



Oxford Cambridge and RSA

Wednesday 15 January 2020 – 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)**

Modified Enlarged 18 pt

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**

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| D | D | M | M | Y | Y | Y | Y |
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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.

INFORMATION

Use the Insert to answer Questions 1 and 2.

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.

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SECTION A

Answer ALL the questions.

**This section relates to the case study on
Fairest Physiotherapy.**

**Fairest Physiotherapy runs a computer network to
support its business.**

- 1 (a) The computer network is vulnerable to different
types of threats.**

**For each of the scenarios shown in the table
below, identify whether the type of attack is a
system attack, a physical threat or an
environmental threat. [3]**

| Scenario | Type of Attack |
|--|-----------------------|
| Burst water pipe in the server room | |
| ID access card being stolen | |
| Brute force password hack | |

- (b) (i) Fairest Physiotherapy has been mentioned on a hacking forum as a possible target.**

Describe the following motivations for attacking the company: public good, righting perceived wrongs and score settling.

Public good _____

Righting perceived wrongs _____

Score settling _____

[6]

- (ii) Explain why Fairest Physiotherapy might be vulnerable to a cyber security incident that is state sponsored.**

[2]

Fairest Physiotherapy is concerned that the likelihood of a cyber security incident has increased, as they have been mentioned as a possible target on a hacking forum.

(c) (i)* Analyse the possible impacts of a cyber security incident on Fairest Physiotherapy. [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.

(ii)* Explain how Fairest Physiotherapy could identify the areas of the company that are most at risk from a cyber security incident. [7]

**(iii) Describe THREE measures that
Fairest Physiotherapy could take to reduce
the impact of a cyber security incident on its
customers and business.**

Measure 1

Measure 2

Measure 3

Fairest Physiotherapy has outsourced its backup provision to Oliver Backup Services.

2 (a) Explain why the information on the backup needs to be kept secure.

[4]

(b) Explain why the backup needs to be accessible by Fairest Physiotherapy.

[2]

SECTION B

Answer ALL the questions.

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

- 3 Shaad Higgins accessed his bank account online, and saw some transactions that he did not recognise. He concluded that his bank account had been hacked.**

Identify THREE items of information Shaad Higgins will need to give to his bank to enable them to investigate the hack. For each item, give a reason why the bank will need it.

Item 1 _____

Reason _____

Item 2 _____

Reason _____

Item 3 _____

Reason _____

4 Health data is one type of personal data that an individual needs to protect.

Identify THREE OTHER types of personal data that an individual needs to protect.

Type 1 _____

Type 2 _____

Type 3 _____

[3]

5 Jack is a salesman for aeroplane control systems, and travels to many different countries.

He has recently received cyber security training.

(a) During his training three terms that were frequently used were 'data at rest', 'data in transit' and 'in the cloud'.

Define what is meant by each of these terms.

Data at rest _____

Data in transit _____

In the cloud _____

[3]

(b) The training Jack received included cryptography.

Identify TWO types of cryptography that Jack could have been told to use to protect data stored on his computer.

1 _____

2 _____

[2]

6 Paulina has been having problems with her computer. She has been advised to check if any patches have been released for the software she is using.

(a) Explain why it is important that Paulina installs the patches to the software as soon as they are released.

[4]

(b) What is the difference between an update and a patch?

[2]

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(a) or 2(b).

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