Cambridge International AS & A Level

CANDIDATE NAME	

CENTRE NUMBER		CANDIDATE NUMBER	

INFORMATION TECHNOLOGY **9626/32**

Paper 3 Advanced Theory **May/June 2018**

1 hour 45 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

Calculators must not be used on this paper.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

Any businesses described in this paper are entirely fictitious.

This document consists of **14** printed pages and **2** blank pages.

CAMBRIDGE International Examinations

[Turn over

1 An online store requires customers to create an account using its website. The online form for creating the account, with customer entries, is shown in Fig. 1.

Create a Customer Account

*Note that all fields marked with * are required.*

Your first name* | Jasmine |

Your family name* | Singh |

Valid email address* | jasmine@singh.me | ***Please enter a valid email ID***

Confirm email address* | jasmine@singh.me | ***Please re-enter your email ID***

Password* | ********** |

Confirm password* | ********** |

Security question* | Mother's first name ▽ | ***Please select a question***

Enter the answer* | Jaswinder | ***Enter a keyword for the answer***

Gender   Male ◯   Female ⬤

Date of birth (DoB)* | 11 ▽ | | 10 ▽ | | 2002 ▽ |
Please enter your DoB as   month   day   year

I agree to the Terms and Conditions and to the Privacy Policy*

Please check the box to show that you have read and agree to the terms. | ✓ |

Fig. 1

The data entered by the customer is checked for accuracy before it is submitted to the website.

(a) Describe, using the information shown in Fig. 1, how the data in the required fields (fields marked *) on the form could be checked.

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(b) Describe **one** essential element that must be added to the form.

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2 Holographic imaging is an emerging technology.

Describe how holographic imaging could be used in the field of medicine.

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3 A store has a large number of departments each with its own sales staff. The sales staff are responsible for selling only the goods in their department. Each department has its own dedicated checkouts which are connected to the store's network.

A new checkout system is to be implemented so that the staff in the clothing department can use any of the checkouts in the store to sell goods. Staff with experience of the new system will be expected to assist in the training of staff in other departments when the new system is eventually introduced throughout the store.

The store managers have to decide how to implement the new sales and checkout system.

Describe the most appropriate method of implementation and explain how the change would be carried out in the store.

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4 'Loops' are used in JavaScript to execute a block of code several times.

The following code shows a 'for' loop and the code for displaying the result.

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<p id="Number"></p>

    <script>
 //JavaScript code follows
      var displayresult = "";
      var X;

    for (X = 1; X < 10; X += 3) {
    displayresult += X + "<br>";
    }
//the following line displays the contents of 'displayresult' on the
webpage
    document.getElementById("Number").innerHTML = displayresult;
</script>
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(a) Describe what each statement in the 'for' loop does and the results that are output when the code is executed.

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(b) Rewrite the 'loop' code as a DO WHILE loop to display the same results.

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(c) The JavaScript code is deemed to be 'client-side' code.

Explain why the use of 'client-side' code can cause problems.

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5   A company sells replacement windows for customers' homes. A salesman visits customers' homes to measure the windows. The salesman usually takes a company laptop on the visit. The salesman is away from the office most of the day. When the salesman is back in the office he has to type up a report on the visit and create quotations to send to the customers. He needs access to a variety of documents including those found on the internet. The salesman also needs to be able to communicate with customers in a variety of ways.

The company managers are considering replacing the laptop with a new smartphone for the salesman to take on the visit.

The salesman has made a comparison of the two devices.

Explain why the salesman has told the company managers that both devices are needed for the visits.

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6 A software company is developing a new 'app' for smartphones. The Rapid Application Development (RAD) method is used to ensure that the 'app' is available as soon as possible.

(a) The RAD process involves several phases. The first phase is often referred to as Business Modelling.

Describe the tasks that must occur in this phase of RAD.

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(b) Describe **two** other phases of RAD.

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7   Telecommunication companies often prefer to use fibre optic cables to transmit data.

Discuss the benefits and drawbacks of using fibre optic cables for data transmission.

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8 (a) Explain what is meant by digital currency.

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(b) Evaluate the impact of digital currencies.

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9 Describe the impact of video-conferencing on learning in schools.

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10 Discuss the advantages and disadvantages of software-based training methods.

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