basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2024

MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 21 pages.

SUGGESTIONS AND RECOMMENDATIONS TO MARKERS

- Revisit the questions and the marking guidelines frequently during the marking session.

- It is advisable to read (and re-read) the question frequently together with the candidate's response to check that it correlates, so that you are not misled by the candidate's statements/answers.

- Be careful not to focus on keywords or general statements, but rather read the entire answer. If in doubt, read the entire answer and then the question paper and the marking guidelines.
  - Ask yourself or your senior marker if the response could 'fit' into the marking guidelines before allocating the correct marks to the candidate.
  - Accept correct answers that are expressed differently, e.g. the marking guidelines state 'slow' and the candidate responds with 'not fast'.

- Beware of overlapping answers to a specific question. In general, ONE mark is awarded per fact.

- Do not choose answers on the candidate's behalf. Where a question requires a candidate to <u>LIST</u> or <u>NAME</u>: mark the first number of answers/facts required, e.g. the first TWO facts if the candidate presents a list of FIVE facts and only TWO facts were required, even if presented in paragraph format.

- Questions requiring longer answers must be regarded as a single unit. Marks can be awarded if correct statements are found anywhere in the paragraph.

SECTION A

QUESTION 1: MULTIPLE-CHOICE			
1.1	C	✓	1
1.2	C	✓	1
1.3	D	✓	1
1.4	A/B/C	✓	1
1.5	B	✓	1
1.6	C	✓	1
1.7	A/C	✓	1
1.8	D	✓	1
1.9	D	✓	1
1.10	D	✓	1
		Total: [10]	

QUESTION 2: MATCHING ITEMS				
2.1	R	✓	Convergence	1
2.2	E	✓	Watermark	1
2.3	P	✓	Default value	1
2.4	C	✓	Objectivity	1
2.5	K	✓	GB	1
2.6	T/G	✓	Geotagging/ Location sharing	1
2.7	N	✓	Plug-and-play	1
2.8	H	✓	Digital footprint	1
2.9	A	✓	#Value!	1
2.10	O	✓	Drivers	1
			Total: [10]	

QUESTION 3: TRUE/FALSE ITEMS

	(Note to marker: • *In Question 3.2, 3.3 and 3.5, candidates need to provide the correct term, e.g. Motherboard, in order to get the mark* • <u>*Award the mark if the correct answer is given without the word FALSE*</u> • *Do NOT award the mark if only the word FALSE is given without the correct answer)*	
3.1	True ✓	1
3.2	False – Braille ✓	1
3.3	False - Secondary ✓	1
3.4	True ✓	1
3.5	False – Focus (question) ✓	1
		[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1	**TWO disadvantages of using a wireless mouse** (1) Can easily be lost/stolen (2) Batteries should be replaced often (3) Prone to signal interference/disturbance (4) Bluetooth receiver can be lost/damaged then mouse won't work/device out of range of receiver ✓✓ (Any two)		2
4.2	**Biometric security and ONE example of a biometric device** **Explanation:** Biometric security is using unique biological features ✓ to access devices/systems **ONE Example of a biometric device:** (1) Fingerprint reader/scanner (2) Iris/Eye/Retinal scanner (3) Facial recognition camera (4) Voice recognition microphone ✓ (Any one)		2
4.3	**Purpose of a UPS compared to a permanent power supply** **Comparison:** A power supply is designed to provide continuous power, ✓ while a UPS provides backup power during outages ✓ **OR** **Accept any two aspects for UPS:** (1) A UPS has a battery backup system (2) A UPS provides backup power during outages (3) A UPS protects your device against power surges (4) A UPS allows user to save their work before switching off the device ✓✓ (Any two)		2

4.4	**THREE basic components of hardware** (1) Processor (CPU) (2) Memory (RAM) (3) Storage (SSD/HDD) (4) Motherboard (5) Graphics card (GPU) (6) Network card (NIC) (7) Power supply 　　　　　　　　　　　　　　　　✓✓✓ (Any three)		3
4.5	**TWO reasons why projector shows 'No Signal'** (1) Cable/signal (WiFi; Bluetooth, etc.) not connected properly (2) Faulty cable/port (3) Incorrect display settings (e.g., extended, duplicate, etc.) (4) Computer is off or on sleep mode (5) Faulty/outdated drivers (6) Correct source is not selected (PC/VGA/HDMI, etc.) 　　　　　　　　　　　　　　　　✓✓ (Any two)		2
4.6	**Accessibility features a deaf person can use** (1) Captions/subtitles for spoken dialog (2) Speech-to-text (3) Visual (flashing) notifications for sounds (4) Motion (vibration) notifications for sounds 　　　　　　　　　　　　　　　　✓✓ (Any two)		2
4.7.1	**Difference between single-user and multi-user system** A single-user system is limited to only one active user ✓/one user at a time Multi-user system allows more than one user at the same time ✓ *(Note to marker: Do not accept a repetition of the question)*	2	
4.7.2	**Example multi-user system** (1) Online gaming (2) Online platforms (3) (Networked) companies/institutions (e.g., school, university, banks, SARS, etc.) 　　　　　　　　　　　　　　　　✓ (Any one) *(Note to marker: Accept any valid example)*	1	3

4.8	**TWO ways to customise GUI** **Display/Visual settings** (1) Adjust screen resolution (2) Change background (3) Themes (4) Font size/colour (5) Brightness of screen **Desktop layout/organisation** (6) Add/remove shortcuts/icons (7) Format shortcuts/icons **Input/device settings** (8) Custom keyboard (9) Change cursor size/shape **Sound settings** (10) System sound (11) Notification sound **Menu customisation** (12) Quick access menus (13) Accessibility **Windows behaviour** (14) Multiple desktop **System preference** (15) Date/time format (16) Notification tray icons ✓✓ (Any two) *(Note to marker: Accept any relevant answers)*		2
4.9.1	**Fix software bugs in software** (1) Install a patch (2) Install a service pack (3) Update software ✓ (Any one)	1	3

4.9.2	**TWO risks of flawed software** (1) Security vulnerabilities: create security loopholes that attackers might use to gain unauthorised access (2) Data loss or corruption: data can be lost or corrupted (3) System crashing: the device can malfunction or crash, causing a disruption in normal operation (4) Compatibility issues: can cause compatibility problems with hardware and software ✓✓ (Any two)	2	
4.10	**Hidden attribute vs read-only attribute** Hidden: The user cannot see the file ✓ Read-only: The user can see the file, but cannot change the file ✓ **OR** **Hidden:** (1) Hides the file from view and layout (2) Not visible to a user if show/hide is not enabled **OR** **Read-only:** (1) Prevents user from editing the file but can still be opened (2) Immediately visible to user (3) Can be viewed and copied, but not edited or deleted without changing the attribute *(Note to marker: Accept any TWO answers)*	2	
4.11	**Explain disk optimisation** To reorganising fragmented/scattered data on a computer's hard disk ✓ to improve performance and efficiency/fixing disk errors ✓	2	
		[25]	

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	**Communication medium for high-speed internet connection** (1) Fibre optic cable (2) Copper Cable (Coaxial) (3) DSL (Digital Subscriber Line) (4) Ethernet (5) Radio waves 4G/5G/LTE Cellular Networks (6) Satellite ✓ (Any one)		1
5.2	**Explain a wireless access point** A device ✓ that allows other wireless devices to connect to a wired/wireless network ✓		2
5.3	**ONE method to secure network** (1) Firewalls (2) VPN (3) Access controls/Authentication/Logins (Username and Password) (4) Antivirus or anti-malware security (5) Use security protocols for password encryption (6) Network data/files can be encrypted ✓ (Any one)		1
5.4	**TWO reasons NOT to use Intranet** (1) Company too small to justify cost of Intranet/Often tied to licencing (Office etc.) (2) Staff can bring in unauthorised devices and infect the intranet with malware (3) Requires integration and maintenance (4) Often overly complex for employees/ Inaccessible/challenging to access for employees working from home/personal PCs or smartphones/Rarely equipped with offline functionality/Employees need to be trained ✓✓ (Any two)		2
5.5	**Explain 4IR** Integration of technologies ✓ in the physical, digital, biological world ✓ *(Note to marker: Do not accept only examples without an explanation)*		2

5.6	**TWO advantages of tabbed browsing** (1) Efficient use of screen space (2) Faster navigation/Saves time to access websites (3) Access to more than one website (4) Organise tabs in groups (5) Allows multiple home pages that all open simultaneously (6) Convenient for multitasking ✓✓ (Any two)		2
5.7	**TWO factors that may decrease upload and download speed** (1) File size/Multiple files open (2) Bandwidth size (3) Background applications running (4) The type of internet connection (e.g., DSL, cable, fibre) (5) The quality/stability/reliability of the connection/network traffic/congestion (6) Distance from the service provider/router (7) Hardware capabilities (router, modem) (8) Shaping (9) Throttling (10) Capacity of the ISP's infrastructure (11) Efficiency of the user's devices ✓✓ (Any two)		2
5.8.1	**Subject line not appropriate** The subject line does not indicate the topic of the e-mail ✓	1	
5.8.2	**Difference between flagging and prioritise** High priority: These emails are marked as important ✓ by the sender/should be addressed promptly Flagging: Flagging is a way for you to organise/categorise/prioritise/follow up or keep track of e-mails ✓	2	3
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	**TWO ways for presenting research information to target audience** (1) Write a report (2) Create a presentation (3) Create a website (4) Podcast/Vodcast (5) Social media (6) Printed media ✓✓ (Any two) *(Note to marker: Accept any valid examples)*		2
6.2	**ONE reason for using older sources** (1) Factual information that won't change (2) Established authority and credibility of the author (3) Historical information (4) The information is still relevant (5) Can be compared to newer sources ✓ (Any one)		1
6.3	**TWO guidelines for setting questions in a questionnaire** (1) Use mostly closed questions (2) Keep questions short (3) Categorise/Group questions (4) Limit number of questions/Time to complete questionnaire (5) Use easily understandable language (6) Relevant questions/Target audience (7) Give options to choose from (8) Ask questions that will not guide people to specific answers/Unbiased *(Note to marker: Accept any valid answers)* ✓✓ (Any two)		2
6.4	**ONE reason to use database for data processing instead of spreadsheet** (1) Perform (complex) queries (2) To create reports with grouping/calculations (3) Relate or link lots of data (4) Amount of data is too complex to work with/view in a spreadsheet *(Note to marker: Accept any valid answer)* ✓ (Any one)		1

6.5.1	**ONE referencing feature except citation** (1) Bibliography (2) Endnote/Footnote (3) Caption ✓ (Any one)	1	
6.5.2	**Example of type of data** (1) Include the image creator/author/photographer/artist name (2) Name of image (3) Website/Hyperlink (URL) to the original source (4) Date of creation, publisher *(Note to marker: Accept any valid answer)* ✓ (Any one)	1	2

6.6	**Indicate TWO findings of this report**
	
	(1) The average age for participants of the bike race is 32
	(2) The number of participants for the bike race is 5
	(3) 3 of the participants for the bike race are older than 30 years/
	    2 participants for the bike race are 30 years and younger
	(4) More participants in their 30's choose to bike
	(5) More runners than bikers
	                    ✓✓ (Any two)
	
	(Note to marker: Do not allocate marks for layout explanations)
			2

			[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1.1	**Definition of a computer virus** Software/program/app ✓ that is designed for malicious intent/unwanted/unexpected ✓	2	
7.1.2	**TWO ways a virus affects a computer** **Programs and files** (1) File(s) become corrupt (2) Unknown program(s) or file(s)/folders suddenly appears (3) Additional programs start to run when the computer is started (4) Size of a file changes without explanation (5) Program(s) or file(s) are suddenly missing (6) Program/file changes without explanation/stop operating properly **System** (1) Settings of security software changed/switched off (2) Strange/unexpected message/pop ups/image/error messages displayed on the computer screen (3) Computer suddenly begins to start or run slowly (4) Unauthorised changes made to the registry (5) The available memory is less than it should be (6) System properties change (7) Free hard drive space suddenly gets reduced (8) Network performance is influenced (9) Computer no longer boots *(Note to marker: Accept any valid answers)* ✓✓ (Any two)	2	4
7.2	**Term for all ways of misleading people into obtaining confidential information for fraud** Social engineering ✓		1
7.3.1	**Explain green computing** Using computers in a way that is not harmful to the environment ✓	1	2

7.3.2	**ONE energy saving method** (1) Switch off devices/unplug devices when not in use (2) Enable sleep/hibernate function if computer is not in use (3) Reduce screen brightness (4) Enable battery saving mode (5) Use energy saving devices e.g., LCD screen, SSD ✓ (Any one)	1	
7.4.1	**Term for threat** Click-jacking/Pharming ✓	1	
7.4.2	**TWO recommendations to prevent the redirection to a malicious page** (1) Download songs only from well-known websites (2) Verify that the website URL is correct and matches the official site (3) Use browser settings that require you to click to play multimedia content (4) Install pop-up blockers (5) Use browser extensions that provide additional security features (6) Keep your web browser up-to-date (7) Before clicking on a download link, hover over it to see the actual URL (8) Avoid clicking on any pop-ups, banners, or unexpected buttons that appear while you're trying to download (9) Keep your antivirus software updated and running (10) Check reviews and ratings of the download service or file before proceeding (11) Ensure the website uses HTTPS *(Note to marker: Accept any valid answers)* ✓✓ (Any two)	2	3
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1	**Feature to change headings at the same time** Styles ✓		1
8.2.1	**Features to set tab stops** Using the ruler ✓ Use tab settings ✓	2	
8.2.2	**ONE purpose of adding a leader line** (1) To improve the readability/alignment of text in documents (2) Visually connect and guide the reader's eye across the space between tab stops (3) To add signature/date lines ✓ (Any one)	1	3
8.3.1	**Feature to create a list** Multilevel list ✓	1	
8.3.2	**Date is not part of the list item** The date is still part of the same paragraph because a line break/soft enter/Shift+Enter was used ✓ A new number will only display for a new paragraph break/Enter ✓	2	3
8.4	**Difference between \<th> and \<td>** \<th> Creates a header cell in a table/text that is bold and centred ✓ \<td> Creates a cell to add data in a table ✓		2
8.5.1	**Use of OLE object** Used for linking/embedding/inserting images/files/videos as data ✓	1	
8.5.2	**Data types that can be used for text** (1) Short text (2) Long text (3) Lookup ✓✓ (Any two)	2	3

8.6	**Functions combined to extract username from email address** LEFT ✓ **OR** MID LEN ✓ FIND ✓		3
			[15]

TOTAL SECTION B: **75**

SECTION C

QUESTION 9: INTEGRATED SCENARIO

9.1	**TWO advantages for the committee for design of softcopy vs hardcopy** (1) Interactive elements (2) Saving of printing cost (3) Easy to change/update (4) Reach larger audience/Easier to share (5) Saves the environment (6) Accessibility features ✓✓ (Any two)		2
9.2.1	**Network policy for the school that must be in place** AUP ✓	1	
9.2.2	**Explain network adaptor** A component in a computer that enables network connection ✓	1	
9.2.3	**Network slow while working on the e-magazine** (1) Not enough bandwidth/Network traffic/Congestion (2) Files being shared are too large (3) Weak signal (4) Faulty/Outdated hardware (5) DDoS attacks ✓✓ (Any two)	2	4
9.3.1	**TWO disadvantages of using video conferencing** (1) Requires a fast internet connection (2) Consumes a lot of data when using video/depletes CAP quickly (3) Lack of physical face to face contact/non-verbal cues ✓✓ (Any two)	2	
9.3.2	**Good practice to consider when conducting online interview** (1) Eliminate background noises (2) Equipment must be set up correctly (3) Make sure that the interview is recorded (4) Make sure there is good lighting (5) Speak clearly/Audible *(Note to marker: Accept any valid answer)* ✓ (Any one)	1	

9.3.3	**Interview is better than questionnaire** (1) Deeper insight/clarification and follow up (2) Non-verbal cues (3) Response is immediate (4) Building relationships *(Note to marker: Accept any valid answers)* ✓✓ (Any two)	2	5
9.4.1	**Acronym meaning for MP** Megapixel ✓	1	
9.4.2	**Use of OCR software** To produce an editable soft copy ✓ from a scanned document	1	
9.4.3	**Recommend why NOT to scan old photos** (1) Poor quality scanned image (2) All imperfection (like tear and cracks) will also be included in the image (3) Time consuming process (4) Fragile photos might be damaged ✓ (Any one)	1	3
9.5	**TWO advantages of storing photos in the cloud instead of on local storage** (1) Convenient access from any device anywhere/anytime with internet connection (2) Serves as storage space to backup (3) Service provider may provide more security than local storage (4) Saves local storage space on local device (5) Synchronisation services between devices ✓✓ (Any two)		2
9.6.1	**TWO types of application software to design** (1) Desktop publisher software (2) Designing software (3) Presentation software (4) Word processing software (5) Web design software ✓✓ (Any two)	2	
9.6.2	**Word processing feature to move image next to paragraph** Text wrapping ✓	1	5

9.6.3	**Tag and attribute for a hyperlink** <a> anchor tag ✓ href ✓	2	
9.7.1	**NFC payment** Payments are made by bringing POS and devices/bank card in close contact/tapping ✓ allowing them to transfer data wirelessly ✓	2	
9.7.2	**TWO methods of payment made from home** (1) Online banking/EFT (2) Electronic card payments (3) Money sending service (e.g., Cash send, eWallet) (4) Crypto currency (5) Payment gateways e.g. PayPal (through your banking app) ✓✓ (Any two)	2	4
			[25]

QUESTION 10: INTEGRATED SCENARIO

10.1.1	**Explanation of information** Information is processed data that has meaning ✓	1	
10.1.2	**TWO reasons for using electronic forms** (1) Accuracy (2) Participants can complete the form in a shorter time/More efficient to complete by participants (3) Less chance of processing errors (4) Perform data validation (5) Store/process/analyse information (6) Share with/Reach a larger audience (7) More environmentally friendly ✓✓ (Any two)	2	3
10.2.1	**ONE other advertising method** (1) Flyers/Stickers (2) Online platforms e.g., social media (3) Printed newspaper/magazines (4) Billboards (5) Radio/TV ✓ (Any one) *(Note to marker: Accept any specific examples)*	1	
10.2.2	**Result of QR code scanned** The QR code will provide a link to the website/document/ additional information ✓	1	2
10.3.1	**Method to raise small amounts from large number of people** Crowdfunding ✓	1	
10.3.2	**Example of online platform to raise money** (1) Kickstarter (2) Indiegogo (3) GoFundMe (4) seedInvest (5) Kiva (6) Patreon (7) CrowdQueb (8) Back a Buddy ✓ (Any one) *(Note to marker: Accept any valid answer)*	1	2

10.4.1	**TWO specifications that impact the quality of camera except resolution** (1) Quality of the lens (2) Quality/size/type of sensor (3) Colour depth (4) Contrast ratio (5) On-board software/Software filters (6) ISO rating (7) Digital vs optical zoom (8) Image stabilisation (9) Image processor (10) Shutter speed (11) Flash *(Note to marker: Accept any valid answers)* 　　　　　　　　　　　　　　　　　　　✓✓ (Any two)	2	
10.4.2	**TWO advantages of card reader** (1) Faster transfer of images to a computer from a digital camera (2) Use less energy/power (3) Photos can be transferred to the laptop without the camera being present (4) Allows you to read from or write to many different cards 　　　　　　　　　　　　　　　　　　　✓✓ (Any two)	2	4
10.5.1	**Type of network** WLAN/LAN/WAN ✓	1	
10.5.2	**TWO reasons for using RFID tags** (1) Tracking the participants progress/safety during the race (2) Keep record of participant's time (3) Determining the position/rank of the participant 　　　　　　　　　　　　　　　　　　　✓✓ (Any two)	2	
10.5.3	**Transmission of RFID technology** Radio-frequency signals/radio waves ✓	1	4
10.6	**Definition of autonomous car** A self-driving ✓ car that can sense its environment and move safely with little or no human input ✓		2
10.7.1	**Explain ergonomic design** The design of furniture and other devices to make working more comfortable and safer ✓	1	

10.7.2	**Other ways to prevent strain on the body** (1) Stand up and take regular breaks (2) Sit up straight/Back against the chair (3) Stretch back/shoulders/neck (4) Sit with both feet flat on the floor (5) Don't slouch/bend your neck/correct posture (6) Look away from the computer screen every 15 minutes ✓✓ (Any two)	2	3
10.8.1	**Conditional formatting to analyse data** (1) Highlight cell: ranking of participants according to events (2) Top or bottom rules: Identify the first or last position (3) Data bars: to indicate the data graphically (4) Colour scales: indicate the ranking in colours (5) Icon sets: indicate the ranking in icons ✓✓ (Any two)	2	
10.8.2	**Combination of spreadsheet functions** CONCATENATE/& ✓ and RANDBETWEEN ✓	2	
10.8.3	**Name spreadsheet feature** Export ✓	1	5
			[25]

<div align="right">

TOTAL SECTION C:　**50**

GRAND TOTAL:　**150**

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