Province of the
EASTERN CAPE
EDUCATION

NATIONAL
SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2023

COMPUTER APPLICATIONS TECHNOLOGY P2

MARKS: 150

TIME: 3 hours

Font size 18

This question paper consists of 27 pages.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of:

      SECTION A (25)
      SECTION B (75)
      SECTION C (50)

2.   Answer ALL the questions.

3.   Number the answers correctly according to the numbering system used in this question paper.

4.   Start EACH question on a NEW page.

5.   Do NOT write in the right-hand margin of the ANSWER BOOK.

6.   Leave a line after EACH sub-question.

7.   Generally, one mark is allocated per fact; therefore, a 2-mark question would require TWO facts, etc.

8.   Read the questions carefully. DO NOT give more than the question requires as this will NOT be marked.

9.   All answers MUST be related to Computer Applications Technology.

10.   Unless otherwise specified, answers such as 'cheaper', 'slower/faster', etc. will NOT be accepted.

11.   Do NOT use brand names in your answers, unless specifically required.

12.   Write neatly and legibly.

SECTION A

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1 to 1.10) in the ANSWER BOOK, for example 1.11 D.

1.1   … is an acronym that indicates that human error has an influence on the computer's output.

    A   DIMM
    B   GIGO
    C   SOHO
    D   FOSS   (1)

1.2   Which ONE of the following is an example of a popular e-reader?

    A   Kindle
    B   Phablet
    C   iPad
    D   Notebook   (1)

1.3   A protocol that provides a measure of protection to users of websites when online banking is done.

    A   HTTP
    B   HSPA
    C   HTML
    D   HTTPS   (1)

1.4   Identify the statement that is NOT correct.

A   A network is a collection of connected computers.

B   A LAN can be used within one household.

C   Ethernet refers to wireless network technology only.

D   A WAN connects computers across cities, countries and continents with each other.   (1)

1.5   A comment in HTML code will appear ... when the web page is displayed in the browser.

A   in brackets

B   nowhere

C   as a title

D   after all the tags   (1)

1.6   A shortcut for a series of keystrokes and/or mouse moves that can be recorded for future use to automate a procedure or task is known as ...

A   an add-in.

B   SQL.

C   a smart tag.

D   a macro.   (1)

1.7   Which ONE of the following return fields will calculate the correct value of value-added tax (VAT) at 15% in a database query?

A   BTW= ["Price"]*0.15

B   BTW: (Price)*0.15

C   BTW= (!Price)*0.15

D   BTW: [Price]*0.15   (1)

1.8   Which ONE of the following functions results in an answer rounded off to the nearest whole number?

      A =INT(24.7)
      B =AVERAGE(C1:C6)
      C =ROUND(5.58,1)
      D =TRUNC(21.73,1)   (1)

1.9   Google is an example of …

      A a web browser.
      B a website.
      C social engineering.
      D a search engine.   (1)

1.10   … is a broadband access technology that allows for high-speed internet connection from a private household.

      A WiMAX
      B FTTH
      C LTE
      D ADSL   (1)
                                                          [10]

QUESTION 2: MATCHING ITEMS

Choose a term/concept from COLUMN B that matches the description in COLUMN A. Write only the letter (A–T) next to the question numbers (2.1–2.10) in the ANSWER BOOK, for example 2.11 U.

COLUMN A		COLUMN B
2.1	Web browsers store web documents such as HTML pages and graphics temporarily on the hard disk	A shaping
2.2	Software programs designed to run on smartphones	B metadata
2.3	A protocol used to define the structure and layout of a web page	C multiprocessing
2.4	Fast and powerful computers used for weather forecasting	D pirated copies
2.5	Making use of quad-core processors to increase the speed of the computer	E combination
2.6	The set of data that describes the size, colour depth, resolution, date created, etc., of an image	F multitasking

2.7	A concept where employees can work from home making use of the internet, telephone and e-mail	G	summary
2.8	Different technologies and functions are combined into one single device	H	telecommuting
2.9	The illegal downloading and distribution of films	I	html
2.10	Data saved online on server computers (remote servers) that can be accessed	J	mainframe computers
		K	catching
		L	cloud storage
		M	http
		N	worm
		O	teleconferencing
		P	hacking
		Q	privacy
		R	apps
		S	convergence
		T	supercomputers

(10 x 1)   **[10]**

QUESTION 3: TRUE/FALSE ITEMS

Indicate whether the following statements are TRUE or FALSE. Write 'true' or 'false' next to the question numbers (3.1–3.5) in the ANSWER BOOK. If the statement is false write FALSE and then change the underlined word(s) to make the statement TRUE. (You may not simply use the word 'NOT' to change the statement.
NO mark will be awarded if only FALSE is written down.)

EXAMPLES:

QUESTION	ANSWER
The initial loading instructions ('start-up instructions') are stored in the <u>ROM</u>.	True
An <u>NIC</u> has slots for hardware components, such as the CPU.	False – motherboard

3.1   <u>Green computing</u> is the study and design of the workplace and the equipment that is used in the workplace, for the comfort and safety of the people in their work environment.

3.2   The '<u>wild card</u>' character can be used in the Search and Find ('Find and Replace') feature of a word processor.

3.3   <u>Broadband</u> refers to the total amount of data transferred over the Internet in a given period.

3.4   <u>Backwards compatible</u> is the ability of software to open and use files created in previous (older) versions of the software.

3.5   <u>Application software</u> is software intended to control, support or operate the computer.
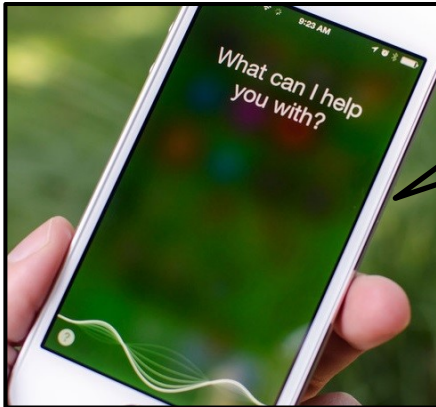
(5 x 1)   **[5]**

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

4.1   Describe a SOHO user and give ONE example of such a user.   (2)

4.2   Utility programs perform routine tasks.

      List TWO common tasks that are carried out by various utility programs.   (2)

4.3   Backup is important to ensure that data is not lost.

      4.3.1   Discuss TWO ways in which data on a computer could get lost.   (2)

      4.3.2   Suggest ONE way in which the backup of data can be done more securely.   (1)

4.4   Mobile users want and need their technology with them wherever they are.

      4.4.1   Explain the downside related to the concept of:

           'Always on – Always connected'.   (1)

      4.4.2   Give ONE reason why note-taking software will be an advantage for a traffic officer to have on his mobile device.   (1)

4.5 Computer programs that work as intelligent virtual assistants are installed in source smartphones and mobile devices.

"Hey *Siri,* How is the weather this week?"

4.5.1 Name the general term used to describe technology that enables voice recognition in smartphones or mobile devices. (1)

4.5.2 Which technology makes it possible for a personal voice assistant to determine the geographical location of a person or place? (1)

4.6 Explain why it may be important to compress files. (2)

4.7 Why will defragmentation of a hard drive not make extra space available on the hard drive? (1)

4.8   Your computer occasionally displays the following message:

⚠ **Windows - Virtual Memory Minimum Too Low**

4.8.1   Define the concept *virtual memory*.   (1)

4.8.2   Give TWO examples of when the operating system will make use of virtual memory.   (2)

4.9   Study the image below and answer the questions that follow.

4.9.1   Identify the technology that the image refers to.   (1)

4.9.2   Give TWO limitations of the above-mentioned technology.   (2)

4.10 Study the picture of *Virtual Reality* below and answer the questions that follow.

4.10.1 Give a simple explanation of how *Virtual Reality* works. (2)

4.10.2 Give THREE possible limitations of the use of Virtual Reality. (3)

[25]

QUESTION 5:   INTERNET AND NETWORK TECHNOLOGIES

5.1   Define the concept *e-commerce.*   (2)

5.2   Provide TWO recommendations in which you can ensure better privacy on social media, such as Facebook or WhatsApp.   (2)

5.3   Give TWO reasons why a user would rather opt for a fibre internet connection than an ADSL connection.   (2)

5.4   Give any TWO advantages of online shopping.   (2)

5.5   Name TWO measures used by the banks to protect their clients when they do their banking online.   (2)

5.6   Why is it not recommended to use VoIP for emergency calls?   (1)

5.7   Briefly explain what *information overload* is.   (1)

5.8   Explain the difference between *a router* and *a modem*.   (2)

5.9   Give the file format/type typically used to save a podcast.   (1)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   Give TWO advantages of using electronic forms to collect information.   (2)

6.2   Why is there a need for a conclusion in a formal report?   (2)

6.3   Study the statement below, that comes from a formal report published in 1975, and answer the questions that follow.

> "Material manufacturers claim that layers give a rich look to any garment and that this will undoubtedly remain valid for centuries to come. Although that may be true, people may still think otherwise."
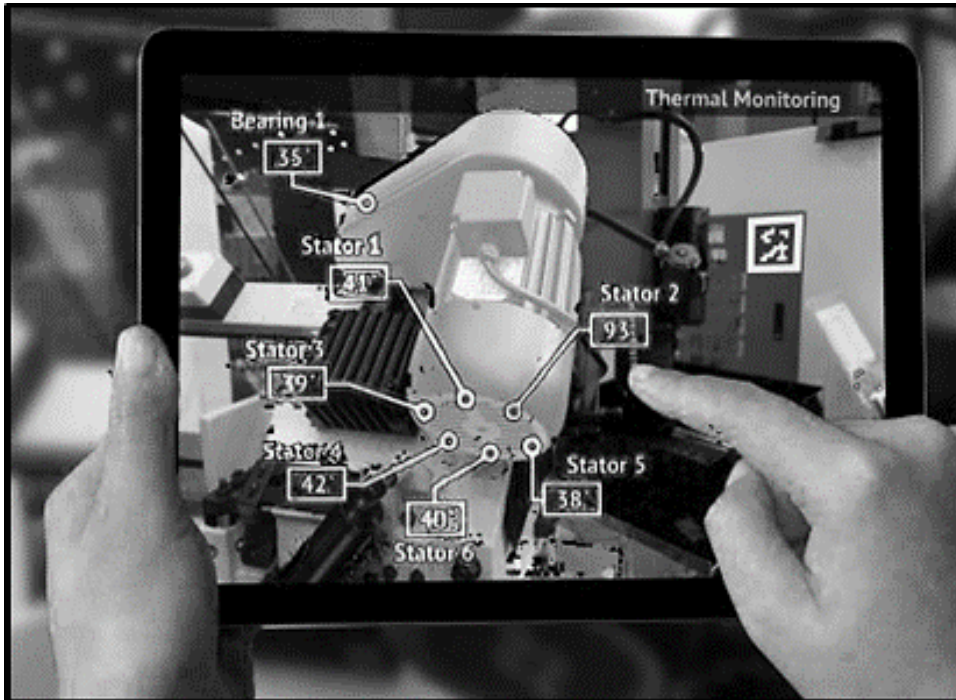
6.3.1   Give TWO reasons why the information in this paragraph is not reliable by referring to the evaluation of sources.   (2)

6.3.2   Suggest ONE way to make this paragraph more suitable for inclusion in a formal report.   (1)

6.4   Give TWO aspects that you must include in a task definition for a research project, such as the PAT.   (2)

6.5   Briefly explain how you can avoid being guilty of plagiarism when doing research.   (1)

[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1   Define the concept *user-centred design* (*UCD*).   (1)

7.2   Suggest a software accessibility option that will help a person suffering from tremors when giving input to a computer.   (1)

7.3   DDoS attacks are becoming more widespread each year.

    7.3.1   Describe the role of a bot in a DDoS attack.   (2)

    7.3.2   Discuss how a DDoS attack can be used by a hacktivist group like Anonymous to wage cyberwarfare against enemies, such as during the Ukraine/Russia war.   (2)

7.4 An e-learning application was developed to help train new employees to use the equipment in the laboratory (see below).

7.4.1 What is the name of the <u>technology</u> used by this e-learning application? (1)

7.4.2 Explain why this technology will be more useful compared to watching a video about the same equipment. (1)

7.5 Give TWO examples of the use of artificial intelligence in our everyday lives.

Do not just list the names of applications. (2)

[10]

QUESTION 8: SOLUTION DEVELOPMENT

The PAT forms part of the CAT syllabus. You are expected to write a report and the following are the challenges that you come across.

8.1   You need to create an automatic table of contents. Every time you attempt to create the table of contents, the following message appears.

> **No table of contents entries found.**

8.1.1   Knowing that you used styles. What could be the reason for the above message and how can you fix the problem?   (2)

8.1.2   When you copy and paste information to your word processing document, you are sometimes forced to change the font and format.
How can this be prevented?   (2)

8.2   You will use a spreadsheet to help you with calculations in your assignment.
      Study the spreadsheet below.   Write down a possible formula/function that was used to obtain the result in column D3.

	A	B	C	D
1	Dressing Room Allocations			
2	Surname	Name	Gender	Dressing Room
3	Stark	Tony	Male	Old
4	Wayne	Bruce	Male	Old
5	Johansson	Scarlett	Female	New
6	Fox	Megan	Female	New
7				

(4)

8.3   Name TWO features of a spreadsheet, other than graphs, that help with the processing and analysis of data.   (2)

8.4   In a database table, you need to create a field to restrict the capturing of a code.   Give the input mask you will use to obtain the following result:

E263r

Keep in mind that every code must start with a capital letter E, followed by three compulsory numbers and one optional small letter.   (3)

8.5   A database query was created to display the records of all the donors who had contributed money and water to assist in drought-stricken areas.

Give TWO reasons why the query below will NOT produce the required result.

Field:	Surname	Money	Water	Received	
Table:	tblWater	tblWater	tblWater	tblWater	
Sort:					
Show:	☑	☑	☑	☑	
Criteria:		<>0			
or:			Is Not Null		

(2)

[15]

TOTAL SECTION B: 75

SECTION C

QUESTION 9: INTEGRATED SCENARIO

Most government offices, companies and schools chose to continue their services online during the Covid-19 pandemic. Adapting to new technology can often be difficult, but it does not have to be.

9.1   Name TWO advantages of using an online platform such as ZOOM for learning and teaching.   (2)

9.2   Would you prefer to receive resources from your educator via a WhatsApp group or by e-mail? Provide TWO reasons to motivate your choice.   (2)

9.3   Teachers used videos to support learners.

   9.3.1   Name TWO disadvantages to the learners when the teacher asked them to download high resolution videos.   (2)

   9.3.2   Name ONE software application you can use to edit videos.   (1)

9.4   List TWO hardware requirements required to hold video conferencing meetings.   (2)

9.5   Write down the difference between *a service pack* and *a patch* by referring to the function of each.   (2)

9.6   Mention TWO aspects whereby the implementation of a BYOD policy would have complied with Covid-19 safety protocols.   (2)

9.7   Provide TWO reasons why a laptop would be a better option to use as an online learning device instead of a tablet computer.   (2)

9.8   Companies had several questions about wearable technologies and their development. Help them understand ICT better by answering the following questions.

     9.8.1   Explain the term *wearable technology*.   (2)

     9.8.2   State TWO uses of wearable technology.   (2)

9.9   Blockchain is a new technology used in financial transactions. Explain how this technology works.   (3)

9.10   Give the generally accepted term that describes a process where a single idea or business practice is funded by several small donations from volunteer contributors, usually before starting the business venture.   (1)

9.11   Define the concept *5th industrial revolution* ('5IR').   (2)

                                                        [25]

QUESTION 10: INTEGRATED SCENARIO

10.1   Authentication is a safety measure that can be used while doing business on the internet.

     10.1.1   Explain what is meant by a Two Factor (Two-step) Authentication.   (2)

     10.1.2   Give TWO advantages of authentication as a safety measure.   (2)

10.2   Digital currency is increasingly becoming common.

     10.2.1   Define the term *digital currency*.   (2)

     10.2.2   Name ONE example of a digital currency.   (1)

     10.2.3   Evaluate the efficiency of using digital currencies.   (2)

10.3   Your image does not display on your website. You want the image info.png to display with a width and height of 200.

     10.3.1   You used the following HTML coding:

             <img scr = "info" width = "200" hight = "200">.

             The image does not display. Correct the errors so that the image will display correctly.   (3)

10.3.2 Name any other possible reason why an image will not display (except in the coding itself). (1)

10.4 Your school decided to have an online competition showcasing projects learners have produced. Each entrant needs to pay a registration fee before the competition.

10.4.1 Suggest TWO technologies that participants can use to pay the registration fee, if they cannot get to the school or a bank. (2)

10.4.2 How could the organisers of the competition confirm that the registration fee has been paid, other than calling the bank? (2)

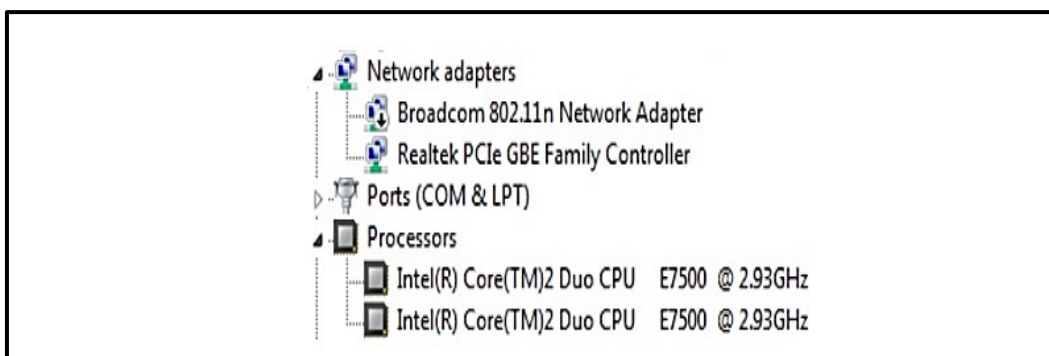10.5 The following spreadsheet was created to keep track of entrants:

	A	B	C	D	E
1	Project Name	Project type	Stands	Paid	Contact person
2	New discoveries	Science	1	Yes	Thabo
3	Language literacy	Language	2	No	Susan
4	French in school	Language	1	No	Grant
5	New textbooks	Science	3	Yes	Barry
6	Chemistry in school	Science	2	Yes	Sandy
7	Tech in cars	Science	1	Yes	Kagiso
8					
9	Registration fee:	R 250.00			

10.5.1 Which function would you use to determine how many entrants have already paid? (2)

10.5.2 Explain how to add a column between column D and E. (2)

10.5.3 How will you ensure that the amount in cell B9 is used in each cell when a formula is filled down, without retyping the amount? (1)

10.6 The screenshot below contains system information of a computer that will be used in online teaching.

10.6.1   Which ONE of the network adaptors in the advert above, will be instrumental in providing Wi-Fi access?   (1)

10.6.2   Why are there two processors listed in the image above?   (2)

[25]

TOTAL SECTION C: 50
GRANDTOTAL: 150