



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2011

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 (a) Plug and Play / Hot plugging
(b) hardware devices (2)
- 1.1.2 (a) hacker
(b) cracker (2)
- 1.1.3 (a) bandwidth
(b) Mbps (2)
- 1.1.4 (a) uppercase
(b) emoticon (2)
- 1.1.5 (a) Virtual Private network (VPN)
(b) Local Area Network (LAN) (2)

1.2

- 1.2.1 False✓: Garbage-In-Garbage-Out (GIGO) refers to inaccurate data producing inaccurate information or GUI (Graphical User Interface) refers to a user interface that is based on graphics instead of text. ✓ (2)
- 1.2.2 False✓: 3G is a faster connection to the Internet when compared to a GPRS connection. ✓ (2)
- 1.2.3 True✓: A product key is used to help prevent software piracy. ✓ (2)
- 1.2.4 True✓: Deleting an item from the Recycle Bin permanently removes it from your computer. Items deleted from the Recycle Bin cannot be restored. ✓ OR
False✓: Latest technology makes provision for a program that helps to recover data. ✓ (2)
- 1.2.5 False✓: Disk defragmentation consolidates parts of files scattered across the disk so that they can be grouped together. This will make the computer faster, but will not increase the available space on the disk. ✓ (2)

[20]

QUESTION 2

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

30 marks

SECTION B

QUESTION 3

- 3.1 Add new hardware/software OR replace hardware/software with a newer version of the same product. ✓ OR Add new computer components/parts. (1)
- 3.2 *Any TWO valid components ✓✓ impact: ✓✓*
- **CPU**- A faster CPU with 2 or 4 cores will process sound and video files faster.
 - **HDD**- A bigger hard drive will give Zachary more space to store large sound and video files. It will also increase performance if her runs applications that access the hard disk frequently.
 - **RAM**- More RAM is needed to store large sound and video files while they are being processed, therefore reducing the need to use slower virtual memory. RAM can also improve multi-tasking.
 - **Sound card** - Faster sound steaming and improved quality, i.e. improved surround sound.
 - **Video/graphics card** - better video streaming and quality (4)
- 3.3 *Any valid TWO responses: ✓✓*
- Donate** to a company that refurbish computers OR to a disadvantaged organisation.
Recycle: Take it to a recycling depot that can reuse certain parts.
Resell: Sell the parts to someone with an older computer that could use the parts
Demonstrating purposes/back-ups (2)
- 3.4 *Any valid TWO reasons: ✓✓*
- An older BIOS cannot recognise very large hard drives.
 - Older motherboards do not support SATA hard drives OR they do not have a SATA
 - connector on the motherboard OR the motherboard is not compatible with this drive
 - There might be defects on the drive.
 - The operating system does not recognise the drive.
 - The host adapter drivers are not installed.
 - Hard drive not correctly plugged in/installed
 - Power supply not strong enough/insufficient for another device. (2)
- 3.5 Adverts
- 3.5.1 **Dual core** – *Any ONE:* Older technology/ slower than/cheaper than Core 2 Duo/ generic term/ has less L2 cache/Front side Bus/virtualisation ✓
Core 2 Duo – *Any ONE:* Later (current) technology/supports 64 bits/faster than /more expensive than/ more powerful than Dual Core/better for gaming or video-editing /brand name /on board cache memory is higher ✓ (2)
- 3.5.2 *Any TWO valid essential components: ✓✓*
Keyboard, monitor, mouse. (2)

3.5.2 *Any TWO reasons:* ✓✓

Zachary will be able to transfer his sound and video files at a much faster rate using a FireWire port/FireWire is twice as fast as USB 2.0.

FireWire can directly power devices up to 45 watts which means that many more devices can operate without a dedicated power supply than USB.

When used with a FireWire 800 optical repeater, you can use FireWire devices up to 3 300 feet away.

(2)

3.5.4 *Any ONE valid component in the following THREE areas:* ✓✓✓

Hardware – Use of network cards, wireless capabilities to connect. Cabling/Wifi

Software – Operating system that allows connection (*accept brandname*).

Location – Where the two computers must be located in order to be networked.

Same building/same house/close to each other

(3)

3.5.5 *Global Collect and Return Warranty* – Company collect from anywhere in the word, fixes/replaces and returns to customer. ✓

Carry-in Warranty – Customer has to take the computer himself/herself to designated supplier for them to fix/replace. ✓

3.5.6 *Any ONE valid ADVANTAGE relating to Zachary:* ✓

- Zachary is a student so he will need a **portable** computer to take to his lectures or when he is recording.
- As a laptop can get its power supply from a **battery** for short periods of time, Zachary can use his laptop in lectures without connecting to main electricity supply.
- Zachary can use his laptop in the lecture theatre, library or in his room and it will take up **less space**.

Any ONE valid DISADVANTAGE relating to Zachary: ✓

- Zachary will need to charge the battery on a regular as the **battery life** is short.
- Zachary will need to look after his laptop as it can be **stolen** due to its small size and portability.
- A laptop can be easily **damaged** and it will cost Zachary a lot to replace it/fix it.
- A laptop is **not easy to upgrade** as a desktop; it will last Zachary only a few years before it is outdate.
- It's is more expensive to be upgraded.

(2)

[22]

QUESTION 4

4.1

4.1.1 Any *ONE* valid program: ✓ (1)
• Pastel, Brilliant Accounting, Quick Books, AccPac, etc.. ✓

4.1.2 Any *ONE* software requirement: ✓ (1)
• Type of operating system (platform)
(accept brandnames: WindwsXP/Vista/Windows 7)
• Particular drivers etc.
• Other type of packages, eg. Macromedia Flash Player, Quick Time, Internet Explorer, etc.

4.1.3 **Minimum requirements** are the lowest requirements needed for the program to run. ✓ **Recommended requirements** are the specifications for the program to run optimally. ✓ (2)

4.1.4 A **full installation** will install all components of the package automatically. ✓ e.g. to a designated path. ✓
A **custom installation** allows a user to choose which options he or she wishes to install. ✓ where the files are installed. ✓ (4)

4.2

4.2.1 Firewall (1)

4.2.2 Worm (accept virus/do not accept malware) (1)

4.2.3 Switch OR switching hub OR intelligent hub OR router (1)

4.3

4.3.1 The on-screen work area of the computer on which windows, icons, menus and dialog boxes appear ✓ (1)

4.3.2 A navigation tool which offers users more options. The tools are grouped together under a common heading. List of options/more options ✓ (1)

4.3.3 Software designed to help analyse, configure, optimise and maintain the computer. Protect for viruses. (Explain the utility)

4.4

4.4.1 Anti-virus software detects virus activity by matching it to a list or database of virus definitions. ✓ These definitions need to be regularly updated to detect new viruses. ✓ (2)

- 4.4.2 Any *THREE* valid points: ✓✓✓ (3)
- Make sure auto-protect/Real time protection option is installed
 - Renewing licence
 - Perform regular scans
 - Only run one type of anti-virus program on the system
 - Install a copy of the anti-virus program on all computers
 - Set to send reports of virus activity to librarian/administrator
 - Automatically checks devices
 - Automatically scans
 - Make sure that the full package is installed
- 4.4.3 Any *ONE* valid point: ✓ (1)
- Malicious purposes
 - Out of boredom
 - For ego-trips/To show how well they can program
 - For economic gain, others will then have to purchase an anti-virus program
 - To create/exploit security loopholes
- 4.4.4 Any *ONE* valid program: ✓ (1)
- Avast
 - Kaspersky
 - Panda
 - AVG
 - Nod32
 - PC-cillin
 - Bit Defender
 - McAfee
 - Symantec (Norton)
 - F Secure
 - ESET
 - TrendMicro
 - Avira

[21]

QUESTION 5

5.1

5.1.1 *Any TWO valid points: ✓✓* (2)

- The coffee shop can compete on a bigger market and attract more clients.
- Security and filing better
- The manager can run the shop even if he needs to be away from the shop.
- The coffee shop will be able to serve customers much quicker as orders, transactions and payments will be processed faster. WHY
- Stocktaking and communication purposes.

5.1.2 *Any TWO valid points: ✓✓* (2)

- The manager will need to learn how to organise and search for information.
- The employees will need to learn how to place orders using the new software and how to print bills.
- The assistant will need to learn how to connect devices (digital camera) and make printouts
- The manager will need to learn how to create advertising material.
- Basic troubleshooting

5.1.3 *Any TWO valid points: ✓✓* (2)

- Can other work by the same author be found on the Internet?
- Can the same facts be found on other web pages?
- Are there published and updated dates on the site?
- Is the author clearly identified and contactable?
- Is there a way to check the legitimacy of the website?
- Padlock/ATTPS/digital certificates/sources
- Cross-referencing

5.2

5.2.1 *Any TWO valid points: ✓✓* (2)

- Resolution / the number of Megapixels and quality picture.
- Stabilizer/red-eye/built in flash
- Type of connection
- Optical zoom
- Type of display, e.g. TFT; 3”LCD
- Focus range
- Storage types
- Shutter speed
- Battery life /guarantee

5.2.2 Any *ONE* valid point: ✓ (1)

- Can delete unwanted photos.
- Reduced costs
- Editing photos
- Can print the photos yourself.
- Photos are electronic so can be stored on your computer and printed when necessary.
- SD cards can capture hundreds of photographs onto one card.

5.3

5.3.1 She saved it on the **E drive** which is usually a removable disk. ✓ On this device she stored it in a folder called **2011** and in this folder she used the subfolder **admin**. ✓ (2)

5.3.2 Java (1)

5.3.3 Word processing/Word document/Microsoft Word (1)

5.4 No, when the employers are at work everything they do should be work related. ✓ They should also have signed an AUP (Acceptable Use Policy) which indicates the employer's and employee's rights. ✓ (2)

5.5 Any *TWO* valid electronic communication methods ✓with explanation ✓specific to Katherine:

- Blog – List events, specials, celebrity customers.
- Social networking- Twitter to advertise the brand and create a personal connection with their customers.
- Facebook – to advertise or invite customers to events
- Instant messaging/SMS- Send out advertising messages to customers
- Email – Send out weekly specials to loyal customers on her mailing list
- Bulletin boards/advertising
- Pop-ups on websites/adware – advertising on a website
- Create a website

[18]

QUESTION 6

6.1

6.1.1 Radio Frequency Identification✓. (1)

6.1.2 In a RFID system, RFID tags are ‘interrogated’ by an RFID reader.
The tag reader generates a radio-frequency signal that communicates with the tag.✓ When the tag passes through the field of the tag reader, the receiver captures a reply signal (or data content) from the tag.✓In this way, the data content from the tag is transmitted to the tag reader.✓ (3)

6.2.1 Any TWO valid security measures: ✓✓

- Install a security camera.
- Allow room key access only (accept lock room).
- Use security cables to 'lock down' equipment.
- Security guards.
- Tracking device(s).
- Alarm.
- Biometric device(s).
- Thumb print scanning
- Access card key
- Physical fire related walls and doors

(2)

6.3

6.3.1 Any ONE valid motivation – user name ✓ and password: ✓

User name

- Identify the user.
- Keeps a record of who logged in
- Gives you access to a computer system
- Differentiate levels/access

Password

- For security to makes sure it is the correct person logging on
- Protects your computer account against misused
- Protect your data

(2)

6.3.2 Any TWO valid tips ✓✓

- Contain both upper and lowercase characters (e.g., a?z and A?Z).
- Have digits and punctuation characters as well as letters (e.g., 0?9 and !@#% ^&*()_+|~-=\`{ }[]:";ı<>?,./).
- At least eight alphanumeric characters long.
- Is not a word in any language, slang, dialect, jargon, etc.
- Not based on personal information, names of family, etc.
- Can be easily remembered. One way to do this is create a password based on a song title, affirmation, or other phrase. For example, the phrase might be: "This May Be One Way To Remember" and the password could be: "TmB1w2R!" or "Tmb1W>r~" or some other variation.

(2)

- 6.3.3 *Any ONE valid reason ✓*
- Offers security against people who might try to guess their password
 - To increase the security if a hacker has gained entry via a certain user the password is changed regularly
- (1)
- 6.4
- 6.4.1 *Any TWO of: ✓✓*
- Personal websites
 - Newsletters or columns
 - Publish thoughts on a website
 - Blogs have readers or participants
 - Shared on-line journal.
 - Posts arranged in reverse chronological order.
 - Comment on posts.
 - Often written by one person and updated regularly.
 - Often written on a particular topic.
- (2)
- 6.4.2 *Any valid content of a security blog: ✓*
- Publish the latest security threads and trends.
 - As a communication platform to clients.
 - Marketing their products.
- (1)
- 6.5 *Accept any suitable brand name
(a suite and any brand name may only be used ONCE):*
- 6.5.1 Any Web-design package (Accept any suitable brand-name)✓
- (1)
- 6.5.2 Any spread sheet package (Accept any suitable brand-name)✓
- (1)
- 6.5.3 Any e-mail package (Accept any suitable brand-name)✓
- (1)
- 6.5.4 Any presentation package (Accept any suitable brand-name)✓
- (1)
- 6.5.5 Any image editing package (Accept any suitable brand-name)✓
- (1)

[19]

QUESTION 7

7.1

7.1.1 Any *TWO* valid responses: ✓✓

- Limit search to South African sites
 - Use operators (AND, OR, NOT).
 - Use advanced search functions.
 - Use wildcards (* or ?).
 - Avoid using words such as 'is', 'but', 'of' and 'are'.
 - Use keywords (main words) e.g. Mozambique.
 - If you are looking for exact phrases, use '+', '-' or enclose phrase in 'quotation marks'.
- (2)

7.1.2 The number of times a site has been visited or accessed OR the number of file requests from a webserver. ✓ (1)

7.2

7.2.1 The image is projected onto the screen via the projector only; the laptop screen is blank ✓ (1)

7.2.2 The desktop image extends from screen to projector, i.e. the one desktop image displays across the screen and the projector ✓ (1)

7.3

7.3.1 Line chart. ✓ (1)

7.3.2 Number Currency format ✓ and Cell fill/shading/pattern ✓ (2)

7.3.3 COUNT counts the number of cells that contain numbers ✓ and also numbers within the list of arguments ✓. e.g. =COUNT(A1: A5) gives 5 if all 5 cells contain a number. =COUNT(A1: A5,9,12) has three arguments and will give the answer of 7 if all 5 cells from A1 to A5 contain numbers, i.e. the 5 + 1 (for the second argument, 9) and + 1 (for the third argument, 12). (2)

7.4

7.4.1 Find and Replace/search and replace ✓ (1)

7.4.2 Any *TWO* valid Functions: ✓✓

- Give more detailed explanation of text in the report.
 - Make comments on certain statements in the reports.
 - Refer to the source from which certain facts were obtained.
 - Supply the name of the person who is quoted.
 - Comparing.
- (2)

7.4.3 Any *TWO* valid advantages: ✓✓

- Compatible Across various platforms
- Can be created from any source document/application
- Compact and Small
- Can be created from any source document/application
- Secure, almost no chance of getting infected with viruses.
- Securable, avoid people from modifying and redistributing your work
- Easy and quick to create when using the right software.
- Software to view PDF Files is completely free.
- Compatible with modern portable reader systems.
- It prevents the reader from changing factual information in the reports.
- Compress, therefore small in size.
- Final stage ready for printing. (2)

7.5

7.5.1 A format for delivering regularly changing web content, e.g. blog entries, audio, video, news headlines. ✓ Life/broadcasting (1)

7.5.2 A user downloads a feed reader or news aggregator software, ✓ subscribes to a feed ✓ and the reader check your list of feeds and downloads updates. ✓ (3)

7.5.3 Any *ONE* valid benefit: ✓

- News feeds tell customers when The Greek Gang website has had new content added.
- Customers can get the latest headlines in one place, as soon as they are published, without visiting the websites to which they have subscribed.
- Ensures customer's privacy as they would not need to join a newsletter. (1)

[20]

QUESTION 8

8.1 Any valid fault ✓ and solution: ✓

The computer BIOS POST test has picked up a fault with eh HDD, RAM, keyboard, etc. The technician would have to check the motherboard and all components to see which one is faulty. Hardware fault/ Hardware repair. (2)

8.2 Any THREE valid tips: ✓✓✓

- Check if the monitor is switched on
- Check graphics card
- Check if the monitor has power i.e. if it is plugged into either the wall socket or at the power supply.
- Check if the monitor's display cable is properly connected to the computer.
- Check if the computer is not in standby or sleep mode.
- Check if the device driver has not been corrupted.
- Appropriate software
- Check if brightness is not turned down. (3)

8.3 Any THREE valid steps: ✓✓✓

- Open Windows Task Manager by pressing <Ctrl><Alt><Delete>, or Select Task Manager on the task bar.
- Under Applications, choose the program that is not responding,
- Click on End Task.
- Click on programmes <windows comes up>wait to terminate (3)

8.4 Any TWO valid points: ✓✓

- Primary memory is insufficient.
- Virtual memory is full, and there is no space in the swap file (on the Hard disk) to write the information to.
- Settings/too many programmes run at once/thrashing. (2)

8.5 Any TWO valid points: ✓✓

- The software on his computer is out-dated and he needs a new version of the software.
- The program that is required for the file to open is not installed on the computer.
- Files corrupted (2)

8.6 Any ONE valid points: ✓

- The file could have been saved as a read-only file.
- The file attribute could have been changed to read-only.
- The file was copied from a CD/DVD causing it to be read-only. (1)

8.7 Any *TWO* valid points: ✓✓

- The printer is connected to a network and she might not be the only one who has printed a document.
- The documents are placed in a queue, waiting to be printed.
- She may have chosen 'Print to file' instead of the correct printer.
- The printer driver may be incorrectly installed on her computer.
- The printer might be jammed
- The printer might be out of paper
- Printer not switched on or not connected/selected the wrong printer (2)

8.8 Any *THREE* valid points: ✓✓

- There is a CD in one of the drives which is not a bootable disk.
- Your hard drive may be corrupt.
- The Windows Operating System Start-up Files may be missing/ corrupt.
- The BIOS has failed to retain hard disk drive information, because of battery failure,
- USB memory stick plug in (3)

8.9 The Movie clips are bigger than the size of the CD / a CD can only take 700MB.✓

Any *ONE* valid points: ✓

- Make use of a DVD instead of a CD
- Compress the Movie Clips to make it smaller
- Divide the movie clips, and write them on two CD's.
- Blu-rays/HJ split
- Xillisoft
- Convert to smaller format
- Lower quality (2)

[20]

120 marks

Total: 150 marks