



**SECTION A**

**QUESTION 1**

1.1 Select the **MOST** appropriate answer to each question. Write the letter of your choice next to each question number in the space provided.

1.1.1 Which of the following may be used as a form of biometric input?

- A Braille
- B Touchpad
- C Voice
- D Passwords

1.1.1	
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(1)

1.1.2 A circular reference is an error where a spreadsheet formula refers to ...

- A another cell without using absolute cell referencing.
- B a merged cell in the same spreadsheet.
- C the same cell in which the formula is stored.
- D a cell formatted with incorrect number of decimal places.

1.1.2	
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(1)

1.1.3 The following acronym is a principle that refers to the effect of human error on output:

- A LIFO
- B SOHO
- C GIGO
- D RSI

1.1.3	
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(1)

1.1.4 Multiprocessing is when ...

- A a single computer system uses more than one processor.
- B more than one program runs on a single processor.
- C a program is broken into parts to be executed separately.
- D the processor switches rapidly between applications.

1.1.4	
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(1)

1.1.5 A code in Access that forces data capturers to enter data in a specific format is known as a/an ...

- A input mask.
- B primary key.
- C validation rule.
- D validation text.

1.1.5	
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(1)

1.1.6 Which of the following is an example of a monitor's refresh rate?

- A 10 ms
- B 1920 × 1080
- C 16:9
- D 120 Hz

1.1.6	
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(1)

1.1.7 Which of the following refers to a situation where a web user is tricked into clicking a hidden link?

- A Double clicking
- B Keylogging
- C Click-jacking
- D Hyperlinking

1.1.7	
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(1)

1.1.8 Adware is undesirable because ...

- A it steals personal information.
- B it captures your keystrokes.
- C it interferes with browsing.
- D it tracks your computer usage.

1.1.8	
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(1)

1.1.9 The term generally used to indicate that a print job is placed in a queue.

- A Spooling
- B Waiting
- C Buffering
- D Multitasking

1.1.9	
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(1)

1.1.10 Which of the following data types is the most appropriate for storing a telephone number in a database field?

- A Number
- B Text
- C Yes/No
- D Date

1.1.10	
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(1)

1.2 Choose the word(s) in Column B that **BEST** describe(s) the definition in Column A. Write the letter of your choice next to each question number in the space provided, for example 1.2.0 N.

	Column A	Column B
1.2.1	A data type in a database that can be used to send one to a website.	A. hard copy
1.2.2	Additional information stored in a file or document such as the name of the author.	B. router
1.2.3	A hardware blueprint or format of a document that can be used repeatedly.	C. hyperlink
1.2.4	A central node where all the computers on a network plug in.	D. wizard
1.2.5	An interactive dialogue that helps you to complete a task by following certain steps.	E. metadata
		F. template
		G. report
		H. data
		I. EULA
		J. switch
		K. FAQ
		L. extension
		M. NIC

**WRITE YOUR ANSWER HERE:**

1.2.1		(1)
1.2.2		(1)
1.2.3		(1)
1.2.4		(1)
1.2.5		(1)

MARKER'S USE ONLY:	Total mark Q1	
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**[15]**

**QUESTION 2**

2.1 Choose the **MOST** appropriate term/function (underlined and between brackets) for each statement that follows. Write **ONLY** the term/function of your choice next to the statement number in the space provided.

2.1.1 (File sharing/Grid computing) is a system whereby the resources of different computers are shared and used to solve a single problem.

2.1.1		(1)
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2.1.2 (DPI/MP) is a term generally associated with the quality of an image that is typically used when referring to a printer.

2.1.2		(1)
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2.1.3 A (citation/caption) is a numbered description added to a table, figure or other graphic object.

2.1.3		(1)
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2.1.4 (Plagiarism/Copyright) refers to the legal rights of the user or creator in terms of the use and distribution of his/her own work.

2.1.4		(1)
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2.1.5 (Skimming/Phishing) is the attempt to steal credit/debit card numbers when using a specialised device during card transactions.

2.1.5		(1)
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2.2 Expand the following acronyms.

2.2.1 MMS

\_\_\_\_\_ (1)

2.2.2 HTTP

\_\_\_\_\_ (1)

2.2.3 VPN

\_\_\_\_\_ (1)

2.2.4 2NF

\_\_\_\_\_ (1)

2.2.5 HD

\_\_\_\_\_ (1)

**[10]**

MARKER'S USE ONLY:	Total mark Q2	
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**25 marks**

**SECTION B**


**QUESTION 3 SYSTEM TECHNOLOGIES**

3.1 Complete the tables below by identifying the following images and stating their main function(s).

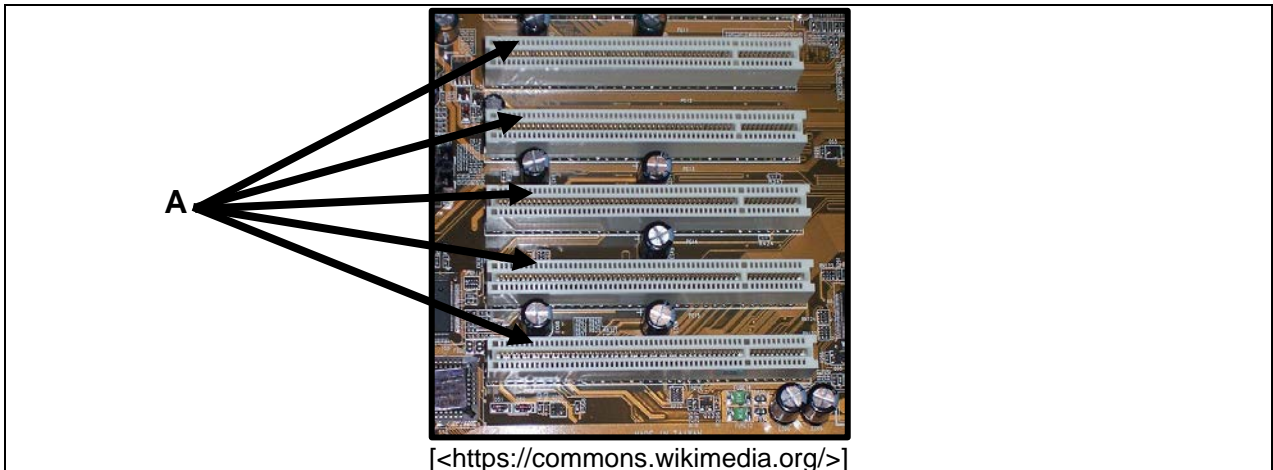
3.1.1

 <p>[&lt;<a href="https://www.etch7.com/hardware-configuration">https://www.etch7.com/hardware-configuration</a>&gt;]</p>	
<b>Name of hardware</b>	(1)
<b>Main function</b>	_____
	_____
	_____
	(1)

3.1.2

 <p>[&lt;<a href="http://www.icons101.com/icon/&gt;">http://www.icons101.com/icon/&gt;</a>]</p>	
<b>Name of app</b>	(1)
<b>Main function</b>	_____
	_____
	_____
	(1)

3.1.3



[<<https://commons.wikimedia.org/>>]

<p><b>Name of hardware labelled A</b></p>	<p>(1)</p>
<p><b>Main function</b></p>	<p>(1)</p>

3.1.4



[<<https://www.amazon.com/>>]

<p><b>Name of hardware</b></p>	<p>(1)</p>
<p><b>Main function</b></p>	<p>(1)</p>

3.2 Many computer systems have an input device and an output device.

3.2.1 State what is meant by an input device and give an example.

Input device:

---



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Example:

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(2)

3.2.2 State what is meant by an output device and give an example.

Output device:

---



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Example:

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(2)

3.3 A friend purchases a printer to print out her homework. To connect the printer to her computer she needs to make use of USB.

3.3.1 Explain what is meant by *USB*. (Do not just expand the acronym).

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(2)

3.3.2 Her printer uses powdered toner rather than liquid ink. State the type of printer she has purchased.

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(1)

3.3.3 Give **TWO** benefits of using this type of printer.

Benefit 1:

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(1)

Benefit 2:

---

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(1)

3.4 List **TWO** advantages of using HDMI technology instead of VGA technology.

Advantage 1:

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(1)

Advantage 2:

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(1)

3.5 Where would you commonly find new applications for a mobile device?

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(1)

3.6 List **TWO** potential disadvantages of using online applications.

Disadvantage 1:

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(1)

Disadvantage 2:

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(1)

3.7 Why would you recommend the installation of trial software?

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(1)

3.8 When installing new software, it is important to remember the compatibility between versions of software. Define the term *backwards compatible*.

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(1)  
**[24]**

MARKER'S USE ONLY:	Total mark Q3	
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**QUESTION 4 INTERNET AND NETWORK TECHNOLOGIES**

4.1 A lot of people make use of the Internet at home to access information, stream videos and run businesses.

4.1.1 Give the main reason for using Wi-Fi at home rather than ADSL.

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(1)

4.1.2 Give **ONE** potential danger of using Wi-Fi.

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(1)

4.2 Name **ONE** device or hardware component in addition to the computers themselves that you might need to set up Wi-Fi at home.

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(1)

4.3 Explain the general function of a firewall.

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(2)

4.4 Learners regularly use the Internet as a research tool for their school projects.

Identify and describe **TWO** risks to their computers when they use the Internet for research.

Risk 1:

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Description:

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Risk 2:

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Description:

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(4)

4.5 A learner sees the message 'Set your browser to accept cookies'.

List **TWO** reasons why some websites request a user to accept cookies when browsing their websites.

Reason 1:

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(1)

Reason 2:

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(1)

4.6 Antamedia Internet Café is making use of a network to run their business.

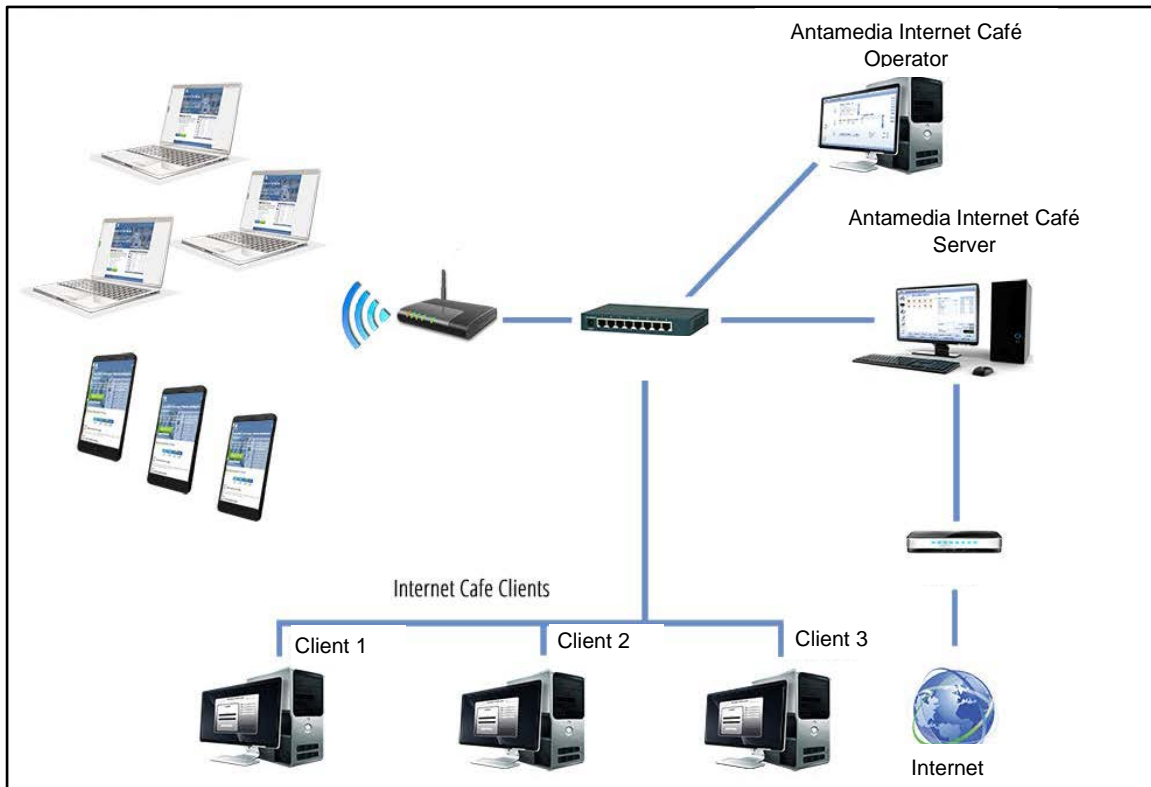


Figure 1: [<https://go.antamedia.com/help/>]

4.6.1 Identify the network topology illustrated in Figure 1.

(1)

4.6.2 Give **TWO** advantages of this topology.

Advantage 1:

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Advantage 2:

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(2)

4.6.3 Give **TWO** advantages of a file server in a network.

Advantage 1:

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Advantage 2:

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(2)  
**[16]**

MARKER'S USE ONLY:	Total mark Q4	
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**QUESTION 5**

**INFORMATION MANAGEMENT**

# Smart High School Newspaper



**Figure 2:** [<https://articles.bplans.com/successful-photography-business/>]

The Public Relations Officer (PRO) committee at your school is responsible for the yearbook of the school. During the year they capture all the memorable events and put them together to celebrate the success of the school year.

5.1 The PRO committee members need to make use of surveys and interviews, and they need to do some research using the Internet.

5.1.1 Explain the difference between a *survey* and an *interview*?

Survey:

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(1)

Interview:

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(1)

5.1.2 Give **TWO** reasons why the committee should always check the reliability and accuracy of information found on the Internet.

Reason 1:

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Reason 2:

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(2)

5.2 The committee decided to use a collage of photos from the matric dance as part of the yearbook.

Using the headings given below, explain the steps that will be used to create such a collage.

**INPUT:**

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(1)

**PROCESSING:**

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(1)

**OUTPUT:**

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(1)

5.3 The editor is complaining that he cannot work productively on his computer and that it executes instructions slowly.

Suggest **TWO** solutions to increase the storage on his computer's hard drive, other than upgrading, creating a backup or using cloud storage.

Solution 1:

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(1)

Solution 2:

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(1)

5.4 It is important to keep a backup of articles for the newspaper in case something happens to the original document, excluding cloud storage.

What kind of storage device or option should be used when backing up files?

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(1)  
**[10]**

MARKER'S USE ONLY:	Total mark Q5	
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**QUESTION 6      SOCIAL IMPLICATIONS**

6.1 In South Africa, each person has the right to privacy that is detailed in the constitution.

'The geotagging function of modern cameras is useful for holiday makers and tourists.'

6.1.1 Referring to the statement above, define the term *geotagging*.

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(2)

6.1.2 Why do some places discourage visitors from placing geotagged photographs on social media?

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(2)

6.2 Data misuse is when data is used for a purpose other than the original purpose it was collected or intended for.

Define the *right to access* and the Protection of Personal Information Act (*POPIA*)

Right to access:

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(1)

*POPIA*:

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(1)

6.3 The use of computers has a dark side as well. Discuss the following types of computer crimes that can affect the user in a negative way.

Theft of time:

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(2)

Bandwidth theft:

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(2)

6.4 Green computing is supposed to be every user's concern.

6.4.1 What is meant by the term *green computing*?

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(1)

6.4.2 Give **TWO** reasons why unwanted or disused ICT devices should NOT be thrown into rubbish bins.

Reason 1:

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(1)

Reason 2:

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(1)  
**[13]**

MARKER'S USE ONLY:	Total mark Q6	
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**QUESTION 7 SOLUTION DEVELOPMENT**

7.1 Give **ONE** advantage and **ONE** disadvantage of saving a word-processing document as a file with a *.txt* extension before distributing it.

Advantage:

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(1)

Disadvantage:

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(1)

7.2 Explain why, when performing a Find and Replace operation in Word, it is sometimes necessary to use the 'Find whole words only' option.

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(1)

7.3 The current date was added as a field to a word-processing document, with the date format: MMM DD.

How will the date be displayed if the document is opened on Sunday 04 June 2023?

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(1)

7.4 Give **ONE** feature of a database table besides creating a query based on a table that can be used to display only certain records.

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(1)

7.5 The Access query below is supposed to display the names of the learners in classes 11A and 11B that collected at least 50 cans each. The number of cans collected by these learners must also be displayed.

Field:	Name	Class	Cans
Table:	Recycling	Recycling	Recycling
Sort:			
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:		"11A" And "11B"	"at least 50"
or:			

Figure 3

Give **THREE** reasons why this query will not produce the desired (correct) results by indicating in each case how the design of the query must be changed to obtain the correct results.

Reason 1:

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(1)

Reason 2:

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(1)

Reason 3:

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(1)

7.6 Examine the following screenshot of a spreadsheet.

	A	B	C	D	E
1	Name	Surname	Type	Years of Se	Bonus Percentage
2	Carmela	Cookey	Permanent	35	=IF(AND(C2="Permanent",D2>9),"50%","25%")
3	Junita	Brideau	Temporary	1	
4	Claribel	Varriano	Permanent	10	
5	Benton	Skursky	Permanent	25	
6	Barrett	Toyama	Permanent	2	
7	Helga	Fredicks	Temporary	12	

Figure 4

7.6.1 Examine the function in cell E2.

Explain in your own words, the **TWO** criteria for being awarded a bonus of 50%, according to this function.

Do NOT quote from or refer directly to the function in your answer.

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(2)

7.6.2 What would the function display in cell E2?

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(1)

7.6.3 In cell D1 the heading should be Years of Service. Which feature in Excel can you use to display the heading in full except for increasing the column width?

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(1)

**[12]**

**75 marks**

MARKER'S USE ONLY:	Total mark Q7	
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**SECTION C**

**QUESTION 8 INTEGRATED SCENARIO**

Suzie decided that after she has successfully completed her schooling career, she wants to study to complete a degree. She was accepted at a university that is far away from home. Her parents want her to settle in quickly and for her to have access to the necessary technology – not only to successfully complete her studies – but also to keep in touch with her family. Her family asked your advice to help them to buy the right computing device.

The family did some research and found these three advertisements as options to buy for Suzie.

Advert A	Advert B	Advert C
<p><b>Apple iPad 8th Gen Wi-Fi 32GB Space Grey</b></p>	<p><b>Lenovo Notebook IdeaPad 14" FHD Intel</b></p>	<p><b>ASUS BR1100FKA Celeron N450</b></p>
		
<ul style="list-style-type: none"> <li>• 10.2 inch Retina display</li> <li>• A12 Bionic chip with Neural Engine</li> <li>• 8MP back camera</li> <li>• 1080p HD video recording at 30 fps</li> <li>• Supports Apple Pencil 1st gen</li> <li>• Lightning connector</li> <li>• Touch ID for secure authentication</li> <li>• 1 Year Warranty</li> </ul>	<ul style="list-style-type: none"> <li>• Celeron</li> <li>• 4GB RAM</li> <li>• 128GB SSD</li> <li>• 14" FHD (1920 × 1080) IPS, Anti-Glare</li> <li>• Windows 10 Home</li> <li>• Bluetooth® 4.2</li> <li>• 2 × USB 3.1 Gen 14</li> <li>• 1 × MicroSD card reader</li> <li>• 1 × HDMI 1.4b</li> <li>• 1 × Headphone / mic Combo</li> <li>• DC power input (round)</li> <li>• Preloaded Microsoft Office 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Upgradeable to Windows 11 Home</li> <li>• 11.6-inch HD Multi-Touch Display</li> <li>• 4GB RAM and 128GB eMMC Storage</li> <li>• Intel Celeron N4500 Processor</li> <li>• Wi-Fi 5, Bluetooth 5, 4G LTE</li> <li>• Private School Approved</li> <li>• Tablet Mode with Built-in Stylus</li> <li>• Ultimate Military Grade Rugged Design</li> </ul>
<p style="text-align: center;"><b>R5 999</b></p> <p>[&lt;<a href="https://www.hificorp.co.za/">https://www.hificorp.co.za/</a>&gt;]</p>	<p style="text-align: center;"><b>R6 749</b></p> <p>[&lt;<a href="https://www.lenovo.com/za/">https://www.lenovo.com/za/</a>&gt;]</p>	<p style="text-align: center;"><b>R7 499</b></p> <p>[&lt;<a href="https://www.incredible.co.za/asus-br1100fka-celeron-">https://www.incredible.co.za/asus-br1100fka-celeron-</a>&gt;]</p>

8.1 The family needs assistance to understand the specifications of the different devices and asks you the following questions.

8.1.1 What type of memory does the 4GB in Advert B and Advert C represent?

\_\_\_\_\_ (1)

8.1.2 One of the specifications for Advert A is a 10.2 inch Retina display. What does the term *Retina display* mean?

\_\_\_\_\_  
\_\_\_\_\_ (1)

8.1.3 Advertisement C states an 11.6-inch HD Multi-Touch Display. What does the term *multi-touch* refer to?

\_\_\_\_\_ (1)

8.1.4 In Advert B it is listed that the device comes with a 14" FHD (1920 × 1080) IPS, Anti-Glare screen. Describe the use of IPS.

\_\_\_\_\_ (1)

8.1.5 Windows 10 is listed as one of the operating systems in the adverts. Give **THREE** functions of an operating system.

Function 1:

\_\_\_\_\_  
\_\_\_\_\_ (1)

Function 2:

\_\_\_\_\_  
\_\_\_\_\_ (1)

Function 3:

\_\_\_\_\_  
\_\_\_\_\_ (1)

8.1.6 Is the operating system defined as application software or system software?

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(1)

8.1.7 The Apple iPad listed in Advert A comes with an iOS operating system. It is classified as closed-source software. Explain what is meant by *closed-source software*.

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(1)

8.1.8 Give **ONE** example of FOSS.

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(1)

8.2 When used in a lecture, tablets have both advantages and disadvantages.

8.2.1 Give **ONE** task that would be BEST suited for tablet use.

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(1)

8.2.2 Give **TWO** tasks that would NOT be suitable for tablet use.

Task 1:

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(1)

Task 2:

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(1)

8.3 Textbooks are expensive, and Suzie decides to rather use e-books. Explain **TWO** advantages of e-books compared to printed versions of books. (NOTE: Cost factors should NOT form part of your answer.)

Advantage 1:

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(1)

Advantage 2:

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(1)

8.4 Suzie will use social media to stay in touch with her family.

8.4.1 Give **TWO** dangers Suzie must be aware of that could make her a victim of crime on social media, besides being affected with malware.

Danger 1:

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(1)

Danger 2:

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(1)

8.4.2 Explain why it would be a better idea to use WhatsApp to stay in touch with her family.

Reason 1:

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(1)

Reason 2:

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---

(1)

8.5 Suzie will spend many hours in front of her computer system doing research and completing assignments.

8.5.1 Name **TWO** types of injuries she might sustain from prolonged computer use.

Type of injury 1:

\_\_\_\_\_ (1)

Type of injury 2:

\_\_\_\_\_ (1)

8.5.2 For each of the injuries named in 8.5.1, give a way of preventing such an injury.

Preventing injury 1:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Preventing injury 2:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)  
**[23]**

MARKER'S USE ONLY:	Total mark Q8	
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**QUESTION 9 INTEGRATED SCENARIO (continued)**

9.1 At university students are required to do a lot of research.

9.1.1 While using the Internet to do some research a person receives too much new information to process efficiently or could be overwhelmed with the volume of information they will encounter. Give the general term used for this problem.

\_\_\_\_\_ (1)

9.1.2 List **TWO** ways in which this problem can be avoided.

Solution 1:

\_\_\_\_\_  
\_\_\_\_\_ (1)

Solution 2:

\_\_\_\_\_  
\_\_\_\_\_ (1)

9.2 Suzie will be able to add notes on her device. She will have to make regular backups of these notes in case her device is lost or stolen.

9.2.1 Give **TWO** reasons why backups might NOT be made on a regular basis.

Reason 1:

\_\_\_\_\_  
\_\_\_\_\_ (1)

Reason 2:

\_\_\_\_\_  
\_\_\_\_\_ (1)

9.2.2 List **TWO** advantages of using cloud storage for backups.

Advantage 1:

\_\_\_\_\_  
\_\_\_\_\_ (1)

Advantage 2:

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(1)

9.3 Software that is used on devices can have a bug that prevents it from performing as it should.

9.3.1 Define the term *software bug* in this context and suggest a solution to fix the bug.

Bug:

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(1)

Solution:

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(1)

9.3.2 Explain the difference between a *patch* and a *service pack* in terms of fixing software bugs.

Patch:

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(1)

Service pack:

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(1)

9.3.3 Many programs ask you to give them permission to automatically download and install updates.

List **TWO** potential disadvantages of this approach.

Disadvantage 1:

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(1)

Disadvantage 2:

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(1)

9.4 The university gave the students some information regarding their campus. One of the diagrams in the pamphlet shows how some of the faculties at the campus are connected. Faculty 1 (LAN 1) is connected to the university administration block (LAN 2) as shown in Figure 5.

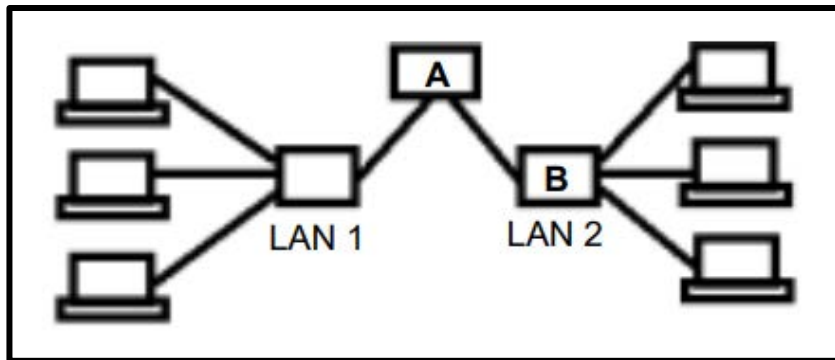


Figure 5

9.4.1 Identify device A that connects the two LANs.

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(1)

9.4.2 Identify device B on LAN 2.

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(1)

9.4.3 List **TWO** ways in which access to the LAN 1 network can be controlled.

Solution 1:

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(1)

Solution 2:

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(1)

9.5 Suzie's parents are concerned about her safety at the university. They did a bit of research and collected data. They entered the data into Excel and created the graph shown below.

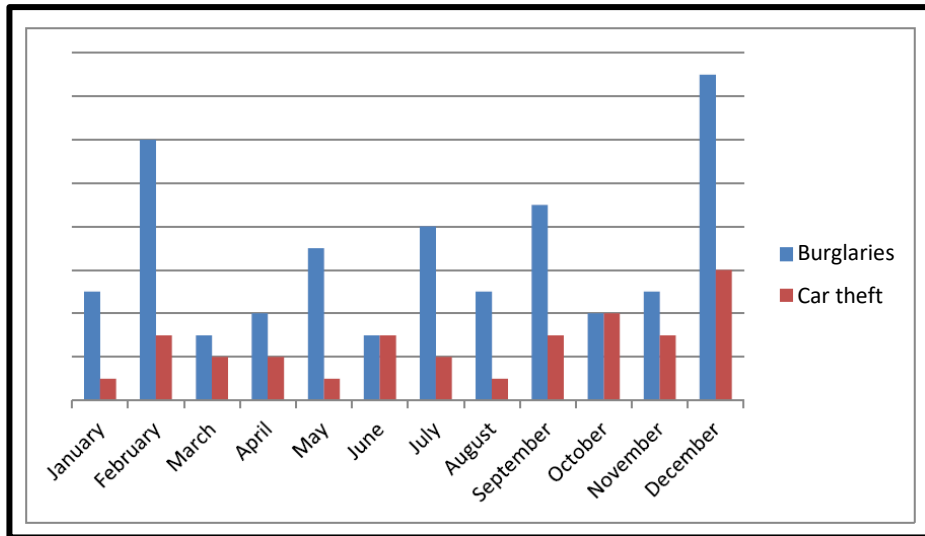


Figure 6

9.5.1 Suggest **THREE** ways in which they can make the graph easier to understand.

Improvement 1:

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(1)

Improvement 2:

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(1)

Improvement 3:

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(1)

9.5.2 Why would a pie graph not be suitable to represent this information?

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(1)

9.5.3 They would like to share this information with other parents and to use the graph in a report.

How can they add the details from the spreadsheet to the report and ensure that any changes to the spreadsheet are automatically changed in the report?

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(2)

9.5.4 How can they make sure that users cannot select or change the cells that contain functions and formulas?

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(2)

9.5.5 The residence where Suzie will be staying will order T-shirts for all the students. They compiled the following spreadsheet to keep track of the orders.

	A	B	C	D	E	F	G
1	Students	Total	S	M	L	XL	
2	1st year	154	41	53	40	20	#NAME?
3	2nd year	161	47	68	33	13	#NAME?
4	3rd year	95	23	35	21	16	#NAME?
5	4th year	70	22	28	15	5	#NAME?

Figure 7

The functions in column G should display the word 'ERROR' only if the sum of the orders in columns C, D, E and F is not equal to the total in column B. The following IF function was used in cell G2 and copied to the cells below:

=IF(B2=TOTAL(B2:F2),"", "ERROR")

Identify the **TWO** errors in the function.

Error 1:

---

(1)

Error 2:

---

(1)  
[27]

MARKER'S USE ONLY:	Total mark Q9	
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**50 marks**

**Total: 150 marks**

