Security, privacy and data integrity – 2021 AS 9618

1. Nov/2021/Paper_11/No.2

Xanthe wants to maintain the integrity and security of data stored on her computer.

(a) Explain the difference between data security and data integrity.

.....

.....

.....

..... [2]

(b) Xanthe uses both data validation and data verification when entering data on her computer.

(i) Describe how data validation helps to protect the integrity of the data. Give an example in your answer.

Description .....

.....

.....

Example .....

[2]

(ii) Describe how data verification helps to protect the integrity of the data. Give an example in your answer.

Description .....

.....

.....

Example .....

[2]

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(c) Two malware threats are spyware and viruses.

Give **two** similarities and **one** difference between spyware and a virus.

Similarity 1 .....

.....

Similarity 2 .....

.....

Difference .....

.....

[3]

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2. Nov/2021/Paper_12/No.1

When designing computer systems, it is important to consider the security, integrity and privacy of the data.

Draw **one** line from each measure to indicate whether it keeps data secure or protects the integrity of data.

Measure

Firewall	Data Security
Double entry	Data Integrity
Presence check	
Access rights	
Password	

[2]

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3. Nov/2021/Paper_13/No.2

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[3]

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4. June/2021/Paper_11/No.6

Each of the following algorithms performs data validation.

State the type of validation check that each of the algorithms performs.

(a)

```
INPUT x
IF x < 0 OR x > 10 THEN
  OUTPUT "Invalid"
ENDIF
```

..... [1]

(b)

```
INPUT x
IF x = "" THEN
  OUTPUT "Invalid"
ENDIF
```

..... [1]

(c)

```
INPUT x
IF NOT(x = "Red" OR x = "Yellow" OR x = "Blue") THEN
  OUTPUT "Invalid"
ENDIF
```

..... [1]

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5. June/2021/Paper_12/No.8

A company has several security measures in place to prevent unauthorised access to the data on its computers.

(a) Describe the difference between the security and privacy of data.

.....

.....

.....

..... [2]

(b) Each employee has a username and password to allow them to log onto a computer. An employee's access rights to the data on the computers is set to either read-only, or read and write.

Identify **one** other software-based measure that could be used to restrict the access to the data on the computers.

.....

..... [1]

(c) The company is also concerned about threats posed by networks and the internet.

Identify **two** threats to the data that are posed by networks and the internet.

Threat 1 .....

.....

Threat 2 .....

.....

[2]

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