



Oxford Cambridge and RSA

Wednesday 22 May 2024 – Afternoon

Level 1/Level 2 Cambridge National in IT

R050/01 IT in the digital world

Time allowed: 1 hour 30 minutes



No extra materials are needed.



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

--	--	--	--	--

Candidate number

--	--	--	--

First name(s)

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Last name

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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.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is **70**.
- The marks for each question are shown in brackets [].
- This document has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

2
Section A

- 1** Identify **one** type of mind map.
..... [1]
- 2** Identify **one** display hardware consideration.
..... [1]
- 3** Complete the following:
Information = + structure + [2]
- 4** Identify the data type shown below.
47.95
..... [1]
- 5** Which type of malware gathers information about a user's actions on a device?
..... [1]
- 6** Which physical protection measure uses a fingerprint?
..... [1]
- 7** Identify the legislation that relates to access to data from an organisation.
..... [1]

- 8 Draw a line to link the type of software to the correct description.

You will only use **two** types of software to complete this task.

Type of Software	Description
Collaboration	Makes teamwork more productive and effective
Database	Stores data and records in an organised way
Word processing	

[2]

- 9 Which connectivity method provides internet access wherever needed?

..... [1]

- 10 Which audience demographic relates to where the audience lives?

Tick (✓) **one** box only.

- | | |
|------------------------|--------------------------|
| A Accessibility | <input type="checkbox"/> |
| B Age | <input type="checkbox"/> |
| C Gender | <input type="checkbox"/> |
| D Location | <input type="checkbox"/> |

[1]

- 11 Complete the following:

The Internet of Everything (IoE) is a network connection of people, process, data

and

[1]

- 12 Identify **two** emergency services that could use the IoE.

1

2

[2]

Section B

A computer game is being created to teach primary school pupils about road safety. Pupils will play the game by answering four questions about road safety. Each time they answer a question, the pupils will receive feedback about their answer.

The game will be played using a website on a desktop computer.

- 13** The development team has gathered information from primary schools to help inform decisions about the design of the game.

The information has been gathered using an online survey collection method.

- (a)** Explain **one** advantage and **one** disadvantage of using online surveys to collect information.

Advantage

.....

.....

.....

Disadvantage

.....

.....

.....

[4]

- (b)** Identify **one other** primary data collection method that could be used to collect information.

..... **[1]**

- 14** The game will be played on a website.

- (a)** Explain how using a Human Computer Interface (HCI) on a website will impact the design of the HCI.

.....

.....

.....

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

(b) The game will be played on a website.

One threat to the website is a Denial of Service (DoS) attack.

Discuss the effects of a DoS attack on the website.

In your answer you **must** consider the:

- purpose of a DoS attack;
- impact on the website;
- logical prevention measures that could be used to mitigate against the DoS attack.

[9]

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for handwriting practice. There are no margins, text, or other markings on the page.

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.....

7
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(c) The road safety game is designed in the following way:

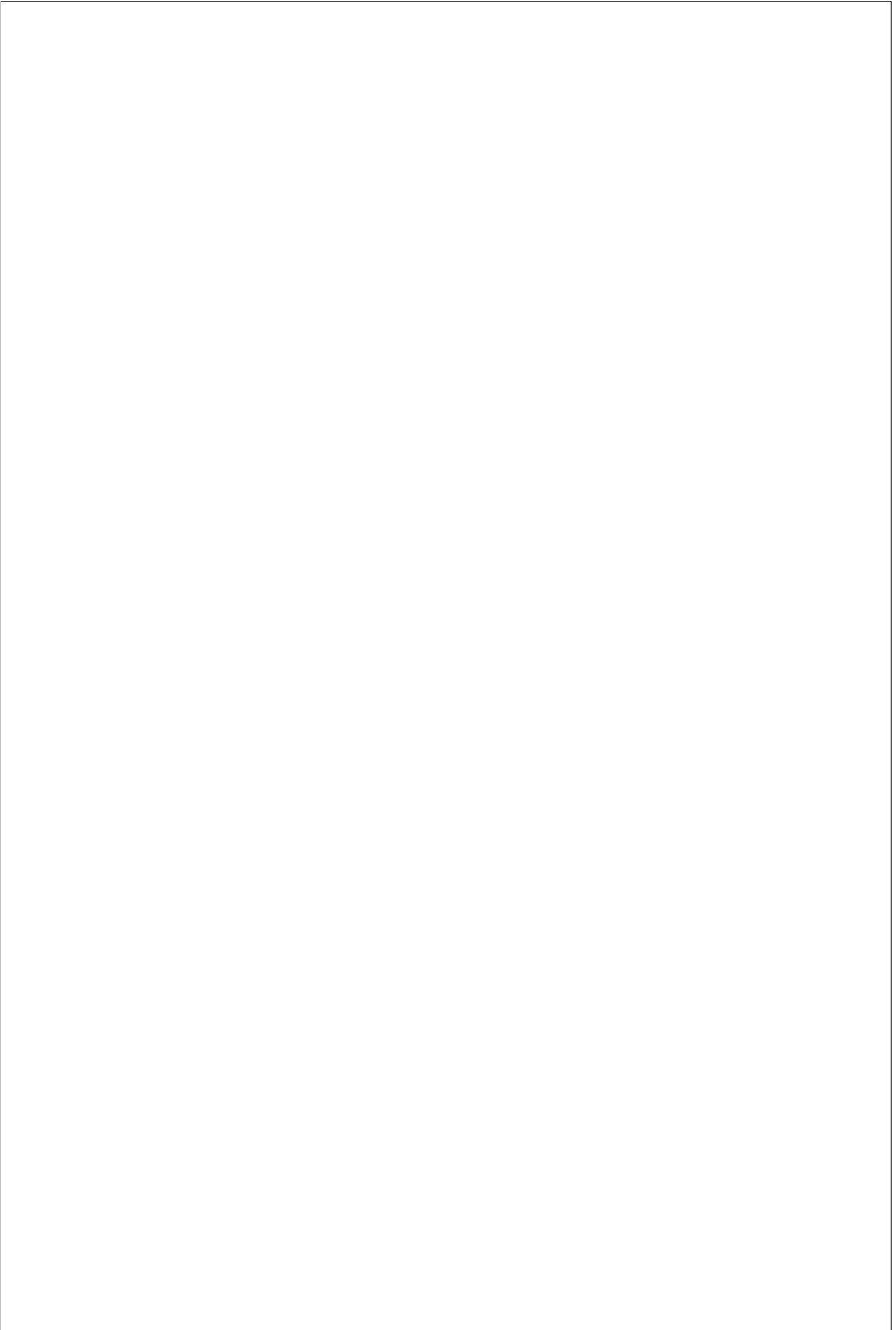
- When the game starts, pupils enter their name.
- A question then appears on the screen with a correct and incorrect answer. Pupils must select their answer.
- If they select the correct answer a point is added to their score.
- If they select the incorrect answer, an information message appears on the screen. The message disappears after five seconds.
- The next question appears.
- After four questions have been answered, the pupil's score is shown on the screen.

Create a flowchart for this process in the game.

Marks will be awarded for:

- layout;
- content.

[8]



- (d) Identify the data type that will be used for the score at the end of the game. Justify your choice.

Data type

Justification

.....

.....

.....

[3]

- (e) Explain how a presence check will be used to check that pupils have answered a question.

.....

.....

.....

.....

[2]

- (f) Identify **two other** validation tools that are used to reduce errors.

1

2

[2]

15 Schools can download the game to their network. The game can be stored on a network drive.

(a) Explain **one** advantage and **one** disadvantage to schools of storing data on a network drive.

Advantage

.....

.....

.....

Disadvantage

.....

.....

.....

[4]

(b) The network drive can be accessed using a wired network.

Explain **two** disadvantages to schools of using a wired network.

1

.....

.....

.....

2

.....

.....

.....

[4]

16 Pupils can play the game on a smart device (thing) connected to the IoE.

- (a) A pupil can use a microphone to enter data using their voice. At the end of the game the pupil's final score will be heard by the pupil and displayed on the screen.

Complete Column 1 and Column 2 in the table below by selecting the missing pillars of the IoE from the following list:

Thing
People
Process

Each pillar can be used more than once.

Justify your selections by completing Column 3.

	Column 1	Column 2	Column 3
	Pillar 1	Pillar 2	Justification
Input		Data
Score	Data	
Output	Thing	

[9]

- (b) The smart device can be accessed using Bluetooth connectivity.

Identify **two** characteristics of Bluetooth connectivity.

1

.....

2

.....

[2]

17 An infographic has been created to advertise the game to schools.

(a) Identify the type of software that could be used to create the infographic.

..... **[1]**

(b) Explain **two** advantages to schools of an infographic being used to advertise the game.

1

.....

.....

.....

2

.....

.....

.....

[4]

END OF QUESTION PAPER

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