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TOTAL MARKS

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NATIONAL SENIOR CERTIFICATE EXAMINATION
MAY 2024

COMPUTER APPLICATIONS TECHNOLOGY: PAPER II

EXAMINATION NUMBER

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Time: 3 hours 150 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 34 pages. Please check that your question paper is complete.
2. The paper is divided into Section A (25 marks), Section B (75 marks) and Section C (50 marks).
3. **Answer ALL the questions on the question paper and hand it in at the end of the examination. Remember to write your examination number in the space provided.**
4. Non-programmable calculators may be used.
5. It is in your own interest to write legibly and to present your work neatly.
6. Read the questions carefully. Take note of the verbs of the questions, such as explain, name, select, discuss, and identify; and answer accordingly.
7. Give your answers in general terms e.g., use 'word processor' rather than 'Microsoft Word' or 'WordPerfect'. Use brand names only when asked.
8. In general, a mark is allocated per fact. Therefore, a two-mark question would require two facts, and so on. One-word answers will not necessarily give you the mark. Write in full sentences.
9. **DO NOT USE CORRECTION FLUID.**
10. Two additional pages (page 33 and 34) are included at the end of the paper. If you run out of space for an answer, use these pages. Clearly indicate the question number of your answer should you use this extra space.

FOR OFFICIAL USE ONLY:

MARKER TO ENTER MARKS BELOW									
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	TOTAL
12	13	25	14	10	14	12	24	26	/150
MARKER/MODERATOR TO INITIAL BELOW									

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 The overall design of an entire document including colours, fonts and effects, is known as ...

- A a style.
- B a template.
- C a theme.
- D auto text.

1.1.1	
-------	--

(1)

1.1.2 The catch phrase '*It's criminal if it's not original!*' describes ...

- A theft of intellectual property.
- B hacking into a computer.
- C being guilty of software piracy.
- D using text encryption.

1.1.2	
-------	--

(1)

1.1.3 A file ... specifies the unique location of a file or folder in a file system.

- A name
- B path
- C attribute
- D extension

1.1.3	
-------	--

(1)

1.1.4 A touchscreen is the most effective input device when a user is required to ...

- A choose between limited options.
- B capture large amounts of text.
- C select from a long list of options.
- D enter a large series of numbers.

1.1.4	
-------	--

(1)

MARKERS' USE ONLY

1.1.5 Which one of the following calculated fields will determine value-added tax of 15% in a database query correctly?

- A VAT:[Price]*0.15
- B VAT=(!Price)*0.15
- C VAT=['Price']*0.15
- D VAT:(Price)*0.15

1.1.5	
-------	--

(1)

1.1.6 Which ONE of the following devices would be used to provide an emergency supply of electricity in the case of a power failure?

- A PSU
- B SPD
- C UPS
- D BJT

1.1.6	
-------	--

(1)

1.1.7 A reason why a webcam would NOT be suitable to take pictures or record a prestigious event, such as a prize-giving.

- A High video quality
- B High service costs
- C Inadequate storage
- D Low video quality

1.1.7	
-------	--

(1)

[7]

MARKERS' USE ONLY

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

1.2.1 (PIC/JPG) is a commonly used file extension for picture files.

1.2.1		(1)
-------	--	-----

1.2.2 (Blogs/RSS feeds) are websites that contain posts in the form of a diary.

1.2.2		(1)
-------	--	-----

1.2.3 (Texts-to-voice/Speech to text) is the same as voice recognition.

1.2.3		(1)
-------	--	-----

1.2.4 An e-mail program may reject an attachment based on the (size/date) of the file.

1.2.4		(1)
-------	--	-----

1.2.5 =SUMIF(A8:A30; 10; C8:C30)

In the given formula, the range (A8:A30/C8:C30) represent the range that will be added up.

1.2.5		(1)
-------	--	-----

[5]

MARKER'S USE ONLY:	Total mark Q1	
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QUESTION 2

2.1 Choose the term/concept in Column B that **BEST** match(es) the description in Column A. Write the letter of your choice next to each question number in the space provided, for example 2.1.9 Q.

	Column A	Column B
2.1.1	It includes utility programs/software pre-installed onto your computer to help maintain the system	A. Grid computing
2.1.2	A collection of independent networked computers that act together to perform very large tasks	B. System tools
2.1.3	The setting on the camera for measuring the sensitivity to light	C. GUI
2.1.4	A communication technology that requires a pairing process	D. Table view
2.1.5	Software that allows a computer to communicate with hardware or devices	E. Administrative tools
2.1.6	The window in Access that displays the content of a table in rows and columns	F. Graphics card
2.1.7	A hardware component that determines the quality of the display on the screen	G. Spyware
2.1.8	A type of malicious program that gathers information about the user without the user's knowledge	H. Bluetooth
		I. Peer-to-Peer
		J. Datasheet view
		K. Aspect ratio
		L. Sharing
		M. Phishing
		N. Driver
		O. ISO
		P. VoIP

2.1.1	
2.1.2	
2.1.3	
2.1.4	
2.1.5	
2.1.6	
2.1.7	
2.1.8	

(1)
(1)
(1)
(1)
(1)
(1)
(1)
(1)

2.2 You are given the following list of acronyms. Choose the **MOST** appropriate acronym for each question that follows. Write **ONLY** the acronym of your choice next to each statement number in the space provided.

RSI	AUP	HTTPS	ROM
POS	PDF	DIMM	RAM
SIM	EULA	HDMI	VGA

2.2.1 ... port that carries both audio and visual signals.

2.2.1	
-------	--

(1)

2.2.2 A term used to describe the pain caused by repeated movement of parts of the body.

2.2.2	
-------	--

(1)

2.2.3 ...uses encryption to secure communication over a computer network.

2.2.3	
-------	--

(1)

2.2.4 A set of rules applied by the administrator of a computer network.

2.2.4	
-------	--

(1)

2.2.5 ... is a type of memory that is useful for storing software that is rarely changed.

2.2.5	
-------	--

(1)

[13]

MARKER'S USE ONLY:	Total mark Q2	
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25 marks

SECTION B

QUESTION 3 SYSTEM TECHNOLOGIES

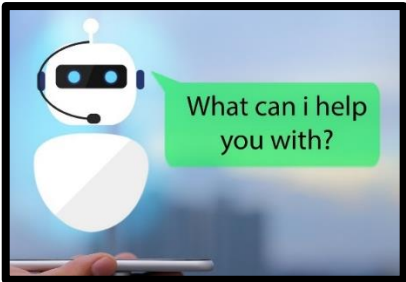
3.1 Complete the tables below by identifying the following images and stating their main function(s).

3.1.1

	
[< https://www.blitzwolfeurope.com />]	
Name of hardware	_____ (1)
Main function	_____

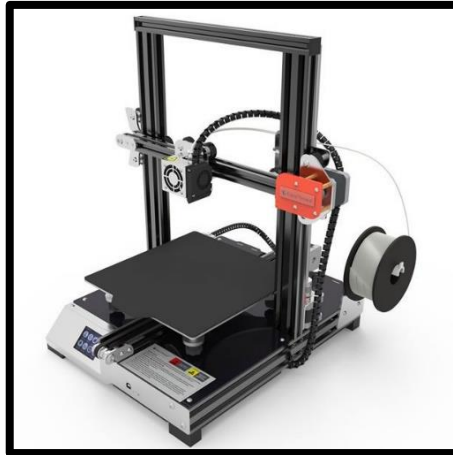
	_____ (1)

3.1.2

	
[< ">https://www.g2.com/articles/>]	
Name of software	_____ (1)
Main function	_____

	_____ (1)

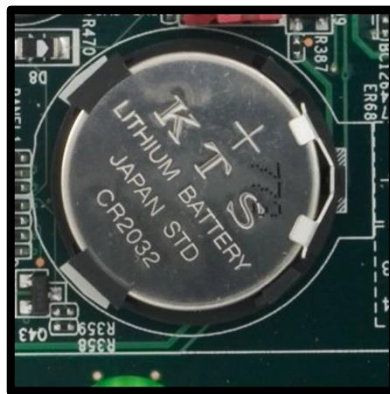
3.1.3



[<<https://www.computermania.co.za/>>]

Name of hardware		(1)
Main function	<hr/> <hr/> <hr/>	(1)

3.1.4



[<<https://turbofuture.com/computers/>>]

Name of hardware		(1)
Main function	<hr/> <hr/> <hr/>	(1)

3.2 You want to upgrade your current computer but buying a computer can be expensive, so it is important to make the right decisions.

3.2.1 Name the **TWO** hardware components that are the most important for the effective working of a computer in general, apart from the storage devices.

(2)

3.2.2 SSDs are slowly becoming more widely recognised as an alternative to the HDD (Hard Disk Drive) in certain situations. Give **TWO** reasons why SSDs have NOT replaced HDDs as a computer's main storage device, even though SSDs have many advantages.

Reason 1:

(1)

Reason 2:

(1)

3.3 You are considering buying a smartphone instead of a computer as you heard that a smartphone is like a computer in your pocket.

Give **TWO** input devices that are found in a smartphone, but not in a typical desktop computer.

(2)

3.4 State **TWO** advantages of using a micro-USB port instead of the standard USB port on a smartphone.

Advantage 1:

(1)

Advantage 2:

(1)

3.5 If you decide to purchase a desktop computer, provide **TWO** reasons why selecting an entry-level processor would be a suitable decision for your personal computing needs.

Reason 1:

(1)

Reason 2:

(1)

3.6 In one of the advertisements there was a LED monitor advertised with the following specifications:

23' 16:9 Wide Screen

3.6.1 Give the unit in which the 23' specification is measured.

(1)

3.6.2 Explain how the size of a monitor is measured.

(1)

3.7 Apart from the hardware components in a computer, the operating system also plays an important role. Operating systems also provide other useful programs, collectively known as 'utilities'.

3.7.1 Briefly explain what a scheduler program is used for.

(1)

3.7.2 Give any **TWO** criteria that a file manager like Windows Explorer can use to search for a file, besides the name of the file.

(2)

3.7.3 Give the shortcut key combination that can be used to open the Task Manager, and state what this utility is most often used for.

Shortcut key:

(1)

What it is used for:

(1)
[25]

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

Study the image of a network below and answer the following questions:

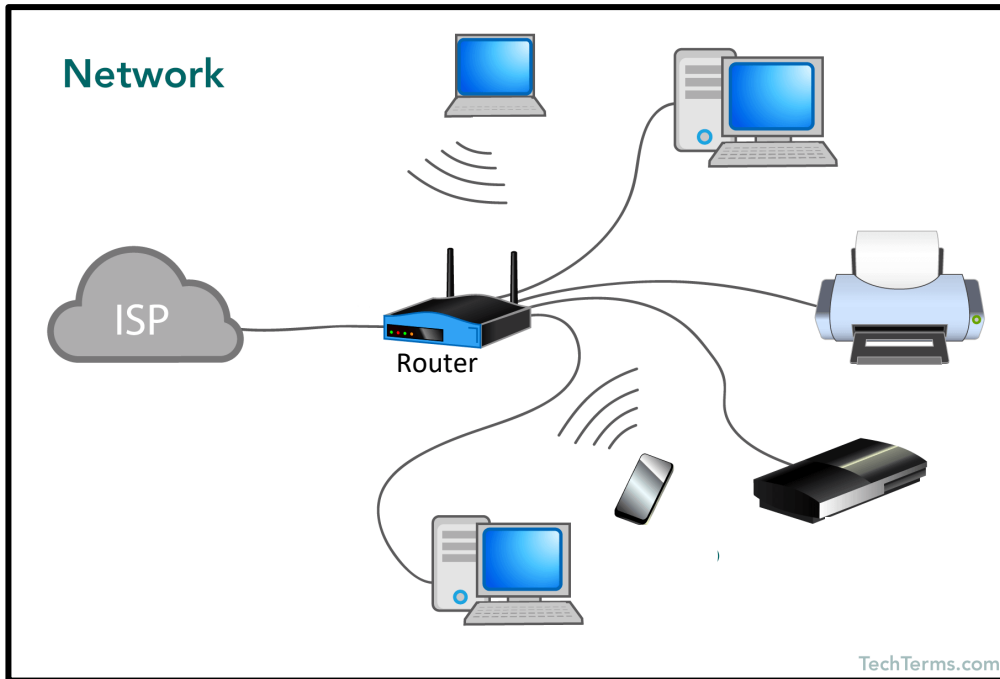


Figure 1

[<<https://techterms.com/definition/network>>]

4.1 An Internet Service Provider (ISP) connects us to the internet which we can use to access the World Wide Web (WWW). What is the WWW?

(1)

4.2 State **TWO** factors that should be carefully considered when choosing an ISP, other than cost.

Factor 1:

(1)

Factor 2:

(1)

MARKERS' USE ONLY

4.3 State **TWO** functions of a router as used in this home network.

Function 1:

(1)

Function 2:

(1)

4.4 The router indicated on the picture has only four network cable ports.

State **TWO** ways to connect more than four devices to this router.

Solution 1:

(1)

Solution 2:

(1)

4.5 What is the main difference between a client computer (workstation) and a network server?

(2)

4.6 Study the internet connection package advertised below and answer the questions that follow.

50GB Data per month
Shaped

4.6.1 Would you describe the package indicated above, as 'capped' or 'uncapped'? (Indicate your choice by ticking one of the options below.)

Capped Uncapped

(1)

Motivate your answer:

(1)

4.6.2 Give the common term used when an Internet Service Provider slows down your internet speed when you download huge amounts of data.

(1)

4.6.3 Give **TWO** factors (besides the one in QUESTION 4.6.2) that can influence internet speed.

Factor 1:

(1)

Factor 2:

(1)

[14]

MARKER'S USE ONLY:	Total mark Q4	
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QUESTION 5 INFORMATION MANAGEMENT

MARKERS' USE ONLY



[<<https://www.sharkclean.com/vacuums/robot-vacuums/>>]

Figure 2

When Thomas moved into his own apartment, he soon realised that it is very time-consuming to vacuum the apartment. A friend introduced him to having a robot vacuum cleaner. This sounds like a great idea, and he started to investigate the possibility of purchasing a robot vacuum cleaner.

5.1 Thomas typed the search phrase robot vacuum cleaner into Google and got 38 300 000 'hits'.

Briefly explain what a 'hit' is in this context by referring to how a search engine functions.

(2)

5.2 When Thomas entered the same search phrase between quotation marks ('robot vacuum cleaner'), the number of hits was reduced to 5 870 000.

Explain why searching for the same search phrase in quotation marks reduced the number of hits.

(2)

5.3 Give **ONE** other way to produce fewer, but more relevant results for a web search in general.

(1)

MARKERS' USE ONLY

5.4 In order to program the vacuum cleaner, Thomas needs to download the Sharkclean® App. Using the headings given below explain the type of programming he would need to do to ensure that the vacuum cleaner functions well so that there is a positive result.

Input:

(1)

Processing:

(1)

Output:

(1)

5.5 On the customer database of the Sharkclean® company, which information about a customer will be suitable for a primary key?

(1)

5.6 As we live in the Information Era, we are bombarded with a lot of information. Give **ONE** reason why Thomas should verify the quality of information before ordering the product, other than the danger of it being fake news?

(1)
[10]

MARKER'S USE ONLY:	Total mark Q5	
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6.3 Online banking is increasing in popularity.

Online banking can be a risk as it can raise several security issues. One security measure that is available is online authentication. Explain the difference between single-step authentication and multi-step authentication by providing an example of each.

Single-step authentication:

(1)

Multi-step authentication:

(1)

6.4 Another type of crime is card skimming. Explain how card skimmers work.

(2)

6.5 Social Engineering can be defined as an act to manipulate people to gain personal information to commit computer crimes. Briefly explain the following two examples of Social Engineering:

Shoulder Surfing:

(1)

Trojan Horse:

(1)
[14]

MARKER'S USE ONLY:	Total mark Q6	
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MARKERS'
USE ONLY

QUESTION 7 SOLUTION DEVELOPMENT

7.1 In HTML coding explain what an attribute is and give one example of an attribute.

Attribute:

(2)

Example:

(1)

7.2 Draw a diagram to show what will be displayed in a web browser when this HTML code is run:

```

<table border = "1">
  <tr>
    <td colspan = "3" align = "center" >Heading 1</td>
  </tr>
  <tr >
    <td rowspan = "3"> Heading 2 </td>
    <td colspan = "2">Items</td>
  </tr>
  <tr>
    <td>Data 1</td>
    <td>Data 2</td>
  </tr>
  <tr>
    <td>Data 3</td>
    <td>Data 4</td>
  </td>
</table>
    
```

Figure 3

(4)

7.3 The details of client orders appear in the Orders worksheet, and the stock codes and descriptions appear in a table in the Codes worksheet, in the same spreadsheet, as shown below.

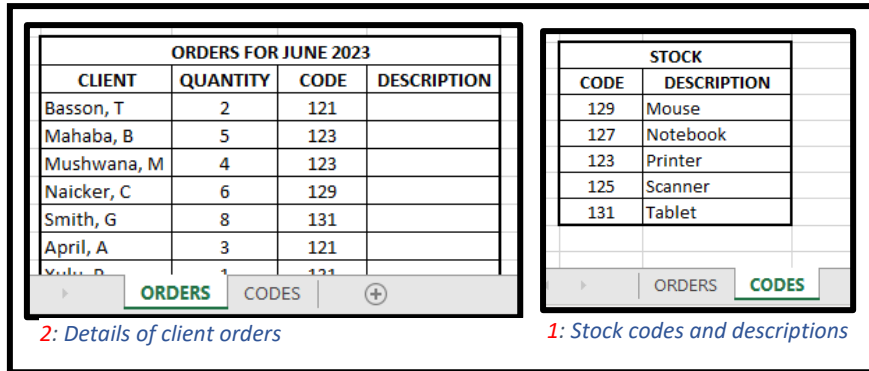


Figure 4

7.3.1 Which spreadsheet function would you use in the Orders worksheet to display a product description for every code?

_____ (1)

7.3.2 How can you ensure that the function will work correctly when you copy it down for all the clients in the Orders worksheet?

_____ (1)

7.3.3 What change needs to be made to the Stock table in the Codes worksheet to ensure that the function will not return an error message?

 _____ (1)

7.4 Your friend came across the following term: WYSIWYG

Briefly explain to him what this term means.

 _____ (2)
[12]

MARKER'S USE ONLY:	Total mark Q7	
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75 marks

MARKERS' USE ONLY

SECTION C

QUESTION 8 INTEGRATED SCENARIO

MARKERS' USE ONLY



[<<https://geopard.tech/blog/importance-of-drone-technology-in-agriculture/>>]

Figure 5

Tshepo studied Agriculture because he will inherit the farm one day and he wants to help his father to make a success thereof. He came across the following article:

'It's very difficult for you to check out any sector of the economy without noticing the use of drones. In the agricultural sector, drones are becoming more popular. They are used for a variety of tasks. Drones of various types are being examined to see which has the greatest potential in gardening, agriculture, and farming'

[<<https://geopard.tech/blog/importance-of-drone-technology-in-agriculture/>>]

As many businesses are making use of ICT (Information Communication Technology) Tshepo plans to make some changes in the daily running of the farm by using ICT.

8.1 Tshepo wants to explain the value of ICT in the workplace, and how it can improve the daily running of the farm to his father.

Give **TWO** general advantages of using computers, apart from their usefulness in communication.

Advantage 1:

(1)

Advantage 2:

(1)

8.2 Tshepo's father is not sure how the use of drones in the agriculture field will be of any help to the farm.

8.2.1 Briefly explain what a drone is and how it works.

(2)

8.2.2 Keeping the scenario in mind, name **TWO** advantages of using a drone.

Advantage 1:

(1)

Advantage 2:

(1)

8.3 To speed up the use of technology on the farm Tshepo decided to invest in a laptop. Tshepo's father wants to know why he can't just buy a desktop instead.

Apart from saving costs, discuss **TWO** reasons why Tshepo would prefer a laptop instead of a desktop computer in this context.

Suggestion 1:

(1)

Suggestion 2:

(1)

8.4 Tshepo found the following advertisement (as displayed in Figure 6) about a laptop that might be an option to buy for the farm:



Lenovo ThinkPad T410 – Intel i5 Laptop + Windows 10 Pro

Intel Core i5-520M 1st Generation – 2.4GHz
 (3M Cache, 2.40 GHz)
 Dual-Core with Hyper-Threading (2 Core/4 Threads)
 Intel Turbo Boost Technology 1.0
 4GB DDR3 memory
 250GB SATA Harddrive
 Intel HD Graphics
 14.1" LED display
 2 Megapixel Webcam
 4 × USB 2.0 ports
 1 × eSATA/USB port
 1 × VGA Port
 1 × Display Port
 5 in 1 MMC Reader
 DVD-ROM
 Combo Audio Jack
 Gigabit Ethernet LAN Port
 Wi-Fi
 Windows 10 Professional

[<<https://www.takealot.com/lenovo-thinkpad-t410-intel-i5-windows-10-laptop>>]

Figure 6

8.4.1 Name the type of memory that 4GB DDR3 memory refers to in the advert.

_____ (1)

8.4.2 Tshepo is concerned regarding the 4GB DDR3 memory. Suggest **TWO** reasons why more memory should be installed.

Reason 1:

 _____ (1)

Reason 2:

 _____ (1)

MARKERS' USE ONLY

8.5 In the advert there is reference made to the eSATA port. Tshepo is not sure what the eSATA port refers to.

Explain what an eSATA port is used for.

(1)

8.6 Tshepo is considering the use of a barcode ID card for each of the employees on the farm. This will assist him when the employees scan the ID card when they report for work and when they leave.

8.6.1 State **TWO** advantages of scanning barcodes as opposed to manually writing information down.

Advantage 1:

(1)

Advantage 2:

(1)

8.6.2 Suggest a device that can be used to scan barcodes, other than barcode scanners.

(1)

8.6.3 Give the term used to describe data that can be collected from the employees to uniquely identify them based on their physical features.

(1)

MARKERS' USE ONLY

8.7 Which communication technology is most likely to be used to connect to the internet on the farm? Motivate your answer.

Communication technology:

_____ (1)

Motivation:

_____ (1)

8.8 Tshepo heard that NFC is a communication medium available on many mobile devices.

8.8.1 How would one transfer files using NFC between two devices that have the NFC setting switched on?

_____ (1)

8.8.2 State **TWO** uses of NFC.

First use:

_____ (1)

Second use:

_____ (1)

MARKERS' USE ONLY

8.9 Tshepo wants to use his smartphone as a Wi-Fi hotspot.

State **TWO** reasons why Tshepo should not do this.

Disadvantage 1:

(1)

Disadvantage 2:

(1)

8.10 To get information regarding his signal strength his service provider suggested that he dials the following number:

*120*233#

What do you call this type of number?

(1)

[24]

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

9.1 Tshepo will also use the laptop for many of the administrative tasks on the farm.

9.1.1 Tshepo was drawing up a report in Microsoft Word and after the Show/Hide feature was activated, the following is displayed:

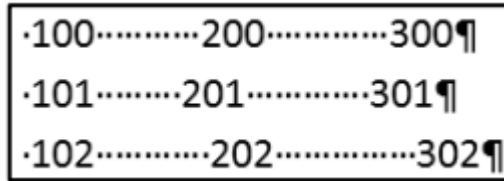


Figure 7

Referring to the Show/Hide formatting symbols, how did Tshepo try to align the numbers in the screenshot above?

(1)

9.1.2 Give **TWO** other word processing features that he could have used to better align the data above.

Feature 1:

(1)

Feature 2:

(1)

9.1.3 Tshepo struggles with aligning data and when he needs to use the indent formatting.

Give **TWO** different features/tools that are available in Microsoft Word to set the indents in a word processing document.

Method 1:

(1)

Method 2:

(1)

9.1.4 Tshepo wants to ensure that there is no unnecessary formatting that can be done on his electronic form document. The Restrict Editing feature on the Developer tab will allow him to control the number of changes that others can make to his electronic form.

Give **TWO** types of editing that can be restricted when using this feature.

Example 1:

(1)

Example 2:

(1)

9.2 Tshepo wants to create a database of all the employees on the farm. Study the following database table:

Employee name	Gender	Cell phone number
Mbabazi O	F	846628567
Mofokeng G	M	629915773

9.2.1 What is the difference between a **field** and a **record** in a database?

Field:

(1)

Record:

(1)

9.2.2 Why does the zero in front of the contact number disappear when you add the number?

(1)

MARKERS' USE ONLY

9.2.3 Outline a possible solution for the problem in Question 9.2.2.

(1)

9.2.4 Name **THREE** possible problems that may occur because the client's surname and the initials of the client are in the same field.

Problem 1:

(1)

Problem 2:

(1)

Problem 3:

(1)

MARKERS' USE ONLY

9.3 Tshepo needs to register his employees at the district office for Unemployment Insurance Fund (UIF).

9.3.1 State **TWO** ways in which Tshepo could share the employee's information electronically with the district office.

Solution 1:

(1)

Solution 2:

(1)

9.3.2 List **TWO** features that Tshepo can use in a database to ensure that the data of the employees are captured correctly.

Feature 1:

(1)

Feature 2:

(1)

9.4 Tshepo needs to buy a printer for the farm as he will need to print some documents from time to time. One of the employees suggested a multifunction printer.

9.4.1 Give **TWO** reasons, apart from printing documents, why it could be a good suggestion to purchase a multifunction printer.

Reason 1:

(1)

Reason 2:

(1)

9.4.2 Give Tshepo **ONE** print option that can be used to save paper, besides printing on both sides of the paper.

(1)

9.4.3 What would be the main advantage of buying a printer that has a Wi-Fi receiver built into it?

(1)

9.5 To promote the farm and the produce on the farm a friend suggested to Tshepo to post a *reel* on Instagram.

Define the term *reel* in this context.

(2)

9.6 Tshepo is concerned that a laptop is not the best ergonomic device.

Give **TWO** reasons why Tshepo is correct in his observations.

Reason 1:

(1)

Reason 2:

(1)

[26]

MARKER'S USE ONLY:	Total mark Q9	
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50 marks

Total: 150 marks

