



# Cambridge IGCSE™

CANDIDATE NAME



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## INFORMATION AND COMMUNICATION TECHNOLOGY

0417/12

Paper 1 Theory

October/November 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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1 State **two** methods that software producers use to enforce software copyright legislation.

1 .....

2 .....

[2]

2 A headteacher is sending out emails to her staff.

(a) State what is meant by an email group.

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.....

[1]

(b) State what is meant by carbon copy (cc).

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[1]

(c) State what is meant by an address book.

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[1]

(d) State what is meant by blind carbon copy (bcc).

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[1]

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3 A computer uses a number of different generic file formats.

Describe each of the following generic file formats.

(a) pdf

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[2]

(b) rtf

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[2]

(c) css

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[2]

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4 A desktop computer uses both input and output devices.

(a) Compare input and output devices. Your answer should include both similarities and differences.

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[4]

(b) State **three** input devices that can be used with a desktop computer.

1 .....  
2 .....  
3 .....

[3]

(c) State **three** output devices that can be used with a desktop computer.

1 .....  
2 .....  
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[3]

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5 A computer contains internal memory and backing storage.

Both ROM and RAM are examples of internal memory.

(a) Explain the differences between ROM and RAM.

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[4]

(b) Describe the characteristics of backing storage.

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[4]

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6 A dialogue based interface can be used to program a satellite navigation device in a vehicle.

Discuss the benefits and drawbacks of using a dialogue based interface in this scenario.

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[6]

7 (a) Describe the processing and the outputs that are used in an expert system.

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[3]

(b) Write down **three** examples of expert systems.

1 .....  
2 .....  
3 .....

[3]

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9 A router can be used to connect networks and devices to the internet.

(a) Identify the other **two** operations of a router.

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2 .....

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[2]

(b) Explain how a router connects devices to the internet.

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[4]

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10 An electronic token is used as an authentication method.

(a) Explain what is meant by an electronic token.

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[4]

(b) The data on a computer system can be protected by anti-virus software and anti-malware software.

(i) Describe the features of anti-virus software.

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[3]

(ii) Describe the features of anti-malware software.

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[3]



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11 The secretary of a club writes a monthly newsletter which is sent out to its members. She is considering producing an ePublication of the newsletter.

(a) State **four** characteristics of an ePublication.

- 1 .....
- .....
- 2 .....
- .....
- 3 .....
- .....
- 4 .....
- .....

[4]

(b) Give **two** other uses of ePublications.

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

[2]

12 Analysis includes identifying the hardware and software requirements of a new system.

(a) Describe other tasks involved in analysis.

- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....

[4]





(b) The identification of hardware and software requirements forms part of the system specification.

Explain what is meant by the system specification.

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[3]

(c) After analysis of the system, the file and data structures are designed.

State **three** elements that need to be designed as part of the file and data structures.

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[3]

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