



# Cambridge IGCSE™ (9-1)

CANDIDATE  
NAME

CENTRE  
NUMBER

--	--	--	--	--

CANDIDATE  
NUMBER

--	--	--	--

---

## INFORMATION AND COMMUNICATION TECHNOLOGY

0983/12

Paper 1 Theory

May/June 2023

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 A book contains a bar code whose number is 503619309903

Tick (✓) the most appropriate validation check to test the validity of the bar code.

- A check digit
- B format check
- C range check
- D spell check

[1]

2 Identify the most appropriate hardware from the descriptions given:

(a) non-volatile internal memory used to store the start-up instructions

..... [1]

(b) an internal component that provides the input and output of audio signals

..... [1]

(c) an internal component that is composed of the main memory, the control unit and the arithmetic logic unit.

..... [1]

3 A headteacher is producing a web page about the history of her school. She has been given some old hard-copy photographs which she will include on the web page. She has a digital camera and a scanner to use to convert the hard-copy photographs into a digital format.

Compare the use of a digital camera with a scanner in this scenario. Your answer must include similarities and differences.

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

[4]

4 A company uses an extranet.

(a) Explain what is meant by an extranet.

.....  
.....  
.....  
..... [2]

(b) Describe the differences between the internet and an extranet.

.....  
.....  
.....  
..... [2]

5 State which health issue is most likely to occur from each description shown. Your answer must be different in each case.

(a) typing on a keyboard for long periods of time

..... [1]

(b) looking at a computer screen for a long time

..... [1]

(c) sitting with poor posture

..... [1]

6 A company requires its employees to regularly change their login passwords for the company's computer systems. Passwords must be strong and cannot be reused.

(a) Explain **three** problems that may occur when the employees change their passwords regularly.

1 .....

.....

.....

.....

.....

2 .....

.....

.....

.....

.....

3 .....

.....

.....

.....

[6]

(b) The company has a website which uses a digital certificate.

Explain the purpose of the digital certificate.

.....

.....

[1]

(c) A digital certificate is attached to an email.

State **three** items contained in a digital certificate.

1 .....

2 .....

3 .....

[3]

7 A student is creating a spreadsheet that includes a formula to check a number entered in a cell is between two values.

- The number is entered in cell A10 as an integer.
- If the number is between the two values then a message ‘OK’ is displayed, otherwise ‘error’ is displayed.

The formula the student has created is:

```
=IF(AND(A10>1,A10<32),"OK","error")
```

Data will be used to test the formula.

(a) Identify **two** items of extreme test data the student should use and give the reason why this data was chosen.

Extreme test data 1 .....

Extreme test data 2 .....

Reason .....

.....

[3]

(b) The student has entered an item of abnormal test data.

Explain why abnormal test data is used.

.....

.....

.....

.....

.....

.....

[3]

8 A teacher provides revision lessons during the holidays. The teacher plans to use web-conferencing for the lessons.

(a) Explain what is meant by web-conferencing.

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

[3]

(b) Evaluate the use of web-conferencing in this scenario.

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

[6]

- 9 (a) The products in a warehouse contain either a bar code or a Radio Frequency Identification (RFID) tag.

The data about each product is read electronically.

Compare bar code readers and RFID readers. Your answer must include similarities and differences.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[6]

- (b) Identify **two** other uses of RFID.

1 .....

2 .....

[2]

10 Metatags can be used in a web page.

(a) A metatag can be used to define the viewport settings.

Identify **three** other items that can be defined in metatags.

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

[3]

(b) Metatags are used in the HTML of web pages.

State the section of the HTML which contains the metatags.

.....

[1]

11 Some gaming systems use gesture based user interfaces to operate a game.

(a) Describe what is meant by a gesture based user interface.

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

[2]

(b) Describe the drawbacks of using gesture based user interfaces in this way.

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

[4]



12 Movies can be stored on Blu-ray discs or an internal hard disk.

(a) Describe why Blu-ray discs are preferred to an internal hard disk for storing movies.

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

[4]

(b) Hard disks and Blu-ray discs are examples of backing storage.

(i) State **two** characteristics of backing storage.

1 .....  
.....  
2 .....  
.....

[2]

(ii) Identify **two** other types of backing storage.

1 .....  
2 .....

[2]

13 Weather forecasters use computer modelling.

(a) Explain why computer modelling is used to forecast the weather.

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

[4]

(b) Data is collected by different types of sensor and then input to the computer model to be processed.

Identify **two** sensors that could be used to collect weather data.

1 .....  
2 .....

[2]

(c) The processed data is then output.

Identify **two** output devices that could be used.

1 .....  
2 .....

[2]

14 ePublishing software is used to create an ePublication to display a school's yearly magazine.

(a) Describe the characteristics of an ePublication.

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

[4]

(b) The ePublishing software is subject to software copyright legislation.

Give **two** methods that could be used to prevent software copyright legislation being broken.

1 .....

.....

2 .....

.....

[2]

**BLANK PAGE**

---

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.