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Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

7585794312

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 Theory **February/March 2024**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].
- No marks will be awarded for using brand names of software packages or hardware.

This document has **12** pages. Any blank pages are indicated.

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[Turn over

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1 Circle **two** items which are solid-state storage media.

Actuator	Blu-ray disc	Cloud	DVD
Flash memory	Hard disk	Printer	SD card

[2]

2 A computer system consists of both hardware and software.

(a) Explain what the following types of software provide in the computer system.

Applications .....

.....

System .....

.....

[2]

(b) Give **two** examples of each type of software.

(i) Applications

1 .....

2 .....

[2]

(ii) System

1 .....

2 .....

[2]

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3 There are two forms of data: analogue and digital.

Contrast analogue and digital data.

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..... [4]

4 Computers contain a Central Processing Unit (CPU).

Describe the role of the CPU in processing instructions to produce an output.

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..... [4]

5 A doctor uses a gesture-based user interface.

State **two** other types of user interface.

1 .....

2 .....

[2]

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6 Augmented Reality can be used with a Global Positioning System (GPS) device.

(a) State **two** other uses of Augmented Reality.

1 .....

2 .....

[2]

(b) Describe the differences between Augmented Reality and Virtual Reality.

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..... [2]

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7 An expert system is used to help to locate an underground water source.

(a) Describe the following components of an expert system.

(i) User interface

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.....

..... [2]

(ii) Knowledge base

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..... [2]

(b) Explain how an expert system is used to discover locations to drill for water.

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..... [4]

8 A student has been the victim of a vishing scam.

(a) Explain what is meant by the term vishing.

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..... [2]

(b) Describe **two** methods that help to prevent vishing.

1.....

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2.....

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[2]

9 Compare a test strategy with a test plan. Your answer should include similarities and differences.

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..... [6]

10 A form tutor at Tawara School is producing a database about the students in his class.

When the database is completed, it needs to be verified.

(a) Explain the importance of visual verification.

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..... [2]

(b) An example of the date of birth stored on the database is: 15/05/2009

Describe **three** validation checks that could be carried out on the date of birth.

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..... [6]

11 More people use desktop computers rather than tablet computers when working at home.

(a) Discuss the advantages and disadvantages of using desktop computers rather than tablet computers for doing work at home.

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..... [6]

(b) Desktop computers use input and output devices.

(i) State **two** input devices that can be used in a desktop computer for working at home.

1 .....

2 .....

[2]

(ii) State **two** output devices that can be used in a desktop computer for working at home.

1 .....

2 .....

[2]

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12 Describe how data is stored and managed when using cloud computing.

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..... [4]

13 Smart devices and microprocessors can monitor and control devices in the home.

Describe, giving examples, the negative effects of using these smart devices.

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..... [4]

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14 A stylesheet for a website can contain both styles and classes.

(a) Explain the differences between a style and a class.

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.....

..... [3]

(b) State the web development layer where the stylesheet is used.

..... [1]

15 The audience needs to be considered when creating an ICT solution.

(a) Describe what factors need to be considered for the age of the audience.

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.....

.....

..... [2]

(b) Describe what factors need to be considered for the interests of the audience.

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..... [2]

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16 **(a)** State **four** characteristics of spam emails.

1 .....

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2 .....

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3 .....

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4 .....

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[4]

(b) Give **two** ways of reducing spam emails.

1 .....

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2 .....

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[2]

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