

| EXAMINATION | | NATIONAL SENIOR CERTIFICATE | |
|-------------------------|--|-------------------------------------|--|
| GRADE | | 12 | |
| DATE | | MAY/JUNE 2025 | |
| SUBJECT | | COMPUTER APPLICATIONS TECHNOLOGY | |
| PAPER | | 2 | |
| MARK TOTAL | | 150 | |
| DURATION (HOURS) | | 3 | |
| NUMBER OF PAGES | | 19 | |



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 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, in **BLUE** ink only.



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 U.

| COLUMN A | | COLUMN B | |
|----------|--|----------|------------------------|
| 1.1 | This spreadsheet feature allows users to automatically customise cell data based on specific criteria | A | display port |
| | | B | embedded data |
| 1.2 | Allows a chart pasted into a MS Word document to automatically update when data in the MS Excel file changes | C | HAN |
| | | D | PCIe |
| 1.3 | Wireless networks transmit data using ... | E | track change |
| 1.4 | A global network of networks | F | cyber assault |
| 1.5 | Cause harm in various ways, such as through threats, defamation, harmful, hostile, or intimidating behaviour towards individuals or groups | G | line break |
| | | H | Find |
| | | I | link |
| 1.6 | An HTML tag consisting of only one tag (no opening and closing tag) | J | digital waves |
| 1.7 | A spreadsheet function that searches for a value in the top row of a table and returns a value from the same column in a specified row below | K | online harassment |
| | | L | strikethrough |
| 1.8 | The formatting feature in MS Word used to draw a line through text to indicate that the text has been deleted | M | VLOOKUP |
| | | N | transitions |
| 1.9 | The fastest monitor connection used by computers | O | horizontal line |
| | | P | HLOOKUP |
| 1.10 | The most common slot for adding a Wi-Fi card to a modern computer | Q | HDMI |
| | | R | internet |
| | | S | radio waves |
| | | T | conditional formatting |

[10]

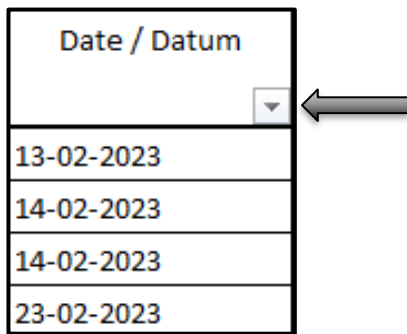


QUESTION 2: MULTIPLE CHOICE

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 numbers (2.1 to 2.5) in the **ANSWER BOOK**, for example 2.6 E.

- 2.1 The main objective is to design software that focuses on the needs of people to create effective applications.
- A GUI design
 - B User-centered design
 - C Dynamic design
 - D Interactive design (1)
- 2.2 Sharing a mobile device's internet connection with other connected devices.
- A Access point
 - B FTP
 - C Tethering
 - D IP (1)
- 2.3 A type of crowdfunding that allows individuals to give money for startups, businesses, or real estate projects in exchange for equity or debt securities.
- A Investment
 - B Donation
 - C Reward
 - D General (1)
- 2.4 The following HTML code will correctly display a picture named **image1.jpg** on a webpage.
- A ``
 - B ``
 - C ``
 - D `` (1)

2.5 What is the purpose of the drop-down arrow in the screenshot that appears in the top row of an Excel spreadsheet?



- A To insert a function into a selected cell.
- B For conditional formatting of the column.
- C To format the contents of the cell.
- D For filtering the content of the column.

(1)

[5]

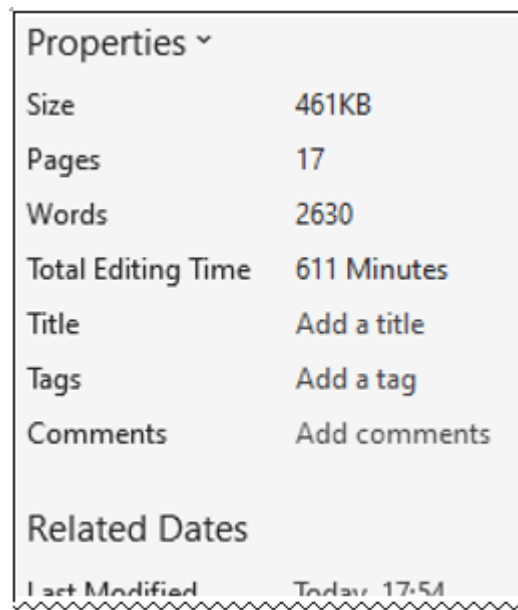
QUESTION 3: TRUE OR FALSE ITEMS

Indicate whether the following statements are **TRUE** or **FALSE**. Write 'true' or 'false' next to the question numbers (3.1 to 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 Templates help standardise document formats and are particularly useful when creating multiple documents on the same topic. (1)
- 3.2 Database software enables the analysis of data through functions, formulas, and graph creation. (1)
- 3.3 The internet is a private network for an organisation's staff only and can be accessed from anywhere. (1)
- 3.4 Spyware is a trick that uses psychological tactics to trick people into giving access to their systems and data. (1)
- 3.5 The content in the body section of a webpage will appear on the web browser tab. (1)
- 3.6 If Options is selected from the File menu in a Microsoft Word document, the following properties will be displayed. (1)



(1)



- 3.7 A bookmark in a word processing document allows you to quickly navigate to a specific section using a hyperlink. (1)
- 3.8 The initial start-up instructions for a computer are stored in ROM. (1)
- 3.9 A heatsink is placed between the CPU and the cooling fan. (1)
- 3.10 The number of RAM modules that can be added to a desktop computer is limited by the number of ZIF sockets. (1)

[10]

TOTAL SECTION A: [25]



SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

- 4.1 Name TWO types of media that can be included in multimedia presentations. (2)
- 4.2 Explain the differences between disk partitioning and disk formatting, focusing on the purpose of each process. (2)
- 4.3 Briefly describe how the subscription model of online applications, like Microsoft Office 365, affect ownership and updates of the software. (2)
- 4.4 While giving presentations, you want to connect a wireless microphone to your laptop. A friend suggests using NFC for the connection. Will your friend's suggestion work? Motivate your answer. (2)
- 4.5 You plan to add a graphics card to your computer. Name TWO important hardware specifications of your computer to consider before buying the graphics card. (2)
- 4.6 Four types of hardware specifications that are typically included in system requirements are storage space, RAM requirements, GPU and CPU specifications. Answer the following questions.
- 4.6.1 Why may one ignore the amount of storage space required when using a new application? (2)
- 4.6.2 Specify the locations where a GPU and a CPU are installed. Clearly indicate GPU and CPU followed by your answer. (2)
- 4.6.3 Computers are devices that rely on various technologies working together. Besides printing software, what other software is needed for a computer to print a document? (2)



4.7 The following computer is recommended for general administrative tasks in an office. Answer the questions that follows.

- Intel Core i5 or AMD Ryzen 5 Processor
- 8 GB DDR4 RAM
- 256 GB SSD
- 1 TB Hard drive
- Windows 11, or the latest version of macOS (for Apple users), or a Linux distribution like Ubuntu
- Integrated graphics
- Multiple USB ports (USB 3.0 and USB 2.0) for printers, external hard drives etc., Ethernet port, and Wi-Fi capabilities.
- A webcam and microphone
- Gigabit Ethernet
- Wi-Fi support
- HDMI or Display Port for external monitor connectivity

- 4.7.1 What is the difference in storage space between the SSD and the HDD? (2)
- 4.7.2 Under what category of software will you classify Linux? (1)
- 4.7.3 Give ONE advantage of including a webcam and microphone in the computer specifications. (1)
- 4.7.4 Briefly discuss the meaning of 'Gigabit' in the 'Gigabit Ethernet' specification. (1)
- 4.7.5 Give TWO reasons why the computer with the specifications listed above could be a desktop computer. (2)
- 4.7.6 When connecting a desktop computer to a network, which type of connection would you prefer: wired or wireless? Provide TWO reasons for your choice, but do NOT refer to speed in your response. (2)

[25]



QUESTION 5: NETWORK AND INTERNET TECHNOLOGIES

- 5.1 A NIC allows computers to connect to a network.
What type of NIC is typically found on or used by laptops? (2)
- 5.2 Besides tablets and smartphones, name TWO other internet connected devices found in a home that can be used to create a hotspot. (2)
- 5.3 Network connections are established by adhering to a set of rules for data transmission.
- 5.3.1 What term is used for the set of rules or procedures that make data transmission between electronic devices possible? (1)
- 5.3.2 What does SMTP stand for, and what is its primary purpose? (2)
- 5.4 What is the difference between a wireless access point and a router? (2)
- 5.5 Even though grid computing and big data have different goals, they use a similar approach/method to achieve their goals. Describe what these technologies have in common to achieve their goals. (2)
- 5.6 Name TWO ways to automatically block unwanted content in the web browser. (2)
- 5.7 Briefly discuss TWO actions an ISP can take if a user exceeds their initial data limit, without restricting internet access. (2)

[15]

**QUESTION 6: INFORMATION MANAGEMENT**

- 6.1 Name any TWO examples of information sources that can be used when researching a topic. Exclude any electronic media. (2)
- 6.2 What is the first step in the problem-solving cycle? (1)
- 6.3 Websites are the fastest way to find data when doing research. Apart from accuracy, name and describe two other factors to consider when evaluating websites for research. (4)
- 6.4 List TWO advantages of conducting a survey in person (e.g. at a shopping mall) rather than using email to send a questionnaire. (2)
- 6.5 Electronic surveys or questionnaires often ask for information in the form of codes, such as using 'A' for a motorcycle licence or 'B' for a car licence. Provide one reason why this practice is used. (1)

[10]



QUESTION 7: SOCIAL IMPLICATION

- 7.1 People with disabilities may use devices that operate through gestures or movements. Name one type of gesture or movement that these devices can recognise. (1)
- 7.2 Identify the device described below.
This device can be software only or a combination of hardware and software and it monitors incoming and outgoing network traffic especially when connected to the internet. (1)
- 7.3 Name TWO problems that a company may encounter when implementing a BYOD policy. (2)
- 7.4 Email spoofing and phishing are related. Describe the technique and the purpose of spoofing and phishing. (2)
- 7.5 Backing up data is important for security and recovery. Explain the difference between cloud storage and cloud backup in terms of how data backups are created. (2)
- 7.6 Where is it NOT advisable to sign in for internet banking services? (1)
- 7.7 Most online platforms require an authentication method for security reasons. Explain what two-factor authentication is. (1)

[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1 A web page saved in a text editor like Notepad may not open in a web browser when double-clicked. Explain why this happens and how to ensure it opens correctly. (2)

8.2 You need to create a numbered list in HTML for a series of steps. Write the HTML code to display the following list on a webpage.

A. Item 1
 B. Item 2
 C. Item 3 (3)

8.3 The following database table was created for different sports teams. Study the table design and the data entered in the table and answer the questions that follow.

| Field Name | Data Type | Description (Optional) |
|---------------------|------------|--|
| ID | AutoNumber | |
| Team/Span | Short Text | Team name/Span se naam |
| Won/Wen | Number | Number of times won/Aantal kere gewen |
| Lost/Verloor | Number | Number of times lost/Aantal kere verloor |
| Logo/Wapen | Attachment | Team logo/Span se wapen |
| Register/Registreer | Yes/No | Is registration paid/Is registrasie betaal |

| ID | Team/Span | Won/Wen | Lost/Verloor | Logo/Wapen | Register/Registreer |
|----|-----------|---------|--------------|------------|---------------------|
| 1 | A | 2 | 3 | 📎(0) | Yes |
| 2 | B | 1 | 2 | 📎(0) | Yes |
| 3 | C | 5 | 0 | 📎(0) | No |

8.3.1 Identify the important attribute or element that is missing from the table. (1)

8.3.2 The *Register/Registreer* field currently uses a combo box with 'Yes' and 'No' options. What type of control would be a better option to indicate whether a team has paid the registration fee? (1)

8.3.3 You want to create a calculated field in a query to determine the total number of games played by each team. Write the details of a calculated field, *Total*, that will determine the total number of games played. (2)



- 8.4 Study the spreadsheet below, that is used to determine how many people in a specific street reported a water leak on a specific date, and whether the leak was repaired. Answer the questions that follow.

| | A | B | C | D |
|---|------------|----------------------------|---|---|
| 1 | Date/Datum | Street name/ Straatnaam | Number reported/ Aantal gerapporteer | Repairs completed/ Herstelwerk voltooi |
| 2 | 13-02-2023 | Nuffield | 9 | Yes |
| 3 | 14-02-2023 | Lynn | 6 | Yes |
| 4 | 14-02-2023 | Drake | 1 | No |
| 5 | 23-02-2023 | Pigeon | 3 | Yes |

- 8.4.1 Even if you enter a date in the format '13 February 2023' it is displayed as 13-02-2023. Briefly explain why. (2)
- 8.4.2 You need to find out how many cases have been reported more than 5 times and have been repaired. Why is the COUNTIF function not the correct function to use, and which function should be used instead? (2)
- 8.5 What is the purpose of track changes in a word processing document? (2)

[15]

TOTAL SECTION B: [75]

SECTION C: INTEGRATED SCENARIO

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

SCENARIO

A local security company is using a control/computer centre that will be used to assist in locating missing persons. All the computers in the control room will be connected to a network. Staff working remotely (looking for missing persons) will be able to access the network.

QUESTION 9: INTEGRATION

- 9.1 Briefly explain how a mouse scanner works and give TWO advantages of a mouse scanner. (3)
- 9.2 The administrator wants to connect an SSD to the computer. Name the types of connections used for internal and external SSD connections. Clearly state 'internal' and 'external' followed by your answer. (2)
- 9.3 New computers acquired by the centre will be connected to the network. Why is it necessary to use a server in a network? (2)
- 9.4 A printer with the following features is suggested for the admin staff. Study the features and answer the questions that follow.

Print Speed: Up to 32 pages per minute
 Paper Capacity: 250-sheet input tray
 Duplex Printing: Automatic duplex printing
 ADF (Automatic Document Feeder)

- 9.4.1 What is a printer called that can print, copy, and scan? (1)
- 9.4.2 Explain how the automatic document feed feature will improve the work of the admin staff. (2)
- 9.4.3 The picture below shows the LCD screen found on a printer that will be used by the admin staff. Name TWO functions of the LCD screen. (2)





- 9.5 The network administrator mentions multiprocessing and multitasking in a presentation. Explain the difference between multiprocessing and multitasking. (4)
- 9.6 Briefly describe multi-touch technology and name ONE component (not a device) that uses it. (2)
- 9.7 The security company has not yet received their 'green company' certification. In addition to e-waste, discuss TWO ways in which technology contributes to environmental problems. (2)
- 9.8 Explain the concept of internet of things. (2)
- 9.9 Cryptocurrencies are sometimes used for payment in criminal activities. Briefly discuss how blockchain makes it more difficult to receive payment for criminal activities. (2)
- 9.10 Explain how virtual reality can be used to the benefit of the security company. (1)

[25]



QUESTION 10: INTEGRATION

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

- 10.1 The security company is investigating the use of AI (artificial intelligence) to help locate missing people.
- 10.1.1 Give a description of AI. (2)
- 10.1.2 Discuss TWO ways in which AI can be used to locate missing persons. (2)
- 10.2 The security company needs staff working remotely to have internet access on their laptops, but the laptops are not equipped for sim cards. Explain how they can access the internet without connecting to a hotspot or access point. (2)
- 10.3 Files containing information about missing persons may be too large to e-mail due to the inclusion of photos and other graphics. Suggest an alternative method for sharing these files without using e-mail. (2)
- 10.4 Instant messaging and e-mail will be the two main communication methods used by the control room and staff working remotely. Answer the following questions.
- 10.4.1 Distinguish between instant messaging and e-mail programs (like Outlook and Firefox) in terms of receiving messages. (2)
- 10.4.2 Explain how staff working remotely can access e-mails even if the e-mail program is not installed on the computer. (1)
- 10.5 Why might the staff not be able to perform the same tasks on mobile devices as on desktop computers, with the same version of applications, such as Microsoft 365? (1)
- 10.6 You suggest that the company use geotagging to locate a person. Justify your recommendation by providing TWO ways geotagging can be used for this purpose. (2)
- 10.7 Briefly explain how ransomware prevents staff from accessing the company's data. (1)

10.8 Some staff makes use of telecommuting while others use a mobile office approach. Answer the following questions.

10.8.1 Distinguish between the equipment used in a mobile office and the equipment used for telecommuting. (2)

10.8.2 In the context of the work environment, describe what a mobile office and telecommuting have in common. (1)

10.8.3 How can companies ensure data security and data privacy when staff are telecommuting? (2)

10.9 The following database table design and information entered in the table is a part of a table containing information about missing persons who have been found. Answer the questions that follow.

| Field Name | Data Type | Description (Optional) |
|-------------|------------|-------------------------|
| ID | AutoNumber | |
| Name/Naam | Short Text | |
| Surname/Van | Short Text | |
| Date/Datum | Date/Time | Date found/Datum gevind |
| Days/Dae | Number | Days missing/Dae weg |

| ID | Name/Naam | Surname/Van | Date/Datum | Days/Dae |
|----|-----------|-------------|------------|----------|
| 1 | Mary | Lundall | 2022-09-15 | 10 |
| 2 | Janette | Jones | 2023-03-14 | 5 |
| 3 | Jonathan | Botes | 2023-02-06 | 78 |

10.9.1 The properties of the Days/Dae field are displayed below. Which property should be changed and what data type would you recommend? (2)

| General | | Lookup |
|-----------------|--------------|--------|
| Field Size | Long Integer | |
| Format | | |
| Decimal Places | Auto | |
| Input Mask | | |
| Caption | | |
| Default Value | 0 | |
| Validation Rule | | |
| Validation Text | | |
| Required | No | |
| Indexed | No | |
| Text Align | General | |

10.9.2 The following query was created. Briefly explain why the Surname/Van field is redundant in this query. (2)

| Field: | Surname/Van | Days/Dae | Date/Datum |
|-----------|--------------------------|-------------------------------------|--------------------------|
| Table: | V10 | V10 | V10 |
| Sort: | | | |
| Show: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Criteria: | | | >#2023-01-01# |



- 10.10 A form was created in MS Word with content controls, but after adding the controls and disabling the design option, the staff could not enter or select data on the form. Briefly explain the most probable cause for this. (1)

[25]

TOTAL SECTION C: [50]

GRAND TOTAL: [150]