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INFORMATION TECHNOLOGY

9626/01

Paper 1 Theory

For Examination from 2017

SPECIMEN PAPER

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 or graphs.

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 **16** printed pages.

- 1 (a) Describe the difference between data and information.

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..... [2]

- (b) There are different types of data.

Tick **four** correct statements in the following table.

	✓
True and false are examples of Boolean data	
A field containing the value 253 would be a field containing text data	
245.6 is an integer	
All numbers are stored as decimals	
'13cm' is an example of alphanumeric data	
An integer stored in a field is a form of numeric value	
Currency is a type of numeric data	
A real number is an integer which has already been used in a database	
How many times a student has taken an exam would be stored as a Date/time data type	
A percentage value is usually stored as text as it has a percentage sign	

[4]

- 2 There are many ways of changing data to suit a purpose including coding, encoding and encryption of data. Coding data in a field containing the gender of a person, for example, would involve coding 'male' as 'm' and 'female' as 'f'.

(a) Tick the correct statement regarding the coding of data.

	✓
A disadvantage of coding data is that it makes the data very difficult to read and understand	
An advantage of coding data is that it saves storage space	
A disadvantage of coding data is that it becomes much slower to type in the data	
An advantage of coding data is that codes are never complicated	

[1]

(b) Tick the correct statement regarding the encoding of data.

	✓
Encoding data is a form of validation	
Text and numbers are the only data types that can be encoded	
Converting digital data to analogue data is a form of encoding data	
Encoding is done to deliberately conceal the content of the data	

[1]

(c) Tick the correct statement regarding the encryption of data.

	✓
Encrypting data prevents hackers from intercepting it	
Encryption is the conversion of data into a form that cannot be easily understood by unauthorised users	
The two main types of encryption are known as public key encryption and open encryption	
Decryption is the process of further converting encrypted data into another more complicated encrypted form	

[1]

3 Giving examples, explain what is meant by:

(a) application software

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..... [3]

(b) system software.

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..... [3]

4 Describe the characteristics of a gesture based user interface.

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..... [3]

- 5 Here is a small section of a spreadsheet used to calculate the weekly wages of the workers in a company.

	A	B	C	D	E	F
1	First name	Second name	Hours worked	Hourly rate	Weekly wage (\$)	Full name
2	John	Smith	40	8.50	=C2*D2	
3	Johann	Schmidt	42	9.25	=C3*D3	
4	Felix	Schnell	38	8.75	=C4*D4	
5	Maurice	LaPorte	46	11.50	=C5*D5	
			=SUM(C2:C5)	=MAX(D2:D5)	=AVERAGE(E2:E5)	

- (a) Using examples from the spreadsheet, explain what is meant by a cell reference.

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..... [2]

- (b) This spreadsheet uses formulae and functions. Explain the difference between formulae and functions.

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..... [4]

- (c) The manager of the company wants the full name of the worker printed on the payslip. In order to do this a formula will need to be used in cell F2 combining the first name and the second name separated by a space.

Write down the formula which uses a function to combine this data.

..... [4]

- (d) The manager wants to see immediately if a worker earns more than \$500 per week, without reading through the spreadsheet.

Explain what you would do in cells E2 to E5 to make it easier for her to see this.

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..... [4]

(d) The data in the shop's database is in unnormalised form. Complete the table below as necessary to make the database in first normal form (1NF).

[4]

(e) Give **two** advantages of normalising a database.

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..... [2]

7 A head teacher wishes to use a computer to create a newsletter which will keep parents up to date with events at the school.

(a) Name **two** software types that he could use.

type 1

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type 2

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(b) Compare and contrast the use of these software types.

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..... [6]

8 The internet is used by many individuals in the world today.

(a) There are a number of malware issues associated with using the internet. Other than viruses, describe **three** of these issues.

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..... [6]

