

# Cambridge International AS & A Level

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

# 3703228923

## INFORMATION TECHNOLOGY

9626/31

Paper 3 Advanced Theory

May/June 2020

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. Blank pages are indicated.

(a)	Describe how computer-controlled 3D printing creates objects.
	[4]
(b)	Describe, with examples, how 3D printing can be used in medicine by surgeons when treating patients.

Ultr	a-high definition television is available from video streaming services over the internet.	
(a)	Describe the features of ultra-high definition television systems that improve the viewin experience.	9
	[3	

Analyse how the different types of transmission media used by internet service provious affect the availability of ultra-high definition television to their customers.

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A company is concerned that their personnel files may be viewed and used by unauthorised people. The company uses access rights (permissions) to protect their files when they are stored

on t	heir network and encryption when the files are sent to other companies by email.
(a)	Explain how the use of different access rights (permissions) applied to files can be used to control access to files.
	101

(b)	Describe the advantages of the different encryption methods for protecting files when sending them over public telecommunications systems.
	[6]

Describe how compression is used when storing bitmap image files.
[6]

(a)	Explain the reasons, other than cost, why companies prefer to use fibre optic cabling.
	[4
(b)	
(b)	Describe <b>three</b> disadvantages of using fibre optic cables.
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Describe	e the metho	ods that co	ould be us	sed to el	iminate e	errors wh	nen crea	ting mail	merge o	documents
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Nigel is creating a website which uses JavaScript. He uses scripts to manipulate text held in

a)	Explain what is meant by an 'HTML element'.	
		. [4
_	el uses this code to manipulate the text on his page. The line numbers are shown only	y fo
ете	rence purposes.	
	<html></html>	
	 <body></body>	
	<h2>Nigel uses this JavaScript to change HTML</h2>	
	<pre>Nigel's original text was here</pre>	
	<script></td><td></td></tr><tr><td>0</td><td><pre>document.getElementById("a1").innerHTML = "Nigel changed this!"; </script>	
2	The paragraph above was changed by Nigel's script.	
4	\prime paragraph above was changed by Niger's Script.\/pr	
5		
6		
b)	Explain, in detail, how this JavaScript would change what is displayed on the web page.	
		. [2

Describe the security issues that may arise when computers are networked.
A1

İ	By weighing up the advantages and disadvantages, evaluate the use of a forum to	CC
	information from patients for use in medical research.	
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•	Compare and contrast the use of tweening and morphing in animation.
	int five principles that should be included in a data protection act
ı	List <b>five</b> principles that should be included in a data protection act.
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1	List <b>five</b> principles that should be included in a data protection act.
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