



# Cambridge International AS & A Level

CANDIDATE  
NAME

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CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**INFORMATION TECHNOLOGY**

**9626/31**

Paper 3 Advanced Theory

**May/June 2022**

**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 Data can be at risk of being lost from computer systems.

(a) Describe the ways that data can be lost from computer systems.

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(b) Backups are used to minimise the risk of data loss. Backup strategies are created for technicians to ensure that data can be recovered in the event of a disaster occurring.

Describe **three** instructions to the technicians that should be included in a backup strategy.

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[3]



3 A designer creates vector graphics for companies for use in their advertising.

(a) Explain why the designer uses the svg file format for storing the vector graphics.

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(b) Describe the information that must be stored in a vector graphic file so that the image can be recreated when the file is opened.

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6 The owners of a retail store have access to databases of customer buying habits. They are going to carry out some data mining.

(a) Describe what is meant by data mining.

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..... [2]

(b) Explain how the information obtained by data mining could be used by the owners of the retail store to increase profits.

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7 Animations often show objects, for example figures moving about the screen.

Describe how each of the following achieves the motion of a character in an animation.

(a) cell animation

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(b) stop motion

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8 JavaScript code can use comparison operators.

Explain how each of the following comparison operators works in JavaScript when comparing the number 1 with the text "1".

(a) the == operator

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..... [2]

(b) the !== operator

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..... [2]

9 A new database management system (DBMS) is to be created for a health care centre to store patient records. Health care professionals will use the DBMS when treating patients. A design specification has to be written before the DBMS is created.

(a) Explain why a design specification is needed.

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(b) Describe the contents of a design specification for the new DBMS.

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