



Cambridge International AS & A Level

CANDIDATE
NAME



CENTRE
NUMBER

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INFORMATION TECHNOLOGY

9626/12

Paper 1 Theory

May/June 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.



- 1 A company is going to carry out an investigation into shopping habits. The company will get data from indirect data sources.

(a) Describe the benefits of getting data from indirect data sources.

[4]

[4]

(b) Describe the drawbacks of getting data from indirect data sources.

[4]

[4]





- 2** The spreadsheet shows the prices of various items in a clothes shop. The discounted price for a jumper is calculated by using the formula in cell F12.

F12		:	X	✓	fx	=E12-(VLOOKUP(D12,\$D\$5:\$E\$8,2,FALSE)*E12)
1	A	B	C	D	E	F
2						G
3				Discount code		H
4						
5				A	25%	
6				B	20%	
7				C	10%	
8				D	5%	
9						
10	Item			Price	Discounted price	
11						
12	Jumper			B	\$36.00	\$28.80
13	Skirt			A	\$25.00	\$18.75
14	Blouse			D	\$30.00	\$28.50
15	Trousers			A	\$40.00	\$30.00
16	Jeans			C	\$33.00	\$29.70
17	Dress			B	\$50.00	\$40.00
18	Trainers			A	\$55.00	\$41.25
19	Shoes			D	\$60.00	\$57.00
20						

- (a) The formula in cell F12 is =E12-(VLOOKUP(D12,\$D\$5:\$E\$8,2,FALSE)*E12)

Describe how this formula works.

..... [5]





The formula in cell F12 is replicated to cells F13 to F19.

- (b) In the formula, absolute cell referencing and relative cell referencing have **both** been used.

Explain why both types of cell referencing are needed.

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[4]

- 3 There is a fault with a car engine. An expert system is used to help diagnose the fault.

Describe how the following components of an expert system are used in the process of diagnosing the fault.

- (a) User interface

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[2]

- (b) Inference engine

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[2]





- 4 A company finance director could use either off-the-shelf or custom-written software to help manage the company's finances.

Contrast these two types of software.

[4]

[4]

- 5** Describe **five** advantages of using computers rather than a human to monitor water pollution.

[5]





- 6** Computer systems can be affected by malware. A network manager has already installed malware prevention software.

Describe additional methods the network manager can use to help prevent malware from entering the computer systems.

[6]





- 7 A school stores records of its students in alphabetical order of family name. It uses indexed sequential access to locate a student record.

Explain what is meant by indexed sequential access.

[5]

- 8** Describe what is meant by an actuator. You must include an example of an actuator in your answer.

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[2]





- 9 Eric has made a spreadsheet that he has shared with a number of friends. Some of his friends cannot open the spreadsheet.

Identify **three** possible reasons the spreadsheet will not open once received. For each reason, suggest a way Eric could have prevented the problem.

Reason 1

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Way 1

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Reason 2

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Way 2

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Reason 3

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Way 3

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[6]





- 10** A person uses a dialogue interface to control multiple devices in their home.

Evaluate the use of a dialogue interface in this context.

[6]





- 11 A college database contains details about students. Part of the database is shown.

StudentID	FirstName	FamilyName	PhoneNumber
AB37689	Mohammed	Abbas	016324908367
AH83965	Jonathan	Olsen	016328332901
BV72189	Suzanne	Usher	016325599100
DY64817	Hua	Owyang	016323652331
KT52964	Isabella	Mancini	016328899477
PS54200	Ben	Quansah	016329677901

Identify and describe **two** validation checks that are suitable to use on the StudentID field.

Validation check 1

Description 1

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Validation check 2

Description 2

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[4]





- 12 Banks process a large number of transactions simultaneously. They use mainframe computers for transaction processing.

Explain why mainframe computers are used by banks for this type of processing.

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[3]





- 13** Discuss the benefits and drawbacks of using encryption when transferring data between web browsers and web servers.

[8]

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