QUESTION 1

With respect to Ross Anderson's definitions. Define the terms: subject, principal and identity.

QUESTION 2

Identify the different possible principals in the following scenario: "When Alice gets to work she logs onto her computer by inserting a smartcard into a smartcard reader attached to the computer and entering a PIN number into a login dialog. She use sher PC to access the company's human resource system.'"

QUESTION 3

Describe a simple scenario to explain the difference between *trustworthy* and *trusted*.

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QUESTION 4

A concept that evolved out of requirements for military information security is _____.

○ reliable input

○ mandatory access control

○ open and closed policies

○ discretionary access control

QUESTION 5

An access right describes the way in which a subject may access an object.

○ True

○ False

QUESTION 6

Consider a system using BLP to enforce security.

There are three labels with the following relationship: TS>S>U where TS is top secret, S is secret and U is unclassified.

There are three users - Alice, Bob and Carol.

Alice has a TS clearance, Bob an S clearance and Carol has a U clearance.

There are two files:

- Invasion plans with a TS classification

- Logistics with an S classification

Answer the following questions:

(a) Assume that Alice has read the invasion plans and intends to communicate the contents with Bob by writing to the Logistics file. Explain whether the ss-property or the *-property prevents this and why?

(b) Assume that BLP is only applied to file contents but not file names, any user in the system can see a filename. Provide a non-obvious way for Alice to use this information to leak information to Carol.

(c) Imagine that Alice creates a new file "Public talks" what will its classification be under (i) assumption of strong tranquillity; (ii) weak tranquillity.

(d) Consider how BLP under a weak tranquillity assumption is similar to the Chinese-Wall policy.

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QUESTION 7

Consider the LBAC example shown on slide 7 of the lecture on multilateral security policies.

With reference to the diagram, imagine that there is a file with each combination of classification & codeword. For example, E has the combination (SECRET, {CRYPTO}).

Assume Carol has "TOP SECRET" and {FOREIGN} clearance.

What files can she read?

QUESTION 8

Describe THREE problems from which classical multilevel-secure systems suffer. Write several sentences to illustrate each problem. Support your discussion with at least one example of why it is a problem.

QUESTION 9

Describe at least THREE reasons that led to the BMA policy model being proposed for the United Kingdom's National Health Service instead of a multilevel security policy.

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QUESTION 10

Explain the concept of a Trusted Computing Base.

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QUESTION 11

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List THREE approaches that an organisation might choose to implement a security policy and write one or two sentences to describe each approach.

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QUESTION 12

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RBAC systems define the access rights of individual users and groups of users.

○ True
○ False

QUESTION 13

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Security labels indicate which system entities are eligible to access certain resources.

○ True
○ False

QUESTION 14

1.00000 points   Save Answer

The default set of rights should always follow the rule of least privilege or read-only access

○ True
○ False

QUESTION 15

1.00000 points   Save Answer

Which model allows the user to specify which entity has access to which resource?

○ MAC

○ Chinese wall

○ BMA

○ DAC

QUESTION 16

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_____ is based on the roles the users assume in a system rather than the user's identity.

○ DAC

○ RBAC

○ MAC

○ ABAC

QUESTION 17

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_____ is where the system makes the access control decision.

○ MAC

○ RBAC

○ DAC