



Cambridge International AS & A Level

CANDIDATE
NAME



CENTRE
NUMBER

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INFORMATION TECHNOLOGY

9626/32

Paper 3 Advanced 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 JavaScript uses `for` loops to run through a block of code.

(a) In JavaScript, the `for` loop has the following syntax:

```
for (Statement_1; Statement_2; Statement_3){  
  // block of code to be executed is written here  
}
```

Describe the purpose of each of the three statements:

Statement_1

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Statement_2

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Statement_3

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[3]

(b) Compare the use of a `for` loop with a `for in` loop.

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[3]





2 Describe how the following alterations can be made to parts of a bitmap image, using tools found in image editing software.

(a) removing the reflection from eyes in a digital image taken by flash photography

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..... [3]

(b) making the edges of objects in a digital photograph clearer

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..... [3]





3 A new software application has been evaluated for ease of use.

Describe **two** other evaluations that should be carried out on the new software application.

[6]

4 A project to create a new computer game has been divided into the tasks shown in the table.

Task number	Task	Follows on from task(s)	Expected duration (weeks)
1	Design the game		6
2	Code the game	1, 4	18
3	Test the game code	2	13
4	Create the user interface for the game	1	12
5	Release the game to the public	3, 7	6
6	Design the documentation for the game	1	6
7	Create the documentation for the game	6	20





- (a) Using the information in the table, draw a PERT (Performance Evaluation and Review Technique) chart for the project in the space below:

[5]

- (b) Describe the benefits of using a PERT chart.

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[3]



[8]

[8]



6 Using tunneling protocols in networking can affect the security of the data.

(a) Explain how tunneling protocols can increase data security.

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..... [4]

(b) Explain how tunneling protocols can decrease data security.

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7 The data mining process consists of several phases.

Describe the tasks that occur in each of the following phases in the data mining process.

(a) data preparation

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(b) evaluation

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Discuss the use of the parallel running method of implementation in this scenario.

[8]



9 (a) Explain how each of the following computer animation methods creates the illusion of movement.

(i) stop motion

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..... [2]

(ii) key frame

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..... [3]

(b) Describe **one** property of an object that can be affected by altering its timings in an animated sequence.

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..... [1]

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Evaluate the use of evolutionary prototyping for developing the data input screen.

[8]



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