Confidential

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

COMPUTER APPLICATIONS TECHNOLOGY P2

MAY/JUNE 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 16 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 subquestion.

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 answers than the question requires as it 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 given 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, e.g. 1.11 D.

1.1   Which type of chart is recommended to illustrate a trend over a period of time?

     A   Bar chart
     B   Line chart
     C   Pie chart
     D   Bubble chart   (1)

1.2   Combining multiple technologies into a single device is known as …

     A   point of sales.
     B   convergence.
     C   annexure.
     D   peripheral.   (1)

1.3   A printer that can copy and scan is an example of a(n) … device.

     A   multifunctional
     B   multitasking
     C   multiprocessing
     D   input   (1)

1.4   This step of the information cycle can only take place after the data and instructions are in the RAM of the device:

     A   Input
     B   Save
     C   Output
     D   Processing   (1)

1.5   NFC cannot be used for …

     A   unlocking your car doors.
     B   pairing accessories.
     C   connecting to a hotspot.
     D   paying for your groceries.   (1)

1.6   The process of tricking users into following a hidden link on a web page is known as ...

A   click-jacking.
B   spoofing.
C   pharming.
D   adware.   (1)

1.7   A trend whereby objects and devices are connected to each other via the internet:

A   PAN
B   LTE
C   IoT
D   MAN   (1)

1.8   When an internet service is given a higher priority than other services, it is called …

A   shaping.
B   throttling.
C   internet cap.
D   bandwidth.   (1)

1.9   A/An … is normally the last step in a two-factor (two-step) authentication.

A   security question
B   validation text
C   username
D   one-time pin (OTP)   (1)

1.10   Which word processing feature cannot be used to make multiple changes at the same time, when formatting a document?

A   Styles
B   Find and Replace
C   Format Painter
D   Themes   (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 to 2.10) in the ANSWER BOOK, e.g. 2.11 U.

COLUMN A		COLUMN B	
2.1	A printout is an example of a ...	A	firewall
2.2	Data organised in a meaningful way	B	evidence
2.3	A device on a network that allows or prevents access to certain ports or communication channels	C	…
		D	joystick
2.4	Distinguishes humans from bots on a website	E	e-mail address
2.5	The type of cable used to transmit high quality video and audio signals	F	hard copy
		G	HDMI
2.6	Device used by hearing-impaired people	H	information
2.7	HTML code to create a bulleted list	I	page break
2.8	A field property setting in Access that will ensure that a field cannot be left blank	J	VGA
2.9	A feature to ensure that a watermark only displays on the first two pages of a document	K	section break
		L	…
2.10	A control on the Developer Tab best suited for use with open-ended questions	M	soft copy
		N	text form field
		O	default value
		P	vibrating panel
		Q	switch
		R	drop-down form field
		S	required
		T	CAPTCHA

(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 to 3.5) in the ANSWER BOOK. If the statement is true, write 'TRUE'. If the statement is false, write 'FALSE' and change the underlined word(s) to make the statement TRUE. (Do NOT simply use the word 'NOT' to change the statement.)

NO mark will be awarded if FALSE is written without a correct answer.

EXAMPLES:

QUESTION	ANSWER
Google is the world's most popular search engine.	True
An NIC has slots for hardware components, such as the CPU.	False – motherboard

3.1   Spyware is a banner or pop-up window that appears while you are browsing the internet. (1)

3.2   A data label is a visual indicator on a graph of related sets of values in a worksheet. (1)

3.3   An error in the program code is known as a Trojan. (1)

3.4   802.11 refers to a set of specific standards and protocols for a wireless network. (1)

3.5   A radio button group allows a user to select multiple options in a form. (1)
[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1   Study the advertisement of two different laptops below and answer the questions that follow.

LAPTOP A	LAPTOP B
• Upgradeable to Windows 11 • Office 365 • 15.6-inch Full HD Display • 8 GB RAM and 1 TB SSD Storage • Intel Core i5 10300H Processor • NVIDIA GeForce GDDR6 GPU • Blue LED Backlit Keyboard • 720p Webcam with Privacy Shutter • M100 RGB Mouse • NOD antivirus 3 months	• Windows 11 • Office 365 • 15.6-inch Full HD Display • 16 GB RAM and 512 GB SSD Storage • AMD Ryzen 5 5600H Processor • NVIDIA GeForce 1650 GPU • HP Wide Vision 1024p Webcam • Wi-Fi 6 & Bluetooth 5.2 combo • 1 micro SD Media Card Reader • Kaspersky 12 months

4.1.1   Name the application suite advertised in both laptops.   (1)

4.1.2   Give TWO reasons why an operating system is required.   (2)

4.1.3   Suggest an alternative operating system for any of the laptops above. Motivate your answer.   (2)

4.1.4   Identify a high-definition input device in the advertisement.   (1)

4.1.5   Give ONE advantage of SSDs over HDDs in laptops.   (1)

4.1.6   Give TWO reasons why you would recommend Laptop B.   (2)

4.2   Define the term *resolution*.   (2)

4.3   Name the process of creating folders and organising files to work more efficiently on a computer.   (1)

4.4   Name TWO locations where you could create shortcuts to folders/applications on a computer.   (2)

4.5   Give TWO disadvantages of using online storage as compared to local storage.   (2)

4.6   Give ONE example of multitasking.   (1)

4.7   Explain TWO ways in which to safeguard data from being deleted or altered.   (2)

4.8   Briefly explain the purpose of drivers.   (2)

4.9   Give TWO advantages for using web-based applications.   (2)

4.10   Give TWO examples of Windows utility programs.   (2)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1   Give TWO reasons why buffering occurs when streaming a video.   (2)

5.2   Discuss TWO reasons why having a server in a school network is advisable.   (2)

5.3   Blogs and podcasts are websites designed for various purposes.

    5.3.1   Explain what a *blog* is.   (1)

    5.3.2   Give TWO advantages of podcasts.   (2)

5.4   State TWO factors that will impact internet data usage.   (2)

5.5   Give TWO examples where grid computing can be used.   (2)

5.6   State TWO guidelines to follow when communicating with teachers on social media.   (2)

5.7   The principal is not receiving a specific e-mail with attachments from another school.

    Give TWO possible reasons why the service provider blocks the specific e-mail.   (2)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   You have to collect data using a questionnaire from various learners in the province.

      Which data collection tool would you recommend? Motivate your choice.   (2)

6.2   Briefly explain what *information sifting* is.   (1)

6.3   Thandi used an image from the internet in her PAT report. An extract of the report is shown below.

Renault registered a jump of 29,61% and grew its market share to 5,15%. The French is sixth in the most popular brand rankings for 2022. Volkswagen was the only brand in the top 10 to record less sales than the year before.

Chinese carmakers continued their impressive growth with Haval leading the way on 22 644 units. Making it the ninth most popular brand with a 4,28% market share. GWM's Steed and P-Series bakkies also remained popular. Both ranges shifted more than 4 000 units. Returning Chinese brand Chery recorded an impressive 8 013 units in the second half of 2022.

Electric-car sales rose 132% off a very low base to 506 units (from 2018 in 2021). The launch of new battery-powered models from Audi, BMW, Mercedes-Benz and Volvo was introduced.

      6.3.1   How can she ensure that a description of the picture appears in the table of figures?   (1)

      6.3.2   Name TWO word processing features that can be used to give recognition to the sources.   (2)

6.4   Briefly explain TWO ways in which a spreadsheet chart can enhance a PAT report.   (2)

6.5   When formulating research questions, certain requirements need to be considered and evaluated.

      Name TWO requirements when setting research questions.   (2)
[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1 Give TWO advantages of ICTs in society. (2)

7.2 Discuss TWO effects of having a malicious bot/zombie computer on a network. (2)

7.3 Information overload is a common occurrence these days.

    7.3.1 Briefly explain the concept of *information overload*. (1)

    7.3.2 State TWO ways in which information overload has an influence on a person's life. (2)

7.4 Identity theft has increased in recent years.

    7.4.1 Briefly explain the term *identity theft*. (1)

    7.4.2 State TWO ways in which you can avoid becoming a victim of identity theft. (2)
[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1　Spreadsheets are used to organise and analyse information.

　　8.1.1　What is the purpose of a COUNTA function? (1)

　　8.1.2　When would one use the SUMIFS function? (2)

　　8.1.3　When will the error message #REF! be displayed in an Excel spreadsheet? (1)

　　8.1.4　Data in a spreadsheet is usually sorted on cell values.

　　　　　What other cell information can be used to sort data, excluding cell values? (1)

8.2　Suggest any THREE changes to the HTML code below to resemble the screenshot of the webpage. Indicate the line number of the HTML code and the suggested change.

HTML CODE:
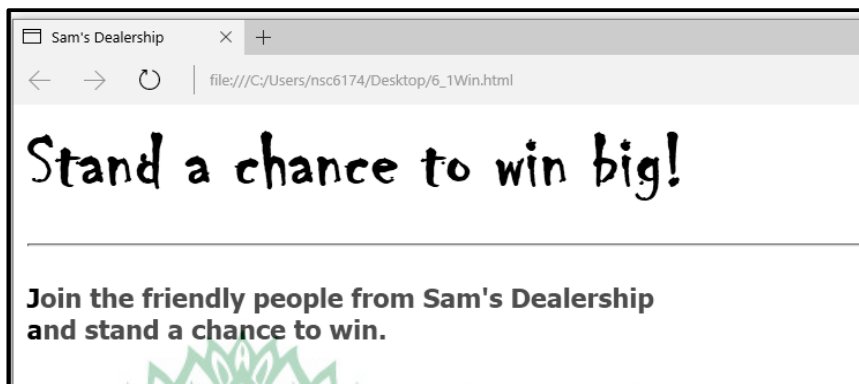
```
1  <html>
2      <head>
3          <title></title>
4      </head>
5
6      <body>
7      <font face="Tahoma">
8
9      <h2><font face="Chiller" size="10">Stand a
       chance to win big!</font></h2>
10     <hr width = "50%" />
11     <h2>Join the friendly people from Sam's
       Dealership and stand a chance to win.</h2>
12
13     </body>
14  </html>
```

WEB PAGE:

(3)

8.3   The database application is used to create forms, reports and queries.

    8.3.1   A textbox was changed to a combo box on a form, but no values are visible in the combo box.

           Give TWO reasons why the values for the combo box do not appear.   (2)

    8.3.2   Give TWO examples of functions that can be used in a report footer.   (2)

    8.3.3   Study the screenshot of two different queries.

Query 1

Field:	NumberOfNights ⌄	Amount	DOB
Table:	tbAccom	tbAccom	tbAccom
Sort:			
Show:	☑	☑	☑
Criteria:	<=5	<800 Or >2000	Is Null
or:			

Query 2

Field:	NumberOfNights	Amount	DOB
Table:	tbAccom	tbAccom	tbAccom
Sort:		Ascending ⌄	
Show:	☐	☑	☑
Criteria:	<=5	<800	Is Null
or:		>2000	

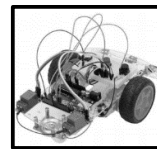Explain how the result of Query 2 will differ from Query 1 when executed.   (3)

[15]

TOTAL SECTION B: 75

SECTION C

QUESTION 9: INTEGRATED SCENARIO

The school has begun a Robotics Club. The club will host competitions, different speakers and exhibitions on robotics. You are requested to assist the teacher with admin and purchases for the Robotics Club.

9.1　　The Robotics Club wants to buy new desktop computers for members to learn basic computers skills.

　　　9.1.1　　Give THREE hardware specifications to consider when buying a computer for basic computer skills.

　　　　　　　NOTE: Exclude any peripherals, such as mouse, keyboard, etc.　(3)

　　　9.1.2　　Suggest TWO factors to consider when selecting an operating system.　(2)

　　　9.1.3　　Give TWO reasons why you would suggest a wireless network for the club.　(2)

　　　9.1.4　　The club needs printouts done in colour.

　　　　　　　Give TWO other criteria, besides colour and cost, that you would use when selecting a printer.　(2)

　　　9.1.5　　One of the club members read about a printer's duty cycle.

　　　　　　　Explain what a *duty cycle* is.　(2)

9.2　　The teacher decided to use a database to keep track of equipment allocated to the Robotics Club.

　　　9.2.1　　Recommend a suitable optical storage media for making a backup of the database.　(1)

　　　9.2.2　　Name ONE factor to consider when selecting a primary key field in a database table.　(1)

　　　9.2.3　　Why would the teacher use an input mask when capturing cellphone numbers?　(1)

　　　9.2.4　　Give an alternative method to capture dates rather than typing the dates in the table.　(1)

9.3   The school will host a competition in June 2024. The competition will be promoted on a weblog.

     9.3.1   Give ONE other type of website to post details about the competition. Motivate your choice.

         NOTE: Do NOT give specific examples of websites.   (2)

     9.3.2   A competition video is posted on the school's website. Users are prompted to install an add-on/plug-in.

         Give TWO reasons why an add-on/plug-in is needed.   (2)

     9.3.3   The following URL appears long and untidy:

> https://www.schoolrobotics/robotics+for+kids&sa=X&sca_esv=8b9 4fdf9c54254b4&hl=enUS&source=univ&tbm=shop&tbo=u&ved=1t: 686...

         Suggest TWO other ways of displaying the URL link.   (2)

     9.3.4   The results of the competition are captured in a spreadsheet.

         Suggest ONE spreadsheet feature for ranking contestants according to the highest scoring.   (1)

9.4   The Robotics Club received an interactive whiteboard as a donation.

     9.4.1   What is an *interactive whiteboard*?   (1)

     9.4.2   Give TWO disadvantages of an interactive whiteboard.   (2)
                 [25]

QUESTION 10: INTEGRATED SCENARIO

You have been invited to join the Historical Society.

10.1   The Historical Society is planning a tour in September. Members must plan and prepare to travel wisely.

      10.1.1   State TWO safety measures to consider when using your mobile device at an airport/hotel.   (2)

      10.1.2   Why is it important to remove any metadata from photos that will be publicly visible on websites?   (1)

      10.1.3   Multiple small donations from online volunteer contributors will be received to assist members with the cost of travelling.

                What term describes this process?   (1)

      10.1.4   Give TWO advantages of using video conferencing.   (2)

10.2   The Historical Society uses Fourth Industrial Revolution (4IR) equipment when viewing and visiting historical sites.

      10.2.1   Name TWO devices needed to experience virtual reality (VR).   (2)

      10.2.2   The use of virtual reality equipment can negatively impact on a person's health.

                Name TWO negative health issues that one can experience.   (2)

      10.2.3   How does augmented reality (AR) enhance the experience for the members when visiting historical sites?   (2)

      10.2.4   Name a technology that forms part of the 4IR, excluding IoTs.   (1)

10.3   Members need to use a strong password to sign into their accounts.

      State THREE criteria that can be used to create a strong password.   (3)

10.4   While on tour, members will receive a brochure on cryptocurrency.

      10.4.1   Give TWO advantages of using cryptocurrency.   (2)

      10.4.2   Cryptocurrency transactions are linked or chained together in a blockchain.

                Briefly explain what a *blockchain* is.   (2)

10.5   While on tour, the group will use a self-driving bus.

      10.5.1   Give TWO reasons why members would prefer NOT to use a self-driving bus.   (2)

      10.5.2   Autonomous vehicles are known for being used in the collecting of big data.

            Briefly explain what *big data* is.   (3)
[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150