



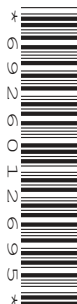
Cambridge International AS & A Level

CANDIDATE
NAME
CENTRE
NUMBER

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CANDIDATE
NUMBER

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INFORMATION TECHNOLOGY

9626/13

Paper 1 Theory

May/June 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 relational database has been created for customer orders.

The entities and attributes in the relational database are:

CUSTOMER	ORDER	PRODUCT
Cust_ID	Order_code	Product_ID
First_name	Cust_ID	Description
Family_name	Date	Price
Address_1	Product_ID	
Town	Quantity	
Zip_code		

- (a) Identify the primary key in the CUSTOMER entity.

..... [1]

- (b) Identify the primary key in the ORDER entity.

..... [1]

- (c) Identify **one** foreign key in the ORDER entity.

..... [1]

- (d) Identify the relationship between the CUSTOMER and ORDER entities.

..... [1]





[4]



- 5 A college uses a database to store student records. Each student has a unique ten-digit student number.

The database stores the examination scores of each student. The maximum mark in each examination is 100.

The database already has presence, existence and integrity validation checks built in.

Describe **three** additional validation rules, using student number and examination scores as examples. For each rule, give a different reason why it can still allow inaccurate data to be entered.

Rule 1

.....

Reason 1

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.....

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Rule 2

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Reason 2

.....

.....

.....

Rule 3

.....

Reason 3

.....

.....

.....

[6]





6 The environmental conditions around a chemical factory need to be monitored to make sure the environment is safe from pollution.

(a) Describe how data logging could be used to help the factory owner monitor the environmental conditions around the factory.

..... [6]





[8]



- 7 Draw a program flowchart, in the space provided, that will allow an examination mark to be entered and then output an appropriate message giving the correct grade, as shown in the table. All marks are integers.

Mark	Message
85 or more	Grade A
70 or more	Grade B
50 or more	Grade C
Any other mark	Grade U

Large empty rectangular box for drawing the program flowchart.





8 Explain why the following techniques could be used when editing a video.

(a) Creating credits

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.....

.....

.....

.....

..... [2]

(b) Extracting a still image

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.....

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.....

.....

..... [2]

(c) Exporting a video clip in a different file format

.....

.....

.....

.....

.....

..... [2]



- Describe how a microprocessor could be used to control the operation of the barrier.

..... [6]



10 Describe the benefits and the drawbacks of using the csv file format to save data.

[8]





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