



# Cambridge IGCSE™

CANDIDATE  
NAME



CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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## INFORMATION AND COMMUNICATION TECHNOLOGY

0417/13

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.



1 A computer can use both ROM and RAM.

(a) State the characteristics of:

(i) ROM

.....  
.....  
.....  
.....

[2]

(ii) RAM

.....  
.....  
.....  
.....

[2]

(b) State **one** use for each of the following storage devices and media.

(i) ROM

.....  
.....

[1]

(ii) RAM.

.....  
.....

[1]

(iii) Blu-ray disc

.....  
.....

[1]

(iv) Magnetic tape

.....  
.....

[1]

DO NOT WRITE IN THIS MARGIN





2 A computer can use different generic file formats.

(a) Describe each of the following generic file formats.

(i) csv

.....  
.....  
.....  
.....

[2]

(ii) rar

.....  
.....  
.....  
.....

[2]

(iii) txt

.....  
.....  
.....  
.....

[2]

(b) The file formats txt, rar and csv are examples of generic file formats.

State **three** other examples of generic file formats.

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

[3]





(c) Explain the need for generic file formats.

.....  
.....  
.....  
.....

[2]

3 Many people use portable solid-state drives (SSD) rather than portable hard disk drives (HDD).

Compare SSDs and HDDs. Your answer should include both similarities and differences.

[6]





4 A number of different communication devices can be connected to a network.

(a) Explain how the following devices operate.

(i) Switch

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

[4]

(ii) Router

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

[4]

(b) Bridges are communication devices.

Explain what bridges are used for.

.....  
.....

[1]





(c) Ensuring the privacy and confidentiality of data becomes more important when using computer networks.

Evaluate the different ways in which a user can ensure the privacy and confidentiality of data by using passwords.

[6]





DO NOT WRITE IN THIS MARGIN

5 Repetitive strain injury (RSI) and eye strain can be caused by using a computer. Taking breaks is one strategy for reducing these health issues.

(a) State **two** causes of repetitive strain injury (RSI) and give **two** other strategies for preventing it.

Cause 1 .....

.....

Cause 2 .....

.....

Strategy 1 .....

.....

Strategy 2 .....

.....

[4]

(b) State **two** causes of eye strain and give **two** other strategies for preventing it.

Cause 1 .....

.....

Cause 2 .....

.....

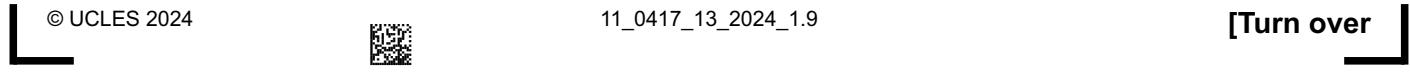
Strategy 1 .....

.....

Strategy 2 .....

.....

[4]





6 Smartphones and desktop computers can be used to play video games.

Discuss the advantages and disadvantages of using a smartphone rather than a desktop computer to play video games.

[6]





## 7 Schools can use School management systems.

(a) Describe the inputs, processing and outputs required by a School management system to show learner performance.

[6]

**(b)** Computer Aided Learning (CAL) can be part of a School management system.

Explain what is meant by Computer Aided Learning.

.....  
.....  
.....  
.....

[2]





8 The manager of a plant nursery has asked a systems analyst to create a new database system to store information about his plants. This new database system needs to store the following data.

- the unique reference number for each plant
- the common name for each plant
- if the plant is scented or non-scented
- the price of each plant on a range from \$10 to \$100
- the maximum height of the plant in metres

Part of the database is shown:

Ref_No	Name_of_plant	Scented	Price (\$)	Height (m)
HT134	Rose Peace	S	12.99	1.20
WO016	White Oak	N	98.00	5.24
SP345	Spindle Tree	S	25.99	9.00

(a) For each of the fields shown, state and describe the most appropriate validation check that could be used on the data. Your answers must be different in each case.

(i) Ref\_No

Validation check .....

Description .....

.....

[2]

(ii) Price (\$)

Validation check .....

Description .....

.....

[2]





**(b)** In the table, state the most appropriate data types to create the database using the information given before. For any numeric field, specify the type of number.

Field name	Data type
Name_of_plant	
Scented	
Price (\$)	
Height (m)	

[4]

**9 (a)** Circle **two** web development layers.

Behaviour                      Body                      CSS                      Display

Head                      HTML                      Presentation                      Surface

[2]

**(b)** Explain why tables are used to structure elements within a web page.

.....

.....

.....

.....

[2]





**10** A gesture based user interface can be used in gaming devices to play games.

Describe the benefits and drawbacks of using a gesture based interface in this scenario.

[6]

