

Cambridge  
International  
AS & A Level

**Cambridge International Examinations**  
Cambridge International Advanced Subsidiary and Advanced Level

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**INFORMATION TECHNOLOGY**

**9626/12**

Paper 1 Theory

**February/March 2018**

**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 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.

This document consists of **14** printed pages and **2** blank pages.

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.

	✓
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]



4 A company has decided to extend its intranet into an extranet.

(a) Describe the characteristics of a company intranet.

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..... [3]

(b) Describe the characteristics of a company extranet.

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5 Describe, in detail, **four** health issues that can arise from the use of IT. For each issue give **one** method of preventing it. Each prevention must be different.

Issue 1 .....

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Prevention .....

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Issue 2 .....

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Prevention .....

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Issue 3 .....

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Prevention .....

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Issue 4 .....

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Prevention .....

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..... [8]

6 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 **four** other ways he could use the internet to communicate with his parents, giving a different drawback for each method.

Way 1 .....

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Drawback .....

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Way 2 .....

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Drawback .....

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Way 3 .....

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Drawback .....

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Way 4 .....

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Drawback .....

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[8]

7 Codecs are used in video conferencing.

Describe how data is transmitted and converted in a video conference.

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[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.

	A	B	C	D	E	F	G	H
1								
2	15	16	45	4			127119375	
3								

Write down the formula she would have used in cell G2 to produce her answer.

= ..... [2]

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 of 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.

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[6]







- 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.

	A	B	C	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

= ..... [4]

You can use the space below for any working out.





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