



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2016

MEMORANDUM

MARKS: 150

This memorandum consists of 17 pages.

SUGGESTIONS AND RECOMMENDATIONS TO MARKERS

- Revisit the questions and the memorandum frequently during the marking session.
- It is advisable to read the question frequently (and re-read) 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 memorandum. Ask yourself or your senior marker if the response could 'fit' into the memorandum before allocating the correct marks to the candidate. For example, the memorandum states 'cheap' and the learner responds with 'less expensive'.
- Beware of overlapping answers to a specific question. In general, one mark is awarded per fact.

SECTION A**QUESTION 1: MULTIPLE CHOICE**

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

QUESTION 2: MATCHING ITEMS

2.1	D	✓	1
2.2	S	✓	1
2.3	R	✓	1
2.4	P	✓	1
2.5	N/E	✓	1
2.6	O	✓	1
2.7	F	✓	1
2.8	Q	✓	1
2.9	H	✓	1
2.10	I	✓	1
			Total: [10]

QUESTION 3: MODIFIED TRUE OR FALSE

(Note to marker: In Question 3.1, 3.2 and 3.5 accept the correct term even if 'false' is not stated. Do not award a mark if only 'FALSE' is written down.)

3.1	FALSE, RFID/NFC ✓	1
3.2	FALSE, Hotspot ✓	1
3.3	TRUE ✓	1
3.4	TRUE ✓ (Accept False if another valid brand is given e.g. Google Glasses, TomTom Bandit, Garmin Virb)	1
3.5	FALSE, Copyright/EULA/Intellectual property ✓	1
		[5]

TOTAL SECTION A: 25

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

4.1	(Web) browsing software/Browser✓		1
4.2	<ul style="list-style-type: none"> • Slow system performance/Improve system performance • To use new software/New software requirements/Software compatibility • For ergonomic reasons • Physical space considerations • Storage capacity needs • Computer needs to be used in a new role, e.g. as a server • Green computing concepts such as improved energy efficiency, etc. <p style="text-align: right;">✓✓(Any two)</p> <p><i>(Note to marker: Do not accept any reason related to hardware failure.)</i></p>		2
4.3	<ul style="list-style-type: none"> • Any external/portable media • Flash drive/USB Stick • Hard drive/SSD • Memory card/Internal storage of a mobile device e.g. Smartphone, etc. • Via the Internet/Web • Remote assistance/Via a network (they might be connected to) <p style="text-align: right;">✓✓(Any two)</p>		2
4.4	<ul style="list-style-type: none"> • Compatibility issues • Slower performance/Higher system requirements • Possibility of bugs • Time taken to get comfortable with changes to interface/Possible re-training required • Useful/Well-known features not available in newer version, etc. <p style="text-align: right;">✓✓(Any two)</p>		2
4.5	<ul style="list-style-type: none"> • Faster data transfer • Better picture quality/resolutions/Digital data transfer • Connect high definition TVs • HDMI transfers both sound and video <p style="text-align: right;">✓✓ (Any two)</p>		2

4.6	<ul style="list-style-type: none"> • Stock levels/control e.g. item codes, etc. • Variety/Examples of sales data • Performance of cashiers • Product data e.g. prices, etc. • Rewards/Purchasing/Sales trends, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
4.7	<ul style="list-style-type: none"> • Check if the key got stuck/Clean sticky keys • Remove any objects that may be lying on the keyboard • Replace/swop the keyboard • Disconnect/reconnect keyboard/Try different port • Restart the computer • Restart the program • Restore software to an earlier point • Run a virus scan, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
4.8.1	Cmd/Ctrl+A ✓	1	
4.8.2	(Cmd+)Shift+Tab/(Cmd)Ctrl+Arrow keys ✓	1	2
4.9	<ul style="list-style-type: none"> • Secure access to data • Prevent unauthorised installation of software • You can accidentally make critical changes to the system/You can accidentally forget to lock your computer allowing others to tamper with the system • Malware can exploit the fact that you are logged in with administrative privileges, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept if a learner refers to personalising a new account from the start.)</i></p>		2
4.10	<ul style="list-style-type: none"> • The 1.7 MHz should be measured in GHz • Windows 9 is incorrect (there was no Windows 9 – should be 8 or 10) • The 1.56" should be 15.6" <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept if just the correct versions of the incorrect specifications are written down.)</i></p>		2

4.11	App stores are websites/platform where apps can be downloaded/purchased.✓ In this case it would be to try and find an app that might/would open the file/Software to open the file not available on your device.✓		2
4.12	<ul style="list-style-type: none"> • Fix software issues/bugs • Added security • Compatibility with new software • Enhanced features/functionality, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
4.13	<ul style="list-style-type: none"> • Do not use any portable media (such as flash drives)/be careful about using portable media (scan) • Do not visit 'suspicious' websites • Do not start your computer with a flash drive or CD inserted • Do not click on links in e-mails/pop-ups • Do not download/install 'unverified'/pirated software • Disable the autorun feature for portable media • Do not open attachments from unknown e-mail addresses • Scan attachments before opening them • Keep all security features enabled, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	Wireless/Wi-Fi✓		1
5.2	A firewall controls/monitors access✓ from the network/devices to and from another network (like the Internet).✓		2
5.3	<ul style="list-style-type: none"> • VoIP • Instant Messaging • Social Networking • E-Mail <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept valid examples for each of the above, e.g. Skype/Google Hangouts, WhatsApp/WeChat, Facebook/Google+, Outlook/Gmail, etc.)</i></p>		2
5.4	<ul style="list-style-type: none"> • Fewer steps to get to the content/No need to navigate to the website • Simplified layout and functionality/App is specifically designed for the task • Immediate notifications via app • Less security risks • Less data usage, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
5.5	<p>File synchronisation is a system/method of keeping files (that are stored on multiple devices/in several different physical locations) consistent/up to date.✓</p> <p>It is useful as the same (latest copy of a) file can be accessed from a number of devices/computers/You are always working on the same/a single version of the file.✓</p>		2
5.6	<ul style="list-style-type: none"> • Using a recovery (or registered) e-mail address with a link to reset your password • Sending a message/code to your (registered) cellphone number • Asking a ('pre-arranged challenge') question (such as your place of birth, etc.) • Asking you for your last known password, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2

5.7	<ul style="list-style-type: none"> • Avoid downloading large files/torrents often • Use public data access when available • Compress files being sent over the Internet • Use a browser that uses less data e.g. Opera mini, etc. • Limit the amount of video conferencing/Avoid heavy streaming/Do not watch YouTube videos too often/Stream videos (such as YouTube) in a lower resolution • Configure operating system/software to download updates manually/Switch off unnecessary updates/Restrict automatic updates/Turn off mobile data when not in use/Restrict multimedia from running automatically • Ensure nobody is piggybacking on the connection/Prevent bandwidth theft • Set up notifications to alert you of high data usage • Check/Monitor/Restrict apps that are consuming data, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
5.8	<ul style="list-style-type: none"> • Bookmarks/Favourites are only the addresses a user has chosen to record/History records all pages visited • Bookmarks/Favourites are categorised (Easier to search) /History is recorded chronologically (longer to search) • The History can be accidentally cleared <p style="text-align: right;">✓✓ (Any two)</p>		2
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	<ul style="list-style-type: none"> No instruction on the format of the date to be used/difficult to implement data validation/Format not consistent without datepicker No separate cells/columns to force the respondent to enter a digit per cell/to promote neatness/legibility Size of the block may be limiting, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
6.2	It means it is compulsory/mandatory/required✓ to enter data in that field		1
6.3	To create✓ a shorter URL which is easier to use/copy/paste/share/remember/read, etc.✓		2
6.4	<ul style="list-style-type: none"> When the target group does not have access to computing devices/the Internet. When the target group does not know how to use computers, etc. <p style="text-align: right;">✓ (Any one)</p>		1
6.5	<ul style="list-style-type: none"> Filters are not permanent/Filters have to be re-done each time/Queries are saved/permanent Queries have a wider range of criteria that can be used Queries allow for choosing which fields should be displayed Queries allow for calculated fields to be added Reports and forms can be based on queries Queries provide for additional options e.g. sorting, grouping, calculations, aggregate calculations, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
6.6	<ul style="list-style-type: none"> When results of a survey need to be specifically analysed/sorted/filtered according to gender Gender could be used for data validation/verification (in order to only allow a specific gender to complete the questionnaire), etc. <p style="text-align: right;">✓ (Any one)</p>		1
6.7	Accept any example or reference to when information is not time sensitive/ which would not change with time ✓ e.g. historical data/facts that will not change.		1
			[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1	They provide money for start-up projects getting multiple small donations✓ from the public✓ (usually via the Internet) <i>(Note to marker: Give only one mark for crowdfunding.)</i>		2
7.2	Geotagging refers to including the position/GPS coordinates ✓of where the photo was taken in the metadata/with the file.✓		2
7.3	<ul style="list-style-type: none"> • Print multiple pages per sheet • Print only specific pages • Print preview to catch errors before final print • Print in grayscale • Print to file • Print 'back-to-back'/both sides of pages • Print in draft/'econo'-mode <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept printer specific modes that imply 'draft' or ink-saving.)</i></p>		2
7.4.1	Botnet(Bots)/Zombie army(Zombies)✓	1	
7.4.2	<ul style="list-style-type: none"> • Phishing • Spamming • Pharming • Spreading malware, e.g. Virus, Spyware, Ransomware, etc. • DDoS (Distributed denial of service) attacks • Illegal BitCoin mining, etc. <p style="text-align: right;">✓ (Any one)</p>	1	2
7.5	<ul style="list-style-type: none"> • Lack of access to technology/working hardware/Digital Divide • Lack of technology skills to unlock/maximise potential of e-learning • Potential lack of guidance/input/feedback/monitoring from teacher • Dependent on electricity/battery life • Feelings of being isolated/Lack of human contact/Contributes to lack of socialisation skills • Health-related concerns ('Long hours of sitting'), etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept any answers relating to costs.)</i></p>		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1	Tag✓		1
8.2	Will perhaps not automatically display/open the web page in a web browser/It will display the code rather than the web page/Will open in a text editor (e.g. WordPad)✓		1
8.3	<ul style="list-style-type: none"> • The width is fixed/given as a constant • Not expressed as a percentage of the width of the window <p style="text-align: right;">✓ (Any one)</p>		1
8.4	Cell spacing refers to the space between cells in (a row) in a table ✓ Cell padding refers to the space between the contents of the cell and the cell 'boundary' wall of the cell ✓		2
8.5	If the AVG function was used in a group footer in a database report, it would find the averages (for that specific field) per group✓ If the AVG function was used in the report footer, it would find the average value (for that specific field) for all records in the report ✓		2
8.6	Acts as a placeholder for the (actual) data/Indicates where the data must be placed ✓		1
8.7	Validation text is a message ✓ that gives guidance on what the input should be/that will appear when the wrong input is made✓		2
8.8.1	<ul style="list-style-type: none"> • Use 'Insert Symbol' function • Use ASCII codes e.g. Alt+130 • Assign the letter 'é' to a key on the keyboard • Re-assign the keyboard to a different language • Use system software settings to assign a value to the 'e' key to type 'é' if the key is held in for a longer period of time <p style="text-align: right;">✓ (Any one)</p>	1	3
8.8.2	<ul style="list-style-type: none"> • Install the French proofing tools/dictionary • Set the proofing language of the text /Mark the text as French • Mark the text as 'not to be checked for spelling'/Select Ignore • Add to dictionary (not the best option) <p style="text-align: right;">✓✓ (Any two)</p>	2	
8.9	The function will count how many✓ cells contain text/an item starting with 'A' (uppercase or lowercase)✓		2
			[15]

TOTAL SECTION B: 75

SECTION C: INTEGRATED SCENARIO**QUESTION 9**

9.1.1	<ul style="list-style-type: none"> • Handwriting recognition functions available/No problems related to bad handwriting • Environmentally friendly • Multimedia can be included e.g. Photos • Translation software available • Saves time capturing information/No need to retype handwritten reports • Easier to communicate/share/retrieve reports • Easy/Quicker to access information • No need to store hard copies/Less physical storage space needed/Secure storage • Backup are possible • Information/statistics can be extracted from all the reports • Doctors can access patient records remotely • Data validation is possible, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker. Do not accept cheaper, faster or easier without a valid explanation.)</i></p>	2	
9.1.2	<ul style="list-style-type: none"> • Transfer files using an OTG connection/USB flash drive • Memory card • Connect using a USB cable • Bluetooth • Wi-Fi direct • NFC (to enable data transfer) <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker. Do not accept answers that relate to waiting until the server is online again.)</i></p>	2	4
9.2.1	To insert/convert data, produced by another application/in a different format, into a program ✓	1	
9.2.2	A wizard is a program/software/set of dialogs ✓ that guides/helps the user to complete a task by taking them through a sequence of steps/presenting them with various options ✓	2	
9.2.3	Appending means to add (the imported) records to an existing table✓	1	4
9.3.1	<p>A path indicates the location or folder in which the file is found/ It is the 'route' through the file system to the file✓</p> <p><i>(Note to marker: Accept answers that imply a sequence of folders.)</i></p>	1	3

9.3.2	So that it is easy to locate the file if one has the hard copy of the document ✓	1	
9.3.3	If the file is saved in a different location/folder, the field will update to the new location ✓	1	
9.4.1	<ul style="list-style-type: none"> • Try to avoid giving out personal information via the Internet • Do not follow links in e-mails from unknown senders • Contact known institutions (such as banks) that request information before sending the information • Check URL of links in an e-mail/Check actual link by hovering mouse over hyperlink • Make use of software/ISP services to stop/identify possible phishing attacks, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept anti-virus.)</i></p>	2	
9.4.2	<ul style="list-style-type: none"> • The e-mail address they wanted was taken/already used/Google suggested this • Personal preference/Easy to remember • To make it unique <p style="text-align: right;">✓ (Any one)</p>	1	3
9.5.1	Shareware/Demo/Trialware/Beta ✓	1	
9.5.2	<ul style="list-style-type: none"> • To test the program first (for suitability) before buying it • Checking to see if the full version is required • Checking user friendliness/Quality of user interface • Checking compatibility with existing software/hardware, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.5.3	A template is a (pre-existing) document that already has some of the layout/details of the document required. ✓ The user can simply alter/customise the (basic) layout as needed. ✓	2	5

9.6.1	<ul style="list-style-type: none"> • Problems with hardware compatibility • Problems with software compatibility • Need for more expertise to support different devices • Greater concern for theft/loss of confidential information • Potential misuse of bandwidth • Potential spread of viruses • Slowing down the network, etc. <p style="text-align: right;">✓✓✓ (Any three)</p> <p><i>(Note to marker: Do not accept any cost-related answers.)</i></p>	3	
9.6.2	<ul style="list-style-type: none"> • Can speed up Internet access/Caches web pages • Can be used to mask your IP address/Can 'surf' anonymously • Can be used to monitor/restrict/control access to websites. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept 'provide Internet access' as an answer.)</i></p>	2	5
			[24]

QUESTION 10

10.1.1	Message rule✓	1	
10.1.2	<ul style="list-style-type: none"> • Problem with ISP/Internet Service Provider • E-mail may have been identified as spam/Placed in/junk mail folder • Sent to the wrong e-mail address • E-mail attachment size too large • Insufficient storage/Inbox is full • Addresses have been blacklisted <p style="text-align: right;">✓ (Any one)</p>	1	2
10.2	<ul style="list-style-type: none"> • Date range (recently downloaded) • Size (videos tend to be large) • File type/file extension (search for video files e.g. MP4, etc.) • Partial name of the file (if you think you remember or can guess part of the name) <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept content within the file or the 'entire' name of the file on its own. Allocate a mark per attribute or motivation to a maximum of two marks)</i></p>		2
10.3	<ul style="list-style-type: none"> • Use passwords on files • Use encryption on files • Use zero-knowledge password policy • Use a secure connection • File versioning • Use a credible company • Ensure data is not shared, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
10.4	<ul style="list-style-type: none"> • Check connection • Swop out with another SSD • File system incompatible • Test SSD on another machine/Disk Management • Reboot • Test in Safe Mode, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2

10.5.1	<ul style="list-style-type: none"> • Update frequently • Use catchy titles • Appropriate content for target audience • Interact with readers/comments • Keep language informal/Use language that will be easy to understand by the target audience • User friendly layout, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept answers related to saving time or RSS feeds.)</i></p>	2	4
10.5.2	<p>RSS feed provides a user with up-to-date information from the blog/website/Notification of new content.✓ There is therefore no need to open the blog/All updates/notifications are sent automatically ✓</p>	2	
10.6	<ul style="list-style-type: none"> • Potential lack of familiarity of/knowledge how to use a QR code among parents • QR code depends on the availability of a mobile device to scan the code/Need to have QR code scanning software • Takes time to scan • QR code might not stir interest like 'conventional' advertising • Potential mistrust/security issues – not sure to which site you are being directed, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
10.7.1	<ul style="list-style-type: none"> • Check if the source spreadsheet might have been moved/deleted from its original location • Check if the link was lost/broken as a result of moving to another computer • Correct the data in the source spreadsheet if it has been modified • Manually refresh/update the link, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	
10.7.2	IF ✓ LEN ✓	2	
10.7.3	<p>The employee only earns a bonus if they have sold 100 or more units ✓ and if they have worked for at least 5 years.✓</p> <p><i>(Note to marker: Do not accept a simple rewording of the function e.g. Years Worked >=5)</i></p>	2	

10.7.4	Only entries where that field has no values entered/is 'blank'/is 'empty' will be displayed ✓	1	7
10.8.1	<ul style="list-style-type: none"> Employee can work more flexible hours Employee may want to consider environmental/social issues such less pollution and traffic on the roads, etc. Potentially fewer distractions than in a formal office environment/Potentially greater productivity/Not wasting time travelling Telecommuters may prefer a less formal/'quieter' environment to work in Saves on the cost of transport and clothing suitable for work environments, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	4
10.8.2	<ul style="list-style-type: none"> Remote connection/VPN tools, e.g. TeamViewer, R(emote)admin, etc. VoIP tools, e.g. Skype, etc. IM tools, e.g. WhatsApp, etc. Cloud storage facilities, e.g. OneDrive, Dropbox, etc. E-mail, e.g. Gmail, Outlook, etc. Live streaming LMS systems e.g. Moodle, Google Classroom Social media e.g. Facebook group Web conferencing software, e.g. WebEx, Office Live Meeting, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept one appropriate example per category of Web/Internet tools.)</i></p>	2	
10.9	<ul style="list-style-type: none"> Bigger/Scalable size of display/Better for larger venues/audiences Portable/Easy to set up in different venues, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Ignore any factors related to costs.)</i></p>		1
			[26]

TOTAL SECTION C: 50**GRAND TOTAL: 150**