

# Cambridge International AS & A Level

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

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# INFORMATION TECHNOLOGY

9626/12

Paper 1 Theory

May/June 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.

A I	ouildir JOTA	ng company has a relational database. The database has two tables: CUSTOMERS and TIONS.
(a)	The	e QUOTATIONS table has a foreign key.
	Des	scribe what is meant by the term foreign key.
		[2]
(b)	(i)	Define the term referential integrity.
		[1]
	(ii)	Explain why referential integrity is important.
		[3]

c)	Describe what is meant by the term relational database.
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es	scribe how supercomputers are used for weather forecasting.
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A government is concerned about the digital divide amongst its citizens.
Describe how the government could reduce the effects of the digital divide and improve access to its services.
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	Data can be kept secure by using the Secure Socket Layer (SSL)/Transport Layer Security (TLS) protocols when it is transmitted over the internet.
[	Describe the use of SSL/TLS to ensure data is kept secure.
	[8]

5	rne	re are various methods of verification.
	(a)	Describe why checksum verification is used.
	(b)	Describe a method of calculating a checksum.
	(13)	Describe a method of calculating a checksum.
		[3
6	Des	scribe these types of malware.
		Malicious bots

(b)	Rootkit
	[4]
(c)	Virus
	[4]

Data can be collected by using a direct or an indirect data source.	
Discuss the advantages and disadvantages of using direct data compared to indirect data.	
	[8]

Sou	and editing software has a number of features that can be used to edit audio files.	
(a)	State <b>two</b> reasons why an audio clip may need to be trimmed.	
	Reason 1	
	Reason 2	
		[2]
(b)	State <b>one</b> reason why separate audio clips may need to be spliced together.	
		[1]
(c)	Describe the term equalisation when applied to audio clips.	
		[3]

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