

Cambridge Assessment International Education

Cambridge International Advanced Subsidiary and Advanced Level

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

610854666

INFORMATION TECHNOLOGY

9626/13

Paper 1 Theory

October/November 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 are not allowed 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 Tick the **four** most accurate statements regarding the benefits of gathering data from direct data sources.

	✓
You only have to gather as much or as little data as you need	
It allows data to be gathered from subjects to which the data gatherer does not have physical access	
You can obtain the data faster than using an indirect data source	
You have full control over the method used to collect the data	
A much larger sample size can be used than is possible with indirect data sources	
A direct data source is quicker to search	
There may be an opportunity to sell the data to other people for them to use	
You do not have to spend time interviewing people or giving out questionnaires	
A CD ROM of historical data is a direct data source	
The source of the data is known exactly, making it easier to judge its reliability	

[4]

2 Tick the **four** most accurate statements regarding the gathering of personal data by unauthorised persons.

	✓
Pharming involves sending a website URL, inviting the receiver to go to the website	
Smishing involves using text messages to persuade people to give out personal information	
Phishing involves installing malicious software on the victim's computer	
Pharming involves creating a fake website that looks like an actual bank's website	
Phishing involves the sending of fake emails in order to advertise the bank	
Vishing involves the fraudster's computer redirecting a customer's phone call to his own phone	
Banks can ask you from time to time to send them your full password to check you are authorised to use that account	
Vishing involves receiving a phone call from a fraudster	
Vishing never involves getting the customer to phone the bank	
Smishing is the same as vishing but never involves the use of a phone	

[4]

Mos	Most computer systems consist of hardware and software.									
(a)	Define the term 'hardware' in an IT context.									
(b)	Giving brief descriptions of two examples, define the term utility software.									
		[4]								
Usi	ng a news website as an example, describe what is meant by dynamic data.									
		[4								

5	When creating queries, a function IIf() is often used. A table containing a list of where people live
	and their status could exist so that a query could be constructed:

IIf([Living_in]="own home","own","other")

This would look in a list of where people lived for the words 'own home' and would output the word 'own' if a match were found. If it was not 'own home' then the word 'other' is output.

(a)	Complete the	nested	query	that	would	be	used	to	output	'rented'	for	anyone	living	ir
	accommodatio	n owned	l by a l	andlo	rd. This	s is	indica	ted	by the	word 'lar	ndlor	d' in the	Living_	_ir
	field (see table	on page	e 5).											

IIf([Living_in]="own home","own"	
	 6

You can use the space below for any working you need.

(b) Below is shown the output created from a larger database.

Describe the steps required to produce this output (from the query in part (a)), without using a wizard.

Second_Name •	Name1 •	Living_in •	Status •
Burke	Dougie	own home	own
Charles	David	with parents	other
Hoy	Tony	landlord	rented
Lee	Duncan	own home	own
Macdonald	Lotte	with friends	other
Norfolk	Jeannie	landlord	rented
Reid	Laura	own home	own
Rydell	Jenna	own home	own
Ryder	Joe	with parents	other
Thomson	Jimmy	landlord	rented

Ţ.	51

6

)	prop	n, a user interface designer, has been asked by a systems analyst to design an interface for a posed information system. He will need to consider a mental model of the potential users of the tem.
	(a)	Describe what is meant by a mental model in this context.
		[4]
	(b)	Describe the features of a user interface which need to be considered when planning its design. Where appropriate, give examples of each feature.
		[6]

A h stay	ospital has installed video-conferencing equipment so that senior doctors in the hospital can in touch with other doctors who work in areas away from the hospital.
Eva	luate the impact of video-conferencing on both groups of doctors.
	[8]

100010	ls and orders.	TIC IS HOUS	Juie Wileli		ate a nat	ine databa		national da	เนมผงษ.
Explai	n the differen	ces betwee	en a flat fil	e databas	se and a r	elational	database.		
									•••••
									ĮΩ

9	Computer networks can often be classified as consisting of two types, peer-to-peer and client-server networks.
	Describe a peer-to-peer network.
	[5]

Expert systems often use a mixture of forward chaining and backward chaining to determine the probable solution to a problem.

Des	scribe the terms:
(a)	Forward chaining.
	[3]
(b)	Backward chaining.
	rol
	[3]

11 Here is a spreadsheet showing the medal winners at some of the 2016 Olympics swimming events

4	Α	В	С	D	Е	F	G	Н	- 1	J	K	L	M	N	0	Р	Q
1	Country code	Country name		Gold	Silver	Bronze		Swimmer	Distance	Stroke	Gender	Position	Code of country	7		Average speed (m/s)	Name of country
2																	
3	AUS	Australia		1	0	1		Kyle Chalmers	100m	Freestyle	М	1	AUS		47.58	2.10	Australia
4	BEL	Belgium		0	1	0		Pieter Timmers	100m	Freestyle	М	2	BEL		47.80	2.09	Belgium
5	CAN	Canada		1	1	0		Nathan Adrian	100m	Freestyle	М	3	USA		47.85	2.09	United States
6	CHN	China		1	0	0		Penny Oleksiak	100m	Freestyle	F	1	CAN		52.70	1.90	Canada
7	GBR	Great Britain		1	0	0		Simone Manuel	100m	Freestyle	F	2	USA		52.71	1.90	United States
8	RSA	South Africa		0	2	0		Sarah Sjostrom	100m	Freestyle	F	3	SWE		52.99	1.89	Sweden
9	SWE	Sweden		1	1	1		Adam Peaty	100m	Breaststroke	M	1	GBR		57.13	1.75	Great Britain
10	USA	United States		1	1	4		Cameron Van der Burgh	100m	Breaststroke	M	2	RSA		58.69	1.70	South Africa
11								Codey Miller	100m	Breaststroke	M	3	USA		58.87	1.70	United States
12								Sarah Sjostrom	100m	Butterfly	F	1	SWE		55.48	1.80	Sweden
13								Penny Oleksiak	100m	Butterfly	F	2	CAN		56.46	1.77	Canada
14								Dana Vollmer	100m	Butterfly	F	3	USA		56.63	1.77	United States
15								Yang Sun	200m	Freestyle	М	1	CHN		104.65	1.91	China
16								Chad Le Clos	200m	Freestyle	M	2	RSA		105.20	1.90	South Africa
17								Conor Dwyer	200m	Freestyle	M	3	USA		105.23	1.90	United States
18							L	Katie Ledecky	200m	Freestyle	F	1	USA		113.73	1.76	United States
19							L	Sarah Sjostrom	200m	Freestyle	F	2	SWE		114.08	1.75	Sweden
20								Emma McKeon	200m	Freestyle	F	3	AUS		114.92	1.74	Australia

(a) Write down the formula which should go in cell D3 to calculate the number of gold medals that Australia won in the events. The formula should be easily replicable to show the number of gold medals won by the other countries.

The formula should work even if the swimmer details are changed.	
=	[6
You can use the space below for any working you need.	

(b)	The average speed of each swimmer is calculated by dividing the distance swum by the time taken in seconds.												
	Write down the formula which should go in cell P3 to calculate Kyle Chalmers' speed. The formula should be easily replicable to show the speeds of the other swimmers.												
	=[5]												
	You can use the space below for any working you need.												
(c)	Explain how you would amend the spreadsheet so that the cells between M3 to M20 could only accept the country codes listed. If any other code was input an error message informing the user an error had occurred would be output.												
	[4]												

(d)	Explain how you would sort the data so that all the female swimmers were grouped togethe before the male swimmers and with the furthest distance at the top.
	[3]

Ev	aluate	the u	se of	datab	ases	and s	pread	sheet	s for s	uch a	task.			
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