



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2015

MEMORANDUM

MARKS: 150

This memorandum consists of 19 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	N	✓	1
1.2	I	✓	1
1.3	A	✓	1
1.4	B/P	✓	1
1.5	O	✓	1
1.6	G	✓	1
1.7	R	✓	1
1.8	E	✓	1
1.9	H	✓	1
1.10	D	✓	1
Total: [10]			

QUESTION 2: MULTIPLE-CHOICE

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

QUESTION 3: MODIFIED TRUE OR FALSE

(Note to marker: In Question 3.2, 3.3 and 3.4 candidates need to give the correct term, e.g. printers, in order to get the mark.)

3.1	True✓	1
3.2	False – OLE object/attachment✓	1
3.3	False – social engineering✓	1
3.4	False – conditional✓ OR True	1
3.5	True✓	1
		[5]

TOTAL SECTION A: [25]

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

4.1	<ul style="list-style-type: none"> • i7 3.0 GHz CPU • 8 GB DDR3 • 1600 MHz RAM • 802.11 a/b/g/n <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept any valid reference to the specifications.)</i></p>		2
4.2	<p>RAM temporarily✓ only holds/stores programs/data currently being/waiting to be processed by the CPU.</p> <p>Hard drive stores all programs/data/files/information/Hard drive is permanent storage✓.</p>		2
4.3	<ul style="list-style-type: none"> • Architect • Gamer • Scientist/Engineer • Programmer/Software developer • Photographer • Video editor • Games developer/designer • Web designer • Graphics designer, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept any valid answer that relates to a category of power user as opposed to typical end-user categories.)</i></p>		2
4.4.1	One device that has the functionality of many devices/Combining functions of multiple devices in a single device✓	1	
4.4.2	<ul style="list-style-type: none"> • Smartphone/Cell phone • Tablet/Phablet • Smart watch • Smart TV • Multi-function printer, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept any valid example.)</i></p>	1	2
4.5	<ul style="list-style-type: none"> • USB 3.0 • 802.11 a/b/g (Wi-Fi) <p style="text-align: right;">✓ (Any one)</p>		1
4.6	Driver✓		1
4.7	OCR ✓		1

4.8	8 MP webcam/Higher resolution webcam✓ produces images/video of a higher quality that uses more data✓		2
4.9	<ul style="list-style-type: none"> • More durable/No moving parts • Faster (data transfer rates) • More energy efficient/Uses less power/Promotes green computing • No noise • Not affected by magnetism <p style="text-align: right;">✓✓ (Any two)</p>		2
4.10	<ul style="list-style-type: none"> • (Wi-Fi) router • Wireless access point (WAP) • (USB) modem or dongle or mobile phone <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Do not accept the 802.11 specification or hotspot.)</i></p>		1
4.11.1	Microphone/Headset✓ <i>(Note to marker: Do not accept headphones.)</i>	1	
4.11.2	<ul style="list-style-type: none"> • Can take long to train the software to the individual/Is not very accurate • Background noise can affect the recognition process • Microphone quality can reduce effectiveness of recognition • Easily affected by voice inflections/accent/changes in voice due to colds, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept any items not related to using voice recognition software such as cost, etc. Accept 'not readily available in all languages'.)</i></p>	2	3
4.12	<ul style="list-style-type: none"> • Anti-virus scan running • Defragmentation program running • Large download occurring/Uploads such as cloud storage sync occurring • Accept any issues relating to updates not being done or updates being done and slowing down performance • Outdated drivers or software • Too many add-ons installed on the browser • Using memory intensive programs • Too many applications open/Excessive use of virtual memory, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept any items relating to hardware.)</i></p>		2

4.13	<ul style="list-style-type: none">• Central updating/changing of prices• More efficient stock control/keep track of goods• Much faster process at checkout• Facilitates analysis of sales data• Greater accuracy/Fewer mistakes by scanning barcodes/prices, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
4.14	<ul style="list-style-type: none">• Provide basic security• Provide a user interface/GUI• Starting up and shutting down a computer• Manage software• Manage memory• Co-ordinate tasks• Configure devices/Install drivers• Manage hardware/peripherals/manage resources/manage storage/file management, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	<ul style="list-style-type: none"> • Much cheaper • Call costs the same irrespective of distance • Allows for audio and visual transmission/video conferencing • Can make calls wherever there is Internet access • Widely available/Can be used on different devices, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
5.2	<ul style="list-style-type: none"> • Servers provide services/resources to client computer <p>OR</p> <ul style="list-style-type: none"> • Clients request services/resources from servers ✓ <p><i>(Note to marker: Accept examples of specific services/resources generally provided by servers.)</i></p>		1
5.3	<ul style="list-style-type: none"> • WAN • VPN • GAN • WRAN <p style="text-align: right;">✓ (Any one)</p>		1
5.4	<ul style="list-style-type: none"> • Grid computing refers to the use of multiple computers/servers✓ • for processing/solving problems/as if it is one computer/pooling resources✓ 		2
5.5	<ul style="list-style-type: none"> • (URL starts with) https • Part of the address bar turns green • The icon/image of a 'padlock' appearing, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept reference to digital/security certificate /privacy icon.)</i></p>		1
5.6	<p>Upgrade to/install suitable software such as a media player/plugin ✓e.g. Adobe Flash Player, QuickTime, Shockwave player, etc.</p> <p><i>(Note to marker: Do not accept using another browser or trying to view the video on another computer or website. Accept upgrading to another version of the same the browser.)</i></p>		1
5.7.1	<p>Downloading is when data is received✓ by you, and uploading is when the data is sent✓ by you.</p> <p><i>(Note to marker: Accept specific examples of uploading or downloading.)</i></p>	2	

5.7.2	Downloading is usually faster than uploading ✓ /uploading is normally slower than downloading. <i>(Note to marker: Learner must specify which one is faster/slower.)</i>	1	3
5.8	<ul style="list-style-type: none"> • Upload to the Internet/cloud (DropBox/One Drive/Google Drive, etc.)/web server (and share a link to the file) • Use social networking tools that provide file sharing capabilities (accept suitable examples) • Use FTP • Send the file as a torrent, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
5.9	<ul style="list-style-type: none"> • Previously accessed web pages stored on local machine/hard drive ✓ • Provides quicker access to web page in the future/Less bandwidth/data/cap' is used ✓ 		2
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	<ul style="list-style-type: none"> For collecting individual perspectives/experiences/opinions Easy/Quick way to gather information from individuals/groups For targeting specific respondents, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept any reference to getting information not available from other sources. Accept a specific example.)</i></p>		1
6.2	<ul style="list-style-type: none"> Limits range of possible responses Limits data capturing mistakes/Fewer issues with handwriting Data validation Easier to summarise/analyse responses Faster to capture responses Increased likelihood of respondents answering/Quicker to fill out survey/questionnaire <p style="text-align: right;">✓✓ (Any two)</p>		2
6.3	<ul style="list-style-type: none"> Charts/Graphs/'Sparklines' Wide range of functions/formulas e.g. logical and statistical functions Sorting Filters Pivot tables Validation facilities Conditional formatting Results of functions/formulae update automatically, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
6.4	Sources ✓ via the source manager <i>(Note to marker: Accept Citations. Do not accept referencing.)</i>		1
6.5	Track changes ✓ <i>(Note to marker: 'Manual' methods such as shading are not accepted.)</i>		1
6.6	<ul style="list-style-type: none"> The information cannot be confirmed/corroborated by other sources/no bibliography The author is not an authority in the field/The author is unknown The information is not current/Publishing date cannot be established Bias/Prejudice is evident in the information Poor language use/Spelling and grammar errors, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
6.7	Indicates that the content of the website could have changed since the date it was used/Indicates what the information was on that date ✓		1
			[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1	<ul style="list-style-type: none"> • Turn off display/hard disk automatically after a period of time • Put the computer to sleep automatically after a period of time • Turn on Wireless Adapter Maximum Power Saving • Turn down the brightness of the screen • Battery/Power schemes/settings • Switch off any unused communication mediums/features such as Bluetooth, GPS or Wi-Fi • Disable any start-up programs <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept a power-saving technique that does not involve modifying operating system settings, e.g. switching off the laptop when not in use, etc.)</i></p>		2
7.2	<ul style="list-style-type: none"> • Using unlicensed software/Performing illegal downloads of copyrighted material • Violating licensing agreement of software/Installing software on more machines than you have licences for • Bandwidth piracy • Not paying when using services that require an online subscription • Copying and selling media such as movies on DVD/software, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept answers related to the theft of intellectual property and plagiarism, etc.)</i></p>		2
7.3	<ul style="list-style-type: none"> • Use/Install Linux/FOSS/Free Open source operating system • Find out about academic/student/workplace discount or version • Get a less expensive version of Windows • Inquire about a downgraded license/option, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept responses outside of the ICT context, e.g. get a decent job. Do not accept any illegal options such as pirating, etc. Accept trial version.)</i></p>		2

7.4	<ul style="list-style-type: none"> • Make use of the 'alt' HTML tag for images (or any other features that make the website more easily interpreted by text-to-speech software) • Text-to-speech software/'Narrator' • Make use of sound files, e.g. for navigation/feedback • Enlarge fonts/Use of theme fonts/magnifier • Use suitable colour contrasts/schemes, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept Braille keyboard.)</i></p>		2
7.5	<ul style="list-style-type: none"> • There is too much data/information to process sensibly/make sense of • The user does not know how to respond to the large volume of information/data • The user cannot cope with the amount of information/data <p style="text-align: right;">✓ (Any one)</p> <p>AND</p> <ul style="list-style-type: none"> • Time is wasted trying to make sense of the data • The user is less productive • Easily distracted <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept any specific example of information overload reducing productivity.)</i></p>		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1.1	<ul style="list-style-type: none"> • Table/Query in a database • Spreadsheet/CSV (comma delimited) file • Contacts file e.g. in Microsoft Outlook • Table in a word processing document • Text file, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept reference to a word processing document without table.)</i></p>	2	
8.1.2	To act as a placeholder for the merged data/To indicate where each data/field from the source should go/must be added✓ during the merge process	1	3
8.2.1	<p>Must be 60 or older✓ Must not be working✓</p> <p><i>(Note to marker: Do not accept 'older than 60' for the first mark.)</i></p>	2	
8.2.2	<p>Blank cell✓</p> <p><i>(Note to marker: Accept 'nothing' as an answer. Do not accept if the answer is left blank, i.e. unanswered.)</i></p>	1	3
8.3	<ul style="list-style-type: none"> • Paste only characters with no formatting • Paste as a hyperlink • Paste as a link • To choose whether to use the source or destination formatting or not • To leave out or 'skip' blanks • To transpose rows/columns • Paste values and not functions/formulae, etc. <p style="text-align: right;">✓ (Any one)</p>		1
8.4.1	<p>To comment/document ✓</p> <p><i>(Note to marker: Accept as an indication of where to put the data.)</i></p>	1	
8.4.2	<p>None of the content within the HTML comment tag is displayed✓</p> <p><i>(Note to marker: Accept 'nothing' as an answer. Do not accept if the answer is left blank, i.e. unanswered.)</i></p>	1	2
8.5	The text that is displayed if for any reason the image cannot be displayed ✓		1

8.6.1	The <i>Stock ID</i> field has already been set as the primary key ✓	1	2
8.6.2	Validation rule/Combo/List box/Lookup table✓ <i>(Note to marker: Do not accept Input mask as an answer.)</i>	1	
8.7.1	The criteria in each line is treated separately/as an OR option✓ Place both the criteria in the same 'line'✓ <i>(Note to marker: Accept if the candidate draws a diagram correctly reflecting the solution.)</i>	2	3
8.7.2	Description✓	1	
			[15]

TOTAL SECTION B: [75]

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

9.1	<ul style="list-style-type: none"> • Adjustable height/set to correct height/arms at right angles • Ability to swivel • Wheels for easy movement • Lumbar/Back support, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Do not accept a general answer such as 'comfortable'.)</i></p>		1
9.2.1	The lowest/minimum possible specifications ✓ (hardware/software) needed for the program to load/run✓	2	
9.2.2	<ul style="list-style-type: none"> • While programs will run with the minimum specifications they will perform optimally with higher specifications • Hardware would be relevant/usable for a longer period of time/Will be able to run newer/later versions of software • More resources to enable multi-tasking • Computer would be compatible with a wider range of software/hardware, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.2.3	Monitor/Screen/Display✓	1	
9.2.4	<ul style="list-style-type: none"> • More expensive to buy/Not free • Cannot copy or distribute • Do not have access to/Cannot alter or add to source code • Newer versions often need higher hardware specifications • Proprietary software sometimes needs higher hardware specifications to run than OSS, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.2.5	<ul style="list-style-type: none"> • Remove unwanted programs/files • Perform housekeeping to remove duplicate files • Move/Archive unused/large files to a different storage device/the cloud • Remove temporary/cached files • Uninstall operating system features/components not required • Compress files/folders • Disable hibernation • Reduce virtual memory files • Empty recycle bin, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept references to using utilities such as Disk Cleanup but do not accept a reference to installing a new hard drive or replacing the current one.)</i></p>	2	

9.2.6	<ul style="list-style-type: none"> • Limited functions available/Less functionality • Uses data/cap/data bundle • Must have Internet connectivity • Can drastically slow down the Internet connection speed when many people are using the programs • Increased data costs, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	11
9.3	<ul style="list-style-type: none"> • Service packs contain all patches/updates released to date/Patches and updates do not have to be done individually/fixes bugs • Improved security options/New features included • Ensures that all available patches/updates (to that point) have been installed • Service packs can be obtained on media that does not require Internet access/use of cap, etc. <p style="text-align: right;">✓✓ (Any two)</p>		2
9.4.1	<ul style="list-style-type: none"> • Print directly from memory cards • Allows a variety of media types to be used • Saves time by not having to log on and send to the printer • Can use printer without logging on. • Do not even need to have printer connected to a network/computer/device, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept answers relating to connecting the printer to a USB port.)</i></p>	2	
9.4.2	Filter/Pivot Table ✓ <i>(Note to marker: Do not accept sorting.)</i>	1	
9.4.3	<ul style="list-style-type: none"> • Use print preview before printing/Proofread electronically • Print multiple pages on a single piece of paper • Print on both sides of a page • E-mail documents/Use cloud storage • Reduce font sizes • Only print sections needed and not full documents, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	
9.4.4	<ul style="list-style-type: none"> • Refill the cartridge • Return to manufacturer/seller/dispose of it in an eco-friendly way • Take to a recycling facility/Take to a refurbishing/re-manufacturing company, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	7

9.5.1	<ul style="list-style-type: none"> • On a manufacturer/third party website/On the Internet • Already part of/supported by the operating system/On the computer already <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Do not accept 'from a shop'. Accept a specific explanation of getting the driver.)</i></p>	1	
9.5.2	<p>(a) Colour depth refers to the number of colours✓ that can be recognised by the scanner.</p> <p>(b) The dpi indicates the resolution/amount of pixels✓ the scanner uses to compose a scanned image.</p>	2	3
9.6.1	<ul style="list-style-type: none"> • More up-to-date information • Potentially wider range of information • Easier to narrow down search/results • Already in electronic format/ quicker to manipulate • Easier to share/distribute information • Many learners can access the same resources at the same time • Faster/Easier to compare/access information from different sources • Access to multimedia materials, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept faster without qualification.)</i></p>	2	
9.6.2	Firewall✓	1	
9.6.3	A website✓ (web page) that allows multiple users to add/edit content✓ directly on the website.	2	5
9.7.1	<ul style="list-style-type: none"> • Can easily lose/damage a flash drive • Flash drives have a limited life-span • Basic versions of cloud storage are free • Can access the information from any computer connected to the Internet/No need to carry around a flash drive • Allows for easy sharing of files • Potentially larger storage capacity of cloud storage • Automatic synchronisation of files/folders • Copies of files are available in a secure location • Automatic services such as security and backup handled by the storage provider, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept any specific example.)</i></p>	2	

9.7.2	<ul style="list-style-type: none"> • Synchronisation/Synching functionality • Set reminders • Use scheduling utility/scheduling option on backup software, etc. <p style="text-align: right;">✓ (Any one)</p>	1	3
9.8.1	<ul style="list-style-type: none"> • Webcam • Microphone <p style="text-align: right;">✓ (Any one)</p>	1	
9.8.2	<ul style="list-style-type: none"> • Access to/Interact with expert teachers (without having to travel) • Saves travel costs/time • Teacher can teach to a wider audience • Lesson can be recorded/Re-used, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept answers that are common to 'conventional' teaching such as 'set a test', etc.)</i></p>	2	
9.8.3	<ul style="list-style-type: none"> • Need not wait for entire download to finish before watching it • Live feeds can be streamed • Do not need to have the storage required to save large videos before watching <p style="text-align: right;">✓ (Any one)</p>	1	
9.8.4	<ul style="list-style-type: none"> • Potentially better quality images/video • No/Less need for darkened conditions • Can use video conferencing features provided with some of these devices • Limited lamp life • No need for a separate projection screen/flat surface to project onto, etc. <p style="text-align: right;">✓✓ (Any two)</p>	2	6
9.9.1	<ul style="list-style-type: none"> • Prevent theft/Expensive asset/Potential loss of data if stolen • Only staff with correct credentials will have access to the room/machine • Security reasons/Easier to control access to a separate room, etc. <p style="text-align: right;">✓ (Any one)</p>	1	

9.9.2	<ul style="list-style-type: none"> • Injury to your finger will reduce the effectiveness of the biometric sensor • Some users have fingerprints which are not recognised/no fingerprints • Person has to be physically present to be added to the system • Faulty sensors/Power failure can cause authorised users to be locked out <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept cost issues or answers such as 'no one else can access the system'.)</i></p>	2	3
9.10	<ul style="list-style-type: none"> • Relevant data can be more easily extracted using queries/ Easier to perform queries/more facilities for querying • Professional reports can easily be created/Better reporting facilities • Ease of capturing data using forms • More validation tools/validation techniques • Designed to work with larger volumes of information • Designed specifically to work with records/Spreadsheet more suited to numerical calculations • Relational tables are possible • Automatic saving and updating after adding records, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept any example of data validation tools or techniques not present in a spreadsheet.)</i></p>		2
9.11.1	Currency✓ <i>(Note to marker: Do not accept Number only. Accept number formatted to currency.)</i>	1	
9.11.2	Short Text/Text✓ <i>(Note to marker: Do not accept Number/Memo/Long text.)</i>	1	
9.11.3	Memo/Long Text✓	1	
9.11.4	OLE ✓object/attachment <i>(Note to marker: Do not accept 'hyperlink' or 'attachment' as the picture must be stored in the field itself.)</i>	1	4

<p>9.12</p>	<ul style="list-style-type: none"> • Create a query✓ that sorts the amounts/select the option to choose the top 10 highest amounts ✓ <p>OR</p> <p>Sort the table according to the total and select the top 10 and copy the top 10 records to a new table</p> <ul style="list-style-type: none"> • Create a report based on the query/table✓ produced with top 10 donors <p><i>(Note to marker: Do not accept a rewording of the question such as 'create a report'.)</i></p>		<p>3</p>
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TOTAL SECTION C: [50]

GRAND TOTAL: [150]