Qualification awaiting accreditation

CAMBRIDGE OCR

Sample assessment material

Cambridge OCR Level 2 Foundation Certificate in Digital Systems and Data

J002

Unit R200: Digital systems, data and security

Version 0.1 | November 2026

ocr.org.uk/foundationcertificates

Introduction

This sample assessment material (SAM) is an example exam paper published alongside the specification. It's designed to show the style and structure you can expect from our question papers.

As the qualification develops, we may update the question paper template. To make sure you're working with the most up-to-date information, we recommend using the latest set of past papers where possible.

To help you get the most from this SAM, we also provide two supporting resources:

- **Assessment story** – this explains the structure of the qualification and our approach to both examined and non-exam assessment.
- **Annotated SAMs** – these guide you through the key features of the exam paper and highlight the different types of questions students will encounter in the exam.

Summary of updates

Section	Change	Version	Date
N/A	First draft – Awaiting accreditation.	0.1	11th November 2026

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Cambridge OCR Level 2 Foundation Certificate in Digital Systems and Data

J002

Unit R200: Digital systems, data and security

Sample question paper

Time allowed: 1 hour 15 minutes

No extra materials are needed.

Please write clearly in black ink.

Centre number | | | | | | Candidate number | | | | |

First name(s) _____

Last name _____

Instructions

- Use black ink.
- Write your answer to each question in the space provided. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- In the live exam there might be lined pages at the end of the question paper for you to use if you need extra space. Remember, you must clearly show the question numbers.
- Answer **all** the questions.

Information

- The total mark for this paper is **60**.
- The marks for each question are shown in brackets [ ].
- This document has **11** pages.

Advice

- Read each question carefully before you start your answer.

Sample

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Version 0.1

Section A

1 Select the collaboration software.

Tick (✓) **one** box.

Database software ☐

Email ☐

Utility ☐

[1]

2 Complete the table to match the correct storage characteristic to its definition.

Use **two** storage characteristics from the list:

External **Internal** **Non-volatile** **Volatile**

Definition	**Storage characteristic**
Storage that **loses** data when the power is turned off.	
Storage that **keeps** data when the power is turned off.	

[2]

3 The table shows threats to data and services.

Tick (✓) **one** box in each row to identify the correct example for each **type of threat**.

	Type of threat		
Example	**Hacking**	**Malware**	**Social Engineering**
Grey hat			
Quid pro quo			
Ransomware			

[3]

Sample

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4 Select the emerging digital technology.

Tick (✓) **one** box.

Internet of Everything (IoE) ☐

Video conferencing ☐

Web browsers ☐

[1]

5 Complete the table to match the correct data source selection factor to its definition.

Use **two** selection factors from the list:

Accessibility **Relevance** **Reliability** **Time**

Definition	**Selection factor**
Data which is easy to find.	
Data found which matches its purpose.	

[2]

6 Select the **most** suitable application software for creating graphs and charts from numerical data.

Tick (✓) **one** box.

Presentation ☐

Spreadsheet ☐

Word processing ☐

[1]

Sample

7 Select the **causes** of security weakness.

Tick (✓) **two** boxes

- Connectivity interruptions ☐
- Corruption of data ☐
- Failed updates ☐
- Insecure access ☐
- Misconfigured network settings ☐
- Security alert ☐

[2]

8 Select the infrastructure component.

Tick (✓) **one** box.

- Printer ☐
- Server ☐
- Switch ☐

[1]

9 Complete the sentences about network connection methods.

Use **two** terms from the list.

client-server **near field communication (NFC)** **peer-to-peer** **Wi-Fi**

Tapping phones to make a payment is an example of .....

A connection method used to access websites is .....

[2]

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Sample

Section B

10

(a) A new customer is joining a gym. They need to complete a registration form.

One input device that could be used for the registration form is a touchscreen.

Describe **two** reasons why a touchscreen is suitable for this use.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

(b) Complete the table to match the field on the registration form to the correct data type.

Use **three** data types from the list:

Boolean **Date** **Decimal** **Integer** **Percentage** **Text**

Field on registration form	Data type
Name	
How many days a week do you exercise?	
Do you already belong to a gym?	

[3]

11 Icons are one type of graphical user interface (GUI) element.

Describe the purpose of an icon.

.....

.....

.....

..... **[2]**

Sample

12 A business wants to create a survey for their customers to complete.

(a) Explain **two** reasons why **form controls** are suitable to use in the customer survey.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

(b) Describe **one** reason why **date/time** is a suitable data type for asking customers about their date of birth.

.....

.....

.....

..... **[2]**

13 Describe **one** difference between primary and secondary data.

.....

.....

.....

..... **[2]**

Sample

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14 An online retailer uses the **hypertext transfer protocol secure** (**HTTPS)** network protocol on their website.

(a) Explain **one** reason why HTTPS is suitable for this use.

.....

.....

.....

..... **[2]**

(b) Explain **one** reason why dynamic host configuration protocol (DHCP) is **not** suitable for this use.

.....

.....

.....

..... **[2]**

Sample

15 A national supermarket chain stores customer details in a database. The details include customer names, addresses, payment details and information about the products they have bought.

(a) Explain **one** reason why **integrity** is important for protecting customer details stored in the database.

.....

.....

.....

..... **[2]**

(b) Describe **two** reasons why the data stored in the supermarket's database must be **structured**.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

Sample

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(c) The supermarket has a website which was recently targeted by a denial of service (DoS) attack.

Explain **two** ways the supermarket would have been impacted by the DoS attack.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

16 Describe **two** ways security scans are used to identify potential network security concerns.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

Sample

17 Individuals working for a hospital must follow an acceptable use policy (AUP).

Explain **one** way an AUP would support the protection of confidential patient records.

.....

.....

.....

..... **[2]**

18 Describe the purpose of intellectual property rights (IPR).

.....

.....

.....

..... **[2]**

Sample

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19 A fitness brand wants to add exercise videos to their website.

The exercise videos will cover a wide range of workouts and different fitness levels. New videos will be added every week.

Analyse the **advantages** of using **artificial intelligence (AI)** to generate content for the videos.

[6]

End of sample question paper

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Sample

Cambridge OCR Level 2 Foundation Certificate in Digital Systems and Data

J002

Unit R200: Digital systems, data and security

Sample mark scheme

Sample

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Marking instructions

Crossed-out answers

If a student has crossed out an answer and written a clear alternative, do **not** mark the crossed-out answer.

If a student has crossed out an answer and **not** written a clear alternative, give the student the benefit of the doubt and mark the crossed-out answer if it's readable.

Multiple choice question answers

When a multiple choice question has only one correct answer and a student has written two or more answers (even if one of these answers is correct), you should **not** award a mark.

When a student writes more than one answer

1. Questions that ask for a set number (including 1) of short answers or points

If a question asks for a set number of short answers or points (e.g. **two** reasons for something), mark only the **first set number** of answers/points.

First mark the answers/points against any printed numbers on the answer lines, marking the **first** answer/point written against each printed number. **Then**, if students have not followed the printed numbers, mark the answers/points from left to right on each line and **then** line by line until the set number of answers/points have been marked. Do **not** mark the remaining answers/points.

2. Questions that ask for a single developed answer

If a student has written two or more answers to a question that only requires a single (developed) answer, and has **not** crossed out unintended answers, mark only the first answer.

3. Contradictory answers in points-based questions

When a student has written contradictory answers, do **not** award any marks, even if one of the answers is correct.

Levels of response marking

1. To determine the level start at the highest level and work down until you reach the level that best describes the answer

2. To determine the mark within the level, consider the following:

Quality of the answer	**Award mark**
Consistently meets the criteria for this level	At the top of the level (6 and 9 mark questions)
Meets the criteria but with some inconsistency	At the middle of the level (9 mark questions)
On the borderline of this level and the one below	At the bottom of the level (6 and 9 mark questions)

Sample

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Annotations

Annotation	Meaning
	Correct response
	Incorrect response
	Positive
	Negative
	Level 1
	Level 2
	Level 3
	Omission mark
	Benefit of doubt given (this annotation counts as a mark so do not tick as well)
	Contradiction
	Repeat
	Too vague
	Noted but no credit given

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Mark scheme

1	
Max mark	1 **(PO1)**
Answer	• Email (1)
Guidance	No other answers are acceptable.

2	
Max mark	2 **(PO1)**
Answer	<table><tr><th>Definition</th><th>Storage characteristic</th></tr><tr><td>Storage that **loses** data when the power is turned off.</td><td>Volatile (1)</td></tr><tr><td>Storage that **keeps** data when the power is turned off.</td><td>Non-volatile (1)</td></tr></table>
Guidance	1 mark for each correct answer No other answers are acceptable.

3	
Max mark	3 **(PO1)**
Answer	<table><tr><th rowspan="2">Example</th><th colspan="3">Type of threat</th></tr><tr><th>Hacking</th><th>Malware</th><th>Social Engineering</th></tr><tr><td>**Grey hat**</td><td>✓ (1)</td><td></td><td></td></tr><tr><td>**Quid pro quo**</td><td></td><td></td><td>✓ (1)</td></tr><tr><td>**Ransomware**</td><td></td><td>✓ (1)</td><td></td></tr></table>
Guidance	1 mark for each correct answer No other answers are acceptable. If 2 or more ticks in a row, then award 0 marks for that row.

4	
Max mark	1 **(PO1)**
Answer	• Internet of Everything (IoE) (1)
Guidance	No other answers are acceptable.

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<table>
<tr><td colspan="2">5</td></tr>
<tr><td>Max mark</td><td>2
(PO1)</td></tr>
<tr><td>Answer</td><td>
<table>
<tr><th>Definition</th><th>Selection factor</th></tr>
<tr><td>Data which is easy to find.</td><td>Accessibility (1)</td></tr>
<tr><td>Data found which matches its purpose.</td><td>Relevance (1)</td></tr>
</table>
</td></tr>
<tr><td>Guidance</td><td>1 mark for each correct answer
No other answers are acceptable.</td></tr>
</table>

<table>
<tr><td colspan="2">6</td></tr>
<tr><td>Max mark</td><td>1
(PO1)</td></tr>
<tr><td>Answer</td><td>• Spreadsheet (1)</td></tr>
<tr><td>Guidance</td><td>No other answers are acceptable.</td></tr>
</table>

<table>
<tr><td colspan="2">7</td></tr>
<tr><td>Max mark</td><td>2
(PO1)</td></tr>
<tr><td>Answer</td><td>• Insecure access (1)
• Misconfigured network settings (1)</td></tr>
<tr><td>Guidance</td><td>1 mark for each correct answer
No other answers are acceptable.</td></tr>
</table>

<table>
<tr><td colspan="2">8</td></tr>
<tr><td>Max mark</td><td>1
(PO1)</td></tr>
<tr><td>Answer</td><td>• Switch (1)</td></tr>
<tr><td>Guidance</td><td>No other answers are acceptable.</td></tr>
</table>

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9	
Max mark	2 **(PO1)**
Answer	• Tapping phones to make a payment is an example of **near field communication/NFC** (1) • A connection method used to access websites is **wi-fi** (1)
Guidance	1 mark for each correct answer No other answers are acceptable.

10 (a)	
Max mark	4 **(PO2)**
Answer	Up to **two** marks for a valid description of why a touchscreen is suitable**.** **One** mark for identifying a suitable feature. **One** mark for applying the feature to completing the new customer registration form**.** • Less typing required (1), making it quicker for new customers to complete their registration details (1). • No additional peripherals required (1), allowing new customers to enter their information directly at the registration point (1). • Intuitive/user-friendly interface (1), helping new customers complete the registration form with little or no assistance (1). • Immediate feedback or error messages (1), allowing new customers to correct missing or invalid registration details before submitting the form (1). **Credit any other appropriate response**
Guidance	

10 (b)	
Max mark	3 **(PO2)**
Answer	

Field	**Data type**
Name	Text (1)
How many days a week do you exercise?	Integer (1)
Do you already belong to a gym?	Boolean (1)

Guidance	1 mark for each correct answer No other answers are acceptable. If more than 1 answer provided in a row, then award 0 marks for that row

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11	
Max mark	2 **(PO1)**
Answer	1 mark for each correct answer Any **two** from: • Graphical symbol representing a file/application/command/function (1) • Can be selected to open or access a file/application (1) • Can be selected to execute a command/function (1) • Helps users' identity/select/recognise a file/application/command/function quickly (1) **Credit any other appropriate response**
Guidance	

12 (a)	
Max mark	4 **(PO2)**
Answer	Up to **two** marks for each valid reason. **One** mark for identifying the reason. **One** mark for explaining suitable to use in the customer survey • Consistent responses (1) so customer answers are standardised and easier for the business to analyse (1) • Faster completion times (1) so more customers may complete the survey, increasing response rates (1) • Easier data analysis (1) so results can be sorted, filtered or compared more quickly (1) • Validation can be applied (1) so invalid/incomplete responses are prevented before submission (1) **Credit any other appropriate response.**
Guidance	Max **two** marks for each valid reason

Sample

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12 (b)	
Max mark	2 **(PO2)**
Answer	Up to **two** marks for a complete description. • The date/time data type only accepts values in a valid date format (1), helping to reduce data entry errors when customers enter their date of birth (1) • The date/time data type stores dates in a consistent format (1), making it easier to sort or search customer records by date of birth (1) • The date/time data type is designed to hold date values (1), allowing the system to accurately calculate a customer's age from their date of birth (1) **Credit any other appropriate response.**
Guidance	

13	
Max mark	2 **(PO1)**
Answer	1 mark for each correct answer Any **two** from: • Primary data is collected first hand by the user/researcher (1) • Secondary data is collected by another person or organisation (1) • Primary data is collected for the current purpose or investigation (1) • Secondary data was originally collected for a different purpose or investigation (1) • Primary data can be time consuming/expensive to collect (1) • Secondary data can be quicker or cheaper to obtain (1) **Credit any other appropriate response.**
Guidance	Accept the use of data or source interchangeably

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14 (a)	
Max mark	2 **(PO1)**
Answer	Up to **two** marks for a valid explanation. **One** mark for identifying a reason. **One** mark for explaining why this is important in the context of the online retailer. • HTTPS encrypts data sent between the customer and the retailer's website (1), helping to protect personal and payment information when customers make purchases online (1) • HTTPS provides a secure connection between the customer's device and the website (1), reducing the risk of customer data being intercepted during an online transaction (1) • HTTPS uses digital certificates to verify the identity of the website (1), helping customers confirm they are using the genuine retailer's website before entering their details (1) **Credit any other appropriate response**
Guidance	

14 (b)	
Max mark	2 **(PO1)**
Answer	Up to **two** marks for a valid explanation. **One** mark for identifying the purpose of DHCP. **One** mark for explaining why this does not meet the retailer's needs. • DHCP is used to automatically assign IP addresses to devices on a network (1), whereas the online retailer needs a protocol that allows customers to securely access and exchange data with the website (1) • DHCP configures network settings for devices (1), but it does not provide the secure communication needed when customers enter personal or payment details on the retailer's website (1) **Credit any other appropriate response**
Guidance	

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15 (a)	
Max mark	2 **(PO2)**
Answer	Up to **two** marks for a valid explanation. **One** mark for identifying why integrity is important. **One** mark for explaining the impact on the supermarket or its customers • Integrity ensures customer details remain accurate and complete (1), so products, payments and customer information are linked to the correct customer account (1) • Integrity helps prevent customer details being changed accidentally or without authorisation (1), reducing the risk of incorrect names, addresses or payment details being stored in the database (1) • Integrity ensures the data stored in the database is reliable (1), allowing the supermarket to use accurate customer and purchase information when processing orders or analysing buying habits (1) • Integrity helps maintain the accuracy of payment details and purchase records (1), reducing the risk of customers being charged incorrectly or orders being associated with the wrong customer (1) **Credit any other appropriate response**
Guidance	Accept answers relating to the converse of the question, i.e. if no integrity

15 (b)	
Max mark	4 **(PO2)**
Answer	Up to **two** marks for each valid reason **One** mark for identifying the reason. **One** mark for describing how this will impact the supermarket: • Structured data can be searched and retrieved efficiently (1), allowing the supermarket to quickly find customer records or purchase information (1) • Structured data can be sorted and filtered easily (1), allowing the supermarket to identify specific customers, products or transactions (1) • Structured data is stored in a consistent format (1), making it easier for the supermarket to analyse customer purchasing patterns (1) • Structured data supports accurate queries and reports (1), helping the supermarket use customer data for business decisions (1) • Structured data is organised into fields and records (1), making customer information easier to maintain and update (1) **Credit any other appropriate response**
Guidance	Max **two** marks for each valid reason

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15 (c)	
Max mark	4 **(PO2)**
Answer	Up to **two** marks for each valid explanation. **One** mark for identifying the impact. **One** mark for explaining the impact in the context of the supermarket. • Customers may be unable to access the supermarket's website (1), preventing them from placing online grocery orders and reducing sales revenue (1). • The supermarket may experience a loss of customer confidence (1), if it takes them a while to recover from the attack. (1). • IT technicians may need to spend time responding to and recovering from the attack (1), increasing costs and reducing time available for normal business activities (1). • The supermarket may need to invest in additional security measures (1), increasing operating costs to help prevent future attacks (1). • Online orders may not be completed (1), resulting in lost income from customers who cannot make purchases through the website (1). **Credit any other appropriate response**
Guidance	Max **two** marks for each valid impact.

16	
Max mark	4 **(PO1)**
Answer	1 mark for each correct answer Any **four** from: • Identifies outdated software or firmware (1) • Identifies open ports (1) • Identifies insecure configurations/settings (1) • Identifies weak passwords (1) • Identifies authentication weaknesses (1) • Produces a report of potential security risks (1) • Supports security updates to software or firmware (1) • Supports remediation of insecure configurations (1) • Supports implementation of stronger password policies (1) **Credit any other appropriate response.**
Guidance	

Sample

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17	
Max mark	2 **(PO2)**
Answer	Up to **two** marks for one valid explanation. **One** mark for identifying how an AUP supports protection. **One** mark for explaining why this is important in the context of patient records. • An AUP can require staff to use secure passwords and keep them confidential (1), reducing the risk of unauthorised people accessing confidential patient records (1). • An AUP can set rules on who is allowed to access systems and data (1), helping to prevent confidential patient records being viewed by unauthorised staff (1). • An AUP can prohibit sharing patient information through unauthorised methods (1), helping to keep confidential patient records secure and reducing the risk of data breaches (1) • An AUP can require staff to lock devices or log out when not in use (1), reducing the risk of confidential patient records being accessed by others (1). **Credit any other appropriate response**
Guidance	

18	
Max mark	2 **(PO1)**
Answer	Up to **two** marks for a valid description of the purpose of the IPR. **One** mark for identifying the purpose. **One** mark for describing how this purpose is achieved. • To protect original creations (1) from being used/copied/sold without permission. (1) • To protect intangible elements (1) such as ideas/information/ expressions (1) **Credit any other appropriate response**
Guidance	

Sample

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19	
Max mark	6 **(PO3)**
Levels of Response	**Level 3 (high) 5-6 marks** Thorough analysis, which includes: • Identification of a range of characteristics or elements • Detailed knowledge and understanding in the context of the question • Clear explanation and consistent use of appropriate subject terminology **Level 2 (mid) 3-4 marks** Adequate analysis, which includes: • Identification of some characteristics or elements • Sound knowledge and understanding in the context of the question • Adequate explanation and some use of appropriate subject terminology. **Level 1 (low) 1-2 marks** Basic analysis/explanation, which includes: • Identification of at least one characteristic or element • Limited knowledge and understanding in the context of the question • Basic explanation and use of appropriate subject terminology is limited. **0 marks** Answer is **not** worthy of credit.
Indicative content	Answers can include some of the following: **Advantages** • Quick creation – AI can quickly create scripts, workout plans, captions, and video ideas. • Personalisation – Fitness videos can be created for different fitness levels, goals, or ages. • Consistent content – AI can help create regular videos with a similar style. • Easy to update – Workouts and information can be changed quickly. • Multilingual – Video instructions can be translated/created in different languages. **Credit other relevant conclusions, points and examples.**

Sample

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