

# Cambridge International AS & A Level

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

# 0538073010

# INFORMATION TECHNOLOGY

9626/12

Paper 1 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.

1 For each of the **two** tables below, tick the most accurate statement referring to symmetric encryption.

(a)

	1
Symmetric encryption is a newer method of encryption compared to asymmetric encryption	
With symmetric encryption the public key is used to encrypt the data	
With symmetric encryption you have to use the same key to encrypt every message	
Symmetric encryption only uses a single private key	

[1]

(b)

	✓
With symmetric encryption the private key must be kept private by both the sender and the receiver	
Symmetric encryption is often referred to as public key encryption	
It is possible to deduce the private key from the public key	
With symmetric encryption anyone with a copy of the public key can encrypt information	

[1]

2 (a) Tick the most accurate statement regarding the use of word processing software for producing documents.

	✓
It is easier to format paragraphs compared to database software	
It is easier to manipulate statistics compared to using spreadsheet software	
Word processing packages can be used to produce all multimedia features of a website	
Databases are more difficult to filter than word processed documents	

[1]

(b) Tick the most accurate statement regarding the use of other software to manipulate data.

	✓
It is easier to create a query using database software rather than using spreadsheet software	
It is easier to create a report using spreadsheet software rather than using database software	
It is harder to enter data and produce charts showing sales growth with a spreadsheet than using video editing software	
The easiest way to trim a sound sample is by using photo editing software	

[1]

(c)	Evaluate, by weighing up the advantages and disadvantages, the use of a web authoring package rather than a text editor to create a web page.
	[6]

3

Using numerical examples, describe what is meant by the following terms.
Data
Information
Vaculadas
Knowledge
[6]

4	Several radio programmes have recently highlighted e-safety as an issue that schools need to address.
	Describe the advantages of a school having an e-safety policy.
	[6]

	ny schools in the more remote areas of Kenya want to install video-conferencing equipment. s is so their students can be in touch with students from other Kenyan schools.
(a)	Discuss the impact of video-conferencing on the more remote schools and their students compared with having to visit the other schools to stay in touch.
	[6]
Sev	veral technologies can be used to deliver video-conferencing.
Exp	plain what is meant by the following terms.
(b)	ADSL
	[3]

					•••••		 	•••••
Expl	ain why per	sonal dat	a should	be kept c	onfidentia	l.		
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7 Here is part of a database showing the earnings of a group of workers in a company.

WorkerID▼	Job_type ▼	Hours_worked ▼	Hourly_rate ▼	Weekly_pay ▼
56321	Tyre changer	42	€17.00	€714.00
58191	Foreman	40	€22.00	€880.00
58694	Mechanic	38	€20.00	€760.00
59676	Painter	37	€18.00	€666.00
61230	Sander	39	€15.00	€585.00
63214	Sander	36	€15.00	€540.00
63295	Polisher	38	€14.00	€532.00
64387	Polisher	40	€14.00	€560.00
67152	Mechanic	37	€20.00	€740.00
67328	Painter	36	€18.00	€648.00
68947	Painter	38	€18.00	€684.00

(a)	Describe, using an example from the database, the features of a calculated field.
	[3]
(b)	A number of fields in the database are not shown. Examples of these are first name and family name. In this database the WorkerID is a primary key.
	Explain why it is good practice to have a primary key in this database.
	[3]

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Analyse	the use of the	se input devi	ices in the s	supermarke	et.		
						 	[8]

10	Ayesha is searching a school database for all the students studying biology. She has used a static parameter query but has been advised to set the query up as a dynamic parameter query.
	Describe what is meant by a dynamic parameter query and give the advantages of using one instead of a static parameter query.
	[5]

11	A construction company is preparing to build a road bridge. Before building the bridge, it will create a computer model of the bridge to test the designs that have been produced.
	Explain why the company considers it necessary to produce a computer model.
	[5]

12	A headteacher wishes to buy software which will help him manage the finances of the school. When considering which software to buy he has to choose between custom written software and off-the-shelf software.
	Describe the differences between these two types of software.
	[6]

13	A company has decided to develop its computer network into an extranet.
	Describe the purpose of a company extranet.
	re-

14	The inference engine within an expert system uses a form of reasoning.
	Explain what this form of reasoning consists of.
	[6]

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