



Cambridge International AS & A Level

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INFORMATION TECHNOLOGY

9626/13

Paper 1 Theory

May/June 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 **16** pages. Any blank pages are indicated.



1 Describe, with an example, the differences between data and information.

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..... [3]

2 Matthew has money in his bank account. Hackers are trying to gain access to his account and steal his money.

Identify **three** items of personal data that hackers could use to access this bank account.

1

2

3 [3]

3 Personal data is held on a hard disk.

Explain **two** benefits of encrypting this hard disk.

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..... [4]





Turn over

- 4 A shop owner needs to collect data about the shopping habits of potential customers. This data needs to be high quality.

(a) Identify and explain **one** reason why this data must be of high quality.

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..... [2]





The shop owner has decided to use an in-depth report that he has found in an online newspaper. This report contains data about national spending habits.

- (b)** Evaluate the benefits and drawbacks of using this data to identify shopping habits of potential customers.

[8]





5 Supercomputers can be used for weather forecasting.

Discuss, with the example of weather forecasting, the benefits and drawbacks of using a supercomputer.

[6]



6 Disk defragmentation is a type of utility software.

(a) Describe what is meant by disk defragmentation.

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..... [1]

(b) Explain why disk defragmentation is less likely to be used in modern computers.

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..... [1]

Back-up and file deletion are also types of utility software.

(c) Other than disk defragmentation, back-up and file deletion, identify and describe the specific purpose of **two** types of utility software.

type 1

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.....

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type 2

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.....

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[4]





[8]

[8]

- 8 A teacher has created a spreadsheet to store marks and grades achieved by students in an examination. Part of this spreadsheet is shown.

	A	B	C	D	E	F	G	H
1	Grade boundaries				Student grades			
2	Grade	Minimum Mark	Maximum Mark		Student name	Score	Grade	
3	A	44	50		Kyle			
4	B	40	43		Germain			
5	C	36	39		Jose			
6	U	0	35		Sandy			
7								

- (a) Describe the formatting that has been applied to the contents of cell B2.

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..... [2]

The teacher needs to test the spreadsheet. When testing a spreadsheet, it is important to use appropriate test data.

- (b) Describe **one** defining characteristic of each of:

- normal test data
- extreme test data
- abnormal test data.

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..... [3]





- (c) Complete the table below to identify **three** items of test data that can be used to test the mark range for a grade A.

test type	test data
normal	
extreme	
abnormal	

[3]

	A	B	C	D	E	F	G	H
1	Grade boundaries				Student grades			
2	Grade	Minimum Mark	Maximum Mark		Student name	Score	Grade	
3	A	44	50		Kyle			
4	B	40	43		Germain			
5	C	36	39		Jose			
6	U	0	35		Sandy			
7								

The teacher will use the following formula in cell G3 to show the grade achieved by Kyle.

=IF(F3>C3,"Check Score",(IF(F3>B3,A3,(IF(F3>B4,A4,(IF(F3>B5,A5,A6)))))))





(d) This formula has been tested and found not to work as intended.

Explain why this formula does not work as intended.

[5]



9 A student is planning a relational database.

(a) Define the term relational database.

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..... [1]

The relational database could include both primary keys and compound keys.

(b) (i) Describe the characteristics of a primary key in a relational database.

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..... [2]

(ii) Describe the role of a primary key in a relational database.

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..... [1]

(c) Describe how a compound key differs from a primary key.

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..... [1]





[4]

[4]



10 An expert system is used to help identify different types of flowers.

(a) Describe the role of an inference engine in this system.

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..... [2]

(b) Describe the role of a knowledge base in this system.

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..... [2]







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