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CAMBRIDGE
International Education

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CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

2636847439

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 Theory **February/March 2026**

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. Do **not** use correction fluid or tape.
- 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.

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[Turn over

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1 Complete the following sentences.

(a) The physical components of a computer are known as

..... [1]

(b) The programs for controlling the operation of a computer are known as

..... [1]

2 A student is making a recording of his voice for a podcast.

(a) Explain how the student's voice could be recorded on a computer.

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(b) When his voice has been recorded, the student wishes to listen to it.

Explain the computer processes that enable the student to listen to the recording of his voice.

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3 ROM is a type of internal memory in a computer.

(a) State **one** other type of internal memory.

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(b) State **two** characteristics of ROM.

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[2]

4 A computer system can use command line interfaces or dialogue based user interfaces.

Compare a command line interface with a dialogue based user interface.

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[6]

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5 A student is studying the quality of water in a river. The student can analyse the data using a tablet computer or a smartphone.

(a) Explain why a tablet computer is better than a smartphone for collecting and analysing the data from the river.

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..... [4]

(b) The student can collect the data using sensors or collect the data manually and then type it into the tablet computer.

Discuss the benefits and drawbacks of using sensors to collect the data.

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(c) The data collected from the sensors can be stored on the cloud.

State why the data is stored on the cloud rather than being stored on a portable solid-state drive.

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6 A computer contains both anti-virus software and anti-malware software.

(a) Explain the differences between anti-virus software and anti-malware software.

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(b) Explain why both anti-virus software and anti-malware software are needed in the computer.

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7 Prolonged use of a computer can result in many health issues.

(a) One of the health issues is repetitive strain injury (RSI).

(i) State **two** possible causes of RSI.

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(ii) State **two** possible strategies for the prevention of RSI.

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[2]

(b) Back problems are a health issue.

(i) State **two** possible causes of back problems when using a computer.

1 .....

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2 .....

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[2]

(ii) State **two** possible strategies for the prevention of back problems when using a computer.

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8 A company is phasing out its landline telephones and replacing them with a VoIP system.

Describe the benefits and drawbacks of using a VoIP system.

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9 State **two** types of extended reality.

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[2]

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10 The principal of Tawara University is considering setting up a group on social media to communicate with students. Social media has both benefits and drawbacks.

(a) Describe the benefits to the university of using social media in this way.

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(b) The university is considering employing a communications manager to monitor the messages placed on its social media.

Explain why this may be necessary.

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11 The internet is a type of Wide Area Network.

(a) Describe the characteristics of a Wide Area Network.

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(b) State **two** other types of computer network.

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[2]

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12 Tawara Books sells books either as an online version or a physical version. Each book has a five-digit book number and each customer has an eight-digit customer number. Tawara Books uses a database system which contains information about the books it sells.

Each record contains the following data:

Book title, Author, Book number, Type of book (online/physical), Date book sold, Customer number.

(a) Design an appropriate online data entry form for one book.

Clearly indicate the amount of space required for each field. Your design must represent a tablet screen and, where appropriate, allow the user to enter data by clicking the mouse button rather than typing in text.

[6]

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(b) An example of the data stored in the Date_book_sold field is: 25/02/2025.

Validation checks can be carried out on this field.

State **two** validation checks that could be carried out on this field.

1.....

2.....

[2]

(c) Before the new system is designed the current system must be analysed.

State **two** research methods used in this analysis.

1.....

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2.....

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[2]

13 Explain what is meant by Computer Aided Learning (CAL).

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..... [3]

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