

## Week 9 Graded Questions with Solutions

1] You want to join a secret club, and you are told that you need to go to a specific place at midnight and say the password "ChennaiSuperKings". Which of the following is true about this setup? [MSQ: 3 points]

1. It is role based access control
2. It is attribute based access control
3. It is discretionary access control
4. It is mandatory access control

Answer: Option 2 and 3.

Solution: Not role based because there is no role associated with the access, and not mandatory because you can give the password and information to someone else.

2] Which of the following are good characteristics of a function that can be used for digest authentication (assume that in  $y=f(x)$ , computing  $y$  given  $x$  is the forward computation and getting back  $x$  given  $y$  is the inverse computation)? [MCQ: 2 points]

1. It should be easy to compute in the forward direction, but difficult to compute the inverse.
2. It should be easy to compute the inverse, but not the forward function.
3. Both forward and inverse functions should be easy to compute.
4. Both forward and inverse functions should be difficult to compute.

Answer: Option 1.

Solution: Option 2 is not correct - if the forward is also difficult, then using the function itself will be impossible. Other two options are clearly wrong.

3] In a Flask application, which of the following would typically be the place where you apply access control directives? [MCQ: 1 point]

1. Model
2. View
3. Controller
4. All of the above

Answer: Option 3.

Solution: Views and Models cannot be accessed directly in any case, only through appropriate controllers.

4] HTTPS certificates are associated with\_. [MCQ: 1 point]

1. A domain name
2. An individual person
3. An IP address
4. A company

Answer: Option 1.

Solution: Though it is usual to get a certificate for a company website, it does not mean the certificate is associated with the company itself, only with the domain name.

5] In the picture shown below, there are some log entries corresponding to a Flask application. Which of the following data are being logged by this application? [MSQ: 3 points]

Image..

1. IP address of the client
2. Type of HTTP request
3. Operating system of the client
4. Browser used by the client

Answer: Option 1 and 2.

Solution: Others are not being logged here.

6] Log files tend to be: [MCQ: 2 points]

1. Mostly read operations and few write operations.
2. Mostly write operations and few read operations.
3. Proportional in size to the number of requests the website receives.
4. Constant in size independent of server load.

Answer: Option 2.

Solution: Log files are mostly write operations and few read operations. It may be possible to have constant log files under some specific logging scenarios, but that is not typical usage.

7] Consider two statements on HTTPS given below: [MCQ: 2 points]

Statement 1: HTTPS reduces load on servers as less information needs to be transmitted.

Statement 2: HTTPS is only used for humans to interact with web servers, and is not required for machine-to-machine communication.

1. Both statement 1 and statement 2 are correct.
2. Both statement 1 and statement 2 are incorrect.
3. Statement 1 is correct, statement 2 is incorrect.
4. Statement 2 is correct, statement 1 is incorrect.

Answer: Option 2.

Solution: Generally after encryption the size of data and headers would increase a bit, not decrease. HTTPS is just as essential for machine-to-machine communication to avoid leaking information.