

**MSC CYBER SECURITY & PEN TESTING**

**CST4530**

**SECURITY SOLUTIONS & APPLICATIONS**

**ACCESS CONTROL SEMINAR WK12**

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**Access Control**

**TRUE/FALSE QUESTIONS:**

**T** F 1. Access control is the central element of computer security.

T **F** 2. The authentication function determines who is trusted for a given purpose.

**T** F 3. An auditing function monitors and keeps a record of user accesses to

system resources.

T **F** 4. External devices such as firewalls cannot provide access control services.

**T** F 5. The principal objectives of computer security are to prevent

unauthorized users from gaining access to resources, to prevent legitimate users from accessing resources in an unauthorized manner, and to enable legitimate users to access resources in an authorized manner.

T **F** 6. Security labels indicate which system entities are eligible to access certain

resources.

**T** F 7. Reliable input is an access control requirement.

**T** F 8. A user may belong to multiple groups.

**T** F 9. An access right describes the way in which a subject may access an object.

**T** F 10. The default set of rights should always follow the rule of least privilege or

read-only access

T **F** 11. A user program executes in a kernel mode in which certain areas of memory

are protected from the user’s use and certain instructions may not be executed.

**T** F 12. Any program that is owned by, and SetUID to, the “superuser” potentially

grants unrestricted access to the system to any user executing that program.

T **F** 13. Traditional RBAC systems define the access rights of individual users and

groups of users.

**T** F 14. A constraint is a defined relationship among roles or a condition related to

roles.

**MULTIPLE CHOICE QUESTIONS:**

1.Access control implements a security policy that specifies who or what may have access to each specific system resource and the type of access that is permitted in each instance.

A. Audit control B. Resource control

C. System control D. Access control

2. Authentication is verification that the credentials of a user or other system entity are valid.

A. Adequacy B. Authentication

C. Authorization D. Audit

3. Authorization is the granting of a right or permission to a system entity to access a system resource.

A. Authorization B. Authentication

C. Control D. Monitoring

4. DAC is the traditional method of implementing access control.

A. MAC B. RBAC

C. DAC D. MBAC

5. MAC controls access based on comparing security labels with security clearances.

A. MAC B. DAC

C. RBAC D. MBAC

6. A concept that evolved out of requirements for military information security is Mandatory Access Control

A. reliable input B. mandatory access control

C. open and closed policies D. discretionary input

7. A Subject is an entity capable of accessing objects.

A. group B. object

C. subject D. owner

8. A(n) object is a resource to which access is controlled.

A. object B. owner

C. world D. subject

9. The final permission bit is the Sticky bit.

A. superuser B. kernel

C. set user D. sticky

10. RABC is based on the roles the users assume in a system rather than the user’s identity.

A. DAC B. RBAC

C. MAC D. URAC

11. A Role is a named job function within the organization that controls this computer system.

A. user B. role

C. permission D. session

12. Constraints provide a means of adapting RBAC to the specifics of administrative and security policies in an organization.

A. Constraints B. Mutually Exclusive Roles

C. Cardinality D. Prerequisites

13. The Access Management component deals with the management and control of the

ways entities are granted access to resources.

A. resource management B. access management

C. privilege management D. policy management

**SHORT ANSWER QUESTIONS:¸**

1. X.800 defines Access control as the prevention of unauthorized use of a resource,

including the prevention of use of a resource in an unauthorized manner.

2. An independent review and examination of system records and activities in order to test for adequacy of system controls, to ensure compliance with established policy and operational procedures, to detect breaches in security, and to recommend any indicated changes in control, policy and procedures is a(n) Security Audit

3. Role Based access control controls access based on the roles that users have within the system and on rules stating what accesses are allowed to users in given roles.

4. Discretionary access control controls access based on the identity of the requestor and on access rules stating what requestors are or are not allowed to do.

5. The basic elements of access control are: subject, Object, and access right.

6. Basic access control systems typically define three classes of subject: owner, group and world.

7. A Discretionary access control scheme is one in which an entity may be granted access rights that permit the entity, by its own volition, to enable another entity to access some resource.

8. The Superuser user ID is exempt from the usual file access control constraints and has system wide access.

9. A Session is a mapping between a user and an activated subset of the set of roles to which the user is assigned.

10. Role hierarchies make use of the concept of Inheritance to enable one role to implicitly include access rights associated with a subordinate role.

11. A perequisite dictates that a user can only be assigned to a particular role if it is already assigned to some other specified role and can be used to structure the implementation of the least privilege concept.

12. The three types of attributes in the ABAC model are subject attributes, object attributes, and Access attributes.

13. A Credential is an object or data structure that authoritatively binds an identity to a token possessed and controlled by a subscriber.