



Cambridge International AS & A Level

CANDIDATE NAME



CENTRE NUMBER

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CANDIDATE NUMBER

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0311975240

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]

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

Large empty rectangular box for drawing a PERT chart.

[5]

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

Series of horizontal dotted lines for writing the answer to part (b).

[3]



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5 Discuss the impact of the use of artificial intelligence (AI) in health care.

Dotted lines for writing the answer.

[8]

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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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(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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[4]

(b) evaluation

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[4]

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- 8 Designers in a company use standalone computer-aided design (CAD) applications to design products. The company has now decided that its designers will change to using a cloud-based CAD application. The company will use parallel running to implement the change.

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

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[8]

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

(i) stop motion

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(ii) key frame

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(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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