

<b>EXAMINATION</b>		<b>NATIONAL SENIOR CERTIFICATE</b>	
<b>GRADE</b>		12	
<b>DATE</b>		JUNE 2024	
<b>SUBJECT</b>		COMPUTER APPLICATIONS TECHNOLOGY	
<b>PAPER</b>		2	
<b>MARK TOTAL</b>		150	
<b>TIME (HOURS)</b>		3	
<b>NUMBER OF PAGES</b>		16	



SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE  
SUID-AFRIKAANSE KOMPREENSIEWE ASSESSERINGSINSTITUUT



## INFORMATION AND INSTRUCTIONS

1. This question paper consists out of:

**SECTION A:** (25 marks)

**SECTION B:** (75 marks)

**SECTION C:** (50 marks)

2. Answer **ALL** the questions/sections in the answer book.

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

4. Start **EACH** question on a **NEW** page.

5. Leave a line open between **EACH** sub question.

6. Read each question carefully before answering and do **NOT** give more information than the question requires as this will **NOT** be marked.

7. One mark is awarded per fact; therefore, a 2-mark question would require **TWO** facts, etc.

8. Answers such as 'slower/faster' and 'cheaper' etc. will **ONLY** be accepted if they are motivated.

9. All answers **MUST** be related to Computer Applications Technology. Do **NOT** use brand names in your answers, unless specifically required.

10. Write neatly and legibly.



## SECTION A

### QUESTION 1: MATCHING ITEMS

Choose an appropriate term/concept from COLUMN B to match the description in COLUMN A. Write down ONLY the letter next to the question number in the ANSWER BOOK, e.g., 1.11 W.

COLUMN A		COLUMN B	
1.1	The protocol used to transfer files over the internet	A	COUNT
		B	tethering
1.2	The most suitable data type for storing a telephone number in a database field	C	number
		D	e-mail facility
1.3	Sharing the LTE internet connection of a specific tablet with other tablets in the same room	E	cloud storage
		F	Shift+F1
1.4	A type of barcode that stores information and can be read by a digital device	G	SUM
		H	FTP
1.5	The best way to share an exceptionally large file with many users via the internet by uploading the file	I	QR-code
		J	lookup wizard
1.6	A database table feature where the user is presented with a list of options to choose from when entering data	K	Word document
		L	URL shortener
1.7	Shortcut keys to select all text in a document	M	hotspot
		N	validation rule
1.8	A spreadsheet function that determines the number of cells in a range with numerical values	O	text
		P	template
1.9	A document containing the formatting and layout suggestions for a specific type of document	Q	VoIP
		R	form
1.10	A database feature that ensures that a user can only enter four letters, followed by two digits, in a specific field	S	input mask
		T	Ctrl+A

[10]



## QUESTION 2: MULTIPLE CHOICE

Various options are given as possible answers to the following questions. Choose the most appropriate answer and write only the letter (A–D) next to the question number (2.1–2.5) in the ANSWER BOOK, for example 2.6 E.

- 2.1 A ... refers to a visual interface that enables users to interact with software through graphical elements.
- A. GUI
  - B. RSI
  - C. GPS
  - D. JPG
- (1)
- 2.2 Which ONE of the following refers to a cyber-attack that redirects website traffic to a fraudulent website for the purpose of stealing sensitive information?
- A. Pharming
  - B. Phishing
  - C. Redirecting
  - D. Linking
- (1)
- 2.3 Which ONE of the following is a potential threat to the environment, caused by the widespread use of technology?
- A. A paperless office
  - B. Increased power consumption
  - C. Refilling ink cartridges
  - D. Printing on both sides of the page
- (1)
- 2.4 Which ONE of the following is the most likely reason why it might be necessary to use absolute cell reference in a spreadsheet?
- A. When constructing a graph/chart in a separate worksheet
  - B. When using the paste special option
  - C. When using any date or time function
  - D. When copying a formula or function to other cells
- (1)
- 2.5 Shortcut keys to display the formulas in a spreadsheet.
- A. CTRL+?
  - B. CTRL+~
  - C. Shift+?
  - D. Shift+~
- (1)

**[5]**



### QUESTION 3: TRUE OR FALSE ITEMS

Indicate whether the following statements are **TRUE** or **FALSE**. Write 'true' or 'false' next to the question numbers (3.1 - 3.10) in the ANSWER BOOK. Correct the statement if it is FALSE by changing the underlined word(s) to make the statement TRUE.

Note:

- You may **NOT** only use the word 'not' to change the statement.
- No mark will be awarded if only FALSE is written.

- 3.1 TCP is the protocol used to transfer files between computers over the internet. (1)
- 3.2 A query is used to collect data from a group of people. (1)
- 3.3 Plagiarism refers to the legal rights of the user or creator in terms of the use and distribution of his/her own work. (1)
- 3.4 The contrast ratio of a display device is the ratio between the width and height of an image on the screen. (1)
- 3.5 Numerous touch technology enables touch screens to detect more than one point of contact with the surface at the same time. (1)
- 3.6 A router connects a LAN to a WAN. (1)
- 3.7 Auto connect are physical objects which connect and exchange data with other devices and systems over the internet, not dependent on human intervention. (1)
- 3.8 An artificial intelligence vehicle is a vehicle that can drive itself from a starting point to a selected destination in an 'autopilot' mode. (1)
- 3.9 Smart clothing monitors various aspects such as heart rate, blood glucose levels, and fitness levels when worn. (1)
- 3.10 Network shaping is a technique where certain network services, for example e-mail, are given priority while others such as social networking services are given less priority. (1)

[10]

**TOTAL SECTION A: [25]**



## SECTION B

### QUESTION 4: SYSTEM TECHNOLOGIES

- 4.1 Explain the difference between an RFID scanner and a barcode scanner by focusing on the type of technology they use to read tags and barcodes. Clearly mention RFID and barcode followed by your answer. (2)
- 4.2 Service packs used to be common in Windows operating systems but are not common in Windows 10 and 11.
- 4.2.1 Explain what a service pack is. (1)
- 4.2.2 Explain why service packs are not common in Windows 11. (1)
- 4.3 Explain the difference between SOHO users and users that work remotely based on the types of computing devices they are likely to use. Clearly mention SOHO and mobile user followed by your answer. (2)
- 4.4 Point of sale (POS) systems provide information to the user. Name TWO types of information supplied by a POS system. (2)
- 4.5 QR codes are used by individuals and businesses. Briefly describe TWO disadvantages of using QR codes. (2)
- 4.6 You recommend that a friend upgrade his mobile device to the latest Android version, even though his smartphone works perfectly. Give THREE reasons why you make this recommendation. (3)
- 4.7 How employees work has changed a lot in recent years. Answer the questions that follow.
- 4.7.1 Give a brief description of an extranet. (2)
- 4.7.2 Name TWO negative impacts of technology on the workplace. (2)
- 4.7.3 Explain the relationship between telecommuting and an intranet. (2)
- 4.8 You have both a hard drive and a solid-state drive (SSD) installed in your computer. Which one will you choose to install the operating system on? Motivate your answer. (2)
- 4.9 For each of the following situations, recommend whether you would use virtual reality (VR) or artificial reality (AR) and give a reason for your choice. Clearly mention VR and AR followed by your reason.
- 4.9.1 A tourist visiting a city while on holiday. (2)
- 4.9.2 A student that is learning about the international space station. (2)

**[25]**



## QUESTION 5: NETWORK AND INTERNET TECHNOLOGIES

- 5.1 Briefly explain spoofing. (1)
- 5.2 Name TWO ways in which cloud computing enables users to save money, without considering the cost of software. (2)
- 5.3 Video conferencing and online meetings have become regular practice in organisations.
- 5.3.1 Participants in a video conference are requested to mute their microphones and disable their video. Give TWO reasons for this request, besides saving data. (2)
- 5.3.2 The necessary video conferencing program is installed correctly and there is a good internet connection.
- Give ONE reason why a participant might not be able to join the meeting. (1)
- 5.4 You send an e-mail with no attachment to recipients in your distribution list.
- 5.4.1 Explain the need for a distribution list. (1)
- 5.4.2 Give TWO possible reasons why an e-mail is not received by some recipients even though all addresses are correct. (2)
- 5.5 Can the use of a torrent be legal without violating copyright laws? Motivate your answer. (2)
- 5.6 Study the following statement and comment on its accuracy.
- The firewall of the printer at home needs to be updated daily to prevent malware from spreading to the network.* (2)
- 5.7 Name TWO possible advantages of using a cabled network instead of a wireless network. Do NOT mention any cost related advantages. (2)

**[15]**

**QUESTION 6: INFORMATION MANAGEMENT**

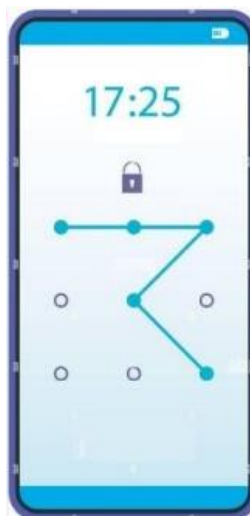
- 6.1 Name THREE features of a spreadsheet which make it an ideal tool for analysing data. (3)
- 6.2 Mention TWO indications that information found on a website may not be accurate. (2)
- 6.3 Give TWO reasons why conducting a survey online might NOT be a good decision. (2)
- 6.4 Recommend TWO ways that a survey can be designed to prevent the user from making input errors. (2)
- 6.5 Give ONE reason why database queries are useful when analysing data. (1)

**[10]**



## QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Give TWO disadvantages of adware, other than the fact that it might be annoying. (2)
- 7.2 Explain information overload AND how it specifically affects productivity. (2)
- 7.3 Give ONE way in which e-learning software can motivate people to learn. (1)
- 7.4 Name TWO terms used to describe a group of computers that have been hijacked and are being remotely controlled by criminals. (2)
- 7.5 Describe the function of virtual assistant software (what one can do with it). (1)
- 7.6 The lock screen pattern is a security feature of mobile devices (shown below). Answer the questions that follow.



- 7.6.1 Why is the lock screen pattern feature, as shown in the image, not as secure as a password? (1)
- 7.6.2 Explain what improvement was made to this security feature to make it more secure. (1)

**[10]**



## QUESTION 8: SOLUTION DEVELOPMENT

8.1 Identify and briefly explain the error in the following section of HTML code:

```
<body bgcolor="blue">
</body>
```

(1)

8.2 Multiple users can work on one document.

8.2.1 Explain the purpose of track changes in a Word document.

(1)

8.2.2 Give ONE advantage of enabling track changes.

(1)

8.3 The information in a spreadsheet (Figure A) below was converted to the file shown in Figure B.

4	Afzelius	Arvid August	49972119
5	Amerling	Karel	13331054
6	Anton	Karl Gottlob von	183632821
7	Arwidsson	Adolf Ivar	8184878
8	Asbjørnsen	Peter Christen	116587918
9	Attems	Heinrich	37665468
10	Atterbom	Per Daniel Amadeus	46819248
11	Balabin	Viktor Petrovich	44473845

Figure A

```
Afzelius,Arvid August,49972119
Amerling,Karel,13331054
Anton,Karl Gottlob von,183632821
Arwidsson,Adolf Ivar,8184878
Asbjørnsen,Peter Christen,116587918
Attems,Heinrich,37665468
Atterbom,Per Daniel Amadeus,46819248
Balabin,Viktor Petrovich,44473845
```

Figure B

8.3.1 What is the term used to describe the conversion process from the spreadsheet file in Figure A to the file in Figure B?

(1)

8.3.2 Identify the type of file in Figure B.

(1)

8.3.3 Give TWO reasons why you would convert a file to this format.

(2)



- 8.4 Below is an Access table in design view, displaying all the fields included in the table.

Field Name	Data Type
ContactSurname_KontakVan	Short Text
ContactName_KontakNaam	Short Text
ContactNo_KontakNr	Short Text
Seat_Sitplek	Short Text
NumbTickets_HoevKaartjies	Number
Price_Prys	Currency

The query below was created by using some of the fields from the table.

ContactSurname_KontakVan	ContactNo_KontakNr	Price_Prys	TotCost
Steffens	0822595794	R100,00	115
Leverling	0822595794	R100,00	115
Bickell	0822595794	R90,00	103,5
Stretch	0822595794	R90,00	103,5
Peacock	0822595794	R100,00	115

- 8.4.1 The *TotCost* field was created by adding VAT to the *Price\_Prys* field. What type of field is *TotCost* field? (1)
- 8.4.2 Why is this field not visible in the design view of the table? (1)
- 8.4.3 Provide the formula that was entered into the *TotCost* field to calculate the total cost. (2)
- 8.5 The result displayed in the screenshot below is incorrect after entering the =NOW() function in cell A1 of a spreadsheet.

A1	A	B	C	D	E
	44921.69089				

- 8.5.1 Briefly describe the purpose of the =NOW() function. (1)
- 8.5.2 Recommend what should be done to display the correct result. (1)



- 8.6 Study the screenshot of a VLOOKUP function that was entered in MS Excel. Why would you use this function? Use the information in the screenshot in your explanation.

	A	B	C	D
	Fruit	Monday Price	Tuesday Price	Wednesday Price
1				
2	Apple	60	80	112
3	Banana	110	290	195
4	Peach	120	150	111
5	Lychee	110	140	91
6	Mango	88	63	70
7				
8				
9	=VLOOKUP(A8;A2:D6;3;FALSE)			

(2)

[15]

**TOTAL SECTION B: [75]**



## SECTION C: INTEGRATED SCENARIO

Consider the following scenario when you answer Questions 9 and 10.

### SCENARIO

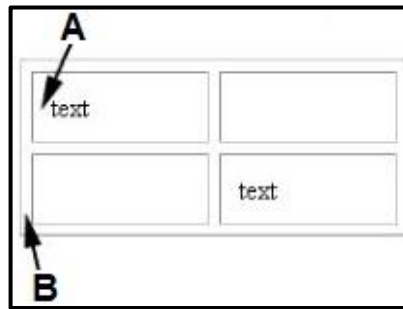
The chess club at school is hosted in a large room at school. The club received several computers that will enable the club members to participate in online chess competitions. Additionally, when not used by the chess club, other learners can use the computers for e-sports and e-learning.

### QUESTION 9: INTEGRATION

- 9.1 A poster in the chess club shows the following instructions:  
 Do not use any portable media (such as flash drives).  
 Do not visit 'suspicious' websites.  
 Do not click on links in e-mails/pop-ups.  
 Do not download/install 'unverified'/pirated software.  
 Do not open attachments from unknown e-mail addresses.  
 Scan attachments with an antivirus before opening them.
- What is the chess club trying to prevent by displaying these messages? (1)
- 9.2 The chess club wants to use the computers to facilitate e-learning. Give TWO disadvantages of e-learning when compared to traditional learning in a school. (2)
- 9.3 The librarian receives a phishing email, and she asks the administrator to update her antivirus.
- 9.3.1 Briefly explain what phishing is. (2)
- 9.3.2 Name TWO actions an antivirus can take to prevent phishing used in an e-mail. (2)
- 9.4 Why is Bitcoin mining not considered green computing? (1)
- 9.5 One of the employees created a webpage but when he double-clicks the file to open the web page, it opens in Notepad and not in a web browser. Give TWO reasons why this might happen. (2)



- 9.6 Study the screenshot of a HTML table. Identify and give a brief description of the two attributes indicated by 'A' and 'B'. Indicate A and B followed by your answer.



- (4)
- 9.7 An email that deals with cryptocurrencies and blockchain was sent to the chess club.
- 9.7.1 What will happen if the owner of a cryptocurrency loses his/her private key/wallet? (1)
- 9.7.2 As what type of application software can blockchain be classified? (1)
- 9.7.3 What is seen as the main reason why people are not investing/buying cryptocurrencies? (1)
- 9.8 The chess club has a Wi-Fi router, but the signal is not available everywhere in the centre. Recommend what needs to be done to get a signal everywhere in the centre. (1)
- 9.9 Name TWO internet connection technologies other than cables. (2)
- 9.10 The printer in the chess club stopped printing after a computer running on Windows 10 was upgraded to Windows 11.
- Explain why this issue occurred and provide recommendations on how to resolve it in order to enable printing with the printer using Windows 11. (2)
- 9.11 A smart phone will receive a notification of an e-mail automatically without any action from the user.
- 9.11.1 What is this technology called? (1)
- 9.11.2 Give TWO reasons, why you would choose to set your smartphone not to download attachments automatically. (2)

**[25]**



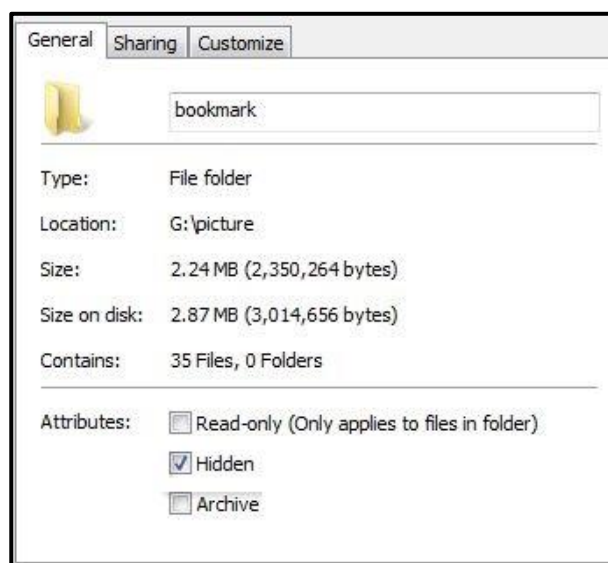
## QUESTION 10: INTEGRATION

**NOTE:** The scenario of Question 9 also applies to Question 10.

- 10.1 The chess club members want to take arial photos of the outside and surroundings of the school with the use of a drone. Name and briefly describe TWO limitations (not disadvantages) of drones. (2)
- 10.2 Explain why an experienced 'gamer' is likely to prefer Monitor B. (2)

Monitor A	Monitor B
8 000 000:1	8 000 000:1
60 Hz	59 Hz
6 ms	2 ms

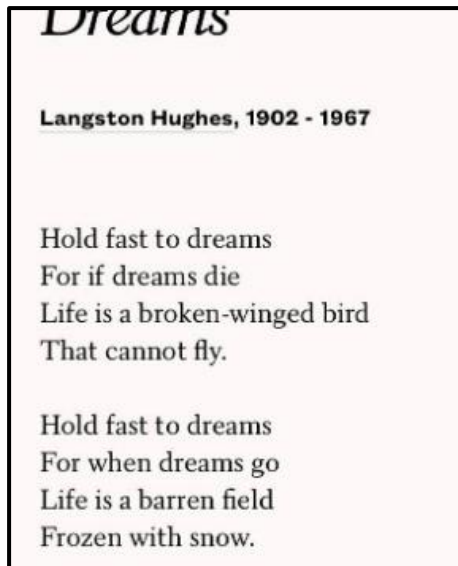
- 10.3 The chess club facilities will be used to host a seminar on the 4<sup>th</sup> Industrial Revolution (4IR). (2)
- 10.3.1 Why will 4IR lead to greater productivity? (1)
- 10.3.2 Has the demand for highly skilled or lower skilled workers increased because of the 4IR? Motivate your answer. (2)
- 10.4 A letter in Word format must be sent to chess club members. Describe TWO ways to change the document to read-only without changing the format/extension of the document. (2)
- 10.5 A flash drive, containing a folder with images, was inserted into one of the centre's computers. However, although the folder size in the flash drive properties (see below) shows that it contains files, there are no files visible in the folder. Give TWO possible reasons for this. (2)



(2)



- 10.6 The centre hosts a trivia evening where computer related questions will be asked. Briefly describe the following functions.
- 10.6.1 Device management (2)
- 10.6.2 Memory management (2)
- 10.7 You want to back up a large collection of multimedia files stored on the server. These files must be stored to an external device daily. Which storage device would be the most suitable and efficient in terms of speed? Motivate your answer. (2)
- 10.8 Name TWO advantages of using a micro-USB port instead of the standard USB port on a smartphone. (2)
- 10.9 The edges of a poem printed in the centre were cut off (see screenshot below). Give TWO possible reasons why this happened? Do not refer to any formatting or settings in the document.



- 10.10 A UPS in the chess club is connected to the server. Will using a UPS save the centre power? Justify your answer. (2)
- 10.11 Explain why it might be better in the long run to buy an entry-level desktop rather than an entry-level laptop, apart from any cost considerations. (1)
- 10.12 What kind of computer consumable do the letters CMYK refer to? (1)

[25]

**TOTAL SECTION C: [50]**

**GRAND TOTAL: [150]**