

Unit 6 - Week 5

Course outline

How does an NPTEL online course work?

Week 1

Week 2

Week 3

Week 4

Week 5

Access Control

Access control in linux

Mandatory access Control

Confinement in Applications

Software fault isolation

Quiz : Practice Assignment 5

Quiz : Assignment 5

Week 5 Feedback

Week 6

Week 7

Week 8

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-04, 23:59 IST.

1) Match the following

1 point

Gadget	1) pseudo random number which detects buffer overflow
Canaries	2) Short sequence of instructions ending in a return
Shellcode	3) May execute in the stack if the NX bit is disabled
ASLR	4) helps prevent ROP attacks

- a-4, b-3, c-2, d-1
 a-2, b-1, c-4, d-3
 a-1, b-2, c-4, d-3
 a-2, b-1 c-3, d-4

No, the answer is incorrect.
Score: 0

Accepted Answers:
a-2, b-1 c-3, d-4

2) Which of the following is False for the Information flow policies

1 point

- Information can only flow from one security class to another less secure
 Information can flow from a lower class to a higher class only
 Information flow policies are typically a replacement for DAC
 Information flow policies are typically a replacement for MAC

No, the answer is incorrect.
Score: 0

Accepted Answers:
Information can only flow from one security class to another less secure

3) In a company, there are 4 levels of employees: Top management, group-leaders, team-leaders, and staff. The top management takes feedback from all team leaders and then creates a new policy document from the company. The new document should be classified _____.

1 point

- A top management document
 A team-leader document
 A staff document
 A public document

No, the answer is incorrect.
Score: 0

Accepted Answers:
A team-leader document

4) Match the following:

1 point

Secrecy	1)Limits the resource usage
Integrity	2)Unauthorized modification
Availability	3)Unauthorized disclosure

- a-1, b-2, c-3
 a-2, b-3, c-1
 a-3, b-2, c-1
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
a-3, b-2, c-1

5) Which of the following is not an access control mechanism?

1 point

- Serialized Access Control (SAC)
 Discretionary Access Control (DAC)
 Role Based Access Control (RBAC)
 Mandatory Access Control (MAC)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Serialized Access Control (SAC)

6) Suppose in a system you have 2000 files and 4 user, who have access rights to these files. Which one of the following will be the best method to implement access control ?

1 point

- Using an access matrix
 Using a capability based implementation
 Using access control lists
 Any of the above would techniques would work well

No, the answer is incorrect.
Score: 0

Accepted Answers:
Using a capability based implementation

7) In an MLS scheme, information from top secret objects will not flow to secret and vice versa.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

8) A user X with secret clearance decides to transfer information to a third party Y. And Y tries to make changes in the confidential class. This breach of information can be prevented by _____.

1 point

- Implementing access control matrix
 Implementing Bell-laPadula model
 Implementing the Biba Model
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Implementing Bell-laPadula model

9) Authentication allows the user to access all the files and the resources that are present in the system.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

10) Consider the following commands in a system that supports discretionary access control.

1 point

```
command CONFERwrite(S, S', O)
  If o in A[S, O] then
    Enter w in A[S',O]
  End
```

```
command ADD_READ(S,O)
  If w in A[S,O] then
    enter r in A[S,O]
  End
```

Which of the following statements is TRUE?

- A. The system is in a safe state when neither CONFERwrite and ADD_READ are invoked.
 B. The system is surely in a safe state when CONFERwrite is invoked with the following parameters (S, S, O)
 C. The system is surely in an unsafe state when ADD_READ is the first command invoked on O after its creation.

- A is TRUE
 B is TRUE
 C is TRUE
 None of them are TRUE

No, the answer is incorrect.
Score: 0

Accepted Answers:
A is TRUE