OCR

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					

Candidate number				

First name(s) _____

Last name _____

Date of birth	D	D	M	M	Y	Y	Y	Y

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]

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

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    (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_____

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Measure 2_____

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Measure 3_____

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[6]

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.

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_____ **[4]**

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

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_____ **[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 _____

_____

[6]

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.**

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_____ **[4]**

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

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_____ **[2]**

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(a) or 2(b).

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Version 3