

Examiners' report

CAMBRIDGE TECHNICALS LEVEL 2 (2016)

IT

**OCR Level 2 Cambridge Technical
in Digital Business Technologies**

Award: 05882

OCR Level 2 Cambridge Technical in IT

Certificate: 05883

Diploma: 05884

Unit 2 Summer 2025 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. A selection of candidate responses is also provided. 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 [Teach Cambridge](#).

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Unit 2 series overview

This unit is mandatory for the Certificate and for the IT Practitioner and Digital Software 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 • applied examination technique to their answer based on the keyword, knowledge and application to the scenario.	• 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) Cyber security aims to protect information and data.

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

[2]

1

2

This question required a learnt response from the specification. Many candidates were able to identify one item and achieved a mark. Common incorrect answers included variations on protecting information which was given in the question or targets which is Question 1 (b).

Question 1 (b)

(b) Information and data are targets for cyber security attacks.

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

[1]

This question required a learnt response from the specification. Many candidates were able to identify one of the correct answers and achieve the mark. Common incorrect answers included variations on information and data, including examples of or items that cyber security protects – which was Question 1 (a).

Question 1 (c)

(c) Which type of attacker will access a computer system without permission?

[1]

This question was very well done with most candidates identifying hacker.

Question 1 (d)

(d) Two of the purposes of cyber security are to protect information and data and keep it confidential.

Identify **one other** purpose of cyber security.

[1]

Few candidates identified integrity or availability. Many gave responses that reworded protecting information. This is a learnt, regurgitated part of the specification and fundamental to an understanding of cyber security.

Question 2 (a)

A school uses a database to store details about its students. A correct username and password must be entered to access the database.

(a) Identify **two** reasons why it is important that the school uses cyber security for the database.

[2]

1

2

To gain the marks it was important for the candidate to contextualise their response. The question asked why it was important for the school – therefore the candidate needed to think about reasons for the school not just generic answers.

Question 2 (b)

(b) The database is saved on a server which is located in a locked room. Physical protection measures are used.

Explain the purpose of physical protection measures.

[3]

A large proportion of the candidates gave answers that identified different types of physical protection measures rather than giving their purpose. Some candidates, through the verbosity of their response, did manage to pick up some marks but this was not by design.

Question 2 (c)

(c) An RFID security badge is needed to unlock and enter the server room.

Explain how using RFID security badges increases the security of the server room.

[3]

This was a very well answered question with many candidates giving a good explanation of how it increases security.

Assessment for learning



It is important to read the whole question. The first few words of this question look like it is asking the candidate to explain how RFID works – this is not the case. Candidates need to read the whole question before attempting their answer.

Question 2 (d)

(d) Teaching staff can use the database to see details of the students they teach.

Senior staff can use the database to see and edit the details of all students at the school.

Identify this logical protection measure that is being used on the database.

[1]

This question was very well done with most candidates identifying access rights.

Question 2 (e)

(e) A cyber security threat occurred. The database was infected by a worm.

Describe what is meant by a worm.

[2]

Candidates understood the idea of it spreading/replicating and gained the mark but many were not able to give any other response to get them the second mark.

Question 2 (f)

(f) Identify **two** motivations of the attacker who infected the database.

[2]

1

2

This question required a learnt response from the specification. Many candidates were able to identify two motivations and achieved both marks.

Question 2 (g)

(g) After the attack, staff were asked to change their passwords.

Identify **two** characteristics of a strong password.

[2]

1

2

A characteristic is something specific and candidates needed to give detail in order to be awarded the mark. While many candidates did identify the use of symbols, numbers, capital and lower case letters, in many responses the features were not given as combinations. A password that has lower case letters for example is not strong. Length was another common answer that did not gain credit. Candidates said “long password” – long can mean different things to different people and to remove any ambiguity, a number was required – over 12 letters for example.

Assessment for learning



Candidates should get into the habit of only giving the required number of answers – for example, two characteristics were asked for – writing down multiple characteristics across both boxes is classified as listing and only the first two are marked.

The application of examination technique is important to maximise marks.

Question 3 (a)

A bank offers online banking to its customers.

Customers log into the bank's website using a user name and password.

(a) When customers have entered their user name and password, token authentication is used.

Explain the process of token authentication.

[3]

Many candidates described what a token was without explaining how it worked. Sometimes their understanding of a token was linked either to a physical device or to setting up an account rather than logging on. There were many instances of extended pieces of writing that gained zero marks because the question and keyword were not properly read – the question asked for the process once the username and password had been entered. Those candidates who did score marks on this question gave a good linear process of the steps in token authentication.

Question 3 (b)

(b) The bank account data is stored in a secure online area.

Identify the legislation that relates to the storing of the customer account data.

[1]

This question was well answered with most candidates identifying the DPA.

Question 3 (c)

(c) Two cyber security incidents that could take place on the stored account data are data modification and data manipulation. Describe **one other** type of cyber security incident that could take place.

[3]

The cyber security incidents are listed in the specification. Two were given in the question and the candidate was asked for a third. As a knowledge regurgitation question this should have been straightforward but a large number of candidates were unable to give an incident. Of those that did, data theft was the most common but few were able to describe it in sufficient detail to be awarded the second mark.

Question 3 (d)

(d) Cyber criminals have attacked the bank's online storage area and accessed customer account data. Identify the type of threat that has occurred.

[1]

Another knowledge regurgitation from the specification was required here and for this one, many candidates correctly identified unauthorised access from the description given.

Question 3 (e)

(e) Describe what is meant by a cyber criminal.

[2]

Candidates who broke the question down into its two component parts – cyber and criminal and gave answers relating to each part did very well on this question. However, a large majority, rather than describing what a cyber criminal was, opted to give examples of activities they would engage in. Sometimes, with enough detail the marks were able to be awarded but in many cases the response to too vague or generic to be given credit.

Question 3 (f) (i)

(f) Following the attack, a virus and malware have been found on the online storage area.

(i) What is a virus?

[2]

Candidates struggled with this question. Some tried to answer it in terms of the effects of a virus but very few were able to give a learnt definition.

Question 3 (f) (ii)

(ii) Identify **one** type of malware.

[1]

This question was generally well answered, although some did give virus as an answer.

Question 3 (g)

(g) Identify **and** describe **one** intentional organisational threat that could take place on the bank's website.

[3]

Threat

Description

There was a lot to work through in this question. There was the fact that the threat was intentional. That it was something that could target an organisation (rather than an individual) and was linked to online (a website). This led to one answer which, unfortunately few candidates knew. Those that did often went on to score highly.

Question 3 (h)

(h) Discuss the financial impacts of a cyber security attack on the bank **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 were many answers from candidates which neglected the information given in the question – that they were to write both about the bank and its customers. There was also a significant number that did not focus on the financial impacts but wrote in general terms about the impacts.

In general, there was an improvement in the quantity and quality of answers for this final essay. There was evidence, in some candidate's work, of planning their answer before they started to write it.

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 turned into 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.

The use of the highlighter to identify the key points in the question is a technique that has been seen and used to great effect.

This question is worth 20% of the whole paper and both an appropriate time in the exam and in preparation needs to be given to teaching the candidates how to interpret the question and formulate a response.

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