

# IT

*Examiners' report*

INCLUDED ON THE  
KS4 PERFORMANCE TABLES

OCR Level 1/Level 2

Cambridge National in  
**IT**

**J836**

For first teaching in 2022 | Version 1

**R050 January 2025 series**

[ocr.org.uk/cambridgenationals](https://ocr.org.uk/cambridgenationals)



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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 answers 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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## R050 series overview

This was the second January session for R050 on the redeveloped specification for IT. R050 counts for 40% of specification, a significant proportion of their overall grade, and must take place once or at the same time as the second NEA has been submitted. This does mean that candidates are more likely to be in their final year of GCSE level studies and have so taken part in more concerted examination practice across all their subjects. This therefore means that the cohort sitting the examination is older and should be more experienced in exam technique.

The terminal rule has also impacted on candidate responses with a greater synoptic understanding being seen to an extent. This is because the NEA units must be submitted before sitting R050, if the unit is to be counted.

In comparison to both sessions last year the level of knowledge and understanding seen this session showed a marked improvement.

However, candidates did not in the main write their responses clearly. Centres are advised to ensure that candidates are clear about the command word requirements and know how to construct their answers precisely. Many candidates lost marks by providing responses such as 'it's easier' or 'it's faster' without qualifying these comments. In this session this was the biggest barrier to higher marks being attained on the whole.

As with the legacy Information Technologies specification R012, there are aspects of R050 that require a depth of understanding that cannot be taught purely by their application in NEA units. Examples of this would be data types and why different types of testing are carried out.

While candidates may have used them in the R060 assignments, the understanding of their purpose, and uses was lacking.

R050 also contains content that is not covered in the NEA units which needs to be taught and revised fully such as the use of online surveys and digital communication.

Candidates who did well on this paper generally:	Candidates who did less well on this paper generally:
<ul style="list-style-type: none"> <li>• read the questions carefully</li> <li>• knew the content listed in the specification</li> <li>• applied context to their answers</li> <li>• were specific and concise in their responses.</li> </ul>	<ul style="list-style-type: none"> <li>• did not read the questions carefully providing excluded answers</li> <li>• did not know the listed content</li> <li>• produced answers that were not clear in their structure and lacked specific detail.</li> </ul>

## Section A overview

This section of the question paper contains several short response questions and tests PO1, knowledge and understanding with no application to a context.

### Question 1

1 Identify **one** component of a wireframe.

..... [1]

This was generally well answered. However, there were many candidates who are still not clear about the components of the different planning and design tools in the specification. This is despite using them in the NEA units.

### Question 2

2 Unix is an example of which of the following?

Tick (✓) **one** box only.

- A Database
- B Memory
- C Operating system
- D Website

[1]

This was generally well answered.

### Question 3

3 Identify **two** interaction methods that can be used with a mobile device.

1 .....

2 .....

[2]

This was generally well answered with most candidates gaining both marks.

### Question 4

4 Percentage is an example of which data type?

..... [1]

This was generally well answered.

### Question 5

5 Complete the sentence.

The alphanumeric data type can include ..... and .....

[2]

This was generally well answered with most candidates gaining both marks.

### Question 6

6 One secondary data collection method is a magazine.

Identify **two other** secondary data collection methods.

1 .....

2 .....

[2]

This was generally well answered with most candidates gaining both marks.

### Question 7

7 What does NAS stand for?

..... [1]

This question was not well answered, despite this term being written in the specification content.

### Question 8

8 Which type of hacker gains unauthorised access to a digital system with malicious intent?

Tick (✓) **one** box only.

- A Black hat
- B Grey hat
- C White hat

[1]

This was generally well answered.

### Question 9

9 Draw a line to link the impact of a cyber-security attack to its correct description.

You will only use **two** types of impact.

Impact	Description
Data Destruction	The taking of data at rest or in transit.
Data Theft	Stolen personal data is used to commit fraud.
Identity Theft	

[2]

This was generally well answered with most candidates gaining both marks.

### Question 10

10 Which secure data destruction method replaces old data with new data?

..... [1]

This question was not well answered. Candidates need to know the technical terms in the specification.

## Question 11

11 Identify **one** type of Internet of Everything (IoE) digital interactivity.

..... [1]

This question was not well answered, this is despite the types of interactivity being listed in the specification content.



### Question 13 (a)

13 The savings account will use a HCI.

(a) Identify **two** advantages **to customers** of the bank using a HCI for the savings account.

- 1 .....
- .....
- 2 .....
- .....

[2]

Most candidates gained at least 1 mark on this question.

Marks were lost for not being specific in the response, stating what the HCI did rather than providing an advantage. Candidates also did not at times pick up on the question being related to use by the customer and provided answers that were specific to the bank.

#### Exemplar 1

- 1 *It is simple and easy-to-use.*
- .....
- 2 *It allows them to access their account information from anywhere as long as they have an internet connection.*

[2]

This response gained 1 mark. The first advantage provided was too vague, what is simple and easy to use? This response needed clarification to allow the mark to be awarded.

The second advantage was awarded a mark, as this refers to the flexibility of access from different locations. By creating a HCI for both the app and the website the bank does make the account access more flexible for the customer. Without the common HCI the access would be more restricted.

### Question 13 (b)

(b) Identify **two** disadvantages **to customers** of the bank using a HCI for the savings account.

1 .....

.....

2 .....

.....

[2]

This question was not as well answered as 13 (a) with candidates not being clear about what a disadvantage to the customer is. Centres are advised to help their candidates by teaching them to consider 'putting themselves in the shoes of the user' and think about the issues that would have if they used it. This often helps candidates visualise the scenario easier.

### Question 13 (c)

(c) Explain why the memory resource of the hardware should be considered when a HCI is being designed.

.....

.....

.....

.....

[2]

Many candidates did not gain any marks on this question. There are number of hardware resources listed in the specification (TA2.2) and candidates should know their impact on the creation and use of an HCI. Memory is fundamental consideration when designing a HCI alongside screen types, screen size and processing power. One of the main areas where marks were lost was the confusion between memory and storage.

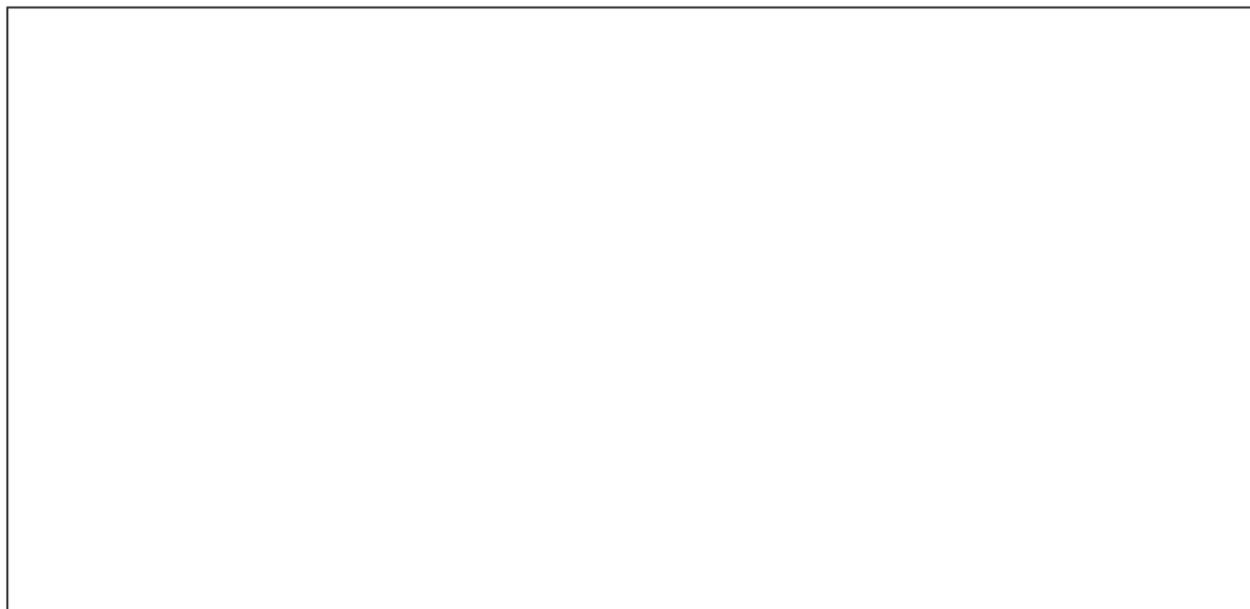
## Question 14

14 The first part of the HCI will allow users to log-in to their new savings account.

Create a mind map to plan the log-in screen of the HCI.

Marks will be awarded for:

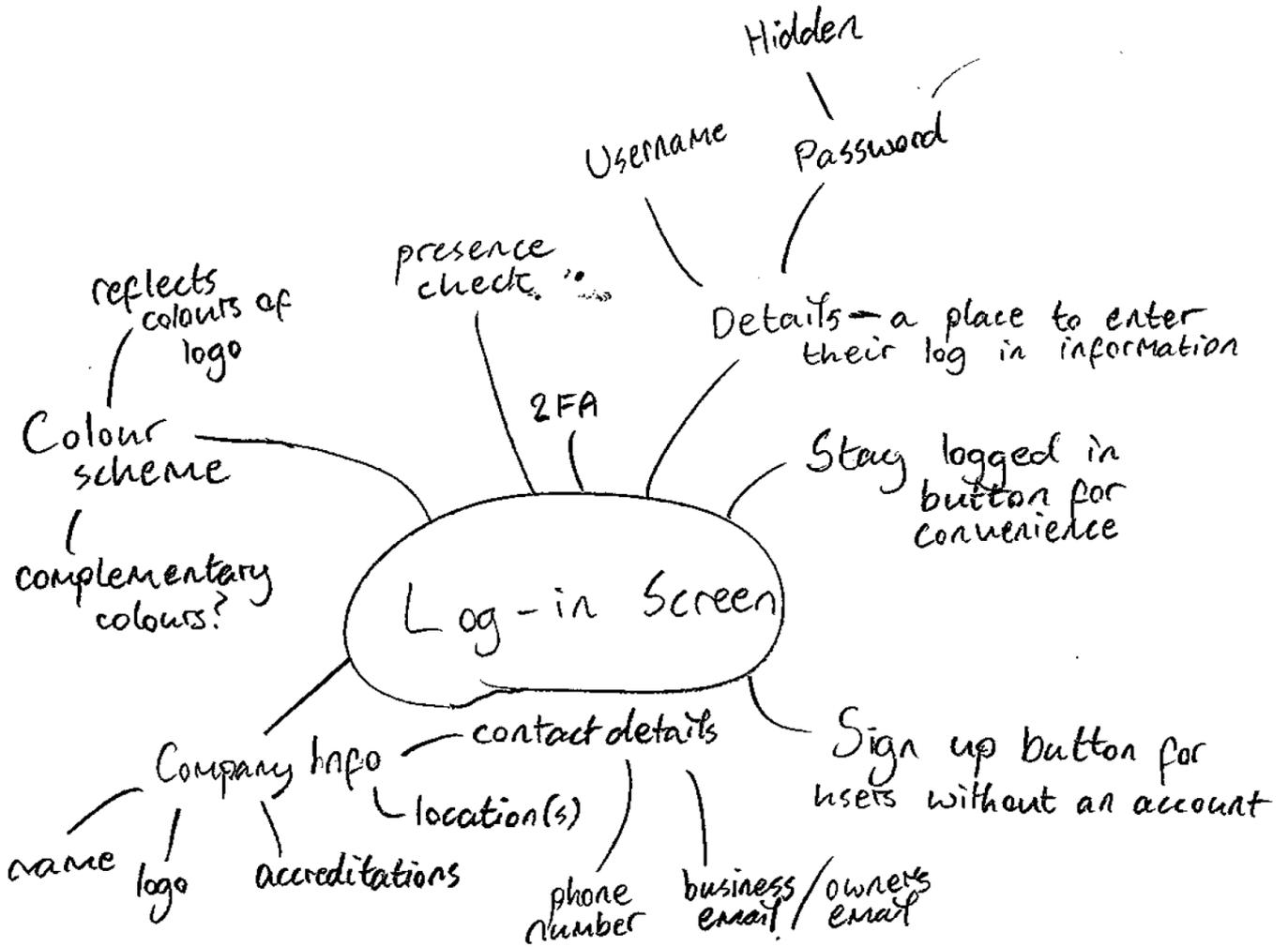
- content;
- layout.



[8]

Most candidates gained at least 5 marks on this question, demonstrating a good understanding of how to construct mind maps. This is pleasing as candidates have applied the synoptic learning from the NEA units to the exam context.

Exemplar 2



The candidate has produced a clear layout with more than one clear sub node. All of the content included on the mind map is relevant to the context. This allowed full marks to be awarded for this question.

Question 15 (a) (i)

15 The HCI for the savings account will be tested before going live.

(a)

(i) Explain the purpose of carrying out technical testing on the savings account HCI.

.....

.....

.....

..... [2]

This question was generally well answered, with most candidates gaining at least 1 mark. This again was pleasing with candidates applying the knowledge and understanding from the NEA units to the exam context. By understanding why they are carrying out tests in both of the NEA units candidates benefitted in the examination responses.

Question 15 (a) (ii)

(ii) Explain **one** advantage and **one** disadvantage **to the bank** of carrying out technical testing.

Advantage .....

.....

.....

.....

Disadvantage .....

.....

.....

.....

[4]

This was generally well answered with most candidates gaining at least 2 marks, in the main for identifying an advantage and disadvantage. As with other questions, mark 2 for the reasoning was not awarded due to vagueness in the responses.

### Question 15 (b)

(b) As part of the testing process user testing will be carried out.

Identify and explain **one** example of user testing that would be carried out on the savings account HCI.

.....

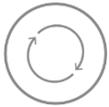
.....

.....

..... [2]

This question was not as well answered as the others regarding testing. Candidates were not able to provide examples of user testing, resulting in many candidates not gaining any marks on this question. Centres should ensure that candidates are clear about what user testing is and how it can be carried out.

#### Assessment for learning



Candidates should be taught about the different types of testing and examples of the tests that could be used including the possible test data. Candidates could complete 'dummy' test plans showing how they would test systems, the test data they would use and expected results.

### Question 16 (a)

16 The savings account data, including the personal data of the account holders, will be stored in the bank's servers.

An example of the stored data is shown below.

Field	Example details
Account number	KFS0012
Name of account holder	Emma Riley
Account holder date of birth	26/02/2016
Amount paid in (£)	10.50
Amount taken out (£)	0.00
Balance	125.00
Contact email address	EPR@phmail.co.uk

(a) Complete the table to show the data types used when storing the savings account data.

Justify your choices.

Field	Data Type	Justification
Account number		..... ..... ..... .....
Account holder date of birth		..... ..... ..... .....
Balance		..... ..... ..... .....

[9]

This was generally well answered with most candidates gaining at least 5 marks. The main reason for marks being lost was the inability to justify why the data type was appropriate. This, in line with past sessions, illustrated that while candidates do know the data types that can be used, the reasoning and understanding of why the data types are used is not clear. When working through the NEA units the understanding of why the data types is used needs to be emphasised more.

**Question 16 (b)**

(b) Identify the legislation that relates to the storing of personal data.

..... [1]

Despite there being very few legislations listed in the specification (TA4.4); this question was not well answered. Candidates need to know the purpose and implications of the different legislations listed in the specification.

**Question 17 (a)**

17 The bank will use a range of logical prevention measures to protect the savings account data.

(a) Explain how using secure back-ups can help protect the savings account data.

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

On this question candidates either knew what secure back-up was and how it was used, or they did not. This highlighted a gap in knowledge in some candidates.

**Exemplar 3**

Secure back-ups can ensure that an extra copy of important data is copied and stored elsewhere, in case of a cyber-attack. If data destruction occurs, the bank will still have their desired records. [2]

The candidate provided a clear explanation for use of secure back-ups and how the savings account data is protected. The candidate identifies that the data is copied and saved elsewhere. This then means that if the data in use is destroyed the back-up data will still be available allowing for the bank to operate.

### Question 17 (b)

(b) Identify **two other** logical prevention measures that the bank could use to protect the savings account data.

1 .....

2 .....

[2]

Most candidates gained at least 1 mark on this question.

### Question 18 (a)

18 After setting up their new savings account, all account holders are contacted to explain how to protect their savings account details.

(a) Explain **one advantage to the bank** of using email to distribute this information to customers.

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

Most candidates did not gain any marks on this question. The main reason for this was that candidates described what email is rather than the advantages of using it by the bank.

### Question 18 (b)

(b) The bank uses social media to provide more information about cyber-security threats and the logical prevention measures that account users could use.

Discuss the suitability of the bank using social media to communicate this information.

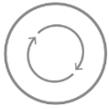
In your answer you **must** consider:

- the purpose of social media;
- the advantages to the bank of using social media;
- the disadvantages to the bank of using social media.

[9]

Most candidates gained at least 5 marks on this question. Candidates were able to clearly describe how social media could be used and the advantages and disadvantages of social media in general. However, the marks at the higher end were limited due to candidates not applying their answer to the context of use by the bank.

### Assessment for learning



For the highest marks candidates need to clearly apply their answers to the context of the questions. The provision of general points will restrict the level of marks that can be awarded.

### Question 19

**19** The bank suffered a cyber-security attack when the savings account data was accessed by a hacker.

Identify **two** types of malware that could have been used.

1 .....

2 .....

**[2]**

This was generally well answered with most candidates gaining both marks.

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