



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2015

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	C	(1)
	1.1.2	E	(1)
	1.1.3	D	(1)
	1.1.4	I (Typo given mark)	(1)
	1.1.5	A	(1)
	1.1.6	K	(1)
1.2	1.2.1	CRT	(1)
	1.2.2	SSL	(1)
	1.2.3	PDF	(1)
	1.2.4	OCR	(1)
	1.2.5	RSI	(1)
			[11]

QUESTION 2

2.1	C	(2)
2.2	A	(2)
2.3	D	(2)
2.4	B	(2)
2.5	A	(2)
2.6	D	(2)
2.7	A	(2)
		[14]

25 marks

SECTION B

QUESTION 3 SYSTEM TECHNOLOGIES

3.1

Question Number	Name of Device	Main Function
3.1.1	Motherboard	Main connecting device for other devices in a computer
3.1.2	Optical Drive (Accept CD or DVD Drive or Blu-Ray Drive)	(Secondary) Permanent storage
3.1.3	Central Processing Unit (Accept CPU)	Main controlling chip of the computer that carries out the instructions of a computer program
3.1.4	Biometric Scanner (Accept Fingerprint Scanner)	Uses image of fingerprints for secure access Takes your fingerprints
3.1.5	Fibre Optic Cable	Transmission (Send/ receive) of data

(10)

3.2 3.2.1 Firewall (Biometric Devices) (1)

3.2.2 Anti-Virus Programs **OR** Firewalls (Access rights, permissions, facial recognition software, antispyware) (1)

3.3 3.3.1 A smartphone is a cell- (mobile) phone with an operating system. It can function as a cellphone, a camera and an Internet browser **OR** it combines the functions of other mobile devices such as cellphones, cameras, Personal Digital Assistants (PDAs), mobile sensors, mobile payments and Internet computers (2)

3.3.2 Any **TWO** from (Accept any reasonable answer)
 • Smaller/Lighter/More Compact
 • (Long/longer/better) Battery life
 • 3G (connectivity)/always connected
 • Can make voice calls, SMS, MMS, check diary (2)

3.4 3.4.1 Any **ONE** from
 • Can navigate using mapping software
 • Some apps require location finding in order to run
 • Some apps will use location for services such as weather/shopping
 • If an app needs the location feature, it is already switched on
 • If the smartphone (or Sippo) is missing, it (he) can be located (1)

3.4.2 Any **ONE** from
 • The battery charge is used more quickly
 • It could allow unwanted people to know Sippo's location
 • It is an invasion of Sippo's privacy
 • Could allow unwanted targeted marketing (OR targeted SPAM) (1)

3.5 3.5.1 Primary memory is internal working memory accessed by the CPU. Secondary memory is considered external **OR** additional memory not accessed directly by the CPU.

OR

Primary memory is accessed using address and databases, while secondary memory is accessed using I/O channels.

OR

Primary memory access time is faster than that of secondary memory.

OR

Primary memory is temporary (volatile) memory used by the computer for processing while secondary memory is used for permanent storage. (2)

3.5.2 (a) RAM **OR** ROM **OR** CACHE (1)

(b) Accept any **ONE** from:
Hard-disk drive internal **OR** external
DVD drive
CD drive
Blu-ray drive
USB memory stick (1)

3.5.3 The more RAM available to the CPU, the faster the computer operates **OR** cheapest way of speeding up operation of the computer. (2)

3.5.4 Accept any **TWO** from:

- You could load two different operating systems
- You could have the second partition as a recovery drive for the main partition
- You could have programs installed on one partition and save your data on the other partition (2)

[26]

QUESTION 4 INTERNET AND NETWORK TECHNOLOGIES

- 4.1 4.1.1 emailing (1)
- 4.1.2 SMS **OR** Instant Messaging (1)
- 4.1.3 Blogging **OR** eGroup Forum **OR** Facebook **OR** Twitter **OR** emailing newsletters/catalogues **OR** Podcasting (1)
- 4.1.4 Facebook **OR** Social Networking Site **OR** Wiki (1)
- 4.2 Accept any **TWO** from:
- Business running costs are cheaper
 - Improved communication **OR** immediate, interactive communication
 - Increased productivity **OR** Less production time lost
 - Meet with many people in many locations at once
 - Brainstorming is facilitated more easily
 - See people as well as hear them so that you can see/read their body language
 - Share documents, presentations, media, data, etc. (2)
- 4.3 4.3.1 Wi-Fi – no cables wireless (electromagnetic wave), Cabled – copper/fibre optic cables (wiring) (2)
- 4.3.2 Wi-Fi – move around in area covered by signal (footprint), Cabled – move around in area limited by cable length. (2)
- 4.4 4.4.1 A Virtual Private Network extends a private network across a public network (OR Internet). It allows members to send and receive data as though they were part of a large private network. (2)
- 4.4.2 Accept any **TWO** from:
- An employee is away from the office and needs to access the customer accounts remotely
 - An employee is working at home and needs to print a confidential document on the VPN printer
 - Protecting confidential work data when in a public environment
 - Use the VPN to get around China's Great Firewall which restricts access to parts of the Internet
 - Downloading anonymously on the network (2)
- 4.4.3 No (1)
- 4.5 4.5.1 It is a set of rules that governs how data is transferred over a network (2)
- 4.5.2 The 's' in https means that the site has been secured **OR** data encrypted. (1)
(Mistranslation in Afrikaans paper for URL so all given 1 mark)

4.5.3 Accept any **TWO** from: (Do not accept HTTPS)

- netbUI
- ftp (file transfer protocol)
- VoIP (Voice over Internet protocol)
- TCP/IP (Transmission Control Protocol/Internet Protocol) (Accept one or the other)
- http (hypertext transfer protocol)
- POP
- DTP (Dynamic Trunking Protocol)
- SMTP
- Any correct protocol is accepted; accept the acronym.

(2)
[20]

QUESTION 5 INFORMATION MANAGEMENT

- 5.1 Is the power station generating electricity? OR If yes, how much electricity is being generated? One mark for saying power station is off OR one mark for saying power station is generating x number of GW. Spare capacity OR Scheduled Maintenance program (2)
- 5.2 The amount of electricity required by the municipalities and Eskom's direct customers. (1)
- 5.3 Sum all generating electricity stations' output and subtract the amount of electricity required by all their customers. (2)
- 5.4 If required electricity exceeds generating capacity then load-shedding will be implemented **OR** if the required electricity is less than generating capacity then load-shedding will not be implemented. (1)
- 5.5 Algorithm **OR** process flow **OR** workflow process. (1)
- 5.6 5.6.1 Spreadsheet **OR** Database (1)
- 5.6.2 If spreadsheet chosen then: Because calculations need to be done.

OR

If database chosen then: Because data needs to be manipulated. (1)
[9]

QUESTION 6 SOCIAL IMPLICATIONS

- 6.1 Accept any **TWO** from:
- Makes players sociable, happy
 - Makes players less physically hyperactive
 - Gives learners a break from studying **OR** Refreshes learners for studying
 - Provide learners with a broad range of cognitive challenges
 - Improve learner's reflexes **OR** concentration **OR** perseverance **OR** multitasking
 - Teach high level (physical) skills **OR** Hand-Eye co-ordination **OR** motor skills **OR** Management skills **OR** Communication Skills (2)
- 6.2 Agreement/Licence between manufacturer of software and end user for a specific number of users. Anything over this number is piracy and illegal. (2)
- 6.3 6.3.1 The Digital Divide (Both words must be given to obtain the mark) (1)
- 6.3.2 Accept any **TWO** from:
- Give your old cellphone to Jaco to use for communication
 - Help train him on using a computer
 - Help train him on connecting to the Internet
 - Link him up **OR** 'friend' him on social networking sites
 - Donate money to help pay for infrastructure costs (2)
- 6.3.3 Accept any **THREE** from:
- Recycle old computer hardware
 - Give old computer to underprivileged communities
 - Reuse ink cartridges (consumables)
 - Use energy-efficient computer devices
 - Use fewer resources (reduce) (3)
- [10]

QUESTION 7 SOLUTION DEVELOPMENT

- 7.1 Merge and Center (Both must be given to be awarded the mark) (1)
- 7.2 Combo Box OR Drop Down Menu/List List Box (2)
- 7.3 7.3.1 Use word wrap **OR** soft enter, shrink the font size. Change text direction to vertical or change angle/orientation of text. (2)
- 7.3.2 vlookup **OR** hlookup (1)
- 7.3.3 =G3 +\$I\$3 /100*G3 **OR** Any mathematically correct formula. If absolute cell referencing is not used then award a maximum of 2 marks. (3)
- 7.4 Absolute (Cell) Referencing (1)
- [10]**

75 marks

SECTION C

QUESTION 8 INTEGRATED SCENARIO

- 8.1 8.1.1 There are 4 processors mounted on a single die. **OR** the CPU contains 4 separate processors (2)
- 8.1.2 It is used as a wireless connection to other devices or networks (2)
- 8.1.3 The front camera can be used for Video Conferencing (**OR** selfies) and the rear camera can be used for standard photo taking. (2)
- 8.1.4 The tablet can be used for voice calls as well as to connect to a network (**OR** data connection via Wi-Fi or SIM card) (2)
- 8.1.5 The quality (**OR** clarity) of the graphics is (1280 × 800) pixels **OR** the screen can display 1 280 pixels horizontally and 800 pixels vertically (2)
- 8.1.6 (a) Accept any **THREE** from:
- Controls the hardware
 - Controls the software/apps
 - Controls the network/data access
 - Controls the voice call system
 - Controls the messaging system
 - Provides an interface between the user and the device (3)
- (b) System software (1)
- 8.1.7 • It is software that can be adapted for your own needs **OR** that you have access to the source code **OR** that is collaboratively written
- It is usually free (2)
- 8.2 Accept any **TWO** from:
- You can use the zoom touch features (**OR** Font size) to increase the size of the text.
 - You can increase the brightness of the screen.
 - You can increase the contrast of the screen
 - You can use a lighted magnifier glass to increase the virtual size of the screen.
 - You can use software to magnify text on the screen.
 - You can use text-to-speech software. (2)
- 8.3 8.3.1 Accept any **ONE** from:
- Maths learners have a built-in calculator on the tablet
 - Learners can digitally take notes in class and save these.
 - Learners can access the Internet as a research resource. (1)
- 8.3.2 Accept any **TWO** from:
- Watching a full movie on the tablet
 - Using an IDE for computer language programming.
 - Creating full documents (**OR** spreadsheets **OR** databases **OR** presentations) from scratch (2)

- 8.4 Accept any **TWO** from:
- Lower costs as textbooks are digital
 - Can receive homework from an educator and send homework to an educator
 - Learners can interact with other learners around the city/country/world
 - Learners can use the Internet as a resource while at school
 - Writing implements are no longer needed/Applications packages can be used to take notes/educational videos can be watched
 - Learners physically carry less baggage around at school (2)
- 8.5 8.5.1 Accept any **THREE** from:
- Data is easier to retrieve from storage.
 - Data needs to be extensively manipulated.
 - The calculations required are not extensive.
 - Data is more protected because of data integrity and data validation.
 - Databases ensure that redundant (no longer needed) data is minimised. (3)
- 8.5.2 (a) Create a relationship (1)
- (b) (i) Fields used: [Suburb] and [NumberOfLearners]
Criteria: = 'Randburg' (equal to sign and inverted commas can be left out) and > 500 on the fields respectively (One mark for the fields and both must be correct to get the mark) (3)
- (ii) Fields used: [Urban/Rural] and [OperationalBudget]
Criteria: = 'Rural' (equal to sign and inverted commas can be left out) and NewBudget: [OperationalBudget]+500000 on the fields respectively (One mark for the fields and both must be correct to get the mark) (4)
- 8.6 8.6.1 Accept any **TWO** from:
- Create a form
 - Create a macro
 - Create an input mask
 - Validation rule
 - Combo/list/pull down menu box
 - Radio buttons/check boxes
 - Default value
 - Required fields (2)
- 8.6.2 Export data (Exporting) (1)
- 8.6.3 A spreadsheet program (1)
- 8.6.4 Accept any **TWO** from:
- Any form of Line chart
 - Any form of Bar Chart
 - Any form of Column chart (2)

- 8.7 Accept any **THREE** from:
- Use a filter program
 - Activate the safe search option on the search engine
 - The educator can download the required web pages and make them available offline
 - The school LAN can restrict access OR Use a proxy server OR use a firewall
 - Educate learners about the dangers of inappropriate content **OR** people
 - Block personal details of learners being available **OR** Use aliases (avatars) for learners
- (3)
- 8.8 Using a built-in/reporting mechanism of a communication tool (such as social media) to block verbal **OR** psychological torment of another person. (2)
- 8.9 8.9.1 An office suite of programs (You cannot accept just a presentations program like PowerPoint or an information gathering program like OneNote since neither will allow the user to create the documents required like spreadsheets and databases) (1)
- 8.9.2 You need to create the documents, data tables and files first so a collection (suite) of programs is required. You also need to be able to combine the files (documents) into a final proposal therefore a collection (suite) of programs is needed. (2)
- 8.10 Accept any **TWO** from:
- Galaxy Tab 4 is the cheapest
 - either Galaxy Tab 4 or iPad Air have both a front and rear camera
 - Galaxy Tab 4 make cellphone calls
 - size of Lenovo is the better proportioned
 - if a school is already using Apple equipment, then the iPad is better
- (2)
[50]

50 marks

Total: 150 marks