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Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME	

CENTRE NUMBER						CANDIDATE NUMBER					

INFORMATION TECHNOLOGY **9626/33**

Paper 3 Advanced Theory **October/November 2021**

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 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages. Any blank pages are indicated.

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1 A company wants to use an online questionnaire to get feedback from customers about the medicine it makes.

(a) Describe the features of online questionnaires that make them suitable for gathering feedback from customers.

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(b) Describe **two** drawbacks of using online questionnaires to gather feedback.

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2 QR codes are two-dimensional bar codes (matrix bar codes) representing information about items to which they are attached. An example of a QR code is shown:

(a) Describe the functional elements of a QR code.

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(b) Explain why damaged QR codes may still be read while damaged one-dimensional bar codes often cannot be read.

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3 Peer-to-peer networking can account for a large percentage of all internet traffic. It is often used to transfer large files.

(a) Describe how peer-to-peer networking uses BitTorrent to transfer large data files between several users.

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(b) Describe how the use of BitTorrent for peer-to-peer networking can cause security issues to arise.

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4 A car manufacturer is using computer-aided design (CAD) to design the engine for its new electric car.

Discuss the benefits and drawbacks of the use of CAD for this process.

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5 Discuss the advantages and disadvantages of using satellite communication systems to provide data transfer connections.

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6 Digital currencies, such as Bitcoin and Litecoin, can be used to pay for goods and services.

Analyse the effectiveness of digital currencies as a method of payment.

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7 Web-conferencing is used to enable people to work together to produce documents.

(a) Describe, in detail, the hardware that is required for web-conferencing.

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(b) Describe the features of web-conferencing software.

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8 A new software application, which consists of many modules, is being developed. Testing is an important stage in the development of new software.

Compare and contrast alpha testing and beta testing.

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9 Gantt charts are used in project management.

Describe the features of a Gantt chart.

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10 JavaScript is an interpreted language that can be used on web pages. Runtime errors, called exceptions, can occur during the execution of JavaScript code.

Explain how exceptions can be handled during the execution of JavaScript code.

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11 Images of the faces of people can be manipulated and changed by morphing.

Describe how morphing could be used to change an image of a sad face into a smiling face.

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12 Describe how augmented reality could be used by firefighters.

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