Confidential

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 17 pages.

SA EXAM PAPERS

Proudly South African

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   A pointing device that allows for gestures like pinch-to-zoom and two-finger scrolling:

         A   Trackball
         B   Stylus
         C   Touchpad
         D   Mouse   (1)

1.2   The digital divide can be reduced by …

         A   limiting the amount of information on the internet.
         B   using environmentally friendly computing devices.
         C   increasing access to ICT devices for all people.
         D   increasing the use of online and offline resources.   (1)

1.3   A user who typically uses specialised software that requires high resolution graphics:

         A   Home user
         B   SOHO user
         C   Mobile user
         D   Power user   (1)

1.4   Which web browser feature is used for storing frequently visited websites?

         A   Bookmarks
         B   Favourites
         C   Caching
         D   Add-on/Plug-in   (1)

1.5   … reduces the size of data files by encoding information more efficiently.

         A   Decryption
         B   Compression
         C   Optimisation
         D   Extraction   (1)

1.6   Citing of sources in academic work is used to …

A   show the author's knowledge.
B   identify the website address.
C   acknowledge the original author.
D   indicate new sources of information.   (1)

1.7   Company X installed a network to specifically save costs. What will be their primary motivation for using the network?

A   To enable resource sharing
B   To organise storage capacity
C   To manage data security
D   To simplify hardware setup   (1)

1.8   Software used to view the results of HTML pages:

A   E-mail software
B   Word processing
C   Text file editor
D   Web browser   (1)

1.9   … is a decorative letter that often takes up two or more lines of text, usually in a first paragraph or section of a document.

A   Font size
B   WordArt
C   Styles
D   Drop Cap   (1)

1.10   … uses tiny droplets of ink onto paper to create images or text.

A   Laser printers
B   3D printers
C   Braille printers
D   Inkjet printers   (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	Integration of two or more technologies into a single device	A	#Value!
		B	utility
2.2	A feature that creates a transparent image or text in the background of a document	C	objectivity
		D	required field
2.3	A property in a database that automatically displays a value in a field when a new record is entered	E	watermark
		F	GHz
2.4	The ability to present information and ideas in an unbiased manner	G	location sharing
2.5	The unit of measurement used for storage capacity	H	digital footprint
		I	configuration
2.6	Coordinates inserted based on the location of a device	J	multipurpose
2.7	The setup of devices without the need for user intervention	K	GB
		L	#Name!
2.8	A trail of data that a user leaves behind while using the internet	M	WordArt
2.9	Displays when a function refers to a cell with data that cannot be used in that function	N	plug-and-play
		O	drivers
2.10	Software that allows the operating system to communicate with hardware	P	default value
		Q	accuracy
		R	convergence
		S	history
		T	geotagging

(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. Correct the statement if it is FALSE by changing 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 only FALSE is written.

EXAMPLES:

QUESTION	ANSWER
The initial 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   The <u>CPU</u> is responsible for processing instructions.   (1)

3.2   The <u>Large-key</u> keyboard is a device that would help blind users to enter data.   (1)

3.3   <u>Primary</u> memory is used for storing all programs and data permanently.   (1)

3.4   <u>Virtual reality (VR)</u> refers to the technology where a person interacts with a simulation of a 3D environment in a seemingly real or physical way.   (1)

3.5   The <u>research</u> question is a question that is brief and to the point to cover aspects of a broad research topic.   (1)
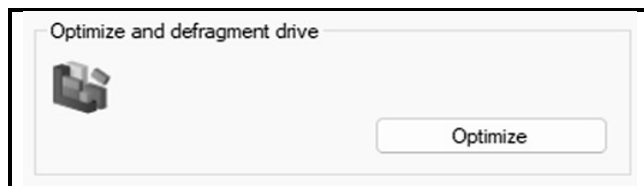**[5]**

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1   State TWO disadvantages of using a wireless mouse.   (2)

4.2   Explain what *biometric security* is AND give ONE example of a biometric device.   (2)

4.3   Describe the purpose of a UPS compared to a permanent power supply.   (2)

4.4   Recommend THREE basic hardware components to consider when buying an end-user computer.   (3)

4.5   A data projector has been set up and displays a 'No Signal' error.

       Identify TWO possible reasons why this error occurs.   (2)

4.6   Describe TWO accessibility features that a deaf person can use.   (2)

4.7   One of the functions of an operating system is to manage programs and users.

       4.7.1   Explain the difference between a *single-user system* and a *multi-user system*.   (2)

       4.7.2   Give ONE example of where a multi-user system can be used.   (1)

4.8   Suggest TWO ways how a user can customise the graphical user interface (GUI) to suit their preferences.   (2)

4.9   Users are often at risk of using flawed (faulty) software.

       4.9.1   Recommend ONE way to fix a software bug.   (1)

       4.9.2   State TWO risks of using flawed software.   (2)

4.10   Motivate why using the hidden attribute will be better for protecting the data in a file compared to the read-only attribute.   (2)

4.11   The utility feature shown below is used on a computer hard drive.
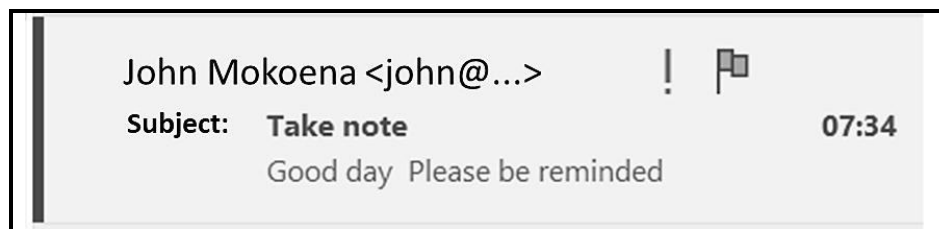

       Explain why a user will use the feature above.   (2)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1   Which communication medium is used for a high-speed internet connection?   (1)

5.2   Explain what is meant by a *wireless access point*.   (2)

5.3   A network can be used to provide <u>better security</u>.

       Indicate ONE method that can be used to secure a network.   (1)

5.4   Give TWO reasons why a company may choose NOT to use an intranet.   (2)

5.5   Explain what the Fourth Industrial Revolution (4IR) is.   (2)

5.6   State TWO advantages of using tabbed web browsing.   (2)

5.7   Discuss TWO factors that may decrease upload and download speeds in an internet connection.   (2)

5.8   John received an e-mail marked as high priority and decided to flag it.

John Mokoena <john@...>   !   ⚑
Subject: Take note   07:34
Good day Please be reminded

       5.8.1   Motivate why the 'Subject' line is inappropriate.   (1)

       5.8.2   Differentiate between *high priority* and *flagging*.   (2)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   State TWO ways to present research information to a target audience.   (2)

6.2   Give ONE reason why you would choose to use information from older sources.   (1)

6.3   Give TWO guidelines to follow when setting questions for a questionnaire.   (2)

6.4   Explain ONE reason why a database instead of a spreadsheet would be used to process data collected during research.   (1)

6.5   You need to add an image to a document.

    6.5.1   Name ONE word processing feature that may be used to acknowledge a source for an image, excluding citations.   (1)

    6.5.2   Give ONE example of the type of data you could add to acknowledge the source.   (1)

6.6   Study the extract from the database report below.

Feedback			
Event	Participant name	Participant Code	Age
Bike			
	Agnus	Agnusl320	34
	Clifford	Clifford135	25
	Grant	Grant140	31
	Hemlata	Hemlata434	30
	John	John435	39
5		Average Age:	32
Run			
	Fatima	Fatima206	35
	Kabelo	Kabelo144	28
	Kholofelo	Kholofelo95	22
	Louis	Louis254	23
	Madeline	Madeline143	25
	Meschack	Meschack160	48
	Mohamed	Mohamed359	22

    Give TWO <u>findings</u> of this report.   (2)
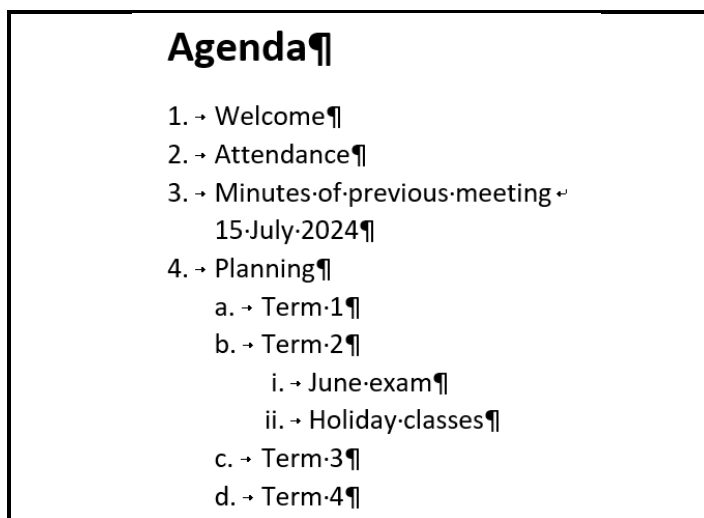
[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1   There are various types of viruses that affect a computer.

      7.1.1   What is a *computer virus*?   (2)

      7.1.2   Explain TWO ways in which a virus can affect the performance of a computer.   (2)

7.2   Which term describes all the ways in which confidential information is obtained by abusing the trusting nature of people?   (1)

7.3   Green computing should be considered by all computer users.

      7.3.1   Explain the term *green computing*.   (1)

      7.3.2   Name ONE energy-saving method that contributes to green computing.   (1)

7.4   Your friend wanted to download a song from the internet and clicked the download button, but was redirected to a malicious page.

      7.4.1   Give the term for the threat described above.   (1)

      7.4.2   Recommend TWO actions that your friend can take to prevent this from happening again.   (2)
[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1   Give a word processing feature that will allow a user to format all the headings in a document at the same time. (1)

8.2   Tab stops can be used to align text neatly in columns.

   8.2.1   Name TWO features that can be used to set tab stops in a word processing document. (2)

   8.2.2   A leader line can be added with tab stops.

   Why would you add a leader line? (1)

8.3   Study the screenshot below.

Agenda¶

1. → Welcome¶
2. → Attendance¶
3. → Minutes·of·previous·meeting↵
   15·July·2024¶
4. → Planning¶
     a. → Term·1¶
     b. → Term·2¶
       i. → June·exam¶
       ii. → Holiday·classes¶
     c. → Term·3¶
     d. → Term·4¶

   8.3.1   Which word processing feature has been used to create the list? (1)

   8.3.2   Explain why the date '15 July 2024' is not one of the list items AND how the date can be displayed as a list item. (2)

8.4   Explain the difference between the <th> and the <td> tags. (2)

8.5   Fields in a database table can consist of various data types.

   8.5.1   Explain when an OLE object data type will be used. (1)

   8.5.2   Name TWO data types that can be used for text in a database table. (2)

8.6   Which THREE functions were combined to extract the username from the e-mail address in the screenshot below?

E-mail address	Username
cateducator@school.co.za	cateducator
maths1234@school.co.za	maths1234
engpoems@school.co.za	engpoems
lifechange@school.co.za	lifechange

(3)
[15]

TOTAL SECTION B: 75

SECTION C

QUESTION 9: INTEGRATED SCENARIO

Your school is celebrating its 50th birthday. A committee has been chosen to create and design an e-magazine as part of the celebration.

9.1   State TWO advantages for the committee to design an e-magazine instead of a hard-copy version.   (2)

9.2   The committee needs to work on the same network system. The school has provided the committee with a wireless connection.

    9.2.1   What network policy should the school and committee have in place?   (1)

    9.2.2   Explain what a *network adapter* is.   (1)

    9.2.3   Explain why the network might be slow while the committee is working on the e-magazine.   (2)

9.3   The committee will conduct interviews with previous learners, teachers and staff for the e-magazine. The interviews will be conducted using video conferencing.

    9.3.1   State TWO disadvantages of using video conferencing.   (2)

    9.3.2   Name ONE good practice the committee should consider when conducting the interviews online.   (1)

    9.3.3   Explain why interviews would be a better option to collect the information rather than using questionnaires.   (2)

9.4   The committee will use a scanner to scan images and text for the e-magazine.

    9.4.1   What does *MP* stand for in camera resolution?   (1)

    9.4.2   Why would the committee make use of OCR software?   (1)

    9.4.3   The school wants to scan photos of the opening day taken 50 years ago.

        Why would you not recommend scanning old photos?   (1)

9.5   Photos that will be displayed in the e-magazine must be uploaded to cloud storage.

    State TWO advantages of storing photos on the cloud compared to local storage.   (2)

9.6 The committee will be using various software applications to design and organise the e-magazine.

9.6.1 Name TWO types of application software the committee can use to design the e-magazine. (2)

9.6.2 Which word processing feature can be used to move an image next to a paragraph? (1)

9.6.3 An order form for the e-magazine is placed on the school's website.

Which HTML tag AND attribute will be used to create a link to the order form? (2)

9.7 The e-magazine will be sold to learners and parents.

9.7.1 Learners will use NFC payments to purchase the e-magazine.

Explain how NFC payments are made. (2)

9.7.2 Name TWO methods used to make online payments from home. (2)

[25]

QUESTION 10: INTEGRATED SCENARIO

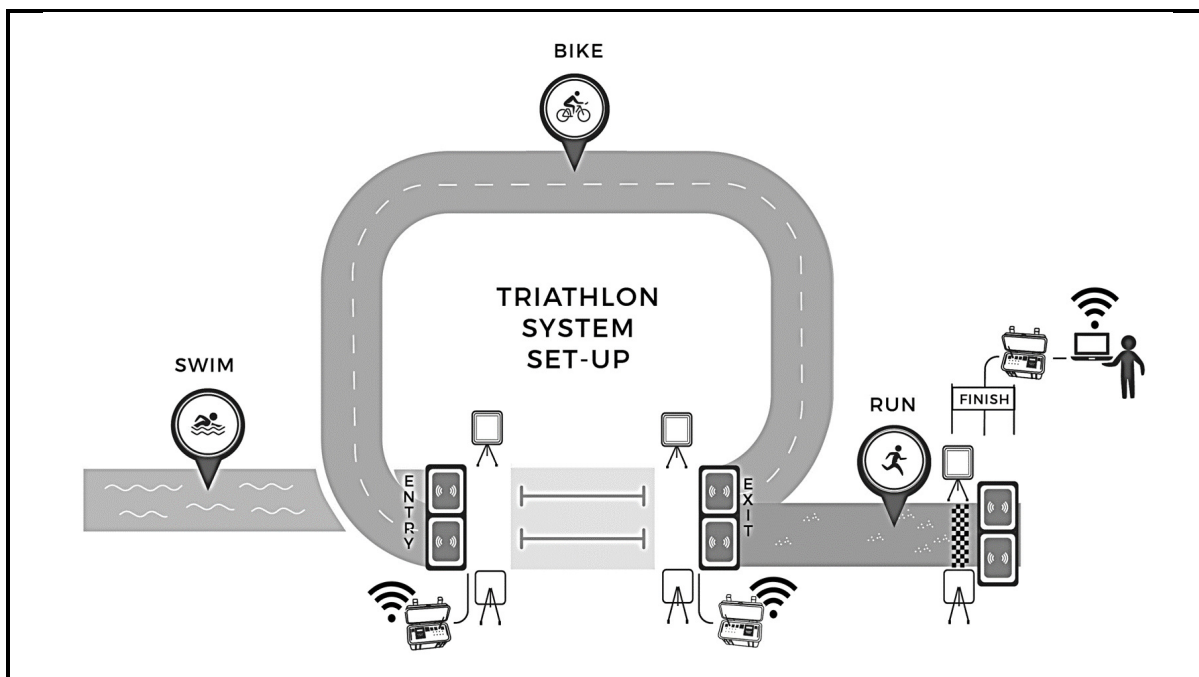Your school will host a triathlon competition which includes swimming, running and bike riding.

Learners from the school will assist by creating posters, taking photos and also with the general administration of the competition.

10.1   The organisers from the school need to register participants.

   10.1.1   Briefly explain what *information* is.   (1)

   10.1.2   Suggest TWO reasons why the organisers should use electronic forms to register participants.   (2)

10.2   Posters about the event will be put up at various shopping centres to advertise the competition.

   10.2.1   Name ONE other method of advertising this event.   (1)

   10.2.2   The posters contain a QR code.

              What happens when the QR code is scanned?   (1)

10.3   The competition will raise money for a local charity as part of the school's social responsibility.

   10.3.1   Name an online method used to raise small amounts of money from a large number of people.   (1)

   10.3.2   Give ONE example of a popular online platform to raise money.   (1)

10.4   Specialised cameras will be used to capture the competition.

   10.4.1   Except for resolution, name TWO other camera specifications that impacts the quality of the images.   (2)

   10.4.2   Images will be transferred to a laptop via a card reader.

              State TWO advantages of a card reader.   (2)

10.5   The track layout below will be used for the competition. Participants will be issued with a device that is embedded with an RFID tag.

10.5.1   What type of network is displayed?   (1)

10.5.2   Give TWO reasons why the school will be using RFID tags for the participants.   (2)

10.5.3   What technology does RFID tags use to transmit data?   (1)

10.6   An autonomous car will capture the leading participants' progress.

Define the concept *autonomous car*.   (2)

10.7   The school organisers will be on duty for many hours during the competition. They will be tracking all aspects of the event at their computer stations.

10.7.1   Explain what *ergonomic design* is.   (1)

10.7.2   Apart from ergonomically designed equipment, recommend TWO other ways for the organisers to prevent strain on their bodies.   (2)

10.8   After the competition, data was captured in a spreadsheet.

Participant Code	Participant Name	Age	Event	Swim (Min)	Bike (Min)	Run (Min)	Total (Hrs)
Joseph441	Joseph	42	Swim	15	45	46	8.45
Mary445	Mary	55	Swim	26	53	45	8.20
Fatima316	Fatima	35	Bike	14	45	51	7.78
Pieter42	Pieter	21	Swim	11	57	51	1.98
Susan248	Susan	55	Run	21	58	56	7.82
Nthabiseng259	Nthabiseng	24	Bike	32	53	62	7.95

10.8.1   How can conditional formatting be used to analyse the data above?   (2)

10.8.2   The organisers created a participant code as follows:

- The participant's name, followed by
- Random integer numbers

Which spreadsheet functions were used to generate the participant code?   (2)

10.8.3   The organisers want to move the information from the spreadsheet to a database without opening the database.

Name the spreadsheet feature that can be used.   (1)
[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150