Cambridge Assessment
International Education

Cambridge IGCSE ™

CANDIDATE NAME

CENTRE NUMBER

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INFORMATION AND COMMUNICATION TECHNOLOGY   **0417/11**

Paper 1 Theory   **May/June 2025**

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.

1 Circle **two** output devices.

Actuator   Blu-ray disc   Cloud   Keyboard

Hard disk   Printer   SD card   Webcam

[2]

2 A computer system processes data by using applications software and system software.

(a) Describe the following types of applications software.

(i) Word processing

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.... [2]

(ii) Control software

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.... [2]

(iii) Apps

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.... [2]

(b) Data can be in two forms, analogue or digital.

Explain why analogue data needs to be converted to digital data.

....

.... [1]

(c) Explain why digital data needs to be converted to analogue data.

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.... [1]

3 Evaluate the use of smartphones for making video calls.

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.... [6]

4 Computer software needs to be tested with normal, extreme and abnormal data before it can be implemented.

(a) Explain what is meant by extreme test data.

....

.... [1]

[Turn over

(b) An input into the software is an integer between 1 and 10. The software uses a range check to test this value as it is entered.

State **one** piece of test data, from each of the following, that would be used to test the range check is working correctly.

(i) Normal test data

.... [1]

(ii) Extreme test data

.... [1]

(iii) Abnormal test data

.... [1]

5 Viewers can watch movies by video streaming. One of the issues with video streaming can be a reduction in quality due to file compression.

(a) Discuss the use of video streaming to watch movies.

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.... [6]

(b) Explain what is meant by file compression.

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.... [3]

6 Many taxis now use satellite navigation systems.

Evaluate the use of satellite navigation systems for taxis.

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.... [6]

[Turn over

7 Explain, giving examples, the purpose of a corporate house style.

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.... [4]

8 State the method of implementation from the following descriptions.

(a) The old system and the new system run together until the whole of the new system is implemented.

.... [1]

(b) The new system is implemented one branch at a time.

.... [1]

(c) The new system is implemented one process at a time.

.... [1]

9 A local area network (LAN) uses a hub.

(a) Explain the purpose of a hub.

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.... [3]

(b) Describe **one** drawback of using a hub on a local area network (LAN).

....

.... [1]

10 During the analysis of a current system, research needs to be carried out.

(a) Describe the characteristics of each of the following research methods.

(i) Observation

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....

....

.... [2]

(ii) Interviews

....

....

....

.... [2]

(b) Following the analysis, design of the new system will take place.

Identify **four** items that need to be produced as part of the design of the new system

1...

2...

3...

4.. [4]

(c) Following the implementation of the new system it needs to be tested.

Explain why the new system needs to be tested.

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....

....

....

....

.... [3]

(d) A test plan includes expected outcomes of a test.

Write down **three** other elements found in a test plan.

1 ....

2 ....

3 .... [3]

11 A student is typing a report for his biology coursework and needs to check his spelling for errors. The student could use spell check software.

(a) Explain how spell check software works.

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.... [2]

(b) Sometimes the spell check software highlights words or changes words which are correctly spelt.

Explain why this could have occurred.

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.... [2]

12 When sending emails users should follow netiquette.

(a) Explain what is meant by netiquette.

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.... [2]

(b) One of the rules of netiquette is to avoid sending the same message repeatedly as this is considered to be spam.

Describe, giving an example, **three** other rules used in netiquette.

Rule 1...

....

Example 1...

....

Rule 2...

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Example 2...

....

Rule 3...

....

Example 3...

.... [6]

13 (a) Describe what is meant by hacking.

....

....

....

.... [2]

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[Turn over

(b) One method of preventing a system being hacked is the use of passwords.

Describe the password rules that should be put in place to reduce the threat of hacking.

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.... [3]

14 Give **one** example of a generic file extension that would be part of the following types of file.

(a) image

.... [1]

(b) text

.... [1]

(c) web page

.... [1]

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