



Cambridge International AS & A Level

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INFORMATION TECHNOLOGY

9626/12

Paper 1 Theory

February/March 2026

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. Do **not** use correction fluid or tape.
- 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 Irene would like to post a photograph of her family on a social media website.

- (a) Describe **two** ways in which Irene can ensure that the personal data in the photograph can be protected after it has been posted online.

way 1

.....

.....

way 2

.....

.....

[2]

Irene has installed a firewall on her home computer network.

- (b) (i) Describe how a firewall works to prevent unauthorised access to a computer network.

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..... [4]

- (ii) Describe **one** drawback of using a firewall on a computer network.

.....

.....

..... [1]





2 47, 22 and PXR5G are items of data.

Explain why this data is **not** information.

.....

.....

..... [1]

3 A consultant has suggested that a gesture-based interface could be used as part of a security system on the door of a government office. The office is only used by staff.

(a) Describe how a gesture-based interface can be used to interact with the security system.

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..... [2]

(b) Evaluate the use of a gesture-based interface as part of the security system for this office.

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..... [4]



4 Mainframe computers and supercomputers have differing characteristics.

Using **three** different characteristics, describe differences between mainframe computers and supercomputers.

characteristic 1

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difference

.....

.....

characteristic 2

.....

difference

.....

.....

characteristic 3

.....

difference

.....

.....

[6]





Turn over



5 Pressure sensors and humidity sensors may be used in a control system.

(a) For each sensor, describe how it gathers data.

(i) pressure sensor

.....

..... [1]

(ii) humidity sensor

.....

..... [1]

A car park management system has a pressure sensor in each individual parking space. These pressure sensors are used to find out how many free spaces are available.

(b) Describe how this system works.

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..... [8]





(c) (i) Define the term calibration.

..... [1]

(ii) Explain why it is important to calibrate pressure sensors.

..... [2]

6 An expert system may be data driven.

Describe, with the use of an example, what is meant by the term data driven.

..... [5]



7 A student has created an algorithm to calculate the average of a set of numbers.

- The user will be asked how many numbers they wish to enter
- The user will respond with a number
- The user will then enter that many numbers
- The algorithm will total the numbers entered and divide the total by how many numbers the user said they will enter.

The algorithm is shown. The line numbers have been included to help you.

```

10 total ← 10
20 PRINT "Input number of repeats"
30 INPUT n
40 count → 1
50 REPEAT
60     count ← + 1
70     PRINT "Input number ", count
80     INPUT number
90     total + number ← total
100 UNTIL count = number
110 average ← total / n
120 PRINT average

```

The student has made some mistakes in the algorithm.

(a) State **three** mistakes in this algorithm and suggest how each can be corrected.

mistake 1

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.....

.....

mistake 2

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.....

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mistake 3

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.....

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[6]





This algorithm uses a REPEAT...UNTIL loop. The student wishes to change the algorithm so that it uses a WHILE...ENDWHILE loop.

(b) Contrast a REPEAT...UNTIL loop with a WHILE...ENDWHILE loop.

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..... [2]

8 Identify and describe **three** characteristics of modelling software.

characteristic 1

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characteristic 2

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characteristic 3

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..... [6]





- 9** Wei has recently started an accountancy business. She is considering using either custom-written or off-the-shelf software in the business.

Discuss the suitability of each type of software.

[8]



- 10 A list of some field names from a database is shown. For each field name, identify the most appropriate data type.

(a)

Field name	Most appropriate data type
employee_name	
hourly_rate_of_pay	
was_employee_born_in_france?	

[3]

- (b) A presence check has already been run on each field of the database.

For each of the following fields, identify and describe **one** other type of validation that can be used. You should only use each type of validation once.

(i) hourly_rate_of_pay

.....

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..... [2]

(ii) date_of_birth

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..... [2]

- (c) Justify why a field holding the age of each employee has been set as a calculated field.

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..... [3]





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