

CAMBRIDGE TECHNICALS LEVEL 3 (2016)

Examiners' report

IT



05838–05842, 05877, 05885, 05886

Unit 3 January 2020 series

Version 1

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Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates. The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report. A full copy of the question paper can be downloaded from OCR subject [web](#) page.

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Paper Unit 3 series overview

The paper is divided into two parts – a Section A that is based on the pre-release and a Section B that is based on the candidate knowledge and understanding of the specification. It is expected that a candidate will do significantly better on section A as they will have had time to conduct research into specific areas.

One area where targeted classroom time could be of benefit and increase candidate marks is by looking at the key word and the number of marks available. In some instances, particularly those questions of 4 marks or more, candidates are not making enough points to gain the high marks. The number of marks is linked to the key word – an explanation, for example, requires a greater level of understanding and has more marks allocated to it than a description. Candidates, in order to access all the marks, need to be giving appropriate depth and links to examples to demonstrate an understanding of the content.

Technical terminology is another area where candidates can demonstrate an understanding of the content. Their responses should be appropriate for someone who has engaged in a period of learning in a specific topic and reflect a greater understanding than someone with mere general knowledge.

Section A overview

Section A, as it is based on the pre-release, needs to have answers that are given in the context of the pre-release and are not just generic. The answers are expected to show an application of the knowledge to the scenario. This is getting better over time, but more attention still needs to be paid to context.

Question 1 (a)

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.

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

[3]

This was answered very well, with the majority of candidates able to identify which type of attack related to which scenario.

Question 1 (b) (i)

- (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]

This required a learnt response based on motivations. Many candidates attempted to give descriptions of the terms and not the motivation behind the term. It is also not possible to demonstrate a sufficient understanding by using the words from the question itself. It was disconcerting to see a large number of responses to score settling being related to gaming, not cyber security.

Question 1 (b) (ii)

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

.....

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.....

.....

[2]

Some candidates had clearly thought about this and contextualised their response to the type of clients Fairest Physiotherapy might have and why they might be of interest to other states. Many responses, though, were based on ways to stop attacked rather than reasons why they might be attacked.

Question 1 (c) (i)

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]

Candidates are generally getting the idea of how to answer essay questions and the expectations of the key words. Many impacts were described but few went into any depth about the impacts – poor reputation, breaking the law and loss of customers were mentioned but there was a lack of linking of thoughts together to explain how these impact on the company – the statements were given as the end result rather than a chain of thought.

Question 1 (c) (ii)

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

.....

.....

.....

.....

.....

[7]

Most candidates gave ethical hacker as the focus of their response but went on to describe methods to protect the network rather than actions to find vulnerabilities. The focus of the question was on how to identify the areas at risk and not how to protect the network.

As with the previous essay, candidates successfully identified and described but there was a lack of explanation and discussion required to move the responses into the top band of the mark scheme.

Question 1 (c) (iii)

(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

.....

.....

.....

[6]

Part of the research that candidates were required to do as part of the pre-release was to look at how the impact of a cyber security incident could be reduced. These are measures that the company could undertake, once the company has been attacked to reduce the effect of the attack. Most candidates gave responses that were based on prevention measures to stop an attack rather than reducing the impact post attack.

Section B overview

Section B is a general section with each question based on individual scenarios. The focus of this section is therefore on a wider understanding of the syllabus. Performance was mixed here. Some candidates had a clear understanding of the wider syllabus, whilst others struggled with this section.

Within Section B, each question has a context and where appropriate candidates should try and relate their responses to the context.

Question 3

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]

The key to this question was items of information – not groups of information but specific tangible pieces of information that would be asked for and the reason why the bank needed it. There were many good responses to this but there were also some concerning ones – for students studying cyber security there should be an awareness that passwords and pin codes would not be asked for.

Question 4

- 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]

This question was about types of data and not individual pieces of data. There was a general misunderstanding of what constitutes personal information data; candidates often provided single items of information but not generic ones covering the range. There were also responses to do with health data (eliminated by the question).

Question 5 (a)

- 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]

Data at rest and data in transit were done reasonably well. In the cloud less so. These are learnt definitions – knowledge recall and so should be done well.

Question 6 (b)

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

.....

.....

.....

.....[2]

This was answered generally very well by most candidates. Some however thought they were the same.

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