

Cambridge Assessment International Education

Cambridge International Advanced Subsidiary and Advanced Level

CANDIDATE NAME					
CENTRE NUMBER		CANE NUMI	DIDATE BER		

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INFORMATION TECHNOLOGY

9626/31

Paper 3 Advanced Theory

May/June 2019

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.

1	Explain, with suitable examples, why computer graphics image editing software allows users save bitmap images in different file formats.	s to
		[6]

2 In JavaScript code, the sort() function is used to sort lists into ascending order.

(b)

(a) Explain, in detail, why, when using the sort() function, the list in Fig. 2.1 is sorted correctly, but the list in Fig. 2.2 is not.

Before sorting	After sorting	Before sorting	After sorting
fly cockroach ant butterfly moth beetle	ant beetle butterfly cockroach fly moth	1345 3666 1111 23 37 12	1111 12 1345 23 3666 37
Fig.			. 2.2
			[4]
Write a line of Jav descending order.			t of insects in Fig. 2.1 into

3 An online retailer uses a simple form on its website to enable customers to contact its After Sales department by email. The form looks like this:

Send an email to aftersales@mycompany.com:

Your Nan	ne:			
Your ema	<u>il add</u> res	s:		
Commen	t:			
Send	Re	eset		

Some of the code that created the form is shown. Note that the lines have been numbered only for your convenience and reference.

```
1
   <html>
2 <body>
3
4 <h2>Send an email to aftersales@mycompany.com:</h2>
5
  <form action="mailto: aftersales@mycompany.com" method="post"</pre>
6
   enctype="text/plain">
7
8
  Your Name: <br>
9
10 Your email address:<br>
11
12 Comment: <br>
13
14
1.5
16 </form>
17 </body>
18 </html>
19
20
```

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locations to collect	ditional lines of code that could be inserted into the script at apport the name and email address of the customer. Indicate, with referwhere your additional code should be inserted.	orop
locations to collect	ditional lines of code that could be inserted into the script at apport the name and email address of the customer. Indicate, with refer	orop
locations to collect the line numbers,	ditional lines of code that could be inserted into the script at apport the name and email address of the customer. Indicate, with refer where your additional code should be inserted.	orop
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- **(c)** Write down the code that would allow:
 - the comment to be entered
 - the form to be submitted
 - the form to be reset.

Indicate which line numbers the codes would appear on.

Line number	Code

[6]

-	
•	
•	
•	
·	
•	
•	
	Describe two benefits to a company of storing data in the 'cloud'.
•	
•	

Describe I	how data is	s transmitted	d using fibre	optic tech	nology.		
							[6

5

6	Discuss the impact of photo editing in politics.
	ie – in the state of the state

7 The manager of a company has decided to contact existing customers to gather detailed feedback about a product. She needs responses from a large number of customers as quickly as possible.

Use the information given in Fig. 7.1 to select, with reasons, the most appropriate method of asking the customers for their feedback.

Criteria	Administered by:					
Ciliena	Post	Telephone	Email	In person		
High response rate		1		1		
High speed of return of results		1	1			
Highly detailed questions possible		1		1		
Low cost	1		1			
Rapport between manager and respondents		1		1		
Short time of manager involvement	1		1			

Fig. 7.1

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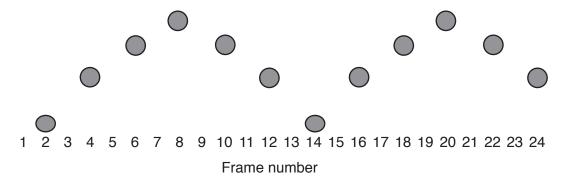
8

3	help is a	online store sells goods through its website. The website has an 'automated online assistant' to the customer through the purchasing process. An 'automated online assistant' on a website computer program that uses artificial intelligence to provide a customer with service and stance.
	(a)	Describe how the components of an 'automated online assistant' provide help to the customer.
		[9]

(D)	Explain two benefits of the use of an 'automated online assistant'.
Eva	luate the use of physical security in combatting IT crime.

10 A typical animation has 24 frames for every second of running time (24 fps).

A bouncing ball drawn on 'twos' is shown on this timeline:



(a)	Explain why the ball is drawn on 'twos'.
	[4
(b)	Suggest one reason why the animator might choose to draw the animation on 'ones' instead of 'twos'.
(a)	Describe the effect of drawing the ball in this enimation on "fours' instead of "huse"
(c)	Describe the effect of drawing the ball in this animation on 'fours' instead of 'twos'.
	ra

Discuss the impact of wearable computers in manufacturing.
[6]

11

12	Analyse the use of virtual reality in healthcare.
	[6]

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