

### **Cambridge International Examinations**

Cambridge International Advanced Subsidiary and Advanced Level

			ebruary/March 2018
INFORMATION T	ECHNOLOGY		9626/12
CENTRE NUMBER		CANDIDATE NUMBER	
CANDIDATE NAME			

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.

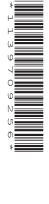
Answer all questions.

#### Calculators must not be used 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 knowledge, data and information.

	✓
Knowledge is remembering a set of facts.	
5, 10, 15, 20 are examples of information.	
Knowledge is just learning items of data by rote.	
Knowledge never requires the understanding of information.	
Knowledge is the use of information to solve problems.	
Information is data that needs to be processed to give it meaning.	
Understanding that 25 is the fifth answer in the five times table requires knowledge.	
Tacit knowledge is knowledge that is easy to pass on to someone else.	
A list of all the books written by Shakespeare is just raw data.	
Being aware that Pride and Prejudice was not written by Shakespeare requires knowledge.	
	[4]

2 Tick the **four** most accurate statements regarding encryption protocols.

	<b>√</b>
None of the web browsers currently in use support TLS.	
SSL stands for Secure Socket Layer.	
TLS was used before SSL came into being.	
TLS and SSL are protocols that provide security of communication in a network.	
SSL uses asymmetric cryptography only.	
Encryption protocols prevent hackers from intercepting a message.	
TLS stands for Transport Layer Socket.	
Client-server applications use TLS in a network to try to prevent eavesdropping.	
Encryption protocols enable credit card payments to be made securely.	
SSL does not require a handshake to be carried out.	

[4]

Indira is the manager of a holiday booking company. She is in the process of updating the

3

company's database of holidays. She has a file <b>newholidays.csv</b> which she wants to import to the database as a new table.
Describe the steps she needs to follow to do this.
[8]

4

Ac	ompany has decided to extend its intranet into an extranet.	
(a)	Describe the characteristics of a company intranet.	
		[3]
(b)	Describe the characteristics of a company extranet.	
		[3]

method of prevei	nting it. Each prev	vention must l	be different.		
Issue 1				 	
Prevention				 	
ssue 2				 	
Prevention				 	
ssue 3				 	
Prevention					
10001111011				 	
Issue 4				 	
Prevention				 	
			•••••	 	
				 	[8

Jasvir works in a town in the south of India. He uses email to stay in contact with his parents who

live in the north.	•
Apart from email and video conferencing, describe <b>four</b> other ways he could communicate with his parents, giving a different drawback for each method.	use the internet to
Way 1	
Drawback	
Way 2	
Drawback	
Way 3	
Drawback	
Way 4	
Drawback	

6

Codecs are used in video conferencing.
Describe how data is transmitted and converted in a video conference.
[6]

8 Jagwant has typed data into a spreadsheet. Part of the spreadsheet is shown below.

For each column, explain in detail why the data is not fully visible, and describe the most efficient way he could use to make all the data fully visible by only using the mouse.

		31		X	$f_x$	4.678932	156	
		A		В	С	D		
	1	##########		epn	4.678932	1		
	2	##########	WII	liam	5.986433			
	3	##########	Jas	vinae	7.325689			
_		-			•			
		•				•		
								[6]

9 Farzana was given a problem to solve by her maths teacher – 'Add two integers 15 and 16 and then multiply the answer by 45<sup>4</sup>.' She has worked out the answer but now wishes to check her answer by using the spreadsheet below.

	Α	В	С	D	Е	F	G	Н	
1									
2	15	16	45	4			127119375		
3									

	Write down the formula she would have used in cell G2 to produce her answer.
	=
	You can use the space below for any working out.
10	A clothing manufacturer uses codes to store information about its clothes. For example, a pair or blue trousers with a waist of 80 cm and a leg length of 77 cm could be coded as BT8077.
	Explain what each part of the code GT8878 could mean and why there may be problems with coding other items of clothing in this way. Include in your explanation ways of improving this method.
	I.O.

Evaluate the use of spreadsheet and database software to store this data using examples relate to payroll for your argument.

**12** Below are two tables from a college database. A relationship links the two tables.

# **Students**

Studentid	Phone	First_name	Coursecode
F1278	111000733	Ravinder	P301
F3794	111016620	Avtar	F402
F4921	117421600	Shokat	B115
F9153	114006451	Ravinder	B115

# **Courses**

Coursecode	Course_Title
P301	Physics
E402	English
B115	Biology
M301	Maths

(a)	Explain which fields would be set for primary keys, a compound key and a foreign key, giving reasons for each choice.
	61

(b)	A list is required of all the students studying Biology.
	Write down the steps you would need to take to produce this list using the Students table only. You may assume the database is already open.

13 Sachin has typed in three dates in column A in the spreadsheet shown below. He has used the formula =TEXT(A1,"dd mmmm yyyy") in C1 and replicated it down. He has used another formula in column E to extract the name of the month from C1.

Write down the formula he used in E1 which he then replicated down to E3 to extract the months shown.

	Α	В	С	D	E	
1	03/11/2017		03 November 2017		November	
2	26/09/2017		26 September 2017		September	
3	03/06/2017		03 June 2017		June	
1						

_	·	T 4 1
=		141
		171

You can use the space below for any working out.

14	Magnetic tape and optical media are used to back up data.
	Using examples, evaluate their use in this and other situations.
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