



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2016

COMPUTER APPLICATIONS TECHNOLOGY: PAPER I

MARKING GUIDELINES

Time: 3 hours

150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

SECTION A

QUESTION 1

- | | | | |
|-----|-------|---|-------------|
| 1.1 | 1.1.1 | Gateway | (2) |
| | 1.1.2 | Barnacle | (2) |
| | 1.1.3 | Tags | (2) |
| | 1.1.4 | Server Farm | (2) |
| | 1.1.5 | Cybersquatting | (2) |
| 1.2 | 1.2.1 | A computer circuit board or card that is installed in a computer so that it can be connected to a network/server. | (1) |
| | 1.2.2 | A feature utilised in an email client whereby copies of an email can be sent to undisclosed recipients. | (1) |
| | 1.2.3 | The use of computers and computer-related resources in an environmentally responsible manner. | (1) |
| | 1.2.4 | A standard for the connection of peripherals whereby devices can be plugged into a computer system without having to manually configure the device and load drivers for the device to work. | (1) |
| | 1.2.5 | A mobile phone with PC-like functionality and capabilities. | (1) |
| | | | [15] |

QUESTION 2

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

25 marks

SECTION B

QUESTION 3 SYSTEM TECHNOLOGIES

Question Number	Name of Device	Main Function
3.1.1	Laser Printer (Accept any Printer)	Produce hard copy, paper copy of your work/documents/files
3.1.2	RAM Memory/DIMM/SIMM	Temporary (volatile) storage of data
3.1.3	Keyboard	Inputting data
3.1.4	CPU Fan and Heat Sink (Accept only both)	Cooling system for CPU
3.1.5	Tower Case (Computer Box)	Mounting of computer hardware

(10)

3.2 3.2.1 Accept any **TWO** from:

- Most hardware in a tablet cannot be upgraded, whilst in a laptop it can be upgraded.
- The tablet usually has less processing power than the laptop.
- The tablet usually has less RAM storage than the laptop.
- The tablet usually has less secondary storage than the laptop.
- The tablet usually does not have a built-in optical drive, whilst the laptop does.
- The battery life of a tablet is, currently, usually a lot longer than a laptop.

(2)

3.2.2 (a) **Commercial software** is software that is produced for sale or serves commercial purposes, the user is restricted in its use by the EULA (End User Licence Agreement) **OR** the user may only use the software under specific conditions **OR** the user may only install the software on the specified number of systems.

(In general, allocate 1 mark for the software being sold and the other mark for a point on licensing issues.)

(2)

(b) **Freeware** is software for which no fee needs to be paid. The software can be freely distributed, but cannot be charged for.

(2)

(c) **Shareware** is software that is distributed free on a trial basis, with the understanding that should the user decide to keep the software, the licence fee will be paid **OR** after a trial period, if the fee is not paid, the software usually no longer functions fully.

(2)

3.3 Accept any **THREE** from:

- Data in main memory can be lost if computer shuts down (volatile/non-volatile).
- Data in main memory can be corrupted.
- Data in main memory can be accidentally deleted.
- Data/software may need to be switched from machine to machine.

(3)

3.4 3.4.1 A file that is in a format that runs directly without the need for any additional software or facility. Applications/app program

(2)

3.4.2 This file is used to store data in a format that requires less storage space. It will need to be uncompressed before it can be used again.

(2)

3.5 3.5.1 Accept any **ONE** from:

- .apk
 - .bat
 - .cmd
 - .com
 - .cpl
 - .exe
 - .inf
- (Any other legitimate executable file extension)

(1)

3.5.2 Accept any **ONE** from:

- .001
 - .7z
 - .arj
 - .gz
 - .iso
 - .rar
 - .sfx
 - .tgz
 - .zip
 - .zipx
- (Any other legitimate compressed file extension)

(1)

[27]

QUESTION 4 INTERNET AND NETWORK TECHNOLOGIES

- 4.1
- The camera is connected to the computer via Wi-Fi.
 - The computer transmits the photos using the telephone router.
 - The router connects the system to the ISP via either an ADSL or fibre optic link or Wi-Fi.(Social Media upload)
 - The ISP connects to the Internet using either fibre optic cable link **OR** cableless satellite transmission.
 - This is transmitted to the South African ISP,
 - which then sends the photographs via fibre optic cable or ADSL to the router of your family.
 - Finally, the router transmits the photographs to your family's computer. (Social Media Download)
- (7)
- 4.2 4.2.1 **Broadband** refers to a high speed connection to a network **OR** the Internet. (2)
- 4.2.2 **Bandwidth** refers to the amount of data that can be transmitted on a connection in a given amount of time. (2)
- 4.3 4.3.1 A **search engine** is part of a webpage **OR** an application **OR** an Internet program that allows a user to find other webpages based on key words. A **webpage** is an interactive document that is displayed on the World Wide Web. (5)

4.3.2 Accept any **ONE** from:

- Ask Jeeves
- AOL Search
- Baidu
- Bing
- Blackle.com
- Blekko
- Daum
- Dogpile
- DuckDuckGo
- Exalead
- Excite
- Gigablast
- GoodSearch
- HotBot
- Info.com
- Ixquick
- Live Search
- MSN Search
- NATE
- SAPO
- Scout (Goby)
- Sogou
- Soso
- WebCrawler
- YaCy
- Yahoo
- Yahoo!
- Yahoo! Search
- Yandex

(1)

4.4 Bluetooth is used to wirelessly transfer data from one Bluetooth enabled device to another.

(2)

[19]

QUESTION 5 INFORMATION MANAGEMENT

5.1 5.1.1 **Biometric Access** – this is a system that reads a user's physical characteristics via biometric technology. The physical characteristics of the user (for example: their fingerprint patterns) are scanned and stored in a computer system. When accessing the system, the user's biometric characteristics will be detected and matched against those already stored.

OR

Access Control List – this is a system that operates at server (controlling computer) level to ensure that unauthorised access can be stopped. It compares the given name or access card of a user to a list of acceptable users stored to allow access.

(3)

- 5.1.2 **Biometric Access** – fingerprint scanners **OR** retina scanners **OR** voice scanners **OR** whole-hand scanners.

Biometric scanning device needed to input the data of the user.

OR

Access Control List devices are a card reader **OR** card scanner.

A card reader is needed to input the data of the user. (2)

- 5.2 Database program. To store all the users' information. (2)

- 5.3 5.3.1 'Does the inputted data match any data stored in the database?'
(Accept any question that means the same thing.) (1)

5.3.2 If the answer is YES, then access is granted. (1)

5.3.3 If the answer is NO, then access is denied. (1)

- 5.4 Accept any **ONE** from:

- Computer systems cannot be bribed.
- Computer systems work 24/7/365.
- Computer systems do not have human failings like bad eyesight, salary payments. (1)

[11]

QUESTION 6 SOCIAL IMPLICATIONS

- 6.1 6.1.1 • The user could develop Repetitive Strain Injury **OR** the user could develop Carpal Tunnel Syndrome.
• The user could develop a bad headache **OR** eye strain/backache/neck ache (2)

6.1.2 (To get the marks, the answers must clearly match the types chosen in **Question 6.1.1**)

- Stand up and stretch regularly **OR** Flex your fingers regularly **OR** use ergonomic keyboard.
- Look up from the keyboard **OR** focus on a distant object regularly. (2)

- 6.2 6.2.1 **Phishing** is the attempt to gain personal (financial) information by masquerading as an authentic institution like a bank. (2)

6.2.2 **Pharming** is a cyberattack in which a website's traffic is redirected to another bogus site. (2)

[8]

QUESTION 7 SOLUTION DEVELOPMENT

7.1 5 (five) (1)

7.2 8 (eight) (1)

7.3

Year_of_Registration	Make	Model
2011	BMW	318i
2008	Nissan	Maxima
2001	Opel	Astra
2004	Toyota	Corolla
2002	Toyota	Yaris

Mark negatively –1 for each error to a maximum of 4 (4)

7.4 7.4.1 Number **OR** text (1)

7.4.2 Text (1)

7.5 7.5.1 A spreadsheet application program. (1)

7.5.2 He needs to do calculations with the data. Graphical representation (1)
[10]

75 marks

SECTION C

QUESTION 8 INTEGRATED SCENARIO

- 8.1 Beta version. (1)
- 8.2 A collection of computers connected together. A network set up in a single location (accept example) **OR** the administrator has complete control over it. (2)
- 8.3 8.3.1 Accept **TWO** from:
- Router/hub/switch.
 - Server computer.
 - Network Interface Card (NIC)/Ethernet card.
 - Bluetooth enabled devices.
 - (Data transmission) cables.
 - Game controls.
 - Microphone.
 - Speakers **OR** headphones.
(*In general, accept any hardware that can be used to set up a Wi-Fi or cabled LAN.*) (2)
- 8.3.2 Server control software. (Any game controlling software, accept brand names, e.g. Steam, TeamSpeak) (1)
- 8.4 8.4.1 (c) uncapped/unshaped ADSL (1)
- 8.4.2 There are no restrictions on the amount and type of data transferred. (2)
- 8.5 8.5.1 Accept any **ONE** from:
- Increases social interaction of children
 - Aids in developing their motor skills
 - Aids in developing their mental skills
 - Aids in improving problem-solving skills
 - Promote relaxation
 - Ward off anxiety
 - Could help dyslexic children with their reading
(*Any other acceptable answer*) (1)
- 8.5.2 Accept any **ONE** from:
- Can lead to gaming addiction
 - Can lead to abusive behaviour
 - Exposes children to violent images
 - Can lead to depression (health issues)
 - Can lead to intellectual laziness
(*Any other acceptable answer*) (1)

- 8.6 8.6.1 Client-server LAN (1)
- 8.6.2 Accept any **TWO** from:
- One player's connection is not affected by any other player's connection.
 - Security issues can be effectively dealt with.
 - You have access control.
 - Cheating can be controlled.
 - Faster data transmission as the server acts as a central connection. (2)
- 8.7 8.7.1 Login Name and password (2)
- 8.7.2 Stop unauthorised players and assign access to different levels of the game based on players' score. (2)
- 8.8 8.8.1 Accept any **ONE** of:
- *Star Trek Online*
 - *World of Warcraft*
 - *Lord of the Rings Online*
 - *Warhammer Online*
 - *Half Life*
 - *Adventurequest Worlds*
 - *Anarchy Online*
 - *Cabal Online*
 - *Club Penguin*
 - *Dead Frontier*
 - *Mafia Wars*
 - *Star Wars: The Old Republic*
 - *Age of Conan*
 - *Guild Wars*
 - *Final Fantasy Online*
 - *Burning Crusade*
 - *Tabula Rasa*
 - *Global Agenda*
 - *League of Legends (LOL)*
 - *Counterstrike Go (CSO)*
- (Accept any legitimate MMORPG or RPG) (1)
- 8.8.2 A computer system will not operate without System Software. **OR** It is software that controls all the functions of the computer. **OR** It is software that controls the hardware and other software of the computer, and a computer system will operate without applications software. **OR** It is software that performs a user-defined task. (2)
- 8.8.3 (a) System Software (1)
- (b) System Software (1)
- (c) System Software (1)
- (d) Applications Software (1)

8.9

QUESTION NUMBER	POSSIBLE REASON	POSSIBLE SOLUTION	
8.9.1	They have not been registered	Register the new player	(2)
8.9.2	The cable OR Wi-Fi connection for that computer is faulty	Check cable is connected properly OR check that the Wi-Fi is on and working	(2)
8.9.3	The player's permissions OR access rights are incorrect OR lack of player capability	Reset the player's access permissions OR Cheat	(2)
8.9.4	The monitor of that computer is faulty OR Cable loose OR the display settings are incorrect OR the graphics capabilities do not meet minimum requirements/resolution	Replace the faulty monitor OR reset the display settings of the monitor OR Update drivers OR Hardware	(2)
8.9.5	The server computer is faulty OR the router is faulty OR Firewall restrictions/proxy settings	Replace the faulty server computer OR replace the faulty router OR Adjust firewall settings	(2)

(Accept any legitimate reason and solution for each situation.)

8.10 8.10.1 hypertext markup language (1)

8.10.2 (a) <body> accept in words: body tag (1)

(b)
 accept in words: line break tag/not needed (1)

(c) accept in words: ordered list tag (1)

8.10.3 South African Gaming (5)

8.10.4 Accept **ONE** from:

- Atto
- BBedit
- Chocolat
- Coda 2
- Coffeecup
- ConTEXT
- Editplus
- Emacs
- Espresso
- Komodo text editor
- Notepad
- Notepad++
- Textmate
- Textwrangler
- Toplevel 5
- Ultraedit
- Wordpad

(Accept any legitimate html text editor.) (1)

8.11 8.11.1 Avatar **OR** picon (1)

8.11.2 Accept any **TWO** from:

- No clue for predators to use to identify the real person **OR** cannot be cyberbullied.
- No way to identify the gender **OR** age of the real person.
- Allows shy people to communicate with others in the game.
- Your choice of image can tell people about your interests **OR** likes/dislikes.
- You can develop your identity by trying on different characteristics. (2)

8.11.3 Accept any **TWO** from:

- If it is inappropriate, you may not be taken seriously.
- There is no way for another person to be sure you are not a predator.
- You cannot build up your actual/real/personal reputation online **OR** personal brand.
- It can lead to cyberbullying.
- You are more easily contactable **OR** you can be spammed. (2)

50 marks

Total: 150 marks