



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS

COMPUTER APPLICATIONS TECHNOLOGY P2

2016

MEMORANDUM

MARKS: 150

This memorandum consists of 15 pages.

SUGGESTIONS AND RECOMMENDATIONS TO MARKERS

- Revisit the questions and the memorandum 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: MULTIPLE-CHOICE**

| | | | |
|------|-----|---|-------------|
| 1.1 | E | ✓ | 1 |
| 1.2 | G | ✓ | 1 |
| 1.3 | B | ✓ | 1 |
| 1.4 | K | ✓ | 1 |
| 1.5 | O | ✓ | 1 |
| 1.6 | A | ✓ | 1 |
| 1.7 | R | ✓ | 1 |
| 1.8 | S | ✓ | 1 |
| 1.9 | L/H | ✓ | 1 |
| 1.10 | J | ✓ | 1 |
| | | | [10] |

QUESTION 2: MATCHING ITEMS

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

QUESTION 3: TRUE/FALSE ITEMS

(Note to marker: In Question 3.2, 3.3 and 3.5, accept the correct term even if false is not stated. Do not award a mark if only 'FALSE' is written down.)

| | | |
|-----|----------------------|------------|
| 3.1 | TRUE✓ | 1 |
| 3.2 | FALSE, phishing✓ | 1 |
| 3.3 | FALSE, Task Manager✓ | 1 |
| 3.4 | TRUE✓ | 1 |
| 3.5 | FALSE, resolution✓ | 1 |
| | | [5] |

TOTAL SECTION A: 25

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

| | | | |
|-------|---|---|---|
| 4.1 | <ul style="list-style-type: none"> • Bluetooth • Wi-Fi • NFC • Ethernet cable/Network cable • USB Cable • Parallel cable/LPT1 • SCSI cable <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept a response of just 'cable'. Accept 'Wireless' only when no other specific wireless examples are listed. Accept 'Printer cable' only when no other specific cable examples are listed)</i></p> | | 2 |
| 4.2 | <ul style="list-style-type: none"> • Driver not installed • No paper in the tray/Incorrect paper size selected • Paper jam • Ink/Toner is finished • Not selected as the default printer/Printing to a different printer • Print job paused in the queue • Cable not connected, etc. <p style="text-align: right;">✓ (Any one)</p> | | 1 |
| 4.3 | <ul style="list-style-type: none"> • Greater functionality on one device • Interoperability of some devices • Cheaper to buy one device • Less clutter on desk space • More efficient than using multiple devices <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| 4.4 | <p>QR/2D barcode ✓ code It would be scanned ✓ (by a cell phone) to reveal the text/information it contains. Any suitable example such as URL of school, etc. ✓</p> | | 3 |
| 4.5.1 | <ul style="list-style-type: none"> • Faster data access • Less susceptible to damage/No movable parts • Less power consumption • Smaller physical size • No noise • Compatible with many different computer types, etc. <p style="text-align: right;">✓✓ (Any two)</p> | 2 | |
| 4.5.2 | <p>Currently/Generally SSDs are not readily available in as large a storage capacity ✓ as a traditional HDD</p> <p><i>(Note to marker: Do not accept any answer related to cost.)</i></p> | 1 | 3 |

| | | | |
|-------|--|---|---|
| 4.6 | A bug is an error ('mistake') in the (programming) code of the software ✓ A virus is software that is written with (deliberate) malicious intent e.g. corrupting data/software, etc. ✓ | | 2 |
| 4.7 | The Android phone uses an open source ✓ operating system Windows phone uses a proprietary ✓ operating system. (Notes to marker: <ul style="list-style-type: none"> Do not accept any cost related answers or that different companies are involved. Accept reference to different types of applications available on the different operating systems. Accept an answer that refers to differences in the OS.) | | 2 |
| 4.8 | Printing tasks would automatically be sent to that printer ✓ (unless another printer is selected). | | 1 |
| 4.9.1 | The backup may be lost with the original files, ✓ e.g. if the room burnt down, devices were stolen, etc. | 1 | 2 |
| 4.9.2 | <ul style="list-style-type: none"> External hard drive/Magnetic tape NAS (Network attached storage) Drive <p style="text-align: right;">✓ (Any one)</p> | 1 | |
| 4.10 | <ul style="list-style-type: none"> Uses bandwidth at a time when there is a low demand for bandwidth from the system (will not contribute to throttling or shaping) Many ISPs don't charge for data in off peak hours There will be no updates running on the machines during working hours (and slowing it down) while users are trying to work Will not be asked to restart the computer for the installation of updates while they are using the computer for other tasks during working hours <p style="text-align: right;">✓✓ (Any two)</p> <p>(Note to marker: Accept any suitable examples to illustrate the concepts mentioned above.)</p> | | 2 |
| 4.11 | <ul style="list-style-type: none"> Defragment the drive Run Disk Cleanup Remove malware Delete unused files Re-install the operating system Reduce the number of programs running in the background/that load at start up Updating software/drivers Use software packages/versions that are less resource intensive Format the hard drives and reinstall, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p>(Note to marker: Accept any suitable software or configuration setting that reduces the demand on the CPU)</p> | | 2 |

| | | | |
|------|---|--|-------------|
| 4.12 | <ul style="list-style-type: none">• Can be accessed anywhere on any computer with Internet access• Saves space on the local machine• Web applications are continually updated to new versions• Better integration with cloud storage• Reduced demand on local processor• Cross-platform (because a browser is used), etc. <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| 4.13 | <ul style="list-style-type: none">• Take a picture with a camera/smartphone/tablet• Fax to e-mail <p style="text-align: right;">✓ (Any one)</p> | | 1 |
| | | | [25] |

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

| | | | |
|-----|--|--|---|
| 5.1 | <ul style="list-style-type: none"> • Sharing of hardware • Sharing of software/Updates • Social networking/Gaming • Sharing an Internet connection • Centralised security • Centralised data storage • Distributing workload, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept suitable examples of tasks or technologies, e.g. file sharing, grid-computing, sharing printers.)</i></p> | | 2 |
| 5.2 | <p>Read receipts/Delivery reports/</p> <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Accept specific indications of read receipts/reports in a particular app e.g. Blue ticks in WhatsApp)</i></p> | | 1 |
| 5.3 | <p>(Online) Advertising/ads✓</p> | | 1 |
| 5.4 | <ul style="list-style-type: none"> • Range is limited • Number of devices that can be linked is limited • Potential security issues, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Do not accept device/brand compatibility issues)</i></p> | | 2 |
| 5.5 | <ul style="list-style-type: none"> • Video/Audio Streaming • Video/Multimedia/VoIP ('Skyping') • Large downloads • Torrents • Gaming, etc. <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept answers that refer to applications of the 'always on' aspect of broadband e.g. push technology, etc.)</i></p> | | 2 |
| 5.6 | <ul style="list-style-type: none"> • Save cap/data bundle • Much faster upload/Save time during upload/Single file upload • Uses less online storage space <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |

| | | | |
|------|--|--------------|-------------|
| 5.7 | <ul style="list-style-type: none"> • Security protocols, e.g. https • Digital signature • Digital certificate • Encryption/SSL • Firewall • Anti-spyware/Antivirus • Use Tor browsers • Managed routers • VPN | ✓ (Any one) | 1 |
| 5.8 | Wi-Fi/802.11 a/b/g/n/Wireless✓ | | 1 |
| 5.9 | <ul style="list-style-type: none"> • Could carry malware • Irritating/Distracting/Annoying • Save on bandwidth/data | ✓✓ (Any two) | 2 |
| 5.10 | Keeps track of pages visited.✓ (Note to marker: Accept any reference to locating pages previously visited.) | | 1 |
| | | | [15] |

QUESTION 6: INFORMATION MANAGEMENT

| | | | |
|-------|--|---|------|
| 6.1 | <p>Survey – A set of written/typed questions given to many or a group of people✓</p> <p>AND</p> <p>Interview:</p> <ul style="list-style-type: none"> • A verbally administered set of questions • usually intended for one person (such as an expert) <p style="text-align: right;">✓ (Any one)</p> | | 2 |
| 6.2 | <ul style="list-style-type: none"> • There are no 'outside' checks concerning what is posted on the Internet/Anyone can post anything, so it could be incorrect • Information may be presented with bias • Information may be out of date <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| 6.3.1 | Copyright – Legal restrictions on copying and distribution of intellectual material✓ | 1 | |
| 6.3.2 | Plagiarism – Passing off someone else’s work as your own✓ | 1 | 2 |
| 6.4 | <ul style="list-style-type: none"> • Improved accuracy/ Data validation can be done/No issues with handwriting • Less time needed for data capture/Respondents may be more likely to complete/answer the survey • Data can be exported for analysis (e.g. into a spreadsheet) directly • Easier to ‘distribute’ survey/has a wider range of respondents, etc. • Green computing (e.g. saving paper) <p style="text-align: right;">✓✓(Any two)</p> <p><i>(Note to marker: Accept answers relating to any type of electronic form, such as Google Docs, Microsoft Word forms, etc.)</i></p> | | 2 |
| 6.5 | <ul style="list-style-type: none"> • Neatness/legibility • It provides users with a check to see that they filled in the correct number of digits <p style="text-align: right;">✓ (Any one)</p> | | 1 |
| 6.6 | <ul style="list-style-type: none"> • Sorting • Grouping • Filtering • Pivot tables <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: Do not accept 'Functions' or any particular example of a function.)</i></p> | | 1 |
| | | | [10] |

QUESTION 7: SOCIAL IMPLICATIONS

| | | | |
|-------|--|--|-------------|
| 7.1 | <ul style="list-style-type: none"> • Trust issues • Lack of access to computers/Digital Divide • Connectivity issues • Users lack the confidence/skills level to use the services, etc. <p style="text-align: right;">✓ (Any one)</p> | | 1 |
| 7.2.1 | The GPS coordinates of where the photograph was taken is added✓ to the photograph's metadata. | | 1 |
| 7.2.2 | The inclusion of the GPS coordinates may alert poachers of where✓ to find the rhino. | | 1 |
| 7.3 | <ul style="list-style-type: none"> • Create/use message rules • Apply a spam filter • Block addresses of known senders of spam • Install/use anti-spam software • Use an ISP that effectively blocks spam • Do not give your e-mail address/Give an alternative e-mail address to companies/people you suspect may send you spam <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| 7.4 | Adjust the settings✓ of your Facebook account to prevent being tagged (without permission) in photographs. | | 1 |
| 7.5 | <ul style="list-style-type: none"> • Wider audience/publicity • Cheap advertising • (Immediate) customer feedback • Cheap/Effective way of communicating directly with customers e.g. advertising, etc. • Targeted advertising, etc. <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| 7.6 | <ul style="list-style-type: none"> • Use of GPS technology, e.g. directions • Use of the Internet, e.g. for the entertainment of the passengers • Updates to the car software • Traffic updates/information direct to the car • Remote monitoring for security/Vehicle tracking • Remote monitoring of performance/maintenance of the car, etc. <p style="text-align: right;">✓✓ (Any two)</p> | | 2 |
| | | | [10] |

QUESTION 8: SOLUTION DEVELOPMENT

| | | | |
|-------|---|---|-------------|
| 8.1.1 | The lookup value is incorrect✓/B4 should be A4 The column index of the lookup table is incorrect,✓ should be 2 <i>(Note to marker: Accept either the identification of the problem or the correct answer.)</i> | 2 | |
| 8.1.2 | The error occurs because the formula tries to multiply a number by text (a word).✓ | 1 | 3 |
| 8.2 | COUNT counts cells that contains numerical values/numbers ✓ COUNTA counts cells that contain any value/that are not empty ✓ | | 2 |
| 8.3 | Formatting only gives the appearance of being rounded off, while the actual value is not changed/The ROUND function changes the actual value ✓ | | 1 |
| 8.4.1 | Styles ✓ | 1 | |
| 8.4.2 | Manage sources/Source manager/Sources ✓ | 1 | 2 |
| 8.5 | <ul style="list-style-type: none"> • Any text editor such as Notepad • Any HTML editor such as Notepad++ • Any word processor such as Microsoft Word • Coffee cup/kompozer • MS Expression Web • Dreamweaver, etc. <p style="text-align: right;">✓ (Any one)</p> <p><i>(Note to marker: check on any other brand names given by the candidate).</i></p> | | 1 |
| 8.6 | A web page is part of website/A website is a collection of web pages ✓ | | 1 |
| 8.7 | The text between title tags ✓within the head section is indicated in the browser tab | | 1 |
| 8.8 | Not supposed to start with a closing tag Not supposed to end with an opening tag (The opening and closing) tags must match (either both ul or ol) <p style="text-align: right;">✓✓ (Any two)</p> <p><i>(Note to marker: Accept any correct example of HTML code)</i></p> | | 2 |
| 8.9 | <ul style="list-style-type: none"> • (More user-friendly way of) capturing of data/Designed for data capture • To display only one record at a time • To limit the fields displayed, etc. <p style="text-align: right;">✓ (Any one)</p> | | 1 |
| 8.10 | It has no effect on the values in the database table/The values in the database table remain the same✓ | | 1 |
| | | | [15] |

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

| | | | |
|-------|---|---|----|
| 9.1.1 | 5.0" (inches) ✓ (Note to marker: Accept 5 or 5.0 without the measurement unit.) | 1 | |
| 9.1.2 | A touch screen where more than one touch/finger at the same time can be detected. ✓ | 1 | |
| 9.1.3 | <ul style="list-style-type: none"> • Pinch • Stretch, etc. <p style="text-align: right;">✓ (Any one)</p> (Note to marker: Accept any explanation of an action that requires more than one touch simultaneously, etc.) | 1 | |
| 9.1.4 | Some of the 16 GB is used for the operating system/other pre-installed applications ✓ | 1 | |
| 9.1.5 | Insert a (MicroSD) Memory card/USB storage device (OTG)✓ (Note to marker: Do not accept cloud storage.) | 1 | |
| 9.1.6 | <ul style="list-style-type: none"> • Familiar user interface/GUI • Compatibility of apps • Easier transfer of settings, files, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | |
| 9.1.7 | <ul style="list-style-type: none"> • Booting the device • Provides a user interface • Allows for applications to be installed/used • Memory management • Storage management • File management • Installation and controlling of hardware devices • Provides basic security, e.g. usernames and passwords, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> (Note to marker: Accept any one example (per bullet) that illustrates the answer, e.g. printer management.) | 2 | |
| 9.1.8 | 12 MP ✓ | 1 | 10 |
| 9.2 | <ul style="list-style-type: none"> • Give the old cellphones/parts to someone who can still use them • Send to a recycling plant • Fix the old cellphones to be sold, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | |
| 9.3 | RFID tags can be attached to each phone✓. RFID scanners at the door could pick up the RFID tags if the phone leaves the shop ✓ (and activate an alarm). | 2 | |

| | | | |
|-------|--|---|---|
| 9.4.1 | (E-mail header is changed so that the) e-mail appears to be from a different source ✓ | 1 | |
| 9.4.2 | User is redirected to different/fake ✓ website even though they enter the correct URL ✓ in their web browser | 2 | |
| 9.4.3 | Spyware/software which records/reports every keystroke a user makes ✓ and reports them to a third party. | 1 | 4 |
| 9.5.1 | Server ✓ (Note to marker: Accept specific examples, e.g. proxy server, etc.) | 1 | |
| 9.5.2 | <ul style="list-style-type: none"> • Communication medium/Cables • Switch/Access points • NIC • Router <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | 3 |
| 9.6 | <ul style="list-style-type: none"> • Cost is cheaper • Distance does not have an impact on cost • Calls can be made independent of the type of device the application has been installed on, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> | | 2 |
| 9.7 | <ul style="list-style-type: none"> • Easy to navigate/Consistent positioning of controls • Intuitiveness • Appropriate picture use • Colours are easy to distinguish • Large buttons/controls • Legible fonts • Screens should not be cluttered/Effective use of white space • Related options are grouped together, etc. <p style="text-align: right;">✓ ✓ ✓ (Any three)</p> | | 3 |
| 9.8.1 | <ul style="list-style-type: none"> • Anybody can access a blog without having an e-mail address • Potential for advertising • No need to send multiple e-mails/limit on number of recipients in group e-mails • Easier to categorise different types of support • Always available for later reference • All posts are available in a single place, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | |
| 9.8.2 | <ul style="list-style-type: none"> • Update content regularly • Make sure content is relevant/interesting • Use catchy titles • Provide RSS feeds • Use pictures/videos that helps support and explain the content • Interact with readers/comments/Respond to posts quickly, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | 4 |

| | | | |
|--------|--|---|---|
| 9.9.1 | Allows for communication between the device and the operating system/Control of device ✓ (Note to marker: Do not accept plug and play.) | 1 | |
| 9.9.2 | <ul style="list-style-type: none"> • Re-install drivers • Download correct drivers • Replace/Upgrade the operating system on the laptop, etc. <p style="text-align: right;">✓ (Any one)</p> | 1 | 2 |
| 9.10.1 | <ul style="list-style-type: none"> • Batteries can go flat/Needs batteries • More expensive to purchase • Signal interference from other devices, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> <p>(Note to marker: Do not accept theft.)</p> | 2 | |
| 9.10.2 | Designing devices/equipment to be comfortable✓ and prevent health issuessafe to use ✓ (Note to marker: Do not accept references to furniture) | 2 | |
| 9.10.3 | <ul style="list-style-type: none"> • Work during load shedding/periods when the power is off • Workers can work at home/Workers can work from any location/Portability/Mobility • Occupy less physical space • Reduced carbon footprint <p style="text-align: right;">✓ ✓ (Any two)</p> | 2 | |
| 9.10.4 | <ul style="list-style-type: none"> • Use a cable lock/chain to desk • Lock in a separate safe room • Put away in a secure laptop trolley • Room should be burglar guarded/gated • Install cameras • Use biometric security for access to the room • Install an alarm system, etc. <p style="text-align: right;">✓ ✓ (Any two)</p> <p>(Note to marker: Focus must be on <u>prevention</u> of theft.)</p> | 2 | 8 |
| 9.11.1 | Place the <hr /> tag in the body of the HTML document ✓ | 1 | |
| 9.11.2 | <ul style="list-style-type: none"> • Use a font tag • Change the <h1> tags to a different ('smaller size') tags such as <h2> or <h3>, etc. <p style="text-align: right;">✓ (Any one)</p> | 1 | |
| 9.11.3 | colour should be color ✓ | 1 | 3 |
| 9.12.1 | Memo/Long Text ✓ | 1 | |
| 9.12.2 | Unique numbers are automatically assigned so that there can be no duplicate values ✓ | 1 | 4 |

| | | | |
|--------|--|---|---|
| 9.12.3 | <ul style="list-style-type: none"> • "Smart" should be "Smart*" ✓/"Smart" should be followed by a wildcard/Like "Smart*" • "Smart*" should be in both criteria lines/Criteria for selling price should appear in same line and given as <100 Or >500 ✓ | 2 | |
| 9.13.1 | Starting a new section ✓ that's allows different page formatting/settings on the same page ✓ | 2 | |
| 9.13.2 | Assign a name/'link' to a specific point in the document ✓ for quicker access/to which a hyperlink can be linked | 1 | 3 |

TOTAL SECTION C: 50

GRAND TOTAL: 150