Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE 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.

[Turn over

1 A train timetable is published every six months.

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

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[3]

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

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.... [3]

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

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

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(b) Describe how a knowledge base is created.

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 [Turn over

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

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[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 ....

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Mistake 2 ....

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Mistake 3 ....

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Mistake 4 ....

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[8]

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

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

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       2 ....

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       [2]

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

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7 A company wishes to gather some information from employees.

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

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

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

(a) Describe what is meant by Lossy compression.

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(b) Describe what is meant by Lossless compression.

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.... [1]

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

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

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

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[4]

11 Describe what is meant by the term FLOPS.

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

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

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