



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

EXEMPLAR 2014

MEMORANDUM

MARKS: 150

This memorandum consists of 15 pages.

SECTION A**QUESTION 1: MATCHING ITEMS**

1.1	I✓	(1)
1.2	E ✓	(1)
1.3	G ✓	(1)
1.4	A ✓	(1)
1.5	C✓	(1)
1.6	D✓	(1)
1.7	H✓	(1)
Total: [7]		

QUESTION 2: MULTIPLE-CHOICE

2.1	D ✓	(1)
2.2	A ✓	(1)
2.3	C ✓	(1)
2.4	B ✓	(1)
2.5	C ✓	(1)
2.6	A ✓	(1)
2.7	B ✓	(1)
2.8	C ✓	(1)
2.9	C ✓	(1)
2.10	A ✓	(1)
Total: [10]		

QUESTION 3: TRUE/FALSE

3.1	True✓	1
3.2	False✓ Public hotspots allow users to connect to the Internet using <u>Wi-Fi</u> ✓.	2
3.3	False✓ A <u>form</u> in a database application is created in order to give a user an easy way to enter records into a table✓.	2
3.4	True✓	1
3.5	False✓ The 'Print Screen' key on the keyboard takes a screenshot and sends it directly to the <u>clipboard</u> .✓	2
Total: [8]		

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1	USB 3.0 has a faster data transmission rate than USB 2.0✓		1
4.2.1	<p>The term integrated refers to when certain hardware or features are incorporated/'built-in' into another device✓</p> <p><i>Note to marker: Accept explanation with suitable examples such as on-board controllers, etc.</i></p>	1	
4.2.2	<ul style="list-style-type: none"> • Very difficult (in some cases impossible) to replace • If the video adapter stops working, you will need to replace the whole motherboard or buy a new, separate graphics adapter. In the case of a notebook this is impossible. • The video adapter shares RAM with other hardware, etc. <p>✓✓ (Any TWO)</p>	2	3
4.3	<p>No✓</p> <ul style="list-style-type: none"> • Limited storage space on the hard drive • CPU is a Celeron which would not suffice for a power user • Integrated graphics cannot handle high-end video editing or manipulation, etc. <p>✓✓ (Any TWO)</p> <p><i>Note to marker: Accept any other reasonable explanation based on other hardware items.</i></p> <p><i>Do NOT accept a simple 'no' answer without a motivation.</i></p>		3
4.4	HDMI✓		1
4.5	<ul style="list-style-type: none"> • Portability/Can be easily taken to any classroom • Occupies less space • Standard notebooks have more Internet connectivity options • Can work on battery power, etc. <p>✓✓ (Any TWO)</p>		2
4.6.1	An SSD is used to store data.✓	1	
4.6.2	<ul style="list-style-type: none"> • Faster than a conventional hard drive • More robust • More energy efficient • Weighs less, etc. <p>✓✓ (Any TWO)</p>	2	3

4.7.1	<p>802.11n Wi-Fi✓ as the computer can be connected wirelessly to a network which in turn may provide a broadband Internet connection✓.</p> <p>OR</p> <p>10/100M LAN✓ as the computer can be connected wirelessly to a network which in turn may provide a broadband Internet connection✓.</p> <p>OR</p> <p>USB port✓ as a user can connect a 3G or Wi-Fi dongle to access a broadband Internet connection✓.</p>	2	
4.7.2	<ul style="list-style-type: none"> • Devices can be moved easier and still retain their Internet connectivity • Less clutter/No cables • A broadband Internet connection can be made in locations where wired broadband infrastructure is not available, such as in rural areas. <p>✓✓ (Any TWO)</p>	2	4
4.8.1	Windows 8✓	1	
4.8.2	<ul style="list-style-type: none"> • Provides a user interface • Coordinates activities between hardware and software • Manages hardware and software resources • Provides basic security • Provides file management facilities • Provides a platform from where programs can be run, etc. <p>✓✓ (Any TWO)</p> <p><i>Note to marker: Accept specific examples, but not when more than one example refers to the same concept, such as more than one example referring to file management.</i></p>	2	
4.8.3	<p>Application Software.✓</p> <p><i>Note to marker: Also accept an answer that refers to a specific category of application software such as an office suite, but do not accept specific brand names.</i></p>	1	4
4.9	<ul style="list-style-type: none"> • To ensure that the software performs optimally ✓ • In effect a user will be able to use the hardware for a longer period, as it will be compatible with newer software for a longer period.✓ 		2
4.10	<p>Disk fragmentation refers to parts of a file being scattered into non-sequential/contiguous/adjacent sections of a disk✓.</p> <p>This slows down a computer as all the parts must first be gathered, slowing down disk access in the process.✓</p>		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	<ul style="list-style-type: none"> • WAN (Wide Area Network) • GAN (Global Area Network) • MAN (Metropolitan Area Network) • VPN (Virtual Private Network) <p style="text-align: right;">✓(Any ONE)</p> <p><i>Note to marker: Accept a specific example, such as an ATM network.</i></p>		1
5.2.1	An NIC is the physical connection between a computing device such as a computer and the communications medium, such as a cable✓.	1	
5.2.2	A switch is a network device where all of the connections from computers and devices are connected✓.	1	2
5.3	<ul style="list-style-type: none"> • Pair your devices • Bring your devices within range • You may have to give permission for a file transfer to occur • Make sure you are trying to connect to the device you think you are connecting to, e.g. another device in range may have the same name <p style="text-align: right;">✓(Any ONE)</p>		1
5.4	<ul style="list-style-type: none"> • Use encryption e.g. WPA2 • Add a strong access password, etc. <p style="text-align: right;">✓(Any ONE)</p>		1
5.5	<p>Use a bookmark/favourite✓</p> <p><i>Note to marker: Do NOT accept the following</i></p> <ul style="list-style-type: none"> • <i>Techniques that do not rely on a computer, e.g. writing down or memorising the website URL</i> • <i>Simply starting to type a part of a URL in the address bar without having created a bookmark first (since the browsing history was deleted)</i> • <i>Using a web-search (since the question specifically requests mentioning a function of a web browser)</i> 		1
5.6	Advertisers pay the developer to show their advertisements within the app/program using banners or pop-ups.✓		1

5.7	<ul style="list-style-type: none"> • Listen at a time suitable to you • Better quality sound • Save on data (using a less expensive Wi-Fi connection for downloads) • Avoid streaming issues, e.g. buffering • Podcasts can easily be distributed, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>		2
5.8.1	Web caching is a process where web pages previously accessed ✓ are stored on the hard drive✓.	2	
5.8.2	<ul style="list-style-type: none"> • It improves browsing speed as pages can be loaded from the hard drive instead of being downloaded from the Internet✓. • Less data is consumed during the browsing process, as cached websites are not downloaded from the Internet✓. 	2	4
5.9	<ul style="list-style-type: none"> • More bandwidth – better quality video • More bandwidth – smooth playback • Lower bandwidth can make watching videos online impossible • More bandwidth – one can get 'capped' quicker as higher bandwidth allows users to stream in higher quality, which uses more data, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>		2
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	<ul style="list-style-type: none"> • Data refers to raw facts that are not useful on their own✓ • Information is data that has meaning/been processed.✓ 		2
6.2.1	<ul style="list-style-type: none"> • Quicker for users to answer • Greater likelihood of respondent answering question • One can avoid problems of interpreting the handwriting of the respondents • They provide a finite/fixed range of answers • Easier to validate/capture/analyse responses, etc. <p style="text-align: right;">✓✓(Any TWO)</p>	2	
6.2.2	<p>Spreadsheet.✓ Results from a questionnaire can be easily analysed using a spreadsheet ✓</p> <p><i>Note to marker: Accept a reasonable response in favour of databases such as references to creating queries and reports, etc.</i></p>	2	4
6.3	<ul style="list-style-type: none"> • When there is a need to relate or link data • Easier to perform queries to find specific information • To produce reports • When graphical representation of results is not required • To provide an easier format for users to enter data using a form • Multiple users can edit the database at the same time • Databases have the capacity to store more data than a spreadsheet • When the bulk of the information entered is not numerical, etc. <p style="text-align: right;">✓✓(Any TWO)</p>		2
6.4	The use of another author's expression of thoughts and ideas✓ and passing them off as one's own without permission.✓		2
			[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1	<ul style="list-style-type: none"> • E-mail lottery scam (e.g. you are a lucky winner ...) • Phishing scams asking for Internet banking logon particulars • Advance fee fraud (the victim is asked to transfer money upfront) • A 419 scam, etc. <p style="text-align: right;">✓(Any ONE)</p>		1
7.2	<ul style="list-style-type: none"> • Spamming • Distributed Denial-of-Service Attacks • Brute-force dictionary attacks on servers • Unauthorised banner display • Click jacking, etc. <p style="text-align: right;">✓(Any ONE)</p>		1
7.3	<ul style="list-style-type: none"> • Use ergonomic input devices • Type using a natural wrist position • Sit up straight • Take regular breaks, etc. <p style="text-align: right;">✓(Any ONE)</p>		1
7.4	<ul style="list-style-type: none"> • You may start thinking that casual acquaintances on social networking sites are your real friends • Dangers of cyber-stalking/cyber-bullying • Danger of online predators/paedophiles • Someone you do not know may monitor your online presence and seek to benefit from it to your disadvantage • Social networks are very addictive, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>		2
7.5	<ul style="list-style-type: none"> • Keep your password length as long as possible • Make sure passwords do not contain recognisable words • Never use the same password for more than one domain/ service • Your password should contain a mix of uppercase and lowercase letters, numbers and special characters • Encrypt your passwords • Make use of password management systems/software, e.g. KeePass, LastPass, etc. <p style="text-align: right;">✓✓(Any TWO)</p>		2

7.6	<ul style="list-style-type: none"> • May be used for legal downloads, e.g. open-source software • May be used to distribute documents or other files on which no copyright is applicable, etc. <p style="text-align: right;">✓(Any ONE)</p>		1
7.7	<p>Answers relating to a lack of privacy:</p> <ul style="list-style-type: none"> • Cookies • Facial recognition • Logging of IP addresses • Location-based services • Targeted advertising • Data surveillance, etc. <p>AND/OR</p> <p>Answers relating to protecting one's privacy:</p> <ul style="list-style-type: none"> • The use of proxy servers • Cleaning browsing history • Encryption • The use of a VPN • Browser options such as 'Incognito' mode and Do Not Track (DNT), etc. <p style="text-align: right;">✓✓(Any TWO)</p>		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1.1	<h1>CAT</h1> ✓ <i>Note to marker: Accept</h1>without the rest of the code.</i>	1	
8.1.2	<p>The text and background colour will both be black, making the text 'Hello World' invisible ✓</p> <p>A possible solution:</p> <ul style="list-style-type: none"> • Change page background colour • <body> • <body bgcolor='yellow'> • Change font colour • Hello World • <h1>Hello World</h1> <p>✓(Any ONE)</p> <p><i>Note to marker: Accept any colour other than black</i></p> <p><i>Award a maximum of only ONE mark in total IF after the change both colours (background and font) are the same, e.g. <body bgcolor='red'>ANDHello World</i></p>	2	3
8.2.1	<ul style="list-style-type: none"> • Group Footer • Group Header <p>✓(Any ONE)</p>	1	
8.2.2	Query ✓	1	
8.2.3	<ul style="list-style-type: none"> • VAT:[Price]*0.14 • VAT:[Price]/100*14 <p>✓(Any ONE)</p> <p><i>Note to marker: Only the field name should appear between square brackets.</i></p>	1	
8.2.4	<ul style="list-style-type: none"> • Table contains/stores records • Table is used to specific the fields, field types and their properties • Query is used to select records from the table • Query can create temporary, calculated fields • Query can be used to view selected fields, etc. <p>✓✓ (Any TWO)</p>	2	5

8.3.1	Save the document in an older format.✓ This will ensure that backward compatibility/formatting is retained when used with older versions of the application✓	2	
8.3.2	A feature to reflect information regarding the reference to a book or academic work.✓ Accept either one below✓: <ul style="list-style-type: none"> • Used when one wants refer to another person's work an explanation • To show consultation of other sources to avoid plagiarism. 	2	4
8.4.1	COUNTIF – Counts the number of cells within a range that match a given condition✓ COUNTA– Counts the number of cells in a range that are not empty✓	2	
8.4.2	23.7✓	1	3
			[15]

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

9.1.1	<ul style="list-style-type: none"> The integrated adapter takes up less space than a separate video adapter on the motherboard No need to purchase a video adapter <p style="text-align: right;">✓ (Any ONE)</p>	1	
9.1.2	The video adapter does not have its own dedicated memory.✓ It shares/uses the RAM on the computer.✓	2	
9.1.3	<ul style="list-style-type: none"> More intuitive to use by voters No need to use cumbersome keyboards or a mouse Less complicated for those who are not computer literate, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>	2	5
9.2.1	<ul style="list-style-type: none"> Easier to move around with a digital camera The average digital camera takes much better quality photographs More features such as ISO settings, scene selection, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>	2	
9.2.2	<ul style="list-style-type: none"> Using the cable supplied with the camera to connect the camera to the computer. Place the camera's memory card into a card reader on the computer Some digital cameras have a wireless functionality such as Bluetooth or Wi-Fi which will allow photographs to be transferred to the computer Using a memory card that has Wi-Fi capabilities (such as the Eye-Fi memory card), etc. <p style="text-align: right;">✓✓ (Any TWO)</p>	2	
9.2.3	<ul style="list-style-type: none"> Install a memory card with more storage space Lower the resolution of the photographs the camera takes, etc. <p style="text-align: right;">✓✓ (Any TWO)</p>	2	
9.2.4	<ul style="list-style-type: none"> ISO speed Aperture Whether the flash was used The GPS location the photograph was taken at Camera brand and model Shutter speed, etc. <p style="text-align: right;">✓ (Any ONE)</p>	1	7
9.3.1	A copy of data/information that is stored in a different physical place from the original data✓	1	

9.3.2	<ul style="list-style-type: none"> • People forget to make backups regularly • Some people don't know how to make backups • Backups can be expensive to make due to the need for extra hardware, etc. <p>✓✓ (Any TWO)</p>	2	
9.3.3	<ul style="list-style-type: none"> • Can access data from anywhere in the world where an Internet connection is available • Saves local storage space • Data is less likely to be lost, etc. <p>✓✓ (Any TWO)</p>	2	5
9.4.1	<ul style="list-style-type: none"> • More space available for a larger screen • Keyboard layout can be changed as needed • The size and shape of the keys and keyboard can be adjusted via software, etc. <p>✓✓ (Any TWO)</p>	2	
9.4.2	A device that contains a mixture of the functionality/features of both a smartphone and a tablet✓.	1	3
9.5.1	<ul style="list-style-type: none"> • Biometric input accurately identifies the user • Much easier for users than typing in passwords • More difficult to 'get-around'/bypass, etc. <p>✓(Any ONE)</p>	1	
9.5.2	A driver is software designed to allow the operating system and a hardware device to communicate/allow the operating system to control the device ✓	1	
9.5.3	<ul style="list-style-type: none"> • The original supplier • The Internet (supplier's website or a third party website) • On a ROM chip integrated into the device • The driver might be included in the operating system • From someone who has the same device • From a computer store, etc. <p>✓✓ (Any TWO)</p> <p><i>Note to marker: Do not accept vague answers such as 'from a friend' or 'from a shop'.</i></p>	2	4
9.6.1	Inkjet/Photo printer✓	1	
9.6.2	Laser printer✓	1	2
9.7.1	<ul style="list-style-type: none"> • Fragmentation • Antivirus software may be using too many resources • Too many programs loaded/not enough RAM available • Malware might have infected the computer, etc. <p>✓✓ (Any TWO)</p>	2	

9.7.2	<ul style="list-style-type: none"> Press the Ctrl, Alt and Del buttons/Activate the task manager✓ Terminate the non-responding application✓ 	2	
9.7.3	<ul style="list-style-type: none"> The printer may be disconnected from the computer The printer may be switched off The printer might not be installed correctly There might not be paper in the printer The printer might not have any ink/toner left, etc. ✓✓ (Any TWO)	2	6
9.8.1	<ul style="list-style-type: none"> Blogs are easy to create Blogs are usually free Readers can subscribe to the blog for updates (via RSS) Readers can leave comments on posts, etc. ✓✓ (Any TWO)	2	
9.8.2	The parents can subscribe to RSS feeds✓.	1	3
9.9	The firewall will prohibit any unauthorised access to the network from the Internet✓.	1	
9.10.1	<p>Uncapped refers to the fact that there is no limit to the amount of data that can be uploaded or downloaded✓</p> <p>Shaped refers to limiting the speed of certain services, e.g. video streaming✓.</p>	2	
9.10.2	If more than a certain amount of data is downloaded or uploaded the download/upload speed of the line will be reduced✓.	1	4
9.11.1	<p>A patch is a small piece of software that is used to correct a specific problem with a program.✓.</p> <p>A service pack is a collection of patches/updates released as one download/installation media✓.</p>	2	
9.11.2	<ul style="list-style-type: none"> Activating the automatic update option Click on the update option within the application Manually download and install the relevant patch/service pack Acquire a storage medium such as a CD with the required patch/service pack on it, etc. ✓✓ (Any TWO)	2	
9.11.3	Installing shareware software allows one to first see if all the appropriate functions/features are available✓ so you don't waste money on software that does not meet your needs ✓.	2	6

9.12.1	E-mail spoofing refers to the process of altering an e-mail (header) so that the message appears to have come from someone other than the actual source/sender.✓	1	
9.12.2	Stolen personal details are used by criminals to pretend that they are someone else. ✓ <i>Note to marker: Do not accept vague answers such as 'Stealing identities'.</i>	1	
9.12.3	Software (spyware) designed to track and record each keystroke a user makes✓.	1	3
9.13	Addresses in the Cc field are visible to all other recipients ✓ Addresses in the Bcc field are not visible to other recipients✓.		2

TOTAL SECTION C: 50
GRAND TOTAL: 150