

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 2017**

**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.

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 **15** printed pages and **1** blank page.

- 1 Tick the **four** most accurate statements regarding the quality of information.

	✓
The more information that is collected the higher its quality.	
Data collected from a third party always becomes high quality information.	
The accuracy of the information collected affects its quality.	
Information which costs a lot to collect is always high quality information.	
A great deal of detail can sometimes lead to poor quality information.	
Irrelevant information leads to poor quality information.	
The problems arising from a lack of good quality information can be overcome by making your filters more refined.	
Good quality of information is always obtained from small groups of people.	
Information collected 100 years ago is always good quality information.	
The more complete the collected information is, the better its quality.	

[4]

- 2 Tick the **four** statements which most accurately refer to encryption.

	✓
Encryption is used by hackers to discover passwords.	
Encrypting a hard disk prevents viruses from deleting the information.	
Encryption always makes use of a public key and a private key.	
Encryption is the scrambling of the text in a message.	
Encryption is the process of encoding messages in such a way that only authorised parties can understand them.	
Encryption prevents messages from being intercepted.	
Encrypted information can only be understood if decrypted.	
Encryption has speeded up internet browsing by using secure sites.	
The recipient can only decrypt the message with the key provided by the originator.	
All memory sticks are encrypted.	

[4]





5 Avtar is a recently appointed network manager in a school. In his role he will need to use a variety of utility software.

(a) Describe, in detail, each of the following utilities.

(i) anti-virus software:

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(ii) data compression:

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(iii) disk defragmentation:

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(iv) disk formatting:

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(b) There are a number of computers in the school which are not networked at the moment. Discuss the advantages and disadvantages of creating a new network using these computers.

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- 7 Atat Iron Ltd uses computers to process its payroll. The company pays its workers weekly which involves the updating of a master file.

Two sets of data are shown below.

The first set represents part of a transaction file containing workers' ID numbers and the hours worked by those workers in a particular week.

The second set represents part of the master file used by the company. This shows the workers' ID numbers, departments they work in and the rate per hour at which they are paid in Indian Rupees (₹).

**Transaction file**

Workers_ID_number	Hours_worked
047006	40
486439	40
592786	38
758789	40
512759	37
869891	40
471584	38
131654	40
243303	40
235804	35

**Master file**

Workers_ID_number	Department	Hourly_rate (₹)
031597	Extrusion	62
047006	Cold rolling	55
131654	Extrusion	62
235804	Foundry	50
239412	Foundry	50
243303	Hot rolling	58
471584	Cold rolling	55
486439	Tube production	65
500368	Extrusion	62
512759	Tube production	65
592786	Foundry	50
758789	Tube production	65
869891	Extrusion	62
942378	Hot rolling	58

- (a) Describe what processes must happen before the updating can begin.

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..... [2]





- (c) When a new worker is added to the master file, the data must be validated. His hourly rate will be 50 Rupees.

Without using a type check, describe **three** other validation checks you would develop to make sure **all** the data entered is sensible.

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8 Below is part of a spreadsheet Jose has created to model his personal finances.

	A	B	
1	\$2,600	Wages/salary	
2			
3	\$120	Utilities	
4	\$100	Satellite/TV	
5	\$80	Phone	
6	\$30	Pet food	
7	\$1,000	Mortgage/rent	
8	\$80	Internet	
9	\$100	Insurance	
10	\$75	Hair/beauty	
11	\$550	Groceries	
12	\$150	Eating out	
13	\$100	Clothing	
14	\$40	Cinema	
15	\$160	Car/travel	
16			
17	\$2,585	Total outgoings	
18			
19	\$15	Balance	

Using **only** the sort feature explain how you would be able to get the following values in the given cells.

(i) \$80 in cell A11 with Internet in cell B11 and \$1,000 in cell A3.

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(ii) \$100 in cell A8 with Clothing in cell B8.

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- 11 Below is an extract from a spreadsheet showing the wages paid in one week to a group of workers. Their wages depend on the type of job they do as well as the number of hours worked. Cells C2 to E4 contain the data which is referred to in the lower part of the spreadsheet.

	A	B	C	D	E	F	G
1				Standard rate per hour			
2			L	Labourer	₹55		
3			Se	Semi-skilled	₹65		
4			Sk	Skilled	₹75		
5							
6	Worker ID	Job Code	Job type	Hours worked this week	Rate per hour paid	Wage paid this week	
7							
8	12478L	L	Labourer	40	₹55	₹2200	
9	13691R	Se	Semi-skilled	38	₹65	₹2470	
10	21463R	Se	Semi-skilled	40	₹65	₹2600	
11	29816M	L	Labourer	36	₹55	₹1980	
12	36479L	Sk	Skilled	34	₹75	₹2550	
13	49786R	Sk	Skilled	40	₹75	₹3000	
14	52376M	Se	Semi-skilled	36	₹65	₹2340	
15	18964L	L	Labourer	35	₹55	₹1925	
16	13578R	L	Labourer	40	₹55	₹2200	
17	38945M	L	Labourer	40	₹55	₹2200	
18	36249M	Se	Semi-skilled	40	₹65	₹2600	
19							

- (a) Write down the formula which should be used in cell C8 in order to display the Job type using the Job Code in the preceding column. The formula should be in a form that can be easily replicated.

= .....

..... [5]

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



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