



# Cambridge International AS & A Level

CANDIDATE  
NAMECENTRE  
NUMBER

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

CANDIDATE  
NUMBER

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

## INFORMATION TECHNOLOGY

9626/12

Paper 1 Theory

October/November 2025

1 hour 45 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.
- Calculators must **not** be used in this paper.

### INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.

- 1 A train timetable is published every six months.

State **three** factors that could affect the quality of this information.

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

- 2 Describe how a control total is used to verify data.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [3]



3 An expert system contains an inference engine and a knowledge base.

(a) Describe how the inference engine performs its role.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Describe how a knowledge base is created.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]



4 Identify and explain **two** drawbacks of using a spreadsheet for computer modelling.

1 .....

.....

.....

.....

.....

2 .....

.....

.....

.....

[4]

5 Lucia has written an algorithm in pseudocode to determine whether a number (X) is a factor of another number (Y).

X is a factor of Y if the result of  $Y/X$  is a whole number.

- The algorithm uses a WHILE...ENDWHILE statement to check whether X is greater than zero and that X is less than Y.
  - If X is greater than zero and X is less than Y, the algorithm will output:
    - the values of X and Y
    - an appropriate message if X is a factor of Y
- OR
- an appropriate message if X is **not** a factor of Y.

In pseudocode `INT (W)` returns the whole number part of W.

```

INPUT X
INPUT Y
WHILE X=0 AND <=Y
  W←Y/X
  Z=INT (W)
  IF W=Z
    THEN
      PRINT X, " is a factor of Y"
    ELSE
      PRINT X, " is not a factor of ",Y
  ENDWHILE

```

Lucia has made **four** mistakes in her algorithm.



Identify **four** mistakes in the code. For each mistake, explain in detail what the code as written would achieve.

**Stating that the code would not work is not sufficient to gain any marks.**

Mistake 1 .....

.....  
.....

Mistake 2 .....

.....  
.....

Mistake 3 .....

.....  
.....

Mistake 4 .....

.....  
.....

[8]



6 Malware can be used to gather information to enable people to commit fraud.

(a) Identify **two** other uses for malware.

1 .....

.....

2 .....

.....

[2]

(b) Identify and explain **three** disadvantages of using anti-virus software to protect your computer from malware.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[6]



7 A company wishes to gather some information from employees.

(a) Describe the process of organising face-to-face interviews.

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Justify the use of a relational database to store the information gathered.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]





8 There are two methods of file compression, one is Lossy the other is Lossless.

**(a)** Describe what is meant by Lossy compression.

..... [1]

**(b)** Describe what is meant by Lossless compression.

..... [1]

**(c)** Compare the impact on quality of video of using each of these methods of compression.

[4]





**9** Justify the uses of encryption for data that is stored on a pen drive.

[6]





10 Describe **four** characteristics of a mainframe computer.

1 .....

.....

.....

2 .....

.....

.....

3 .....

.....

.....

4 .....

.....

.....

[4]

11 Describe what is meant by the term FLOPS.

.....

.....

.....

.....

.....

.....

[2]





**12** Describe how an operating system manages data on a hard disk.

[4]

**13** Describe the effects of the digital divide on health services.

[6]





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.

