



# basic education

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

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**COMPUTER APPLICATIONS TECHNOLOGY P2**

**FEBRUARY/MARCH 2015**

**MEMORANDUM**

**MARKS: 150**

**This memorandum consists of 15 pages.**

**SUGGESTIONS AND RECOMMENDATIONS TO MARKERS**

- Revisit the questions and this memorandum frequently during the marking session.
- It is advisable to read (and to re-read) the question frequently together with the candidate's response to check that it correlates. Do not be misled by the candidate's statements/answers.
- Be careful not to focus on keywords or general statements, but rather read the entire answer. When in doubt, read the entire answer, then the question in the question paper and the answer in the memorandum. Ask yourself or your senior marker if the response is in line with the memorandum before awarding the correct marks. For example, the memorandum states 'cheap' and the candidate responds with 'not 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	N	✓	1
1.2	I	✓	1
1.3	R	✓	1
1.4	J	✓	1
1.5	P	✓	1
1.6	Q	✓	1
1.7	H	✓	1
1.8	F	✓	1
1.9	A	✓	1
1.10	L	✓	1
<b>[10]</b>			

**QUESTION 2: MULTIPLE-CHOICE**

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

**QUESTION 3: TRUE/FALSE ITEMS**

(Note to marker: In QUESTIONS 3.2, 3.3 and 3.5 candidates need to provide both the word 'False' and the correct term, e.g. False, wiki, in order to get the mark.)

3.1	False. <u>Exporting</u> ✓	1
3.2	True ✓	1
3.3	False. <u>BYOD</u> ✓	1
3.4	False. <u>survey/questionnaire/opinion poll</u> ✓	1
3.5	True ✓	1
		<b>[5]</b>

**TOTAL SECTION A: 25**

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

4.1.1	3.2 GHz ✓ <i>(Note to marker: Also accept only 3.2.)</i>	1	6
4.1.2	USB hub ✓ <i>(Note to marker: Do not accept only 'hub'.)</i>	1	
4.1.3	Core i5 3.2 GHz/CPU/Processor ✓	1	
4.1.4	1920 x 1080 ✓	1	
4.1.5	HDMI ✓ port ✓ <i>(Note to marker: Do not accept cable for the second mark.)</i>	2	
4.2.1	Firewall ✓ <i>(Note to marker: Do not accept specific brands.)</i>	1	3
4.2.2	<ul style="list-style-type: none"> <li>Scans storage devices, e-mails, etc. for virus infections</li> <li>Deletes/Removes any malware found</li> <li>Quarantines malware it cannot remove, etc.</li> </ul> ✓✓(Any two)	2	
4.3	<ul style="list-style-type: none"> <li>Out-dated technology/Better technology available, e.g. flash disk</li> <li>Media has limited capacity</li> <li>Slower access to data</li> <li>USB ports are more readily available than DVD drives</li> <li>Media is less portable</li> <li>Media can be more easily damaged than other storage devices such as a flash disk, etc.</li> </ul> ✓✓(Any two)		2
4.4	The speed/protocol with ✓ which a wireless/Wi-Fi connection✓ can be made		2
4.5	<ul style="list-style-type: none"> <li>Malware could be hidden within adware</li> <li>Can use up data/cap/data bundle</li> <li>Browsing could become slow, etc.</li> </ul> ✓✓(Any two)		2

4.6	<ul style="list-style-type: none"> <li>Improves the graphics/Higher resolution possible</li> <li>Improves the overall performance of the system</li> <li>Does not share system memory with other applications/hardware, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>		1
4.7.1	<ul style="list-style-type: none"> <li>Cheaper to replace one cartridge at a time</li> <li>Better for printing graphics/photographs</li> <li>Only need to replace one cartridge if a colour runs out/No wastage of ink, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	7
4.7.2	25 ppm ✓ <i>(Note to marker: Accept 25 ppm colour OR ppm.)</i>	1	
4.7.3	<ul style="list-style-type: none"> <li>Laser printers are more expensive to purchase.</li> <li>Toner cartridges are more expensive</li> <li>Most cheaper laser printers only print monochrome</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
4.7.4	Draft mode/Eco mode/Print in a lower quality, etc. ✓	1	
4.7.5	To print directly from a memory card ✓	1	
4.8	<ul style="list-style-type: none"> <li>Press Ctrl+Alt+Del/Load task manager ✓</li> <li>Terminate the task ✓</li> </ul>		2
			<b>[25]</b>

**QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES**

5.1	<ul style="list-style-type: none"> <li>Wide Area Network/WAN</li> <li>Global Area Network/GAN</li> <li>Virtual Private Network/VPN</li> </ul> <p style="text-align: right;">✓(Any one)</p>		1
5.2	Router ✓		1
5.3	<ul style="list-style-type: none"> <li>Greater stability of signal/Less prone to electrical interference and obstacles such as walls</li> <li>Better performance/Greater speeds (potentially)/Less lag</li> <li>Less expertise needed to maintain/Easier to maintain</li> <li>Better security/Not as easy or likely to be hacked</li> <li>Specialised equipment like access points not needed, etc.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p> <p><i>(Note to marker: Do not accept 'cheaper'. Accept any relevant specific device that is not needed.)</i></p>		2
5.4	Pair the devices ✓  <i>(Note to marker: Accept an answer if it alludes to having to enter a code on both devices, i.e. descriptions of the pairing process. Do not accept reference to enabling Bluetooth or changing discovery settings.)</i>		1
5.5	It is a limit placed on the total amount of data that can be transmitted and received ✓ over the communications medium (e.g. ADSL line)		1
5.6	<ul style="list-style-type: none"> <li>Better suited for situations where there is no need for large amounts of data to be transferred/Fewer users</li> <li>In low data usage environments, a capped account may be cheaper</li> <li>Less likely to be subjected to restrictions of an acceptable use policy/Shaping/Throttling</li> <li>Limits excessive/Unnecessary downloading/Easier to control usage</li> <li>Cost per GB much cheaper than in the past, etc.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>		2
5.7	Share the 3G connection of the tablet with other devices, using the tablet's Wi-Fi connection ✓		1

5.8	<ul style="list-style-type: none"> <li>• Use the options provided by your browser (pop-up blocker)</li> <li>• Install software to prevent pop-ups</li> <li>• Removing adware/spyware from your computer</li> <li>• Be cautious in terms of sites you visit/downloads you accept/options you click on, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept a relevant example, e.g. AdBlocker, NoScript, etc.)</i></p>		2
5.9.1	<ul style="list-style-type: none"> <li>• Lower cost in comparison to usual calls</li> <li>• VoIP-capable devices are readily available</li> <li>• Internet services have become more accessible</li> <li>• Data costs continue to decrease</li> <li>• Greater need/Influence of social networking</li> <li>• Software is mostly free</li> <li>• Facilitates video conferencing/Saves travel costs</li> <li>• The availability of Skype software for smartphones/tablets, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	4
5.9.2	<ul style="list-style-type: none"> <li>• Not enough bandwidth/Too many users on one connection</li> <li>• Slow/poor connection</li> </ul> <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept 'both video and sound are used')</i></p>	1	
5.9.3	Check and close any applications using the available bandwidth ✓	1	
			<b>[15]</b>

**QUESTION 6: INFORMATION MANAGEMENT**

6.1	Use of the (intellectual) material/property of someone else ✓ and passing it off as your own ✓ /without permission		2
6.2	<ul style="list-style-type: none"> <li>• Group relevant fields together</li> <li>• Allow more space in fields for character data (such as subject names)</li> <li>• Any reference to formatting so that the headings could stand out from the data fields</li> <li>• Add clear labels and instructions</li> <li>• Allow a bigger blank space between fields to make it easier to read/interpret</li> <li>• Use colours, etc.</li> </ul> <p style="text-align: right;">✓ ✓ (Any two)</p>		2
6.3	<ul style="list-style-type: none"> <li>• Graphs/Charts</li> <li>• Functions/Formulae</li> <li>• Conditional formatting</li> <li>• Filters</li> <li>• What If analysis, etc.</li> </ul> <p style="text-align: right;">✓ ✓ ✓ (Any three)</p>		3
6.4	<p>It is a list of sources/references of information used in the compilation of a document ✓</p> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• One has to acknowledge sources</li> <li>• For future reference</li> <li>• To compare the project and original sources for plagiarism, etc.</li> </ul> <p style="text-align: right;">✓ (Any one)</p>		2
6.5	The content of the website might have been changed after the content was used for a project ✓		1
			<b>[10]</b>



**QUESTION 7: SOCIAL IMPLICATIONS**

7.1	Social engineering ✓		1
7.2.1	Doing/Conducting work over the Internet/network ✓ without having to physically go to an office ✓	2	
7.2.2	<ul style="list-style-type: none"> <li>• Infrastructure such as telephone lines, cellular towers, etc. is not available in some parts of the country</li> <li>• Employees do not have the necessary knowledge/experience</li> <li>• Internet connectivity is still relatively expensive</li> <li>• Internet connectivity is not stable/bandwidth not adequate in all parts of the country</li> <li>• May be costly for the employer to invest in the necessary infrastructure, etc.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>	2	
7.3	Gaining unauthorised access to/Identifying security holes in ✓ an ICT system/network ✓		2
7.4	<ul style="list-style-type: none"> <li>• Using technology for efficient filing, daily planner, favourites, etc.</li> <li>• Refining/Filtering/Reducing information, e.g. filtering e-mails, establishing trusted sources of information, RSS feeds, not subscribing to too many sites, etc.</li> <li>• Effective searching skills, e.g. advanced search functions of browsers.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>		2
7.5	The technology that combines the processing power of multiple networked computers to achieve a specific task ✓		1
			<b>[10]</b>

**QUESTION 8: SOLUTION DEVELOPMENT**

8.1.1	The Internet is a global network/connected networks ✓ and the WWW is a service used to display webpages ✓		2
8.1.2	Colour is spelt incorrectly/Colour should be spelt as color ✓		1
8.2	Report footer/Report header ✓		1
8.3.1	COUNTIF ✓	1	8
8.3.2	Using the ROUND function would round the answer off to the nearest whole number ✓ whereas formatting only <u>displays</u> the answer as a whole number ✓	2	
8.3.3	Text/General ✓	1	
8.3.4	IF function/VLOOKUP ✓	1	
8.3.5	Pie graph/chart ✓	1	
8.3.6	<b>Problem</b> The cell is formatted as a number ✓  <b>Solution</b> <ul style="list-style-type: none"> <li>• Change the data type to text</li> <li>• Add a ' to the start of the cell phone number</li> </ul> <p style="text-align: right;">✓(Any one possible solution)</p>	2	
8.4	<ul style="list-style-type: none"> <li>• The file/folder permissions have been set to read-only</li> <li>• The file has been opened from a read-only media/location/File has been copied from a CD</li> <li>• Another user might already have opened the same file on a network</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>		2
8.5	Use the uninstall function of the operating system/software		1
			<b>[15]</b>

**TOTAL SECTION B: 75**

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

9.1.1	RFID uses radio waves ✓	1	2
9.1.2	Barcodes are read using light/optics ✓	1	
9.2	<ul style="list-style-type: none"> <li>No need to manually type in the URL</li> <li>Fewer errors are made, as when manually entering the URL</li> <li>QR code scanners (software) can be downloaded/used for free</li> <li>Can store extra information such as logos, etc.</li> </ul> <p style="text-align: right;">✓(Any one)</p>	1	1
9.3.1	<ul style="list-style-type: none"> <li>Facebook</li> <li>MySpace</li> <li>LinkedIn</li> <li>Google+</li> <li>Twitter</li> <li>Pinterest</li> <li>Tumblr</li> <li>Instagram</li> <li>Flickr, etc.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p> <p><i>(Note to marker: Accept any other example of social networking websites.)</i></p>	2	6
9.3.2	<ul style="list-style-type: none"> <li>Wider coverage/audience for advertising</li> <li>Cheap advertising</li> <li>Targeted advertising</li> <li>Feedback, etc.</li> </ul> <p style="text-align: right;">✓✓(Any two)</p>	2	
9.3.3	<ul style="list-style-type: none"> <li>Avoid posting offensive material ✓</li> <li>Do not flood users with unnecessary posts/content ✓</li> </ul>	2	
9.4.1	<ul style="list-style-type: none"> <li>GPS maps are updated regularly</li> <li>Voice prompts can be used in a car</li> <li>No need to have a paper map folded open which takes up a lot of space</li> <li>Routes can be planned automatically by the device</li> <li>Safer to use voice prompts than trying to read a map whilst driving, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>	2	
			4

9.4.2	<ul style="list-style-type: none"> <li>To find the exact place again where a picture has been taken</li> <li>Helps organise photographs by location where the photos were taken</li> <li>Pinpoint the location on an application such as Google Maps, etc.</li> </ul> <p>✓✓(Any two)</p>	2	
9.5.1	<p>The phablet has a larger screen/screen size ✓</p> <p><i>(Note to marker: Do not accept higher resolution or a vague reference to the phablet being larger)</i></p>	1	
9.5.2	<p>A new (high speed) cellular ✓ data connection/upgrade from 3G ✓</p>	2	
9.5.3	<ul style="list-style-type: none"> <li>Android is open source</li> <li>Android is free</li> <li>A large support base/Number of apps is available for Android</li> <li>Often updated with new features, etc.</li> </ul> <p>✓✓ (Any two)</p>	2	
9.5.4	<ul style="list-style-type: none"> <li>Provide a GUI</li> <li>Provide basic security</li> <li>Provide basic file handling</li> <li>Platform to install utilities/apps</li> <li>Control input and output devices</li> <li>Allows users to make/receive calls, etc.</li> </ul> <p>✓✓ (Any two)</p> <p><i>(Note to marker: Accept specific examples.)</i></p>	2	
9.5.5	<p>Cellular data is usually more expensive ✓</p>	1	8
9.6.1	<ul style="list-style-type: none"> <li>Lock his office when he is not there</li> <li>Lock the computer in a safe when not being used</li> <li>Using a cable lock</li> <li>Activate alarm/motion sensors when he is not in the office</li> <li>Security guards, etc.</li> </ul> <p>✓✓(Any two)</p>	2	
9.6.2	<ul style="list-style-type: none"> <li>Facial recognition</li> <li>Fingerprint</li> <li>Iris/retinal scan</li> <li>Voice recognition</li> <li>Card with biometric data used in the card reader</li> </ul> <p>✓✓(Any two)</p>	2	4

9.7	<ul style="list-style-type: none"> <li>A specific problem in the coding of the software or feature within the software</li> <li>Error made in the programming of the software</li> </ul> ✓(Any one)		1
9.8.1	<ul style="list-style-type: none"> <li>More intuitive to use</li> <li>No extra input devices needed</li> <li>The on-screen keyboard can be changed as needed, etc.</li> </ul> ✓✓ (Any two)	2	3
9.8.2	Pinch/Pinch in ✓	1	
9.9.1	A collection of related applications commonly used in an office environment. ✓	1	6
9.9.2	<ul style="list-style-type: none"> <li>Easy to share data</li> <li>The applications have a similar interface</li> <li>Cheaper to buy a suite than to buy programs separately, etc.</li> </ul> ✓✓ (Any two)	2	
9.9.3	<ul style="list-style-type: none"> <li>Application will be kept up to date automatically</li> <li>Can be used from any computer connected to the Internet</li> <li>Does not use storage space on the local computer, etc.</li> </ul> ✓ (Any one)	1	
9.9.4	<ul style="list-style-type: none"> <li>When the data requires more general record processing as opposed to numerical data processing</li> <li>When record processing/queries are required</li> <li>More options for data validation</li> <li>When good reporting facilities are required</li> </ul> ✓✓(Any two)  (Note to marker: Accept specific scenarios of the above.)	2	
9.10	<ul style="list-style-type: none"> <li>No need to decipher bad handwriting</li> <li>Data is already in electronic format and can be exported to a spreadsheet</li> <li>Data validation can be used</li> <li>Less paper will be used</li> <li>Do not have to store the completed forms, etc.</li> </ul> ✓✓(Any two)		2

9.11	<ul style="list-style-type: none"> <li>• Consistent use of font/font size</li> <li>• Consistent use of colour</li> <li>• Graphics should support or explain content</li> <li>• All links should work</li> <li>• Provide navigational links such as home, back to the top</li> <li>• No spelling/grammar errors</li> <li>• Pages should not be too busy</li> <li>• Contain correct/accurate information</li> <li>• Provide contact details, etc.</li> </ul> <p style="text-align: right;">✓✓✓ (Any three)</p>		2
9.12	<ul style="list-style-type: none"> <li>• Malware infection</li> <li>• Software corruption</li> <li>• Power surge/failure</li> <li>• Hardware defect/damage</li> </ul> <p style="text-align: right;">✓ (Any one)</p>		1
9.13	<ul style="list-style-type: none"> <li>• Data can be accessed anywhere he has Internet access</li> <li>• Should the computer/storage media be damaged or stolen the data is not lost</li> <li>• Potentially saves storage space on his hard drive</li> <li>• Saves money in terms of purchasing extra storage</li> <li>• The cloud storage service provides synchronisation services between devices</li> <li>• The service could allow sharing of data</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
9.14	<ul style="list-style-type: none"> <li>• Installing new hardware/software</li> <li>• Updating/removing/uninstalling software</li> <li>• Adding/removing users</li> <li>• Monitoring and preventing online threats</li> <li>• Maintains networks/LANs/WANs/Wireless networks</li> <li>• Identifies and resolves connectivity issues</li> <li>• Sets up the security of the network, etc.</li> </ul> <p style="text-align: right;">✓✓✓ (Any three)</p>		3

9.15	<ul style="list-style-type: none"> <li>• Update content regularly</li> <li>• Use catchy titles/informal style</li> <li>• Ask for and respond to feedback/criticism/comments</li> <li>• The text should be easy to read/correct spelling</li> <li>• Use an attractive template/design</li> <li>• Consistent design/formatting</li> <li>• Choose an easy to remember URL, if possible</li> <li>• Make it possible to subscribe via RSS</li> <li>• Write concisely/Use short sentences/paragraphs/bulleted lists</li> <li>• Check quality/quantity/relevance of graphics</li> <li>• All links should work</li> <li>• Provide a way for privately contacting the author, etc.</li> </ul> <p style="text-align: right;">✓✓ (Any two)</p>		2
9.16.1	<p>It can record confidential information ✓.</p> <p><i>(Note to marker: Accept suitable examples of confidential information such as usernames and passwords.)</i></p>	1	2
9.16.2	<ul style="list-style-type: none"> <li>• Spam filter</li> <li>• Prevent spyware infections</li> <li>• Firewall</li> </ul> <p style="text-align: right;">✓ (Any one)</p>	1	

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