### NEW QUESTION 193

- (Topic 2)

Which of the following computer design approaches is based on the fact that in earlier technologies, the instruction fetch was the longest part of the cycle?

- A. Pipelining
- B. Reduced Instruction Set Computers (RISC)
- C. Complex Instruction Set Computers (CISC)
- D. Scalar processors

**Answer: C**

#### Explanation:

Complex Instruction Set Computer (CISC) uses instructions that perform many operations per instruction. It was based on the fact that in earlier technologies, the instruction fetch was the longest part of the cycle. Therefore, by packing more operations into an instruction, the number of fetches could be reduced. Pipelining involves overlapping the steps of different instructions to increase the performance in a computer. Reduced Instruction Set Computers (RISC) involve simpler instructions that require fewer clock cycles to execute. Scalar processors are processors that execute one instruction at a time. Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, John Wiley & Sons, 2001, Chapter 5: Security Architectures and Models (page 188).

#### NEW QUESTION 197

- (Topic 2)

Which of the following would best classify as a management control?

- A. Review of security controls
- B. Personnel security
- C. Physical and environmental protection
- D. Documentation

**Answer: A**

#### Explanation:

Management controls focus on the management of the IT security system and the management of risk for a system. They are techniques and concerns that are normally addressed by management. Routine evaluations and response to identified vulnerabilities are important elements of managing the risk of a system, thus considered management controls.  
SECURITY CONTROLS: The management, operational, and technical controls (i.e., safeguards or countermeasures) prescribed for an information system to protect the confidentiality, integrity, and availability of the system and its information.  
SECURITY CONTROL BASELINE: The set of minimum security controls defined for a low- impact, moderate-impact, or high-impact information system.  
The following are incorrect answers:  
Personnel security, physical and environmental protection and documentation are forms of operational controls.  
Reference(s) used for this question: <http://csrc.nist.gov/publications/drafts/800-53-rev4/sp800-53-rev4-ipd.pdf>  
and  
FIPS PUB 200 at <http://csrc.nist.gov/publications/fips/fips200/FIPS-200-final-march.pdf>

#### NEW QUESTION 202

- (Topic 2)

Which of the following is the MOST important aspect relating to employee termination?

- A. The details of employee have been removed from active payroll files.
- B. Company property provided to the employee has been returned.
- C. User ID and passwords of the employee have been deleted.
- D. The appropriate company staff are notified about the termination.

**Answer: D**

#### Explanation:

Even though Logical access to information by a terminated employee is possible if the ID and password of the terminated employee has not been deleted this is only one part of the termination procedures. If user ID is not disabled or deleted, it could be possible for the employee without physical access to visit the companies networks remotely and gain access to the information.  
Please note that this can also be seen in a different way: the most important thing to do could also be to inform others of the person's termination, because even if user ID's and passwords are deleted, a terminated individual could simply socially engineer their way back in by calling an individual he/she used to work with and ask them for access. He could intrude on the facility or use other weaknesses to gain access to information after he has been terminated.  
By notifying the appropriate company staff about the termination, they would in turn initiate account termination, ask the employee to return company property, and all credentials would be withdrawn for the individual concerned. This answer is more complete than simply disabling account.  
It seems harsh and cold when this actually takes place, but too many companies have been hurt by vengeful employees who have lashed out at the company when their positions were revoked for one reason or another. If an employee is disgruntled in any way, or the termination is unfriendly, that employee's accounts should be disabled right away, and all passwords on all systems changed.  
For your exam you should know the information below: Employee Termination Processes  
Employees join and leave organizations every day. The reasons vary widely, due to retirement, reduction in force, layoffs, termination with or without cause, relocation to another city, career opportunities with other employers, or involuntary transfers. Terminations may be friendly or unfriendly and will need different levels of care as a result.  
Friendly Terminations  
Regular termination is when there is little or no evidence or reason to believe that the termination is not agreeable to both the company and the employee. A standard set of procedures, typically maintained by the human resources department, governs the dismissal of the terminated employee to ensure that company property is returned, and all access is removed. These procedures may include exit interviews and return of keys, identification cards, badges, tokens, and cryptographic keys. Other property, such as laptops, cable locks, credit cards, and phone cards, are also collected. The user manager notifies the security department of the termination to ensure that access is revoked for all platforms and facilities. Some facilities choose to immediately delete the accounts, while

others choose to disable the accounts for a policy defined period, for example, 30 days, to account for changes or extensions in the final termination date. The termination process should include a conversation with the departing associate about their continued responsibility for confidentiality of information.

#### Unfriendly Terminations

Unfriendly terminations may occur when the individual is fired, involuntarily transferred, laid off, or when the organization has reason to believe that the individual has the means and

intention to potentially cause harm to the system. Individuals with technical skills and higher levels of access, such as the systems administrators, computer programmers, database administrators, or any individual with elevated privileges, may present higher risk to the environment. These individuals could alter files, plant logic bombs to create system file damage at a future date, or remove sensitive information. Other disgruntled users could enter erroneous data into the system that may not be discovered for several months. In these situations, immediate termination of systems access is warranted at the time of termination or prior to notifying the employee of the termination. Managing the people aspect of security, from pre-employment to postemployment, is critical to ensure that trustworthy, competent resources are employed to further the business objectives that will protect company information. Each of these actions contributes to preventive, detective, or corrective personnel controls.

The following answers are incorrect: The other options are less important.

Following reference(s) were/was used to create this question: CISA review manual 2014 Page number 99

Harris, Shon (2012-10-18). CISSP All-in-One Exam Guide, 6th Edition (p. 129). McGraw- Hill. Kindle Edition.

#### NEW QUESTION 205

- (Topic 2)

IT security measures should:

- A. Be complex
- B. Be tailored to meet organizational security goals.
- C. Make sure that every asset of the organization is well protected.
- D. Not be developed in a layered fashion.

**Answer: B**

#### Explanation:

In general, IT security measures are tailored according to an organization's unique needs. While numerous factors, such as the overriding mission requirements, and guidance, are to be considered, the fundamental issue is the protection of the mission or business from IT security-related, negative impacts. Because IT security needs are not uniform, system designers and security practitioners should consider the level of trust when connecting to other external networks and internal sub-domains. Recognizing the uniqueness of each system allows a layered security strategy to be used - implementing lower assurance solutions with lower costs to protect less critical systems and higher assurance solutions only at the most critical areas.

The more complex the mechanism, the more likely it may possess exploitable flaws. Simple mechanisms tend to have fewer exploitable flaws and require less maintenance. Further, because configuration management issues are simplified, updating or replacing a simple mechanism becomes a less intensive process. Security designs should consider a layered approach to address or protect against a specific threat or to reduce a vulnerability. For example, the use of a packet-filtering router in conjunction with an application gateway and an intrusion detection system combine to increase the work-factor an attacker must expend to successfully attack the system. Adding good password controls and adequate user training improves the system's security posture even more.

The need for layered protections is especially important when commercial-off-the-shelf (COTS) products are used. Practical experience has shown that the current state-of-the-art for security quality in COTS products does not provide a high degree of protection against sophisticated attacks. It is possible to help mitigate this situation by placing several controls in series, requiring additional work by attackers to accomplish their goals.

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 (pages 9-10).

#### NEW QUESTION 207

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