



Cambridge International AS & A Level

CANDIDATE
NAME



CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--



INFORMATION TECHNOLOGY

9626/12

Paper 1 Theory

October/November 2024

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

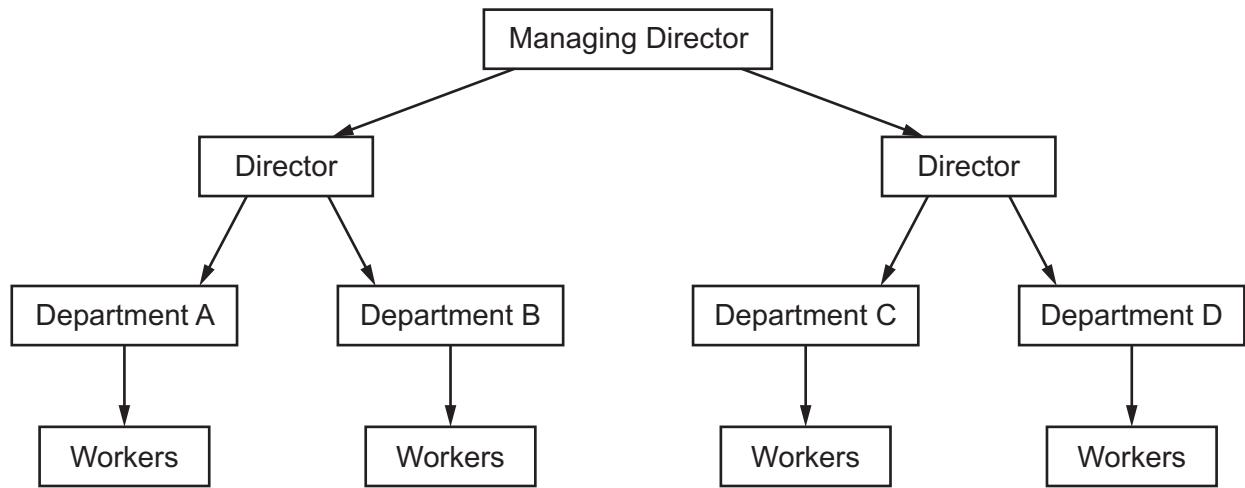
- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [].

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





- 1 A company uses the following hierarchical staffing structure.



The company stores all its staff records in a hierarchical database.

- (a) Explain what is meant by a hierarchical database management system.

.....

 [3]

- (b) Describe how the company's hierarchical database would be used to store all the staff records.

.....

 [3]





- 2** The quality of information can affect the usefulness of decisions made by businesses.

Describe how the following factors can affect the quality of information and the quality of the decisions made.

- (a)** age of information

.....
.....
.....
.....
.....
..... [2]

- (b)** relevance of information

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





3 Control technologies can be used in traffic management systems.

Evaluate the use of control technologies in traffic management systems. You must identify specific control technologies and evaluate their use in towns and on motorways.

[8]





4 Draw a program flowchart to represent this algorithm:

- Input an integer value.
- Repeat this until you have entered 20 values.
- At the end, output the largest value and the average of the values.

A large, empty oval shape occupies most of the page below the question, intended for drawing a program flowchart.

[7]





5 Explain the reasons why there is a digital divide between people with high levels of education and people with lower levels of education.

[6]





6 Describe the reasons why computer models are used.

[6]





- 7 Explain why personal information should be kept confidential. Your answer must include examples of how personal information can be used if it is **not** kept confidential.

.....

 [4]

- 8 A furniture company uses databases in its warehouse to help with stock control.

- (a) The company has a Product database which contains the fields shown in the table.

Field Name	Data Type	Example of Data
Number_in_Stock		199 (Number_in_Stock can vary between a minimum of 0 and a maximum of 250.)
Location		07.44.03
Reorder_Level		250
Price		\$203.50
Supplier_Telephone_No.		07700900819

Complete the Data Type column in the table by writing the most appropriate data type for each field. For any numeric fields, specify the numeric data type. [5]





(b) State and describe appropriate validation checks that could be carried out on data as it is entered into the Product database. You can describe different validation checks for the same field.

[6]

(c) As well as the Product database, the company has a Customer database. Describe how the two databases can be combined into one relational database.

[5]





- 9** A reporter will use telephone interviews to gather information for an article.

Discuss the benefits and drawbacks of using telephone interviews.

[8]





- 10 Scientists are using an expert system to help them identify species of animals.

Describe **four** benefits to the scientists of using an expert system for this purpose.

1

.....

2

.....

3

.....

4

.....

[4]





BLANK PAGE

DO NOT WRITE IN THIS MARGIN

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 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.

