**June 2017**

# COMPUTER APPLICATIONS TECHNOLOGY
## Grade 11
## Paper 2 – Written
## MEMORANDUM

*TIME: 2½ HOURS*

*MARKS: 125*

This memorandum consists of **8** pages (cover page included)

## Question 1

| 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 1.10 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| B | B | C | A | B | C | D | A | C | D |
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

**[10]**

## Question 2

| 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 2.10 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| H | R | K | O | F | B | J | Q | N | P |
| ROM | Apple | Core | Monthly duty cycle | DIMM | DSLR | 802.11 | LCD | RSI | 10 Mbps |
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

**[10]**

## Question 3

*[ Note: Accept correct answers even if 'False' is not stated ]*

3.1   False – 2.5" ✔ (1)

3.2   True ✔ (1)

3.3   True ✔ (1)

3.4   False – RAND ✔ (1)

3.5   True ✔ (1)

**[5]**

## Question 4: System Technologies

4.1.1   1 GB ✔ (1)

4.1.2   Resolution = 1280 x 800 ✔

Measured in pixels ✔ (2)

4.1.3   To determine geographical position ✔

*[ Accept variations of the basic concept, e.g. 'used to find directions to a place' ]* (1)

4.1.4   CPU / Central Processing Unit / Processor ✔ (1)

4.1.5   MP ✔ (1)

4.1.6   Yes – it has 3G, WiFi, card reader ✔

*[ Accept any ONE of these technologies; do NOT accept cloud storage (not a hardware specification of the tablet); do not accept simply 'yes' without a motivation ]* (1)

4.1.7   Any ONE example (besides Android or the Windows range) of: ✔

- iOS
- Tizen
- Blackberry OS (1)

4.1.8   If an OS becomes damaged, or needs to be reinstalled, it can be repaired / reinstalled from the original installation disks ✔ (1)

4.1.9   (a)   Any ONE example of: ✔

- Dropbox
- OneDrive
- iCloud
- Google Drive, etc. (1)

(b)   Any TWO advantages (besides sharing of files) of: ✔✔

- Accessible from anywhere on any device with Internet access
- Changes all in one place – so all devices always have latest version of data
- Backup and security managed by storage provider
- Data remains accessible if computer is stolen, etc. (2)

4.2   Any TWO ways of: ✔✔

- constant need to upgrade hardware and software
- requires constant upgrading of skills
- need to adjust to rapid pace of change
- smaller pools of skilled ICT workers replace large numbers of staff
- employees work longer hours to meet deadlines
- information overload (stress)
- employees can feel more isolated, and relationships with co-workers can deteriorate
- health issues
- environmental impact (e.g. incorrect disposal of e-waste), etc. (2)

4.3   ATM can only perform a limited number of tasks (all related to banking) / cannot use software to perform a wide variety of different types of tasks / only performs tasks it was designed or programmed to do ✔

3

*[ Accept any suitable response along these lines ]* (1)

4.4 Client computer does not need to provide resources and services to other computers / many resources are provided by servers ✔ (1)

4.5 UPS ✔ (1)

4.6.1 DPI / dots per inch ✔ (1)

4.6.2 Large file size (of the resulting image) ✔ (1)

4.6.3 Number of colours that can be represented (by a pixel) ✔ (1)

4.6.4 They generally take up less space than colour images, i.e. smaller file size ✔ (1)

4.6.5 Don't need a separate power adapter / power point / additional (power) cable ✔ (1)

4.6.6 Any ONE advantage of: ✔
- Improve performance / stability
- Enable scanner to be used under other (later) operating systems
  *[ Accept specific examples of this, e.g. 'supplied drivers cannot work with Windows 10' ]* (1)

4.6.7 Any ONE limitation of: ✔
- Scanning can be slow
- Quality of digital image depends largely on quality of original hard copy (1)

4.7 Measuring / scanning ✔ unique biological features of a person ✔

Any ONE example of: ✔
- Access control in buildings
- Fingerprint scanners in laptops
- Facial recognition in smartphones, etc. (3)

4.8.1 Response time ✔ (1)

4.8.2 Relationship or ratio between width and height of the screen ✔ (1)

4.8.3 HDMI ✔ (1)

4.9 Any TWO of: ✔✔
- Try writing at a slower speed
- Ensure there is enough storage space to create an image for the disc
- Do not use computer for other tasks while writing the CD/DVD (2)

**[32]**

**Question 5: Internet and Network Technologies**

5.1 Any TWO reasons of: ✓✓
- Files accessible only within the organisation
- Internet access not required
- No cap use / no data cost
- Can limit to specific range of chosen videos
- Security / privacy (2)

5.2.1 Any ONE advantage of: ✓
- Anti-malware control / firewall implemented at one point
- Speed up Internet access by caching
- Easier to use software to filter / restrict access to websites, etc. (1)

5.2.2 Any TWO of: ✓✓
- File server
- Email server
- Print server
- Database server
- Web server (2)

5.2.3 Client ✓ (1)

5.3 Used to connect computers so that communication can occur ✓ (1)

5.4 The NIC is generally integrated in (part of) the motherboard ✓ (1)

5.5.1 Cable connecting different LANs ✓

*[ Accept any specific (suitable) description of LANs connected by a backbone ]* (1)

5.5.2 Any ONE advantage of: ✓
- very fast data transmission
- much longer cable runs (than UTP)
- immune to eavesdropping
- immune to EMI (electromagnetic interference) / electronic noise / lightning (1)

5.5.3 UTP ✓ (1)

5.6 Area that must be covered / distances between buildings ✓ (1)

5.7 On the server ✓ (1)

5.8 A keylogger records keystrokes as you type ✓

They can intercept sensitive information like passwords and forward this to a third party (for criminal / fraudulent purposes) ✓ (2)

**[15]**

**Question 6: Information Management**

6.1     The content / information is not always verified or professionally edited / members of the general public may edit content – they may not be sufficiently skilled to do so properly ✔     (1)

6.2     Any TWO advantages (besides the speed and ease of collection) of: ✔✔
- wider audience / can reach more people
- cheaper (less manpower / resources needed)
- no paper needed (green computing)
- data already in digital format for processing
- respondents can complete it in their own time
- can add multimedia content and other (online) supportive resources, etc.     (2)

6.3.1   It can be answered directly, without further research or investigation ✔

        *[ Note: this has nothing to do with a limited number of responses ]*     (1)

6.3.2   Too vague – can be interpreted differently by different people / might alter responses ✔     (1)

6.3.3   Unit of time is not included – is it hours per day? hours per week? ✔

        *[ Accept suitable rewording of the question ]*     (1)

6.3.4   Remove Name, i.e. make questionnaire anonymous ✔     (1)

6.4     To prevent compatibility issues. (In case the recipient has a 'lower' (older) version of the software, saving it in the older version will ensure that the recipient will be able to open the file.) ✔     (1)

**[8]**

**Question 7: Solution Development**

7.1    Any ONE advantage of: ✔
- uses less ink/toner – therefore cheaper
- promotes green computing
- prints faster                                                                                    (1)

7.2    Any ONE advantage of: ✔
- smaller file size
- can be read by almost any device or app, i.e. portability

Disadvantage: all formatting is lost ✔                                                 (2)

7.3    So that Word will only replace whole words (matching the letters in the 'Find' box), not parts of words or partial matches ✔

*[ Accept any suitable example to illustrate the principle ]*                 (1)

7.4    Aug 18 ✔                                                                                        (1)

7.5    Hanging indent ✔                                                                            (1)

7.6    POWER ✔                                                                                        (1)

7.7.1  Nothing / 'blank' ✔                                                                         (1)

7.7.2  "distinction" (the value_if_false) not in double quote marks ✔       (1)

7.8    Filter ✔                                                                                            (1)

7.9    Class criteria must be "11A" or "11B" (or over two rows) ✔
Cans criteria must be >=50 (or >49) ✔
Show box for Cans must have a tick mark / be selected ✔                      (3)

7.10   Any ONE reason of: ✔
- Can be used to ensure that there are no duplicate records
- Primary key field cannot be left empty                                            (1)

7.11   Accept any suitable example, e.g. a cell phone number contains 10 digits, but the number is incorrect / a surname appears in a field for surnames, but it is the wrong surname ✔                                                                                    (1)

**[15]**

8.1.1 Any TWO reasons of: ✔✔
- Easier to add or move computers
- Easier installation (no need for cables)
- Greater mobility for users with mobile devices / guest access
- Less chance of accidental damage (people tripping over wires, etc.) (2)

8.1.2 Any ONE disadvantage (besides cost) of: ✔
- Security can be compromised
- Visitors may 'piggy-back' the Internet connection
- Potential signal problems
- Potentially slower (if streaming videos etc.) (1)

8.2.1 AUP is a document that outlines users' rights and responsibilities, esp. in a networked environment ✔ (1)

8.2.2 Take photo of AUP with a digital camera / smartphone / tablet ✔

then use OCR software (either directly on mobile device, or first transfer image to computer) to convert the scanned image to editable text ✔ (2)

8.3.1 Any TWO tips of: ✔✔
- At least 8 characters long
- Contains mixture of upper and lower case letters, numbers and special characters
- Do not use anything that is easy to guess about you, e.g. your name
- Avoid passwords that follow a pattern on the keyboard, e.g. 'asdf'

  *[ Do not accept 'Change password every so often', 'Do not write down or share passwords', etc., as these do not concern how the password was made up. ]* (2)

8.3.2 Not necessary to print posters [see scenario] on both sides of the paper (duplex = printing on both sides) ✔ (1)

8.3.3 ppm (pages per minute) ✔ (1)

8.4 Any TWO guidelines of: ✔✔
- Main links (menu system) should be easy to locate and identify / appear in a consistent position in related pages
- Links should be short and easy to understand (know what the link is leading to)
- There should be no 'broken links', i.e. links that do not work
- Links should be formatted in a consistent way (colours, underlining, etc.) (2)

8.5.1 Any ONE reason of: ✔
- Interactive whiteboard can be used as an input device to follow links etc. on the intranet – not just as a passive display

  *[ Do not accept 'interact/interactive' on its own, without suitable explanation of what this means ]*
- Annotations made on the interactive whiteboard in the course of the demonstration (e.g. suggestions to improve the intranet) can be saved to the computer for future use (1)

8.5.2 Software that downloads and bombards computer with pop-up adverts when connected to Internet ✔ (1)

8.5.3 Any ONE way of: ✔

- Use options provided in the browser to block pop-ups
- Disconnect from the Internet during the demonstration (1)

8.6    Lumens ✔ (1)

8.7.1  Plug and play ✔ (1)

8.7.2  Any TWO reasons of: ✔✔

- Backing up (transferring data) to a portable hard drive is much faster than backing up to an online service provider (i.e. via the Internet)
- May have to pay a fee for the data storage
- Would use CAP, i.e. bandwidth costs
- Would have no further control over the backup, and security of the data
- If the online service went bankrupt, all the backup data might be lost (2)

8.8.1  Any ONE way of: ✔

- Use cable locks to anchor equipment to solid objects (tables, wall brackets, etc.)
- Use motion sensors linked to alarms, to detect when a computer is moved (1)

8.8.2  Any ONE software measure of: ✔

- Password protection
- Encryption
- Setting privileges / access control (on files and folders) (1)

8.9    Any ONE green computing practice of: ✔

- Switch off equipment while not being used
- Use power settings to ensure that power is conserved (e.g. 'sleep', 'hibernate' modes) (1)

8.10.1 Disk Cleanup (Wizard) ✔ (1)

8.10.2 Files on the disk have been split into parts (and scattered on the disk) ✔ (1)

8.10.3 Improved performance in terms of reading and writing of files (disk access) ✔

*[ Accept 'computer speeds up' ]* (1)

8.10.4 All data and programs on the drive would be erased ✔ (1)

8.11.1 Any ONE disadvantage of: ✔

- Sensors can fail without notice, resulting in incorrect data
- Only sensor-detectable data can be collected
- Difficult to repair or replace the device (because of inaccessible location) (1)

8.11.2 3D printer ✔ (1)

8.11.3 Bluetooth ✔ (1)

8.11.4 NFC / Near field communication ✔ (1)

**[30]**

**TOTAL: 125**