OCR
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CAMBRIDGE TECHNICALS LEVEL 2 (2016)

Examiners' report

INFORMATION TECHNOLOGY

05882, 05883, 05884

Unit 2 January 2024 series

Contents

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.

Links to the question paper and a full copy of the mark scheme can be downloaded from Teach Cambridge.

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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:
- 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.	- 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 answers from the question that they were told not to use - used technical terms incorrectly.

Question 1 (a)

(a) One motivation of an attacker is fraud.

Identify **two other** motivations of an attacker.

[2]

1

2

This question required a learnt response from the specification. A few candidates gave fraud as their answer even though it was given in the question. Many candidates were able to identify one or two motivations of an attacker and achieved at least 1 mark. The most common incorrect answers identified a cyber security incident or data instead.

Question 1 (b)

(b) Data and information are two targets of a cyber security attack.

Identify **one other** target of a cyber security attack.

[1]

This was very well done with most giving the correct answer. Location was the most common incorrect answer seen.

Question 1 (c)

(c) Identify the legislation that applies to the storing of personal data.

[1]

This was very well done with most giving the correct answer. Candidates who did not achieve the correct answer either named another legislation to do with security of data or gave a descriptive answer such as 'invasion of someone's personal details' for which they received no mark.

Question 1 (d)

(d) Data has been stolen by an attacker.

Identify the type of cyber security incident that has happened.

[1]

Types of cyber security incidents are listed in the specification and required a learnt response from the candidate. Most candidates put the correct answer and achieved the mark. There was a small number of candidates that focused on attackers and put answers based around hackers and hacking for which they received no marks.

Question 2 (a)

A swimming club stores members' data on a laptop. The data includes members' names and contact details. The laptop has no protection measures installed and is left unattended during swimming club times.

(a) Explain why it is important that the swimming club uses cyber security on the laptop.

[3]

Candidates that achieved marks were able to explain that the personal data was at risk and needed protecting. Only a few candidates achieved full marks on this question. Others achieved 1 mark for mentioning data or information stored on the laptop. There was little mention of the legal requirements. Some candidates repeated answers from other longer questions for which no marks could be awarded.

Question 2 (b)

(b) Identify **two** vulnerabilities that could lead to a cyber security attack on the laptop.

[2]

1

2

Many candidates were able to correctly identify two vulnerabilities such as 'weak password' and 'laptop left unattended' and some identified and gave examples of physical, system or environmental vulnerabilities. Others were able to identify one which was usually 'no password'. Some answers given would have been correct for other questions on the paper or similar questions on past papers.

Question 2 (c)

(c) Identify and describe **two different** types of cyber security incident that could target the laptop.

[6]

Incident 1

Incident 2

This question was well answered by a small number of candidates who achieved 4 marks for answers relating to data modification and data destruction followed by one expansion. Many candidates were able to obtain 2 marks for an identification and brief explanation of data theft or data manipulation. Some answers given were from a previous question on this topic in a previous paper.

Question 2 (d)

(d) A biometric device is used to gain access to the laptop.

Explain how a biometric device increases the security of the laptop.

[3]

A good proportion could identify fingerprint or facial id for a mark. Many candidates wrote at length about biometrics but did not explain the process or how it works. Some candidates focused on a physical device and received no marks.

Question 2 (e)

(e) Identify **one other** physical protection measure that could be used to protect the laptop.

[1]

Most candidates appeared to understand the question but a few did not know the difference between physical and digital protection measures.

Question 3 (a)

PH Cleaning provides carpet cleaning services to its customers. Customers can use a webpage on the PH Cleaning website to make appointments to have their carpets cleaned.

Customers create a username and the website provides an auto-generated password. When customers have registered, they can book an appointment. When the customer has selected a date and time, they input their details including name, address, and payment card details.

The website has been targeted by a cyber security attack. During the attack a virus was installed.

(a) Identify, using an example, how this attack could occur.

[3]

How

Example

A very small number of candidates gave a correct identification with an example of how this attack could occur. Many answers were vague in their description and lacked an example as required by the question.

Question 3 (b)

(b) Identify the type of attacker that could have carried out this attack.

[1]

The most common answer given was hacker and received a mark. A few candidates did not respond to the word 'attacker' but wrote about personal data.

Question 3 (c)

(c) Identify the legislation that has been broken during this attack.

[1]

This was very well done with most giving the correct answer. GDPR was the most common incorrect answer seen – the same answer being given for 1(c).

Question 3 (d)

(d) Following the attack PH Cleaning has installed logical protection measures.

Explain why PH Cleaning has installed logical protection measures.

[3]

The majority of candidates wrote about the protection of data and information and the need to prevent another attack and received 1 or 2 marks. Few wrote about securing the system so many did not achieve full marks. Extremely few mentioned legislation as a reason.

Question 3 (e)

(e) PH Cleaning has installed anti-virus software to protect their digital equipment.

Describe **one** characteristic of anti-virus software.

[2]

Only a few candidates gained both of the marks available. Answers tended to be very generalised or to mention one characteristic, e.g. about it updating or about a scan.

<table>
<tr><td>Assessment for learning</td></tr>
</table>
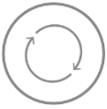
How an antivirus works is an area where candidate knowledge was found to be lacking. Marks were obtained through generalisations rather than specific knowledge. Alongside what it does, centres need to teach how it does it.

Question 3 (f)

(f) Token authentication will be used when customers are accessing the booking webpage.

Explain the process of token authentication.

[3]

There were some good answers to this question with candidates relating it to their real life use of an authenticator app and achieving full marks.

Question 3 (g)

(g) Since the attack, some of the customers have received emails asking them to click on a link to confirm their personal details.

Identify and describe the type of threat that has occurred.

[3]

Type of threat

Description

The majority of candidates correctly identified phishing and received a mark. Some went on to mention emails pretending to be from a company and links to receive full marks. It would appear that use of past papers for exam practice helped here as answers were clearly and confidently written.

Assessment for learning
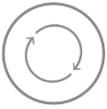
A common misconception is that it is a fake email. It is not, the email is real, and it is 'pretending' to come from a real company.

Question 3 (h)

(h) Some of the stored customer data was lost during the attack.

Discuss the possible impacts of the loss of this data on PH Cleaning and its customers.

[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.

There was evidence that a quite a few candidates knew about impacts of data loss on companies and customers but lower performing candidates tended to mostly write about the impact on the company limited the marks they could achieve.

Candidates who scored highly looked both the company and the customer and moved beyond identification of the impact to explaining how the impact of loss of data affected them.

Assessment for learning
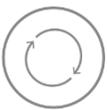
Essays, such as this require depth of response from the candidate rather than breadth. A few points are required but the candidate is required to show their understanding of the point and its application to the question.

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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