

Modified Enlarged 24 pt

**OXFORD CAMBRIDGE AND RSA
EXAMINATIONS**

Thursday 25 May 2023 – Afternoon

Level 3 Cambridge Technical in IT

05839/05840/05841/05842/05877

Unit 3: Cyber security

**Time allowed: 1 hour plus your additional
time allowance**

You must have:

**a clean copy of the Pre-release
(with this document)**

Please write clearly in black ink.

**Centre
number**

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**Candidate
number**

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First name(s) _____

Last name _____

**Date of
birth**

D	D	M	M	Y	Y	Y	Y
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READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS

Use black ink.

Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.

Answer ALL the questions.

Use the Insert to answer the questions in Section A.

INFORMATION

The total mark for this paper is 60.

The marks for each question are shown in brackets [].

Quality of extended response will be assessed in questions marked with an asterisk (*).

ADVICE

Read each question carefully before you start your answer.

SECTION A

Use the case study on **PEN PERIMETER** in the **INSERT** to answer the questions in this section.

Pen Perimeter has a variety of clients from different organisations.

1 (a) Pen Perimeter has been hired by a government department to report on the security of the data it stores.

(i) Describe ONE type of state's data that needs to be PROTECTED.

[2]

(ii) Identify ONE OTHER type of state's data that needs to be PROTECTED.

[1]

(b) One of Pen Perimeter's clients is a healthcare provider.

Identify TWO reasons why an organisation, such as a healthcare provider, might be a TARGET for a cyber security threat.

Reason 1

Reason 2

[2]

2 Pen Perimeter carried out tests for a charity.

A Test Report was created which included recommendations for improvements for the charity's cyber security.

(a) (i) Identify THREE DIFFERENT PHYSICAL based cyber security controls that Pen Perimeter would have tested.

Control 1 _____

Control 2 _____

Control 3 _____

[3]

- (ii) Identify TWO DIFFERENT SOFTWARE based cyber security controls that Pen Perimeter would have tested.

Control 1 _____

Control 2 _____

[2]

- (b)* Using examples, explain how the cost of implementing the recommendations of the report could OUTWEIGH the benefits. [7]

[illegible]

**(c)* Discuss the implications for
STAKEHOLDERS of the charity
if they did NOT act on the
recommendations of the
report. [10]**

3 Pen Perimeter has been hired by a financial business to carry out a simulated cyber security attack on their network.

(a) After containing the incident, the financial business needs to ERADICATE it.

Identify TWO ways the incident could be ERADICATED.

Way 1 _____

Way 2 _____

[2]

The financial business uses the attack to practise its production of a cyber security incident report.

(b) (i) Why is it important to understand if the TARGET of the incident was a particular department or individual?

[2]

- (ii) The incident is given a category.

Draw a line to match EACH incident category to the correct definition. [3]

Critical

Inconvenient, loss of efficiency but able to provide services.

Minor

Loss of reputation, disruption to services, financial loss.

Significant

Organisation is no longer able to provide some critical services to users, lives may be lost.

Minimal impact on systems, services and users.

(iii) Describe TWO DIFFERENT ways the capability of the attackers could be ESTABLISHED.

Way 1 _____

Way 2 _____

[4]

- (c) After the incident the financial business UPDATES its documentation.**

Identify TWO DIFFERENT items of documentation it would UPDATE to assist in future cyber security attacks.

Item 1 _____

Item 2 _____

[2]

SECTION B

You do NOT need the case study to answer these questions.

- 4 (a) (i) What does
CONFIDENTIALITY of
information mean?

[1]

- (ii) Identify TWO measures that
can be implemented to ensure
the **CONFIDENTIALITY** of
information.

Measure 1

Measure 2

[2]

(b) (i) What does INTEGRITY of information mean?

[1]

(ii) Identify TWO measures that can be implemented to ensure the INTEGRITY of information.

Measure 1

Measure 2

[2]

5 (a) Identify TWO motivations of a cyber-criminal.

Motivation 1

Motivation 2

[2]

(b) For each cyber security incident, identify the TYPE of ATTACKER who would most likely be involved. [3]

Cyber Security Incident	Type of Attacker
Changing grades in a school	
Employee releasing customer information to a rival firm	
Hacking a company and releasing information on salary gender imbalance	

- (c) One of the targets for cyber security incidents is **INFORMATION**.

Explain how a hacker could use INFORMATION about an individual obtained from a cyber security incident.

[3]

6 (a) Explain how ENCRYPTION can be used to protect data.

[3]

- (b) Describe characteristics of **PHYSICAL** cyber security controls that make them suitable for preventing cyber security incidents.

[3]

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined pages. The question numbers must be clearly shown in the margins – for example, 2(b) or 3(a).

[illegible]



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