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NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2025

COMPUTER APPLICATIONS TECHNOLOGY P2

MARKS: 150

TIME: 3 hours

This question paper consists of 17 pages.



SA EXAM PAPERS

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of:

SECTION A (25 marks)
SECTION B (75 marks)
SECTION C (50 marks)
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 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, for example 1.11 D.

- 1.1 Which ONE of the following would ensure a safe supply of electricity for computers during a power outage?
- A Power supply
 - B UPS
 - C Modem
 - D ROM
- (1)
- 1.2 Which ONE of the following refers to a protocol that provides a measure of protection to users of websites when online banking is done?
- A HTTPS
 - B FTP
 - C HTML
 - D HTTP
- (1)
- 1.3 The process of getting data from a CSV file into an application is called ...
- A exporting.
 - B compressing.
 - C copying.
 - D importing.
- (1)
- 1.4 Which ONE of the following stores the instructions for starting (booting) a computer?
- A RAM
 - B ROM
 - C SSD
 - D CPU
- (1)
- 1.5 ... is a standard, usually used when making a payment at a card machine, that allows devices to transfer data when they are in very close proximity.
- A Wi-Fi
 - B RFID
 - C NFC
 - D VPN
- (1)

- 1.6 Which ONE of the following statements about blockchain technology is FALSE?
- A Information recorded in a blockchain is not designed to be edited.
 - B Blockchain transactions rely on an external authority.
 - C Any kind of information can be stored in the blocks.
 - D Blockchain transactions are linked together and distributed among users. (1)
- 1.7 Which ONE of the following file types is most likely to include *geo-tagging* in its metadata?
- A .HTML
 - B .MP3
 - C .JPG
 - D .PDF (1)
- 1.8 In word processing, Harvard and APA are styles associated with the ...
- A bibliography.
 - B headings.
 - C captions.
 - D footnotes. (1)
- 1.9 ... is a wild card character that can be used in a spreadsheet function or in a database query.
- A \$
 - B #
 - C !
 - D * (1)
- 1.10 Which ONE of the following would result in the correct layout for the first row of the table below coded in HTML?
- | DSTV Shows | | |
|------------|---------------|--------------|
| Monday | 14:00 – 15:00 | CSI |
| Tuesday | 15:00 – 16:00 | Storage Wars |
| Wednesday | 17:00 – 18:00 | MasterChef |
- A `<td rowspan = "3"> DSTV Shows </td>`
 - B `<tr colspan = "3"> DSTV Shows </tr>`
 - C `<th colspan = "3"> DSTV Shows </th>`
 - D `<th rowspan = "3"> DSTV Shows </th>` (1)
- [10]**

QUESTION 2: MATCHING COLUMNS

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, for example 2.11 U.

COLUMN A		COLUMN B
2.1	A destructive program disguised as a useful application	A NIC
		B RAM
2.2	The specification that refers to the number of colours that a pixel can represent	C CAPTCHA
		D Upgrading
2.3	A server that monitors and controls internet usage of devices connected in the network	E Resolution
		F GPS
2.4	An internal hardware component that allows a computer to connect to a network	G Template
		H Proxy
2.5	A security measure put into place to ensure a new user trying to register an account is in fact human	I Worm
		J Trojan
2.6	Software that enables a scanner to locate text in an image and then convert it to editable text	K Switch
		L TODAY
2.7	A term used to describe when a newer version of an application is bought and installed	M Lumen
		N OCR
2.8	A pre-designed document used as a starting point for the creation of new documents	O Updating
		P Virus
2.9	A unit used to describe the brightness of the image of a data projector	Q Colour depth
		R NOW
2.10	A spreadsheet function that returns both the date and time	S Theme
		T Response time

(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 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
A <u>mouse</u> is an input device.	True
<u>Green computing</u> refers to old computing devices that people throw away and that end up in landfill sites.	False – E-waste

- 3.1 The EULA is a formal document that outlines the rules and guidelines for how employees may use the company's IT systems, networks, and digital resources. (1)
- 3.2 RSI is an injury that results from fast, repetitive work. (1)
- 3.3 The VGA port on a computer carries both audio and video signals. (1)
- 3.4 M-Learning is education using portable devices, via the internet. (1)
- 3.5 Companies often release shareware versions of their software for testing purposes before the software is released for sale. (1)

[5]**TOTAL SECTION A: 25**

SECTION B**QUESTION 4: SYSTEM TECHNOLOGIES**

- 4.1 Android is an example of open-source software (OSS).
- 4.1.1 Give ONE advantage and ONE disadvantage of OSS. (2)
 - 4.1.2 What type of software would Android be classified as? (1)
 - 4.1.3 Give TWO main functions of this software. (2)
 - 4.1.4 Name the type of device that Android would commonly be found on. (1)
- 4.2 Your parents bought a new multi-function printer for their home office and were prompted to install a driver.
- 4.2.1 Define the term *driver*. (2)
 - 4.2.2 Would the above printer be classified as a plug-and-play device? Motivate your answer by referring to the definition of plug-and-play. (3)
 - 4.2.3 Other than printing, give another function of a multi-function printer. (1)
 - 4.2.4 Explain why a multi-function printer is an example of convergence. (1)
- 4.3 As the hard drive becomes full it becomes slow and less responsive.
- Name a utility software, and explain how it can be used to:
- 4.3.1 Speed up the computer. (2)
 - 4.3.2 Free space on the hard drive. (2)
- 4.4 A good quality ergonomic keyboard and mouse would be of importance for a professional gamer.
- 4.4.1 Explain what is meant by the term *ergonomics*. (2)
 - 4.4.2 Give ONE feature of an ergonomically designed keyboard, other than being able to 'tilt'. (1)
 - 4.4.3 Give ONE advantage of using a wired keyboard and mouse. (1)
 - 4.4.4 Give TWO troubleshooting tips that you can try to get a non-responding wired keyboard to start working again. Assume the keyboard itself is clean and not damaged. (2)
 - 4.4.5 Name the type of user that a professional gamer would be classified as. (1)
- 4.5 Give ONE input device that is found in a laptop, but not in a typical desktop computer. (1)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1 Explain the difference between a *router* and a *switch* in a network. (2)

5.2 Consider the advertisement for a fixed internet connection below and answer the questions that follow.



5.2.1 Give TWO advantages of using Fibre compared to ADSL, other than having a faster data transfer speed. (2)

5.2.2 Write down the missing unit in which the speed of the internet connection is measured in. (1)

5.2.3 Explain the term *unthrottled* with regards to this package. (2)

5.2.4 Give the general name for a company such as 'Axxess' and name one other service that they could provide, other than internet access. (2)

5.3 Give any TWO advantages of e-commerce from the seller's point of view. (2)

5.4 Give TWO security measures used by banks to protect their clients. (2)

5.5 Both grid computing and botnets connect many computers to perform tasks.

Explain ONE key difference between how grid computing and botnets operate, focusing on the purpose and user control. (2)

[15]

QUESTION 6: INFORMATION MANAGEMENT

- 6.1 Questionnaires are commonly used in research projects.
- 6.1.1 Give ONE advantage and ONE disadvantage of using online questionnaires to collect data. (2)
- 6.1.2 Suggest TWO reasons why a researcher might choose to use a spreadsheet for data analysis. (2)
- 6.1.3 Explain why it is sometimes necessary to use a questionnaire to obtain information, when so much information already exists on the internet and can simply be downloaded (1)
- 6.1.4 The researcher has the option to shorten the URL before sending the link for the questionnaire.
- Give ONE benefit of choosing the option to shorten the URL. (1)
- 6.2 Give ONE example of information that is commonly included on the cover page of a report, besides the title of the report. (1)
- 6.3 Explain the purpose of a citation in a word processing document. (1)
- 6.4 The evaluation of a website accuracy used, by comparing the information to other sources, is essential in research.
- Discuss TWO other criteria used for evaluating websites. (2)
- [10]**

QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Your school's network has been infiltrated by a hacker. The hacker has installed malware that encrypted the data, and is now demanding to be paid via Bitcoin.
- 7.1.1 Give the name for the type of malware described above. (1)
- 7.1.2 Define the term *encryption* in the context above. (1)
- 7.1.3 Why do criminals prefer to be paid via Bitcoin? (1)
- 7.2 Discuss ONE example in your school where the use of computers could accomplish these goals:
- 7.2.1 Saving paper (1)
- 7.2.2 Saving time (1)
- 7.3 What is the purpose of a *firewall* in a computer system? (1)
- 7.4 Explain how spoofing can be used in a phishing email. (2)
- 7.5 Give TWO good practices to follow when using a computer to help ensure the physical health of the user. (2)
- [10]**

QUESTION 8: SOLUTION DEVELOPMENT

- 8.1 A user added an automatic table of contents to a document but found out that none of the headings were included in the table of contents.

Indicate what the user must do to include the headings in the table of contents. (1)

- 8.2 Where should one place text in a word-processing document so that it automatically appears on every page? (1)

- 8.3 For which category of disabled user is it important to use Word's Accessibility Checker? (1)

- 8.4 Study the screenshot of a database table in Design View below and answer the questions:

Field Name	Data Type	Description (Optional)
ID	AutoNumber	
Volunteer	Short Text	Name of volunteer
Gender	Short Text	
CellNo	Short Text	
Friday	Yes/No	
Saturday	Yes/No	
HoursPerDay	Short Text	The number of hours
Help	Short Text	Where volunteer is willing to assist
Donation	Currency	Amount donated

Field Properties		
General Lookup		
Field Size	255	A field name can be up to including spaces. Press F names.
Format		
Input Mask		
Caption		
Default Value		
Validation Rule	> 0 Or <= 5	
Validation Text	Only values between 1 and 5 may be entered	
Required	Yes	
Allow Zero Length	Yes	
Indexed	Yes (No Duplicates)	
Unicode Compression	No	

- 8.4.1 The validation rule for the HoursPerDay field is supposed to ensure that only values between 1 and 5 (both included) are accepted, but it is incorrect.

Correct the validation rule in the screenshot. (1)

- 8.4.2 Give TWO reasons, other than the incorrect validation rule, why the design of the HoursPerDay field may cause errors. (2)

- 8.4.3 The following criteria appears in the Donation field of a database query:

IS NULL

Explain the output of this query. (1)

8.5 Study the spreadsheet below and answer the questions that follow:

	A	B	C	D	E	F	G	H	I
1	Riverside Holiday Resort								
2									
3	Resident information			Room Rate per person per night			R950.00		
4									
5	Surname	Name	Initial	Room number	Date-in	Date-out	Total Days	Number of people	Total
6	Carrington	Lena	L	33	2025/04/13	2025/04/20	7	3	R19 950.00
7	Mendoza	Elias	E	8	2025/01/10	2025/01/14	4	2	R0.00
8	Nguyen	Talia	T	16	2025/02/25	2025/03/01	4	4	#VALUE!
9	Whitaker	Jordan	J	24	2025/04/02	2025/04/05	3	1	R21.00
10	Voss	Amira	A	11	2025/06/30	2025/07/05	1900/01/05	2	R40.00

8.5.1 Cell G10 does not have the same output as the previous cells.
Explain what needs to be done to rectify the situation. (1)

8.5.2 Explain in your own words what needs to be done to obtain the amount displayed in cell I6 in the Total column. (2)

8.5.3 Explain the most likely cause why the formulas in I6:I10 are not working correctly. (1)

8.5.4 Name the function that can be used to extract the initial from the Name. (1)

8.5.5 Write down the result of the following function: =LEN(A10) (1)

8.6 How does the function of a tag differ from that of an tag used in the code for a web page? (2)
[15]

TOTAL SECTION B: 75



SECTION C**QUESTION 9: INTEGRATED SCENARIO**

A local school has decided to build a new Robotics and Gaming Centre. The centre will be equipped with laptops, tablets, data projectors, 3D printers and robotic equipment. The school wishes to educate learners on building and coding their own drones and they also want to enter into online gaming tournaments.

- 9.1 Study the advertisement of the following gaming computer and answer the questions that follow.

Windows 11 Corsair Gaming PC for R41 999.00

Intel Core i7-12700 12-Core 2.7GHz

32GB DDR4 3600MHz

MSI GeForce RTX 3070 8GB Graphics Card

500 GB SSD + 2 TB HDD

1600 Watt PSU

Samsung 27" Odyssey FHD (1920 x 1080) 180Hz Gaming Monitor



- 9.1.1 Name the manufacturer of the processor. (1)
- 9.1.2 Discuss TWO advantages of using a SSD, other than faster data transfer. (2)
- 9.1.3 How much memory does this computer have? Explain the impact of having more memory on a computer. (2)
- 9.1.4 What is the purpose of cache memory in a computer system? (1)
- 9.1.5 Which component would generally have cache memory? (1)
- 9.1.6 Explain the difference between the size and the resolution of a monitor by also writing down the specification of each from the advertisement above. (4)
- 9.2 A 3D printer will print out plastic pieces needed to build a small robot.
- 9.2.1 Explain how a 3D printer works. (2)
- 9.2.2 Give TWO limitations of using this type of printer, besides answers relating to cost. (2)

- 9.3 A web-based application will be used to teach learners how to code a small robot.
- 9.3.1 Explain what a *web-based* application is. (2)
- 9.3.2 Give TWO advantages of using a web-based application. (2)
- 9.4 Some games will be using Virtual Reality (VR) and Augmented Reality (AR).
- 9.4.1 Explain the key difference between *VR* and *AR*. (2)
- 9.4.2 Discuss ONE limitation of virtual reality, other than the need for specialised equipment. (1)
- 9.5 As there will be a lot of expensive equipment in the centre, including laptops and tablets, there is a concern about security.
- Give TWO methods of securing the laptops and tablets against physical theft. (2)
- 9.6 A video to promote the new centre was being played in assembly. While the video was playing, the teacher had to press <Ctrl>+<Alt>+ to solve a problem.
- Name the utility software that can be opened using this shortcut. (1)
- [25]**

QUESTION 10: INTEGRATED SCENARIO

Read the extract below and answer the questions that follow.

Drones, body-worn cameras and other tech to help secure SA's borders

Guy Martin - 11th April 2025



Leon Schreiber and Michael Masiapato with a BMA drone.

Quadcopter unmanned aerial vehicles (UAVs), or drones, as well as body-worn cameras and other new technologies have been introduced by the Border Management Authority (BMA) to secure South Africa's borders and points of entry.

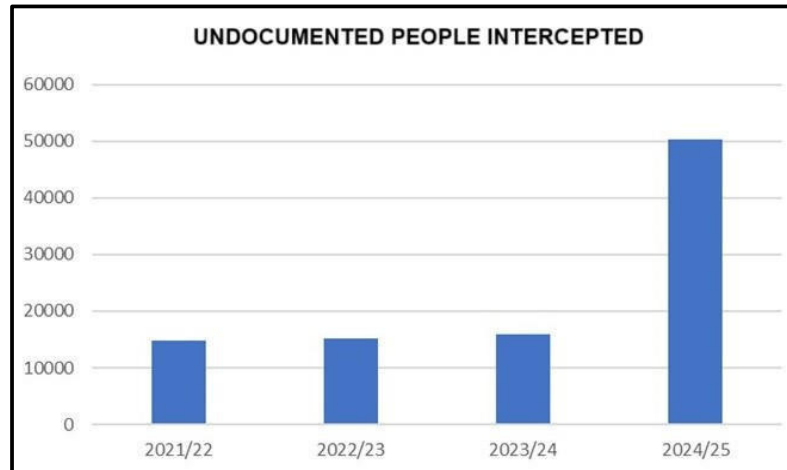
Speaking at a media briefing on Thursday, Home Affairs Minister Dr Leon Schreiber said the launch of the new technology marks a big step forward for enhancing border security and management.

Extract obtained from: <https://www.defenceweb.co.za/featured/drones-body-worn-cameras-and-other-tech-to-help-secure-sas-borders/>

- 10.1 The drones will be powered by Artificial Intelligence (AI) so that they are able to recognise and lock onto heat sources, moving people or vehicles.
 - 10.1.1 Briefly describe what a *drone* is. (2)
 - 10.1.2 Discuss TWO limitations of using drones in the scenario above. (2)
 - 10.1.3 Define the term *Artificial Intelligence*. (2)
 - 10.1.4 Give TWO advantages of using Artificial Intelligence. (2)
- 10.2 All the camera footage will be 'synced' to online/cloud storage.
 - 10.2.1 Define the term *sync*. (2)
 - 10.2.2 Give TWO disadvantages of using online storage. (2)
 - 10.2.3 Give an example of an online storage platform that can be used. (1)

- 10.3 All the photos and videos will need to be backed up.
- 10.3.1 What storage medium would be best suited to back up all the data, besides online storage? (1)
- 10.3.2 Give ONE reason why backups should be stored off-site. (1)
- 10.3.3 Give TWO reasons as to why it is better to use a specialised backup application compared to the backup utility included in the operating system. (2)
- 10.4 The officials from the different borders around South Africa will be using video conferencing to have meetings.
- 10.4.1 Give TWO good practices to follow when making video calls. (2)
- 10.4.2 Name the protocol used that enables users to transfer their voice over a network. (1)
- 10.5 The officials need to sign into the computers using their fingerprint.
- 10.5.1 Give the name for this type of input. (1)
- 10.5.2 Explain why using a fingerprint compared to using a PIN code or a password is more secure. (2)
- 10.6 New appointment letters need to be drawn up for the employees that will be flying the drones.
- Which word processing feature is best suited to generate personalised appointment letters for multiple employees by automatically inserting individual details such as names and job titles into a standard template? (1)

- 10.7 The following is a chart on the statistics regarding undocumented people intercepted over the years.



What chart type would have been more suitable to represent this data?

(1)

[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150