



# Cambridge International AS & A Level

CANDIDATE  
NAME

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CENTRE  
NUMBER

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## 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)

	✓
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]



3 Using numerical examples, describe what is meant by the following terms.

Data .....

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Information .....

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Knowledge .....

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[6]



5 Many schools in the more remote areas of Kenya want to install video-conferencing equipment. This 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.

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Several technologies can be used to deliver video-conferencing.

Explain what is meant by the following terms.

(b) ADSL

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..... [3]



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.

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(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.

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(c) Describe what a consistency validation check is and explain how it could be used in this database as a check when inputting data.

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8 Describe how **two** different safety issues can arise from the use of IT. For each issue give **one** method of helping to prevent it. Each method must be different.

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- 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.

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- 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.

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13 A company has decided to develop its computer network into an extranet.

Describe the purpose of a company extranet.

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[5]



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