

CAMBRIDGE TECHNICALS LEVEL 2 (2016)

Examiners' report

IT

05882, 05883, 05884

Unit 2 Summer 2023 series

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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 and the mark scheme can be downloaded from OCR.

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Unit 2 series overview

This unit is mandatory for the Certificate and for the IT Practitioner, Digital Software and Digital Business pathways for the Diploma.

The unit focuses on:

- aspects of cyber security
- threats and vulnerabilities that result in cyber security attacks
- how impacts from cyber security attacks can be minimised.

The questions in the paper are preceded by a scenario that involves an aspect of cyber security. The questions are based around this scenario. The paper may contain different scenarios for different questions.

Candidates who did well on this paper generally:	Candidates who did less well on this paper generally:
<ul style="list-style-type: none"> • used technical terms • related their responses to the scenario in the question • used the keywords in the question to give appropriate depth to their responses. 	<ul style="list-style-type: none"> • missed questions out • gave learnt responses from previous mark schemes that were not applicable • gave responses using identified keywords from other questions in the paper • gave responses that included responses from the question that they were told not to use • used technical terms incorrectly.

There are large numbers of candidates who are not attempting all questions, and this is preventing them from accessing the higher grades.

Candidates need to learn the key words in the specification and their associated definitions and then apply them to the scenario.

There is evidence that candidates are not familiar with the technical terms used in cyber security.

Question 1 (a)

(a) Cyber security aims to protect data.

Identify **two other** items that cyber security aims to protect.

[2]

1

2

This question required a learnt response from the specification. A few candidates gave data. Even though it was given in the question and many gave targets and not items.

Question 1 (b)

(b) Identify the type of attacker who wants to gain unauthorised access to a computer system.

[1]

This was very well done with most giving the correct response.

Question 1 (c)

(c) An organisation is one type of target for a cyber security attack.

Identify **two other** targets for a cyber security attack.

[2]

1

2

This question required a learnt response from the specification. A few candidates gave organisation. Even though it was given in the question and many gave items and not targets mixing up their responses between Question 1a and Question 1c.

Question 2 (a)

Monty's Wanderings is a business that provides dog-walking services to its customers. A database of customers is stored on a laptop. The database is used to create daily lists of dogs that need to be walked. The list includes the address and time of the walk. Customers receive a bill for the walks at the end of every month. This bill is emailed to the customers.

(a) A user name and password have to be entered to gain access to the laptop.

Explain how a user name and password increases the security of the laptop.

[3]

A considerable number of responses focused on how the password could be made more complex in order to prevent unauthorised access which did not answer the question being asked. The word password was latched onto without the whole question being read.

Question 2 (b)

(b) The owner of Monty's Wanderings wants to provide other people with access to the customer database but wants to hide the data in the other files on the laptop.

Identify and describe the logical protection measure that could be used.

[3]

Protection measure

Description

Many candidates gave physical protection methods when the question specifically asked for logical. Those that did give logical methods often gave methods that while they protected the file, did not hide it.

Question 2 (c)

(c) The owner of Monty's Wanderings has installed device locks on the laptop.

Explain how device locks can protect the data stored on the laptop.

[3]

There was a general lack of understanding of what a device lock was. Without this awareness of what this physical protection method was, marks could not be given. There were two different types of device lock the candidate could have given but many chose to give logical responses based around passwords.

Misconception



A device lock is a physical method of security the laptop itself – using a cable that secures it to the desk preventing theft; or using a physical device that covers the USB ports to prevent anyone inserting their own USB drive into the device.

Question 2 (d)

Hackers have accessed the laptop. Some of the financial data has been changed.

(d) Identify the type of cyber security incident that has occurred.

[1]

This was generally well done. This is taken from the specification which needs to be learnt. Some types of incidents, such as deletion will not change the data.

Question 2 (e)

(e) Identify the legislation that has been broken during the hacking attack.

[1]

This was very well done with most candidates obtaining the mark.

Question 2 (f) (i)

(f) Anti-virus software has now been installed on the laptop. During a virus scan a worm threat has been quarantined by the anti-virus software.

(i) Describe what worm means.

[3]

Most candidates knew it had something to do with viruses and so proceeded to describe viruses in generally rather than focusing on worms. The specification lists a number of different types of threat and it is important that the way in which each works is understood by the candidate.

Question 2 (f) (ii)

(ii) Explain how this threat could have been started.

[3]

While there was a general awareness of how a worm could get onto a device, many responses did not give the specific detail required. A large number of responses focused on phishing and pharming attacks and gave details related to how these worked which scored no marks.

Question 3 (a)

A take-away food shop has an online ordering website. Customers are able to order and pay for their take-away food online. Customers can choose to have the food delivered or they can collect it from the shop.

(a) The shop has been receiving suspicious emails that appear to have been sent from its bank.

Identify the type of attacker that is sending the emails and describe how the attacker tries to get information.

[4]

Type

Description

Those that correctly identified phisher often went on to achieve most of the descriptive marks.

Misconception



There is a difference between the type of attacker and the attack itself. It is important to differentiate between the individual who is actually doing the attack and the type of attack that they are doing.

Question 3 (b)

(b) Identify **two** potential motivations of the attacker sending the emails.

[2]

1

2

This question requires an understanding of the specification. Most candidates were aware that one of the motivations was financial gain but few were able to achieve the second mark. This question is knowledge regurgitation and requires the key terms in the specification to be learnt.

Question 3 (c)

(c) Identify **one other** type of attacker.

[1]

This question was answered very well with most candidates achieving the mark.

Question 3 (d)

Following the attack, the take-away shop has taken advice about its cyber security.

(d) Explain why it is important for the shop to improve its cyber security.

[2]

This question was not answered well with a large number of candidates unable to give a reason. The response to this question is at the very heart of cyber security and candidates were unable to gain marks without giving an appropriate reason.

Question 3 (e)

(e) A risk assessment was carried out as part of the advice.

Explain why the risk assessment would be carried out.

[3]

It is apparent that risk assessments are an area that are either not covered or not understood. Very few candidates were aware of what a risk assessment was or why it was needed.

Question 3 (f)

(f) The shop has been told about the threat of social engineering.

One type of social engineering is shouldering.

Identify **two other** types of social engineering.

[2]

1

2

Most candidates achieved 1 mark here. This is another question that is based around knowledge regurgitation and requires the key terms in the specification to be known. A small number of candidates gave shouldering as their response – even though this was eliminated in the question.

Question 3 (g)

(g) Discuss the potential financial impacts of the cyber security attack on the take-away food shop.

[9]

The final question on this paper has consistently been an essay. Essays require a longer response from the candidate that is planned to take into account the context of the question and the keyword.

The focus of the question was on the financial implications. A large proportion focused on the theft of financial details from the customer and subsequent identity fraud – this did not impact on the financial status of the shop and so marks were not given.

Candidates who scored highly looked at the need to purchase new equipment, reputational damages leading to loss of customers and the need for training.

Assessment for learning



Essays, such as this require depth of response from the candidate rather than breadth. A few points are required but the candidate is required to show their understanding of the point and its application to the question. Formatting their response can assist this, with each point being made being a separate paragraph; this can help focus the candidate on the point being made rather than moving onto a different one and reducing the depth of their argument and marks given.

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