

Modified Enlarged 24 pt

**OXFORD CAMBRIDGE AND RSA
EXAMINATIONS**

Monday 16 January 2023 – Morning

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 Questions 1 and 2.

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

Answer ALL the questions.

- 1 (a) Mia has been told that she needs to protect the personal data submitted by the members on her network from both information disclosure and data modification. Describe the difference between information disclosure and data modification.**

[2]

(b) One of the types of security incident that Mia needs to be aware of, is DENIAL of SERVICE (DoS).

(i) What does DENIAL of SERVICE (DoS) mean?

[2]

(ii) Identify TWO ways Mia can PREVENT a DoS attack.

1

2

[2]

(iii) Identify ONE OTHER type of cyber security incident Mia would need to protect against.

[1]

(c) Mia has been warned that she might receive emails from scammers.

Describe TWO motivations of a scammer who sends emails to Mia.

1

2

[4]

- (d) There are different types of attacker who may target Mia and the data on her network.

Draw a line to connect each type of attacker with their description, on the table opposite.

One has been done for you. [3]

- (e) One of the targets is the HEALTH DATA entered by members.

Describe how a cyber criminal could use the HEALTH DATA they targeted.

[2]

TYPE OF ATTACKER	
Insider	
Phisher	
Hactivist	
Vulnerability Broker	

DESCRIPTION	
An attacker who attempts to discover exploits and sells them	
An attack on a network or computer system by a person with authorised access	
An attacker who tries to get individuals to reveal personal information by sending emails pretending to be from companies	
An attack on a network or computer system to achieve social or political goals	

(f)* Discuss the impact on Mia, in her role as Membership and Web Officer, if an attacker gained access to the webserver. [10]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- 2 (a)* Mia accesses the webserver remotely using an app on her mobile device. The data sent and received is ENCRYPTED.**

Evaluate the use of ENCRYPTION as a method of securing the data sent between the app and the webserver. [7]

(c) Describe TWO OTHER software-based cyber security controls Mia could use to protect the data on the webserver.

1

2

SECTION B

Answer ALL the questions.

- 3 (i) Identify ONE UK law that applies to IT.

[1]

- (ii) Describe the impact of the law you have identified on an organisation.

[3]

4 A company has suffered a cyber security incident and an incident report needs to be completed.

(i) Describe why it is necessary to record the date of the incident in the report.

[2]

- (ii) The cyber security incident can be placed into one of four categories. Complete the paragraph opposite describing the different categories.

Use the following list of terms.

You DO NOT need to use all the words. [4]

critical

effect

impact

insignificant

major

minor

serious

significant

small

substantial

If the incident is categorised as

_____ then this means

it involves a serious breach of network security. A negligible incident is one that has little or no _____

on the system or the users. A

_____ incident is likely

to disrupt non-essential services. A

_____ incident can be

handled internally by IT support.

(iii) One of the sections of the CYBER SECURITY INCIDENT report is responses needed.

Identify TWO different groups of people who would need to be informed of the CYBER SECURITY INCIDENT.

For each group, explain why they would need to know.

Group: _____

Explanation: _____

Group: _____

Explanation: _____

- 5 Describe how SANDBOXING can be used to test a program suspected of containing a virus.**

[4]

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, 1(f) or 2(a).

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