



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	The term integrated refers to when certain hardware or features are incorporated/'built-in' into another device✓ <i>Note to marker: Accept explanation with suitable examples such as on-board controllers, etc.</i>	1	
4.2.2	• 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. ✓✓ (Any TWO)	2	3
4.3	No✓ • 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. ✓✓ (Any TWO) <i>Note to marker: Accept any other reasonable explanation based on other hardware items.</i> <i>Do NOT accept a simple 'no' answer without a motivation.</i>		3
4.4	HDMI✓		1
4.5	• Portability/Can be easily taken to any classroom • Occupies less space • Standard notebooks have more Internet connectivity options • Can work on battery power, etc. ✓✓ (Any TWO)		2
4.6.1	An SSD is used to store data.✓	1	
4.6.2	• Faster than a conventional hard drive • More robust • More energy efficient • Weighs less, etc. ✓✓ (Any TWO)	2	3

4.7.1	802.11n Wi-Fi✓ as the computer can be connected wirelessly to a network which in turn may provide a broadband Internet connection✓. OR 10/100M LAN✓ as the computer can be connected wirelessly to a network which in turn may provide a broadband Internet connection✓. OR USB port✓ as a user can connect a 3G or Wi-Fi dongle to access a broadband Internet connection✓.	2	
4.7.2	• 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. ✓✓ (Any TWO)	2	4
4.8.1	Windows 8✓	1	
4.8.2	• 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. ✓✓ (Any TWO) <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>	2	
4.8.3	Application Software.✓ <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>	1	4
4.9	• 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	Disk fragmentation refers to parts of a file being scattered into non-sequential/contiguous/adjacent sections of a disk✓. This slows down a computer as all the parts must first be gathered, slowing down disk access in the process.✓		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	• WAN (Wide Area Network) • GAN (Global Area Network) • MAN (Metropolitan Area Network) • VPN (Virtual Private Network) ✓(Any ONE) <i>Note to marker: Accept a specific example, such as an ATM network.</i>		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	• 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 ✓(Any ONE)		1
5.4	• Use encryption e.g. WPA2 • Add a strong access password, etc. ✓(Any ONE)		1
5.5	Use a bookmark/favourite✓ <i>Note to marker: Do NOT accept the following</i> • <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	• 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. ✓✓ (Any TWO)		2
5.8.1	Web caching is a process where web pages previously accessed ✓ are stored on the hard drive✓.	2	
5.8.2	• 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	• 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. ✓✓ (Any TWO)		2
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	• Data refers to raw facts that are not useful on their own✓ • Information is data that has meaning/been processed.✓		2
6.2.1	• 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. ✓✓(Any TWO)	2	
6.2.2	Spreadsheet.✓ Results from a questionnaire can be easily analysed using a spreadsheet ✓ <i>Note to marker: Accept a reasonable response in favour of databases such as references to creating queries and reports, etc.</i>	2	4
6.3	• 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. ✓✓(Any TWO)		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	• 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. ✓(Any ONE)		1
7.2	• Spamming • Distributed Denial-of-Service Attacks • Brute-force dictionary attacks on servers • Unauthorised banner display • Click jacking, etc. ✓(Any ONE)		1
7.3	• Use ergonomic input devices • Type using a natural wrist position • Sit up straight • Take regular breaks, etc. ✓(Any ONE)		1
7.4	• 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. ✓✓ (Any TWO)		2
7.5	• 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. ✓✓(Any TWO)		2

7.6	• 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. ✓(Any ONE)		1
7.7	Answers relating to a lack of privacy: • Cookies • Facial recognition • Logging of IP addresses • Location-based services • Targeted advertising • Data surveillance, etc. AND/OR Answers relating to protecting one's privacy: • 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. ✓✓(Any TWO)		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1.1	CAT ✓ <i>Note to marker: Accept</h1>without the rest of the code.</i>	1	
8.1.2	The text and background colour will both be black, making the text 'Hello World' invisible ✓ A possible solution: • Change page background colour • <body> • <body bgcolor='yellow'> • Change font colour • Hello World • <h1>Hello World</h1> ✓(Any ONE) <i>Note to marker: Accept any colour other than black</i> <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>	2	3
8.2.1	• Group Footer • Group Header ✓(Any ONE)	1	
8.2.2	Query ✓	1	
8.2.3	• VAT:[Price]*0.14 • VAT:[Price]/100*14 ✓(Any ONE) <i>Note to marker: Only the field name should appear between square brackets.</i>	1	
8.2.4	• 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. ✓✓ (Any TWO)	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✓: • 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	- The integrated adapter takes up less space than a separate video adapter on the motherboard - No need to purchase a video adapter ✓ (Any ONE)	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	- 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. ✓✓ (Any TWO)	2	5
9.2.1	- 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. ✓✓ (Any TWO)	2	
9.2.2	- 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. ✓✓ (Any TWO)	2	
9.2.3	- Install a memory card with more storage space - Lower the resolution of the photographs the camera takes, etc. ✓✓ (Any TWO)	2	
9.2.4	- ISO speed - Aperture - Whether the flash was used - The GPS location the photograph was taken at - Camera brand and model - Shutter speed, etc. ✓ (Any ONE)	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	• 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. ✓✓ (Any TWO)	2	
9.3.3	• 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. ✓✓ (Any TWO)	2	5
9.4.1	• 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. ✓✓ (Any TWO)	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	• Biometric input accurately identifies the user • Much easier for users than typing in passwords • More difficult to 'get-around'/bypass, etc. ✓(Any ONE)	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	• 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. ✓✓ (Any TWO) <i>Note to marker: Do not accept vague answers such as 'from a friend' or 'from a shop'.</i>	2	4
9.6.1	Inkjet/Photo printer✓	1	
9.6.2	Laser printer✓	1	2
9.7.1	• Fragmentation • Antivirus software may be using too many resources • Too many programs loaded/not enough RAM available • Malware might have infected the computer, etc. ✓✓ (Any TWO)	2	

9.7.2	- Press the Ctrl, Alt and Del buttons/Activate the task manager✓ - Terminate the non-responding application✓	2	
9.7.3	- 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	- 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	Uncapped refers to the fact that there is no limit to the amount of data that can be uploaded or downloaded✓ Shaped refers to limiting the speed of certain services, e.g. video streaming✓.	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	A patch is a small piece of software that is used to correct a specific problem with a program.✓. A service pack is a collection of patches/updates released as one download/installation media✓.	2	
9.11.2	- 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