



# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**COMPUTER APPLICATIONS TECHNOLOGY P2**

**FEBRUARY/MARCH 2016**

**MEMORANDUM**

**MARKS: 150**

**This memorandum consists of 14 pages.**

**SUGGESTIONS AND RECOMMENDATIONS TO MARKERS**

- Revisit the questions and the memorandum/marking guideline 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: MATCHING ITEMS**

1.1	K	✓	1
1.2	M	✓	1
1.3	A	✓	1
1.4	Q	✓	1
1.5	E	✓	1
1.6	P	✓	1
1.7	F	✓	1
1.8	I	✓	1
1.9	H	✓	1
1.10	N	✓	1
<b>Total: [10]</b>			

**QUESTION 2: MULTIPLE-CHOICE**

2.1	C	✓	1
2.2	B	✓	1
2.3	A	✓	1
2.4	D	✓	1
2.5	B	✓	1
2.6	A	✓	1
2.7	C	✓	1
2.8	B	✓	1
2.9	D	✓	1
2.10	A	✓	1
<b>Total: [10]</b>			

**QUESTION 3: TRUE/FALSE ITEMS**

*(Note to marker: In Question 3.1, 3.3, 3.4 and 3.5 candidates need to provide both the word 'False' and the correct term, e.g. printers, in order to get the mark.)*

3.1	False – primary key/Indexed (No duplicates) option✓	1
3.2	True✓	1
3.3	False – Africa*✓	1
3.4	False – identity✓	1
3.5	False – Spam✓	1
		<b>[5]</b>

**TOTAL SECTION A: [25]**

**SECTION B****QUESTION 4: SYSTEMS TECHNOLOGIES**

4.1	<ul style="list-style-type: none"> <li>• Cannot be edited</li> <li>• Can be opened irrespective of the program it was created in</li> <li>• PDF readers can be freely downloaded from the Internet</li> <li>• Potentially smaller file size</li> <li>• Appears exactly as when printed, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
4.2	<p>System software – controls and manages resources on a computer/allows for maintenance and running of a computer✓</p> <p>Application software – programs used to perform personal tasks/Programs that are usually installed after an operating system✓</p>		2
4.3	<p>Open the Task Manager/Press Ctrl+Alt+Del✓</p> <p>Select the task/program that has stopped working and terminate the program✓</p>		2
4.4.1	<p>Compression✓</p> <p><i>(Note to marker: Accept any suitable example of a compression utility, e.g. Winzip, WinRar, 7zip, etc.)</i></p>	1	3
4.4.2	<p>Print queuing allows print jobs sent to the printer to be temporarily stored/queued (on disk) ✓ until the printer is ready to print them/they are released ✓</p>	2	
4.5.1	<p>Spyware✓</p> <p><i>(Note to marker: Accept any specific example of spyware such as a keylogger, etc.)</i></p>	1	3
4.5.2	<p>A firewall is hardware/system software/a program used to prevent unauthorised access✓ to computers connected to a network✓ and vice versa</p>	2	
4.6	<p>Software that displays adverts/cause pop-up adverts✓</p> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• Uses system resources/Slows the system down</li> <li>• Could contain malware</li> <li>• Adverts can be distracting/irritating</li> <li>• Increased bandwidth use, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	3	3

4.7	<p>More data/programs can be loaded into RAM✓ to be processed/less paging occurs✓</p> <p><i>(Note to marker: Accept any answers relating to faster access than from disk or reference to virtual memory for second mark.)</i></p>		2
4.8	<ul style="list-style-type: none"> <li>• Batteries need to be replaced</li> <li>• More expensive than cabled/wired hardware</li> <li>• Possible signal interference from other wireless signals</li> <li>• Greater risk of theft, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
4.9	<p>It loses its contents when the computer is switched off/Needs power to retain its contents✓</p>		1
4.10	<ul style="list-style-type: none"> <li>• Internet access must be available</li> <li>• Cost implications based on bandwidth usage</li> <li>• Potentially limited functionality (compared to installed software)</li> <li>• Can be slow depending on connectivity speed, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
4.11	<ul style="list-style-type: none"> <li>• After updates have been downloaded/programs installed/When an anti-virus recommends a restart</li> <li>• When system seems slower than normal</li> <li>• After a new device has been added</li> <li>• Operating system/Utility program may recommend a restart, etc.</li> </ul> <p style="text-align: right;">✓(Any one)</p> <p><i>(Note to marker: Exclude Hanging/Freezing.)</i></p>		1
4.12	<ul style="list-style-type: none"> <li>• Supports higher resolution/better quality video</li> <li>• Can transmit sound and video on one cable</li> <li>• Newer equipment only supports HDMI</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>		2
			<b>[25]</b>

**QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES**

5.1	High speed✓ transfer of data		1
5.2	3G uses cellular technology and not wireless (Wi-Fi technology)✓ <i>(Note to marker: Accept that Wi-Fi and 3G use different technologies.)</i>		1
5.3	<ul style="list-style-type: none"> <li>• Generally lower cost per GB (a home will have multiple users)</li> <li>• Connection stability/less signal interference compared to 3G</li> <li>• Faster 3G services (LTE, etc.) not available in all areas</li> <li>• Generally lower ping times/Generally better for gaming/streaming, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
5.4	<ul style="list-style-type: none"> <li>• Broadband/high speed Internet connection</li> <li>• Uncapped/large data allocation/bundle</li> <li>• Unshaped connection</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
5.5	<ul style="list-style-type: none"> <li>• Use/share the smartphone with data as a modem/set up a hotspot✓</li> <li>• All others connect from this hotspot✓</li> </ul>		2
5.6	<ul style="list-style-type: none"> <li>• Enter the URL in the address bar</li> <li>• Click on a hyperlink provided</li> <li>• Select from bookmarks/favourites</li> <li>• Select from History, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept answers not specifically related to features of a browser or web page.)</i></p>		2
5.7	<ul style="list-style-type: none"> <li>• Resume the download/Download it again</li> <li>• Use a mirror-site/Choose an alternative download link</li> <li>• Use a download manager</li> <li>• Switch to another download protocol, e.g. switch from HTTP to FTP</li> <li>• Use another Internet connection</li> <li>• Torrents, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept 'Ask someone else to do it'.)</i></p>		2
5.8	VoIP✓		1

5.9.1	To extend the functionality of a browser/View multimedia effects✓	1	
5.9.2	<ul style="list-style-type: none"><li>• Flash Player</li><li>• Adobe Acrobat</li><li>• Java(Script)</li><li>• Quicktime</li><li>• RealPlayer</li><li>• Shockwave Player</li><li>• Silverlight</li><li>• Windows Media Player, etc.</li></ul> <p style="text-align: right;">✓ (Any one)</p>	1	
			2
			<b>[15]</b>

**QUESTION 6: INFORMATION MANAGEMENT**

6.1	Passing off someone else's work as your own ✓ without their permission		1
6.2	Styles ✓		1
6.3	Citation – reference information of a source used ✓ Footnote – additional information placed at the bottom of the page ✓ regarding a specific fact/word/phrase within a document		2
6.4	<ul style="list-style-type: none"> <li>• Not enough places/cells/blocks in the table for seven subjects</li> <li>• Not enough space for an ID number</li> <li>• Data such as name and surname should be grouped logically/together</li> <li>• Not enough blocks for the cell phone number</li> <li>• Too much space for the class/grade</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.5	<ul style="list-style-type: none"> <li>• Much larger possible audience</li> <li>• Free tools such as Google Forms can be used</li> <li>• Data will already be electronic/Do not have to retype data</li> <li>• Better data validation can be done</li> <li>• Much easier to distribute to/retrieve from respondents</li> <li>• Do not have to decipher bad handwriting, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.6	<ul style="list-style-type: none"> <li>• Validation rules</li> <li>• Input masks</li> <li>• Default values</li> <li>• Using appropriate data types</li> <li>• Primary keys/(Index) no duplicates</li> <li>• Set appropriate field sizes</li> <li>• Make use of required/compulsory entries</li> <li>• Lookup wizards/List/Combo boxes, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
			<b>[10]</b>



**QUESTION 7: SOCIAL IMPLICATIONS**

7.1	GIGO✓		1
7.2	<ul style="list-style-type: none"> <li>• Use a mixture of letters, numbers, characters</li> <li>• Use a mixture of uppercase and lowercase characters</li> <li>• The 'longer' the password the better/Have a minimum of e.g. 8 characters</li> <li>• Not an easily identifiable item such as a cell phone number</li> <li>• Do not use personal information such as a birth date, name or surname</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
7.3	Blocking/Blacklisting/'Unfriend' options✓		1
7.4	<ul style="list-style-type: none"> <li>• May have malware (Viruses/Trojans, etc.)</li> <li>• Can be charged for fraud/'go to jail'</li> <li>• Reduced functionality/Bugs</li> <li>• Affects the revenue for developers, etc.</li> </ul> <p style="text-align: right;">✓(Any one)</p>		1
7.5	<ul style="list-style-type: none"> <li>• The e-mail address appears suspicious, e.g. strange domain name</li> <li>• Request to follow the link to supply additional information</li> <li>• A tone of urgency to comply with the request</li> <li>• Link inspection reveals a 'strange' web-address</li> <li>• The e-mail has spelling errors - unlikely to have come from a reputable institution</li> <li>• Requests personal information</li> <li>• E-mail is from an unknown source, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
7.6.1	Potentially contains malware✓	1	
7.6.2	<ul style="list-style-type: none"> <li>• Change file extension (to a non-executable)</li> <li>• Put the .exe file into an archive/encrypt the file/zip file</li> <li>• Paste as an object in another file</li> <li>• Adjust e-mail server/client settings to accept 'exe' files, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	
7.6.3	Netiquette✓	1	
			<b>[10]</b>

**QUESTION 8: SOLUTION DEVELOPMENT**

8.1	<ul style="list-style-type: none"> <li>Header</li> <li>Footer</li> <li>Watermark</li> </ul> <p style="text-align: right;">✓ (Any one)</p>		1
8.2	<p>Hanging indent✓</p> <p>(Note to marker: Accept tab.)</p>		1
8.3.1	Select one column✓, hold in Ctrl key and select the other column.✓	2	
8.3.2	<ul style="list-style-type: none"> <li>More meaningful chart heading</li> <li>Data labels</li> <li>Gridlines</li> <li>Vertical axis titles</li> <li>Legend</li> <li>Colours/Textures</li> <li>Trend line</li> <li>Change scale/Minimum value of y-axis</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
8.3.3	Incorrect function name used/Change AVG to AVERAGE✓	1	
8.4	Report✓		1
8.5	<ul style="list-style-type: none"> <li>Automatically increments/increases the value in the field for every new record</li> <li>Ensures that there are no duplicates/it is unique</li> <li>Ensures that no record can be left blank</li> <li>Primary key</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
8.6	<ul style="list-style-type: none"> <li>Query can be saved for future use</li> <li>If the table is updated the query will be automatically updated</li> <li>Can create reports or other queries based on existing queries</li> <li>Calculations can be added, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
8.7	Because the pictures are loaded from the current folder by default/Picture won't display✓		1
8.8	<p>h1 tags has no closing tag &lt;/h1&gt; ✓</p> <p>HTML tags need to be closed in reverse order to which they are added &lt;/i&gt; &lt;/b&gt; &lt;/h1&gt; ✓</p>		2
			<b>[15]</b>

**TOTAL SECTION B: [75]**

**SECTION C****QUESTION 9: INTEGRATED SCENARIO**

9.1.1	8" (Inches)✓	1	
9.1.2	Android 4.4 KitKat✓  <i>(Note to marker: Accept Android OR KitKat)</i>	1	
9.1.3	To increase the available storage space on the tablet✓	1	
9.1.4	Rear camera is usually used to take 'normal' pictures requiring a higher resolution✓. Front facing camera is typically used for lower resolution functions such as video calls or 'selfies'✓.	2	
9.1.5	1.4 GHz✓	1	
9.1.6	<ul style="list-style-type: none"> <li>• Giving vocal instructions to open/use apps</li> <li>• Voice dialling</li> <li>• Google search via Google's voice recognition</li> <li>• Assistants for the disabled, e.g. Siri</li> <li>• Dictating text, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	
9.1.7	<ul style="list-style-type: none"> <li>• When creating or editing long documents</li> <li>• When a larger screen is needed</li> <li>• When more processing power is needed, e.g. professional photo/video editing</li> <li>• To use software/software functions only available to laptops/desktops, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.1.8	Approximate physical/geographical position✓  <i>(Note to marker: Accept reference to the device showing the user where he/she is or that the device will indicate the direction to a final destination.)</i>	1	
9.1.9	Wi-Fi capability/Wireless✓	1	
			<b>11</b>

9.2.1	<ul style="list-style-type: none"> <li>Where interference from other wireless signals might be a problem</li> <li>Where the higher cost of wireless is prohibitive</li> <li>Secure installations, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept any specific example of where a wired network would be better.)</i></p>	1	
9.2.2	Each person can bring/connect their own device to work/school to connect to the network.✓	1	2
9.3.1	<ul style="list-style-type: none"> <li>People tend to forget</li> <li>Misplaced trust in hardware</li> <li>Backup mediums can be expensive for large amounts of data</li> <li>Backups can be time consuming</li> <li>Users lack the knowledge of how to perform backups, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.3.2	<ul style="list-style-type: none"> <li>Backups cannot be lost due to local backup devices failing</li> <li>Backups can be accessed from any computer with Internet access</li> <li>Backups can be synched automatically</li> <li>No need to connect or remove backup devices</li> <li>Cloud storage could potentially be a cheaper solution than multiple storage devices, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	4
9.4.1	A software bug is created by mistake/programming error✓ whereas a virus is software specifically designed to negatively affect or disrupt functioning of a computer✓.	2	
9.4.2	<p>A patch is a software solution to fix one specific problem.✓</p> <p>A service pack is a collection of all the patches/updates up to a specific point in time✓ (including new features) distributed as one package.</p>	2	
9.4.3	<ul style="list-style-type: none"> <li>Can use lots of data/cap</li> <li>May not want to accept/install all the updates</li> <li>Programs which are not used can update, wasting space on the device and data, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	6

9.5.1	Scanner✓	1	
9.5.2	OCR will take a scanned copy/image✓ of a document and convert it into an editable document✓.	2	
9.5.3	<ul style="list-style-type: none"> <li>• Not effective if the scanned document is of a low quality</li> <li>• Not always very accurate</li> <li>• In some cases it cannot distinguish between text and images</li> <li>• Language dependent, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	4
9.6.1	<ul style="list-style-type: none"> <li>• Do not subscribe to too many websites for e-mail updates/Unsubscribe to mailing lists, websites</li> <li>• Use e-mail rules to organise/restrict e-mails</li> <li>• Decide on what type of information is important and what can be ignored</li> <li>• Store information in a logical structure, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.6.2	<ul style="list-style-type: none"> <li>• Use more keywords/Be more specific</li> <li>• Use search operators such as AND</li> <li>• Use content specific search engines</li> <li>• Limit to certain file types</li> <li>• Limit to certain domains</li> <li>• Include/Exclude words</li> <li>• Use quotations</li> <li>• Use date ranges, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.6.3	A web browser allows a user to view web pages✓. A search engine is a program/website that allows users to search for websites based on keywords/search phrases✓.	2	6
9.7	<ul style="list-style-type: none"> <li>• Wi-Fi signal is not strong enough</li> <li>• Wi-Fi is not enabled on the device</li> <li>• Software bug</li> <li>• Wi-Fi password was not added correctly</li> <li>• Tablet is not Wi-Fi capable, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2

9.8.1	Mail merge✓	1	
9.8.2	<ul style="list-style-type: none"> <li>• WhatsApp</li> <li>• BBM</li> <li>• iMessage</li> <li>• MXit</li> <li>• WeChat</li> <li>• Chat ON</li> <li>• Facebook Messenger, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	2
9.9	A process where a project practice is funded✓ by multiple small donations from many contributors✓.		2
9.10	Linking/Connecting two devices (securely) to exchange data✓		1
9.11.1	Shareware is a demonstration model/trial version of the software which can be used for a limited time period before payment should be made✓  Freeware is the full version of copyrighted software at no cost✓	2	
9.11.2	<ul style="list-style-type: none"> <li>• Check out/Test software first before spending money</li> <li>• Save money if the full package is not needed/Free to download</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	3
9.12.1	SUM function added✓ Cell range for SUM function corrected✓  =IF(B2=SUM(C2:E2),"","ERROR")  <i>(Note to marker: Also accept =IF(B2=(C2+D2+E2),"","ERROR") Accept any correct specific reference to the errors, e.g. 'The wrong function/cell range is used'.)</i>	2	
9.12.2	<ul style="list-style-type: none"> <li>• Column chart/graph</li> <li>• Bar chart/graph</li> <li>• Line chart/graph</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	
9.12.3	Copy data from the spreadsheet✓ and paste it as a linked object✓	2	
9.12.4	<ul style="list-style-type: none"> <li>• Lock/protect specific cells✓</li> <li>• Protect the document✓</li> </ul>	2	7

**TOTAL SECTION C: [50]**

**GRAND TOTAL: [150]**