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GRADE 11 EXAMINATION
NOVEMBER 2022**COMPUTER APPLICATIONS TECHNOLOGY: PAPER II****NAME**

Examiner: Insert your name here

Moderator: Mrs J Flanagan

Time: 3 hours

Marks: 150

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 20 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. Remember to write your name 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. Check your language and spelling.
6. Read the questions carefully. Take note of the wording of the questions, i.e. explain, name, select, discuss, identify, etc. and then answer accordingly.
7. Give your answers in general terms. Use brand names only when asked, e.g. use "word processing" rather than "Microsoft Word".
8. In general, a mark is allocated per fact. Therefore, a two-mark question would require two facts, and so on.
9. One blank page (page 20) is included at the end of this paper. If you run out of space when answering a question, use this page. Clearly indicate the question number of your answer should you use this extra space.

SECTION	A		B					C		TOTAL
	25		75					50		
QUESTION	1	2	3	4	5	6	7	8	9	
MARKS	15	10	25	15	10	10	15	25	25	150
OBTAINED										

SECTION A**QUESTION 1**

1.1 Give the **MOST** appropriate term for each of the following definitions:

1.1.1 Non-volatile chips containing the instructions a computer uses to boot up.

_____ (1)

1.1.2 A word processing feature that is placed at the end of a document and allows a user to add extra information without interrupting the flow of the main text.

_____ (1)

1.1.3 A site that is specifically designed for the business community to establish a network of professional people.

_____ (1)

1.1.4 A slot on the motherboard designed for a variety of high-speed devices that require very little power, in small spaces.

_____ (1)

1.1.5 A type of operating system software that allows the source code to be accessed and modified.

_____ (1)

1.1.6 A spreadsheet feature that allows a user to define the format of individual cells based on criteria.

_____ (1)

1.1.7 A public site that offers Internet access over a wireless network.

_____ (1)

1.1.8 A small piece of software published by the developer designed to fix a bug or flaw in a software program.

_____ (1)

1.1.9 A type of social engineering attack when a person is sent a fraudulent message design to trick them into revealing sensitive information.

_____ (1)

1.1.10 A technology used for sending and receiving sound data over the Internet.

_____ (1)

1.2 Select the **MOST** appropriate answer to each question. Write down **ONLY** the letter of your choice in the space provided.

1.2.1 Which **ONE** of the following best describes proprietary software?

- A. Software without copyright protection.
- B. Software that is completely free.
- C. Software for which a licence needs to be purchased in order to use it.
- D. Software that can be copied from the legal owner of the licence.

1.2.1	
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(1)

1.2.2 Which **ONE** of the following is the most appropriate spreadsheet chart to show a trend such as the petrol price increase over a period of time?

- A Pie chart
- B Line chart
- C Bar chart
- D Surface chart

1.2.2	
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(1)

1.2.3 Which **ONE** of the following file extensions is associated with sound files?

- A exe
- B jpeg
- C mp3
- D pdf

1.2.3	
-------	--

(1)

1.2.4 The main task of the Disk Cleanup utility is to ...

- A remove temporary or unnecessary files.
- B format the hard disk when it is full.
- C check a drive for errors.
- D recognize files and keep related files together.

1.2.4	
-------	--

(1)

1.2.5 Which **ONE** of the following spreadsheet functions will count the number of cells in a range that only contain values?

- A COUNT
- B COUNTIF
- C COUNTBLANK
- D COUNTA

1.2.5	
-------	--

(1)

[15]

QUESTION 2

Choose the definition in Column C that **BEST** matches the term in Column A. Write down **ONLY** the letter of your choice in Column B next the appropriate term, for example 2.11 P.

COLUMN A		COLUMN B	COLUMN C	
2.1	Vlog		A	An injury resulting from fast, repetitive work such as frequent text messaging.
2.2	Device Driver		B	A website developed collaboratively by a community of users, allowing any user to add and edit content.
2.3	Wizard		C	A set of rules used for secure communication over the Internet.
2.4	VPN		D	A technique used to exploit vulnerable networks to read or steal data as it travels between two devices.
2.5	Attenuation		E	A user interface that opens a dialog box to lead a user through a sequence of small steps.
2.6	RSI		F	A type of computer software that adds new features or extends functionality on an existing application.
2.7	Beta		G	A word processing feature that provides a snapshot of the headings and page numbers in a document.
2.8	Bibliography		H	A term that refers to any reduction in the strength of a signal.
2.9	HTTPS		I	A personal website or social media account where a person regularly posts short videos.
2.10	Intranet		J	A set of rules for transferring files such as text, images, sound, etc. over the web.
			K	A version of software released for testing purposes before the final version is released.
			L	A private computer network within an organisation that is used to securely share information and resources amongst members.
			M	A secure way of connecting a private LAN from a remote location using the Internet.
			N	A feature in a word processing application that allows a user to add a list of sources used to write an assignment.
			O	A computer program that controls a particular device that is attached to a computer.

(10 x 1)

[10]

[SECTION A: 25 MARKS]

SECTION B

QUESTION 3: SYSTEM TECHNOLOGIES

3.1 Identify each image below and complete the table that follows.

3.1.1	 [Source: https://m.media-amazon.com]	3.1.2	 [Source: https://www.servethehome.com]
3.1.3	 [Source: https://i.pcmag.com]	3.1.4	 [Source: https://www.ccsinsight.com]

Question	Image	Main Function	
3.1.1			(2)
3.1.2			(2)
3.1.3			(2)
3.1.4			(2)

- 3.2 The concepts of **primary storage** and **secondary storage** are often confused. Compare primary and secondary storage by providing an example of each type of storage.

(4)

- 3.3 Loadshedding in South Africa has continued to be implemented this year on a regular basis. According to the Oxford Dictionary, loadshedding is defined as the “action to reduce the load on something, especially the interruption of an electricity supply to avoid excessive load on the generating plant.”

Loadshedding continues to interrupt our South African electricity supply and this in turn affects our computer systems.

- 3.3.1 Name **TWO** ways that loadshedding and the related power problems could affect our computer systems.

Effect 1: _____

(1)

Effect 2: _____

(1)

- 3.3.2 What hardware device could you use to protect your computer against power problems related to loadshedding?

(1)

- 3.3.3 Discuss **TWO** ways that loadshedding and the related computer problems can affect the South African economy.

Example 1: _____

(1)

Example 2: _____

(1)

3.4 Compression software is commonly included in file managers such as Windows Explorer.

3.4.1 Briefly explain how compression software works.

(2)

3.4.2 Describe **TWO** suitable examples where you would use compression software.

Example 1: _____

(1)

Example 2: _____

(1)

3.5 Exporting and Importing data is necessary as we use a variety of different software programs.

3.5.1 Differentiate between **exporting** and **importing**.

(2)

3.5.2 Describe **ONE** suitable example where you would export and import a file or files.

(2)

[25]

QUESTION 4: INTERNET AND NETWORK TECHNOLOGIES

During your school holidays, your parents ask you to set up a Wireless LAN (WLAN) at home. Your parents would like to have the opportunity to work from home, so would like the WLAN to be set up for this purpose as well as for when you and your siblings arrive home for the holidays.

Your parents each have their own laptops, smartphones, and tablets as well as a scanner and printer. You have two Smart television sets in your home and you and your siblings each have a laptop, a smartphone, and a smart watch.

4.1 How does a Wireless LAN (WLAN) work?

(2)

4.2 Name **TWO** devices that would be required to set up the WLAN.

Device 1:

 (1)

Device 2:

 (1)

4.3 Give **TWO** benefits of setting up a WLAN in your home.

Benefit 1:

 (1)

Benefit 2:

 (1)

4.4 What topology would you use to set up the WLAN? Justify your answer.

Topology:

 (1)

Justification:

 (2)

4.5 How you go about securing the WLAN in your home? Discuss **TWO** methods of securing the WLAN.

Method 1:

 (2)

Method 2:

 (2)

- 4.6 An Internet of Things (IoT) device can be connected to the WLAN. Name **TWO** IoT devices that could be useful in your home that connect to the WLAN.

Device 1: _____ (1)

Device 2: _____ (1)

[15]

QUESTION 5: INFORMATION MANAGEMENT

WhatsApp is an instant messaging application that is owned by Meta. WhatsApp experienced a major outage in South Africa on 25 October 2022.

- 5.1 Give **TWO** ways how the WhatsApp outage would have impacted South African individuals and businesses.

Impact 1: _____

 _____ (1)

Impact 2: _____

 _____ (1)

- 5.2 The five main steps of the Information Processing Cycle are Input, Processing, Output, Storage and Communication.

Using the headings below, explain the process that will be used to send a message using WhatsApp.

Input: _____

 _____ (1)

Processing: _____

 _____ (1)

Output: _____

 _____ (1)

Storage: _____

 _____ (1)

Communication: _____

 _____ (1)

5.3 After the WhatsApp outage, the Internet was flooded with memes about the outage.

5.3.1 What is a meme?

 _____ (1)

5.3.2 Name **TWO** types of media that are often used in memes.

Media 1: _____ (1)

Media 2: _____ (1)

[10]

QUESTION 6: SOCIAL IMPLICATIONS

According to the World Economic Forum (WEF), the world has entered a new era of remote working, but there are still barriers for people in Africa.

[Source: <<https://www.weforum.org/agenda/2022/03/3-ways-africa-remote-working/>>]

6.1 Remote working leads to the decentralisation of labour.

6.1.1 Give **TWO** advantages of the decentralisation of labour.

Advantage 1: _____
 _____ (1)

Advantage 2: _____
 _____ (1)

6.1.2 Name **TWO** employment categories that do not lend themselves to decentralisation of labour.

Category 1: _____
 _____ (1)

Category 2: _____
 _____ (1)

- 6.2 According to the WEF, the organisations and businesses in Africa have had to review their practices to accommodate remote working, which has happened at a slower pace. A study conducted during the early stage of the pandemic estimated that by June 2021, half of the South Africans would work from home full-time. In Nigeria, remote working vacancies increased steadily between 2020 and 2021.

- 6.2.1 Discuss **TWO** ways that the South African government can enhance remote working.

Method1: _____

(2)

Method 2: _____

(2)

- 6.2.2 How can remote working reduce the Digital Divide?

(2)

[10]

QUESTION 7: SOLUTION DEVELOPMENT

7.1 Study the spreadsheet of employee salaries below and answer the questions that follow.

	A	B	C	D
1			Tax Rate	35%
2				
3	Name	Annual Salary	Monthly Salary	Tax
4	Bob Sibongiseni	R87 052,80	R7 254	R 2 539,04
5	Alison McMaster	R50 010,00	R4 168	R -
6	Carol Baines	R63 881,88	R5 323	#VALUE!
7	Jordy Govender	R109 997,40	R9 166	R 23 273 983,21
8	James Smith	R62 751,60	R5 229	R -
9			R31 141	

7.1.1 Identify the formatting used in the cell range A3:D3 that displays the column headings on two lines.

(1)

7.1.2 Why would it have been better to separate the names and surnames in column A into two separate columns?

(1)

7.1.3 When the monthly salaries in column C are added manually, the total of R31 140 does not match the total in cell C9.

(a) What is the most likely cause of this problem?

(2)

(b) Provide a strategy to ensure that the correct total is obtained.

(1)

7.1.4 The monthly tax of 35% was calculated in column D. Only cell D4 has the correct answer; the results in the cell range D5:D8 are incorrect.

(a) What is the most likely cause of the problem?

(1)

(b) Enter the required formula to solve this problem.

(3)

7.1.5 What function would be most suitable to use in each of the following cases:

(a) To extract the lowest salary from all employees.

(1)

(b) To calculate the total salary amount of all employees over R75 000.

(1)

7.2 According to *Analytics Insight*, Big Data has a bright future.

[Source: <https://www.analyticsinsight.net/10-reasons-why-big-data-is-the-future-of-india/>]

7.2.1 How does Big Data differ from a typical database that you would create in Microsoft Access.

(2)

7.2.2 Give **TWO** examples where Big Data could be used in industry.

Example 1: _____

(1)

Example 2: _____

(1)

[15]

[SECTION B: 75 MARKS]

SECTION C

Consider the following scenario when answering the **rest of the examination paper, unless the questions are of a general nature or otherwise stated.**

The world-renowned **Kruger National Park (KNP)** offers a wildlife experience that ranks with the best in Africa. The park boasts two million hectares of unrivalled diversity of life forms which fuses with historical and archaeological sites.

You are a CAT student interested in an environmental career and have volunteered to help out with a variety of projects at the KNP during your holidays.

[Source: <https://www.sanparks.org/parks/kruger/>]

QUESTION 8: INTEGRATED SCENARIO

There are 10 entrance gates to the park for both day visitors and visitors staying in the park. The gates are manned by the SANParks staff who deal with thousands of visitors wanting to gain entry every day. The Internet connection at the gate is weak and the staff like to keep all of their documents on their local drive and upload to the central server when the Internet connection is stronger.

8.1 The computers at the gate offices have the following specifications:

Processor: Intel Core i3
Hard Disk Drive (HDD): 500 GB
Random Access Memory (RAM): 4 GB

The manager has asked you to find the cheapest way possible to upgrade this computer as it is too slow. For each specification above, suggest a suitable upgrade **AND** justify your reasoning.

8.1.1 Processor

Upgrade: _____ (1)

Justification: _____

_____ (1)

8.1.2 Hard Disk Drive (HDD)

Upgrade: _____ (1)

Justification: _____

_____ (1)

8.1.3 Random Access Memory (RAM)

Upgrade: _____ (1)

Justification: _____

_____ (1)

- 8.2 The queues at the gates get very busy early in the mornings and afternoons and the manager has asked you to find a way to automate the process for day visitors.

Day visitors are required to book online using the booking page on the park's website. They are required to either bring a printed copy of their booking or download the booking confirmation on to their smartphone.

- 8.2.1 You have suggested to the manager that each booking form should have a unique barcode which stores all the details of the day visitor's booking. The manager will need to purchase barcode readers for all the staff at the entrance gates.

- (a) Briefly explain how barcode readers would work in this case.

(2)

- (b) Discuss the concept of "downloading" the booking confirmation on to their smartphone.

(2)

- (c) Give **TWO** ways how the use of bar code readers and printed or downloaded booking forms will improve the entry process at the gate.

Method 1:

Method 2:

(2)

8.2.2 You have some experience in HTML and you have offered to help add the barcode feature to the website.

- (a) Indicate **THREE** design principles that you should follow when designing a website.

Principle 1: _____
_____ (1)

Principle 2: _____
_____ (1)

Principle 3: _____
_____ (1)

- (b) Give a general name for an HTML element such as `<h1>` or `</u>`.
_____ (1)

- (c) Why would you need to include the following elements as part of your HTML code?
`<p>...</p>` _____ (1)

`<!-->` _____ (1)

8.3 To improve the service at the gate, management have decided to create an online form to keep track of day visitors experience when entering the park. The online form link was placed on the website.

8.3.1 Give **TWO** suitable types of questions that you could ask on the online form.

Question 1: _____
_____ (1)

Question 2: _____
_____ (1)

8.3.2 Every week the management will download the responses.

- (a) Which application package will be best suited to process all of the results?
_____ (1)

- (b) Give **TWO** reasons for your choice of package in (a) above.

Reason 1: _____

(1)

Reason 2: _____

(1)

- 8.3.3 Give **TWO** possible benefits of allowing the form to be completed online.

Benefit 1: _____

(1)

Benefit 2: _____

(1)

[25]

QUESTION 9: INTEGRATED SCENARIO continued

There are 83 species of raptors that regularly occur in southern Africa. Of these, 58 species are commonly found in the **Kruger National Park**.

- 9.1 Management ask that all visitors report raptor sightings in the KNP. You have been requested to display the number of sightings on a monthly basis on a chart.

- 9.1.1 What type of chart would you recommend in order to display the monthly bird sightings? Motivate your answer.

Chart type: _____

(1)

Motivation: _____

(2)

- 9.1.2 List **THREE** important elements that should be included in any chart to ensure that a chart will be readable, understood, and effective.

Element 1: _____

(1)

Element 2: _____

(1)

Element 3: _____

(1)

- 9.1.3 Visitors are asked to log in to the website to report their raptor findings. Which **TWO** pieces of data will be required to log on to the website? Name them **AND** differentiate between the two.

(4)

- 9.2 KNP has many ways that you can follow them to view information about the raptors; two of these are Facebook and Twitter.

- 9.2.1 Identify the term used for sites where individuals or organisations can post their likes, dislikes, interests, and comments.

(1)

- 9.2.2 Provide **TWO** reasons why it will be beneficial to follow KNP on Facebook and Twitter.

Reason 1: _____

(1)

Reason 2: _____

(1)

- 9.3 Rangers, researchers, and visitors, have over the years taken thousands of photos to record the raptor population at KNP. You have been tasked with sorting through the photos and you have decided to use an online or cloud storage site to share, synchronise and store the photos.

- 9.3.1 Give **ONE** example of an online or cloud storage site.

(1)

- 9.3.2 Explain what it means to **synchronise** files.

(2)

- 9.3.3 Give **TWO** methods of transferring the images from your computer to the online or cloud storage site.

Method 1: _____

(1)

Method 2: _____

(1)

- 9.3.4 There is intermittent cell phone signal at Letaba camp where you are based. To complete your task, you are going to need a reliable broadband Internet connection.

- (a) Differentiate between the terms **broadband** and **bandwidth**.

(2)

- (b) Provide **TWO** possible solutions to improve the Internet connection.

Solution 1: _____

(1)

Solution 2: _____

(1)

- 9.4 You have decided to improve your knowledge about raptors while you are working at the park. You download an app that records all the latest raptor sightings. While you are installing the app, you are requested to accept the EULA.

- 9.4.1 What does **EULA** refer to?

(1)

- 9.4.2 Why is it important to be aware of the content of the EULA, especially when you use an online service?

(2)

[25]

[SECTION C: 50 MARKS]
[TOTAL: 150 MARKS]

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