

Past-paper walk-through

Authentication ■ 4.2

eXercise

Questions in this set

- 2026 Q5 ■ 1 mark
- 2026 Q6 ■ 1 mark
- 2026 Q7 ■ 1 mark
- 2026 Q15 ■ 1 mark
- 2026 Q21 ■ 1 mark

Question 5

2026 ■ Q5 ■ 1 mark

A system administrator runs two hashing functions on four files. In Function 2's outputs, file1.txt and file3.txt produce the identical hash 804537a7adfa4e1bce4d72d0b212a80af2dae3a5e, while their Function 1 outputs differ. Which of the following statements is supported by the file hashes? **[1]**

- A** The files file1.txt and file3.txt are exact copies of each other.
- B** Function 1 is more secure than Function 2.
- C** Function 1 and Function 2 are the same hashing function.
- D** The files file1.txt and file3.txt have a collision in one hashing function.

Question 5

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99

Function 1 outputs

```
file1.txt - 8d8e115e5ebc50c8e03930beac6802a94ef4f36ab
```

```
file2.txt - 79a7d08081d12ecf123d63845e38c14c09956ee79
```

```
file3.txt - 02db6aefd093c317f8cf78a2fbe52a31b58a6bc5e
```

```
file4.txt - bcd3cf9d8527f711031d0d908d84cbb0df97ce90b
```

Solution 5

- A** The files file1.txt and file3.txt are exact copies of each other.
- B** Function 1 is more secure than Function 2.
- C** Function 1 and Function 2 are the same hashing function.
- D** The files file1.txt and file3.txt have a collision in one hashing function. 

Answer: **D**

Question 6

2026 ■ Q6 ■ 1 mark

The security manager at a hospital is planning to upgrade the physical security system so that only authorized personnel can access areas containing sensitive medical equipment and patient records. Because these areas require a high level of security, the manager wants an authentication method that is unique to each individual and extremely difficult for an adversary to duplicate or spoof. Which of the following authentication methods is best suited for these areas? [1]

A Authentication token

B Password

C Retina scan

D Access card

Solution 6

A Authentication token

B Password

C Retina scan



D Access card

Answer: **C**

Question 7

2026 ■ Q7 ■ 1 mark

Which of the following best describes how offline password attacks work? [1]

- A** Adversaries attempt user:password combinations in an active authentication portal.
- B** Adversaries intercept communication as it travels across a network and read the password in transit.
- C** Adversaries exploit weak access controls to directly retrieve plaintext passwords stored in a database.
- D** Adversaries use automated tools to hash many potential passwords and compare them to a captured hash.

Solution 7

- A** Adversaries attempt user:password combinations in an active authentication portal.
- B** Adversaries intercept communication as it travels across a network and read the password in transit.
- C** Adversaries exploit weak access controls to directly retrieve plaintext passwords stored in a database.
- D** Adversaries use automated tools to hash many potential passwords and compare them to a captured hash. 

Answer: **D**

Question 15

2026 ■ Q15 ■ 1 mark

Which of the following best describes the length of a cryptographic hash function output?

[1]

- A** The length of the output is longer than the input due to the hashing process.
- B** The length of the output is fixed regardless of the length of the input.
- C** The length of the output varies based on the length of the input.
- D** The length of the output is shorter than the length of the input.

Solution 15

- A** The length of the output is longer than the input due to the hashing process.
- B** The length of the output is fixed regardless of the length of the input. 
- C** The length of the output varies based on the length of the input.
- D** The length of the output is shorter than the length of the input.

Answer: **B**

Question 21

2026 ■ Q21 ■ 1 mark

An organization only allows their users to log into a system if they are physically in one of the following time zones: Eastern, Central, Mountain, or Pacific. Which of the following authentication factors is being used to verify the identity of the users? **[1]**

- A** Biometric factor
- B** Knowledge factor
- C** Location factor
- D** Possession factor

Solution 21

A Biometric factor

B Knowledge factor

C Location factor



D Possession factor

Answer: **C**