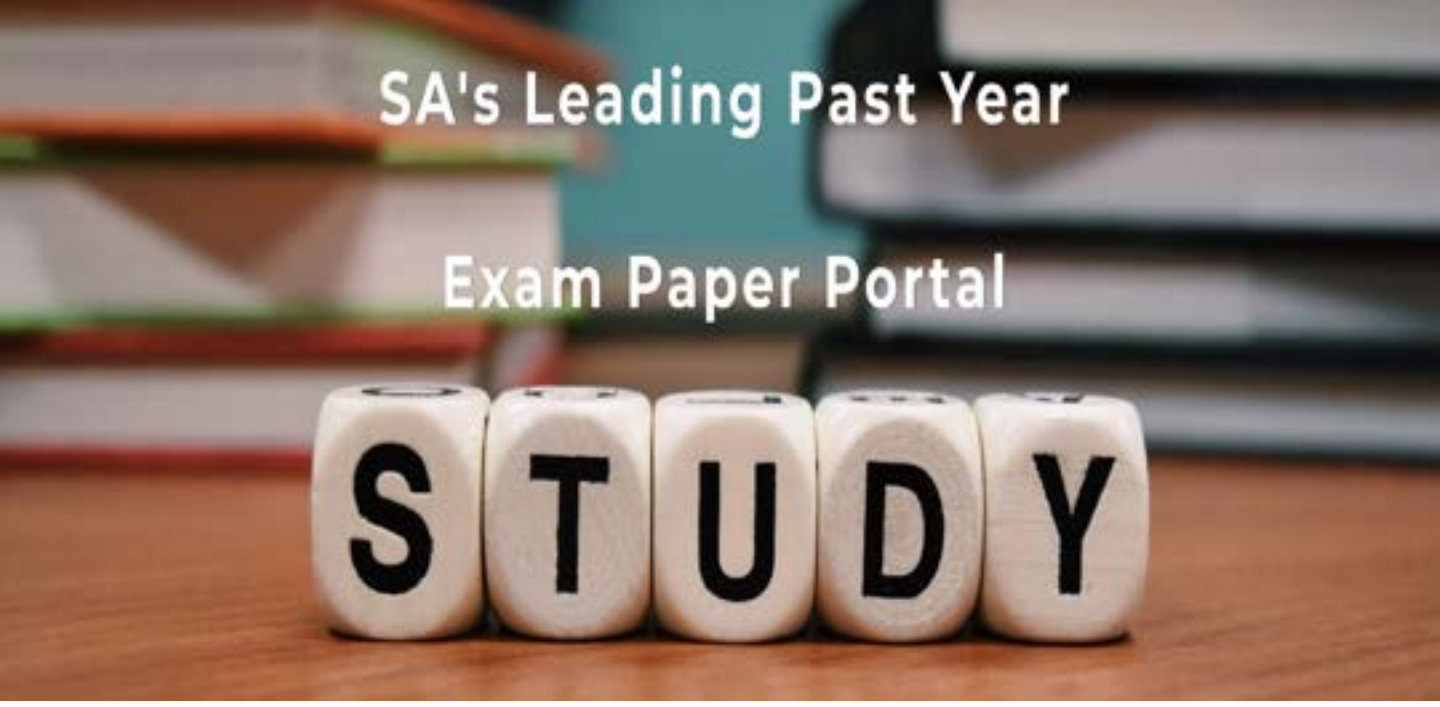

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GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2014

MEMORANDUM

MARKS: 150

This memorandum consists of 20 pages.

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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	O	✓	1
1.2	F	✓	1
1.3	K	✓	1
1.4	D	✓	1
1.5	L	✓	1
1.6	Q/L	✓	1
1.7	P	✓	1
1.8	G	✓	1
1.9	B	✓	1
1.10	E	✓	1
			[10]

QUESTION 2: MULTIPLE-CHOICE

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

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, <u>wiki,</u> in order to get the mark.)		
3.1	True✓ **OR** False, <u>drmz</u>	1
3.2	False, <u>wiki/wikipedia</u>✓	1
3.3	False, <u>podcast/MP3</u> ✓	1
3.4	True ✓	1
3.5	False, <u>database</u> ✓	1
		[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1	• More than one website/pages can be opened/closed in a single window • Ease of navigation between open websites/greater browsing efficiency • Allows for normal as well as private browsing in the same window • Taskbar is less cluttered • Allows multiple home pages that all open automatically • Organise tabs in a group to save as a favourite • Less resource-intensive than running a seperate instances/copies for each page of the same browser, etc. ✓✓ (Any two) *(Note to marker: Do NOT accept general answers that apply to all browsers. Accept open many pages at the same time.)*		2
4.2	• A person's physical characteristics are unique • The person concerned has to be present for the input • Physical characteristics cannot be easily falsified • Passwords are often left around/guessed/hacked, etc. ✓✓ (Any two) *(Note to marker: Do not accept any reference to cost.)*		2
4.3.1	• RAM/Memory • CPU • CPU related e.g. heat sink, cache. • GPU/graphics card • Hard drive/SSD ✓✓ (Any two) *(Note to marker: Do not accept only the word storage.)*	2	

4.3.2	A trackpad/touchpad is a touch sensitive area✓ where the user can move the pointer on the screen by touching the trackpad/touch surface instead of using a mouse **AND** • Usually built into devices such as a laptop/cannot be removed • Less intuitive to use/Takes more time to position cursor accurately • Operations where multiple clicks are involved may be more difficult • Drag and drop operations could be more difficult • Can accidentally be touched thereby moving the cursor to an unintended place on the screen • Cannot be used for gaming/Less responsive • Sweaty, dirty and moist fingers/Wearing gloves/Anything that causes a barrier can disrupt the movement of the pointer, etc. ✓ (Any one)	2	
4.3.3	• High contrast ratios • Low power consumption/Generates less heat • Occupies less physical space/Slimmer • High resolution/Good image quality/Less eye-strain/Less glare • Less radiation/health hazards • Available in larger sizes • Additional ports, etc. ✓✓ (Any two) *(Note to marker: Reference to green computing must be motivated. Do not accept references to smart TV's.)*	2	
4.3.4	• Impossible/Difficult to upgrade • Costly to repair • Whole machine needs to go in if a repair is needed, etc. ✓ (Any one) *(Note to marker: Do not accept reference to damage due to dropping. Accept references to monitor size being restricted.)*	1	7

4.4.1	Laser printer/(Networked) office copier ✓ **AND** • High speed • Cost effective on high volume ~~black and white~~ prints ✓ (Any one) *(Note to marker: If the first mark is wrong (e.g. inkjet), only award the second mark if the motivation for the incorrectly recommended printer is correct e.g. high quality printouts for inkjet printers.)*	2	
4.4.2	• Connectivity via network/wireless e.g. Wi-Fi, Bluetooth, etc. • Integrated software features, e.g. remote printing • 3D printing • Memory card reader/Direct printing from flash drive • Erasable toner/Unprinting • Touch screen/pad interface, etc. ✓✓ (Any two) *(Note to marker: Accept one reference to multifunction can fax/copy/scan/collating/binding/etc.)*	2	4
4.5.1	Scattered parts of files ✓ re-organised ✓ into an adjacent/ contiguous area/together *(Note to marker: Do not accept scattered files.)*	2	6

4.5.2	*Problem*: Malware/Virus infection ✓ *Solution*: Remove the infection with an antivirus program/removal tool ✓ **AND/OR** *Problem*: Too many programs open at the same time for the amount of RAM available/memory full/Programs running in the background ✓ *Solution*: Close unused programs/Find and close any unnecessary programs running in the background ✓ **AND/OR** *Problem*: Software updates being automatically downloaded *Solution*: Switch off automatic updates **AND/OR** *Problem*: Defective application/bug *Solution*: Update/Replace defective applications **AND/OR** *Problem*: Too many unnecessary files/temporary files on the hard drive *Solution*: Use Disk Cleanup/Remove unnecessary files or programs *(Note to marker: Do not accept any reference to defragmentation or upgrade issues.)*	4	
4.6	Computer on a network✓ that has been compromised/taken over/hacked✓ to perform malicious tasks		2
4.7	Software/Hardware that prevents unauthorised access ✓ to or from a computer over a network/Internet ✓ *(Note to marker: Do not accept answers that confuse an anti-virus with a firewall.)*		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	The Internet is a global connection of networks/It is not linked in a small area/It spans over a wide, global area ✓ *(Note to marker: Do not accept only expanding the acronym.)*		1
5.2	• Sharing software, e.g. local services, files, centralisation/sharing of data/centralised backup • Sharing hardware, e.g. printers, scanners, grid computing • Facilitating communications, e.g. connections between devices/ users/sharing of an Internet connection, etc. • Gaming • Improved security • Teaching/Broadcasting tool • Centralised management of computers/workstations, etc. ✓✓ (Any two) *(Note to marker: Accept suitable examples of the options above.)*		2
5.3	• Switch is a device used to connect computers✓/regulate data flow between computers on a network • Router is used to connect to external networks✓ e.g. Internet		2
5.4	Fibre-optic cables allow for: • higher data transmission speed compared to copper wires • lower attenuation/less interference • less susceptible to lightning strikes, etc. ✓(Any one) *(Note to marker: Accept less likely to be stolen.)*		1
5.5	• Physical obstacles/walls • Closeness/Proximity/Distance to the access point/router • Electrical/Magnetic interference/Signal overlapping • Network load/Too many computers on the network/Contention ratio • Weather conditions • Poor quality/Low speed connection devices used • Availability of electricity, etc. ✓✓✓(Any three)		3

5.6	• Sharing/Transferring files • Identity verification/Authentication purposes • Location-based profile automation • Can be used in payment systems • Switch devices on or off, etc. ✓(Any one) *(Note to marker: Accept a specific example.)*		1
5.7	• Directs the browser/application to a webpage/document/ resource • Provides a connection/link/shortcut to another web page/document/file • Provides a link to another place/bookmark in the same document ✓(Any one) *(Note to marker: Do not accept shortcut without acceptable explanation.)*		1
5.8	• Satellite • Cellular/3G/LTE/GPRS/HSDPA/EDGE/4G • Wireless/Wi-Fi/WiMax/iBurst/Radio technology ✓(Any one) *(Note to marker: Accept explanation of any of the above concepts.)*		1
5.9.1	• mail.yahoo/yahoomail • Gmail • Hotmail • Ymail • Webmail • iCloud, etc. ✓(Any one) *(Note to marker: Accept any valid web-based e-mail service.)*	1	3

5.9.2	• E-mail can be accessed at any location with Internet access • Access to your e-mail from all your devices • E-mails are not lost in case of computer crash • No need to upgrade software/no need to purchase or install software • May have better e-mail management options, e.g. with regard to spam and phishing reporting • Tighter integration with other web-services, e.g. Google Drive for attachments ✓(Any one)	1	
5.9.3	Bcc ✓ *(Note to marker: Also accept BCC or blind copy field.)*	1	
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	• Questionnaires • Surveys • Interviews • Voting ✓✓(Any two)		2
6.2	• Quicker/Easier to complete by respondents/Less susceptible to misinterpretation • Less chance of data capture errors • Easier to perform data validation • Easier to store/process/analyse information/Limits possible responses/Less susceptible to misinterpretation, etc. ✓✓(Any two)		2
6.3	• Check credentials/affiliation of the author/organisation running the website • Establish how recent/current the information is/Check when it was last updated • Cross-reference with other sources • Check objectivity/bias with other sources • Look at the general presentation, e.g. spelling errors • Frequency which the source has been cited ✓✓(Any two) *(Note to marker: Do not accept 'spell check'.)*		2
6.4.1	• Bar graph • Column graph/Histogram • Line graph • Scatter graph • Area graph ✓(Any one)	1	
6.4.2	• Add a suitable chart title/heading • Make use of data labels/values/percentages • Add meaningful/descriptive axis titles • Use of colour/shading, etc. ✓✓✓(Any three) *(Note to marker: Do not accept key/legend. Accept 'axis labels' for the third bullet.)*	3	4
			[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1.1	• Send the battery for recycling/e-waste collection • Take it back to the manufacturer/reseller • Trade in for a new one ✓(Any one)	1	
7.1.2	• Paperless office helps reverse deforestation • Tracking endangered species • Power management • More efficient use of scarce resources • Monitoring issues such as climate change/pollution/carbon emission, etc. ✓✓(Any two) *(Note to marker: Accept specific computer-related examples.)*	2	
7.1.3	• E-waste pollution such as dumping old computer equipment • Energy wastage such as not shutting down workstations when not in use/not using energy efficient equipment • Wasting paper, etc. ✓(Any one) *(Note to marker: Accept any suitable response related to the above.)*	1	4
7.2	Identity theft/Fraud/Impersonation ✓		1
7.3.1	• The e-mail address is suspicious, e.g. such as absa@gmail.com or support@paypal.co/not from your bank • The e-mail writer wants you to follow a link, but does not address you by your name/surname • Inconsistencies e.g. spelling, grammar, incorrect language used, formatting, images instead of text • Requested to give out/verify confidential information • Hover the cursor over the hyperlink to see if it points to the expected website, etc. ✓✓(Any two)	2	
7.3.2	• Close/Delete the e-mail • Do not follow any links in an e-mail as a general rule/Do not give out personal information • Report the e-mail as phishing • Blacklist/Block the particular e-mail address • Call/Contact company to verify, etc. ✓✓(Any two)	2	4

7.4	• Loss of revenue/income • Job losses/Collapse in the relevant industry • Poor quality products might damage the owner's reputation ✓(Any one) *(Note to marker: Do NOT accept general responses like 'makes them angry' or 'negatively', etc.)*		1
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1.1	Accept any version of HTML (XTML, XHTML, HTM, etc.) ✓	1	
8.1.2	• displays bulleted (unordered) list ✓ • displays a numbered (ordered) list ✓	2	
8.1.3	• Image is not in the specified folder • Image extension is different from HTML code • Spelling/Typing error • Web browser cannot display the image type/format • Incorrect tags used • Image reference not present/correct, etc. ✓✓ (Any two)	2	5
8.2.1	*business* Use an asterisk ✓ on both sides ✓ of the word business *(Note to marker: Ignore if the Like operator has been added. Allocate one mark if the answer refers to wildcards only. Accept variations of the word business.)*	2	
8.2.2	• Easier for the data capturer/Shorter to type • Fewer mistakes when entering data • Easier to use in queries • Use less storage space, etc. ✓✓ (Any two) *(Note to marker: Do not accept easier/quicker to sort/store.)*	2	4
8.3.1	Conditional formatting ✓	1	
8.3.2	• Incorrect relational operator, e.g. (>50) • Including the value 50, e.g. (>=50) OR (>49) • Criteria must appear in quotes/Inverted commas (">=50") ✓✓(Any two)	2	
8.3.3	Text wrapping ✓ *(Note to marker: Accept explanation of using Alt+Enter to start a new line within a cell.)*	1	4

8.4	• Allows/Facilitates editing of one document by multiple users • Allows for original data/changes to be reviewed/viewed before being committed/Changes can be accepted or rejected • It is possible to see which changes were made by which users, etc. ✓✓ (Any two) *(Note to marker: Accept specific examples such as each person's editing appearing in a different colour or that the changes can be accepted or rejected one at a time.)*		2
			[15]

TOTAL SECTION B: 75

SECTION C

QUESTION 9: INTEGRATED SCENARIO

9.1.1	• Quality of the lens • Quality/size/type of sensor, e.g. CMOS performs better in low light than CCD, colour depth • On-board software/Software filters • ISO rating • Digital vs. optical zoom • Image stabilisation • Image processor • Megapixel value/Resolution • Shutter speed • Flash, etc. ✓✓ (Any two) *(Note to marker: Do not accept answers not related to specification such as cost, brand name etc.)*	2	
9.1.2	• Update the software/firmware/operating system/drivers/ download a patch • Reset to factory default/Reinstall the original software ✓ (Any one)	1	
9.1.3(a)	• HDTV/Smart TV • Computer monitor • Projector ✓ (Any one) *(Note to marker: Also accept television/TV. Do not accept laptop, tablet, etc.)*	1	
9.1.3(b)	4" (4 inches) ✓	1	5
9.2.1	• A device driver allows for communication between the device/camera and the computer/operating system • The device driver allows the operating system/computer to control the device/camera • It allows the computer to 'see'/use/recognise the device/camera. ✓ (Any one)	1	
9.2.2	• As part of the operating system already stored on the computer • Stored on-board/on the camera • (Automatically) downloaded from the Internet, etc. ✓ (Any one)	1	4

9.2.3	• Memory card reader • Bluetooth • 3G/Wi-Fi (such as Eye-Fi)/E-mail • Automatically uploads/synchronises to cloud storage such as Dropbox • Firewire ✓✓ (Any two)	2	
9.3	• Lower the resolution/DPI value of the photograph • Change to monochrome/grey scale • Crop parts of photo not needed • Compression/Change file format • Reduce the photograph dimensions, etc. ✓✓ (Any two)		2
9.4	• Video chat/conference/call e.g. Skype • Vodcast/vlog • Profile pictures • Security feature to show the user remotely over the Internet what the webcam is seeing ✓✓ (Any two) *(Note to marker: Security feature must be used with the Internet.)*		2
9.5.1	• Make regular backups • Keep backups off-site • Rotate storage media used for backup (use more than one DVD) • Use more than one storage medium (use DVD, external hard drive in combination, cloud storage) • Checking that backups are viable/can be used to restore data • Incremental backup/only backup new or changed files • Use a clear file structure/labels/meaningful names • Automate the backup process • Exclude certain file types, etc. ✓✓ (Any two)	2	
9.5.2(a)	• Access to the cloud depends on the availability/quality of the Internet connection • Limited free storage available • Uses up data bundle which can be expensive on smartphones • Can't be sure that his photographs will be kept private/safe • Continued viability of cloud storage provider, etc. ✓✓ (Any two)	2	5

9.5.2(b)	New photographs taken with his smartphone will automatically✓ be uploaded to the cloud/New photographs are synchronised to all devices connected to the service	1	
9.6.1	GPS uses satellites/cellular towers ✓ to find the geographical location ✓ of the GPS device	2	
9.6.2	• Find the location of where a photo was taken e.g. geotagging • Import the GPS coordinates to a computer to record the locations where the photos were taken, e.g. Google Maps. ✓ (Any one)	1	3
9.7	• More space for a larger screen due to fewer physical buttons • On-screen menus and buttons can be customised/different layouts • Gestures e.g. swiping • More intuitive use/Easier to work with, etc. ✓✓ (Any two)		2
9.8.1	High-speed/High bandwidth (permanent) Internet connection✓	1	
9.8.2	• Coverage/Signal strength • Need for mobility or not • Additional services offered, e.g. web hosting, technical support • Speed • Cap/Uncapped/Amount of data • Shaped and unshaped • Fair usage policy, etc. ✓✓✓ (Any three) *(Note to marker: Do not list cost or other non-technical issues. Do not accept 'size'.)*	3	
9.8.3	• Cheaper calls • Calls cost the same irrespective of distance • Can make calls to multiple platforms such as smartphone to a laptop/computer/tablet/Skype device ✓ (Any one) *(Note to marker: Accept see the person you are calling.)*	1	5
9.9.1	• Wireless connections can be used in some cases where cables cannot reach or be used • Portable devices can be moved around and stay connected/Mobility • Less clutter of cables • Easier to add/connect additional equipment/nodes, etc. ✓✓ (Any two)	2	3

9.9.2	To connect the computers to the network ✓/The physical connection between the computing device and the communications medium/allows communication between the networking device and the network	1	
9.10.1	• No need to distribute manually to all interested parties • Parties can be notified automatically of new uploads • The photographs might be made available to the general public/Can be accessed from anywhere • Photos can be grouped into electronic albums • Used as an alternative backup method • Showcasing/Attracting comments, etc. ✓✓ (Any two)	2	
9.10.2	• Respect privacy of individuals before posting/Sensitive aspects of photographs could lead to embarrassment • Photographs should not be offensive • Permission must be sought before posting e.g. for under-age subjects, etc. ✓✓ (Any two) *(Note to marker: Do not accept reference to privacy settings.)*	2	4
9.11.1	Monitor/Display/Screen ✓	1	
9.11.2	• No need for using/carrying along cables to connect a camera • No need to install drivers to access each camera • Can read a variety of media types • Memory cards can be used to store data other than photographs like a flash drive, etc. ✓✓ (Any two)	2	
9.11.3	• Batteries are needed which can go flat • Signal interference • Devices are more expensive • Devices are easier to track/steal, etc. ✓✓ (Any two) *(Note to marker: Accept reference to distance limitation.)*	2	
9.11.4	Temporary storage✓ of data and instructions	1	
9.11.5	• More programs/data can be loaded • Less need for reading/writing to or from the slower hard drive • Less need for virtual memory ✓(Any one)	1	7

9.12	• It can be altered/changes can be made • Source code is available to be edited • Improvements/can be changed to suit your needs/updates are shared with others • Can be installed on multiple computers without legal action, etc. ✓ (Any one)		1
9.13.1	• Print preview/prevent documents being printed which are obviously not correct/needed • Use both sides of the paper/Buy a printer which can print on both sides of a page • Send documents electronically • Use recycled paper/Unprinting • Print two/multiple pages to a sheet, etc. ✓✓ (Any two)	2	
9.13.2	• Switch off equipment you are not using • Use power schemes/settings of the computer • Make use of energy efficient equipment, etc. ✓✓ (Any two)	2	4
9.14	• Input masks • Required fields • Default values • Validation rule • Using specific data formats • Field sizes • Lookup wizard • Primary key, etc. ✓✓✓ (Any three)		3

TOTAL SECTION C: 50

GRAND TOTAL: 150

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