**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2022

**COMPUTER APPLICATIONS TECHNOLOGY P2
MARKING GUIDELINE**

MARKS: 150

This marking guideline consists of 14 pages.

SUGGESTIONS AND RECOMMENDATIONS FOR MARKERS

- Revisit the questions and the marking guideline 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 the marking guideline.

o Ask yourself or your senior marker if the response could 'fit' into the marking guideline before allocating the correct marks to the candidate.

o Accept correct answers that are expressed differently, e.g. the marking guideline states 'slow' and the candidate responds with 'not fast'.

- Beware of overlapping answers to a specific question. In general, ONE mark is awarded per fact.

- Do not choose answers on the candidate's behalf. Where a question requires a candidate to <u>LIST</u> or <u>NAME</u>/<u>STATE</u>: mark the first number of instances required, e.g. the first TWO facts if the candidate presents a list of FIVE facts and only TWO facts were required, even if presented in paragraph format.

- Questions requiring longer answers must be regarded as a single unit. Marks can be awarded if correct statements are found anywhere in the paragraph.

SECTION A: SHORT QUESTIONS

QUESTION 1: MULTIPLE-CHOICE		
1.1	D ✓	(1)
1.2	C ✓	(1)
1.3	D ✓	(1)
1.4	B ✓	(1)
1.5	B ✓	(1)
1.6	B ✓	(1)
1.7	A ✓	(1)
1.8	B ✓	(1)
1.9	B ✓	(1)
1.10	D ✓	(1)
		[10]

QUESTION 2: MATCHING ITEMS		
2.1	J ✓	(1)
2.2	I ✓	(1)
2.3	O ✓	(1)
2.4	D ✓	(1)
2.5	H ✓	(1)
2.6	K ✓	(1)
2.7	N ✓	(1)
2.8	F ✓	(1)
2.9	R ✓	(1)
2.10	B ✓	(1)
		[10]

QUESTION 3: TRUE/FALSE

3.1   False – sorting/filter ✓   (1)

3.2   True ✓   (1)

3.3   False – Disk Cleanup utility ✓   (1)

3.4   True ✓   (1)

3.5   False – Bot/Zombie ✓   (1)

[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1	4.1.1	Any TWO reasons: ✓✓ • SSD vs HDD (faster disk drive) • More RAM		2	
	4.1.2	Any TWO reasons: ✓✓ • Linux is free to load • Very stable • Can be changed to adapt to the users' needs/source code is available • Less vulnerable to viruses		2	4
4.2	4.2.1	HDMI		1	
	4.2.2	Any TWO: ✓✓ • Slow data transfer • No sound • Lower resolution		2	3
4.3	4.3.1	QR Code / 2D barcode		1	
	4.3.2	• It would be scanned by a cellphone to reveal the info it contains ✓ • Any example such as a URL or link to a website ✓		2	3
4.4	Any TWO reasons: ✓✓ • SSD more expensive per GB • Larger capacity drives-quite scarce • They are not suitable for long term storage (archiving) as they lose charge • Limited read/write cycles			2	2
4.5	Refers to a concept where people are allowed to bring and use their own portable devices, ✓ to access the network. ✓			2	2
4.6	Advantage: (Any ONE) ● no wires/more mobile/portability/less limitations i.t.o. reach ✓ Disadvantage: (Any ONE) ● Needs batteries ● Easier to steal ● Slower response rate especially for gamers			2	2
4.7	3D printers create three-dimensional solid objects from a digital model by ✓ placing successive layers of material on top of each other ✓			2	2
4.8	System requirements of the software needs to be considered ✓			1	1

4.9		• Run an antivirus scan ✓ • Format ✓	2	2
4.10	4.10.1	Any TWO guidelines: ✓✓ • Update frequently • Use catchy titles • Appropriate content for target audience • Interact with readers/comments • Keep language informal/use language that will be easy to understand by the target audience	2	
	4.10.2	Streaming video is not saved to your device / Need not wait for entire download to finish before watching it ✓	1	
	4.10.3	High data usage ✓ e.g. use up all your data / pay a lot for more data.	1	4
				[25]

Please turn over

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	GAN: Global Area network ✓ (Also accept WAN: Wide Area network)		1	1
5.2	Any TWO advantages: ✓✓ • Save time: no need to manage/install/deploy/configure software • Save cost: shared infrastructure/reduced maintenance costs/reduce costs/pay only for software you use • Service upgrades are seamless/automatic • Scalable/upgrade and downgrade is easier • Only needs a browser to access		2	2
5.3	5.3.1	Any TWO disadvantages: ✓✓ • An Internet connection is required • The interface is as slow, or as fast, as your Internet connection is. • You have no control over the interface used to access your email. • Your email is stored in one place: if anything happens to that email, details such as contacts are lost. • You have restrictions in the amount of-email you can keep	2	
	5.3.2	Any ONE advantage: ✓ • Can follow the whole discussion • More focussed discussion on the topic	1	3
5.4	Data security ✓ Privacy ✓		2	2
5.5	5.5.1	The switch connects all the computers and devices ✓ to the server ✓	2	
	5.5.2	The server provides shared resources ✓ such as files, e-mail and internet facilities or printers to network users ✓	2	4
5.6	5.6.1	VoIP is a protocol ✓ allowing people to make telephone calls across networks, such as the internet. ✓	2	2
	5.6.2	Any ONE advantage: ✓ • VoIP calls are cheaper than normal telephone calls • VoIP software are free • VoIP allows you to transfer files • Allows you to make video-conference calls	1	1
				[15]

             Please turn over

QUESTION 6: INFORMATION MANAGEMENT

6.1	Any ONE method involving speech: ✓ • Through phone call • Interviews		1	1
6.2	Any TWO reasons: ✓✓ • There is lot of information on internet • Not enough quality control • Information gets outdated • Information is often subjective and one-sided/bias • Anyone can post information online, even though they are not a specialist		2	2
6.3	The data cannot be easily analysed / too many possible answers		1	1
6.4	1. Org means it is an organisation (usually non-profit) ✓ 2. Mobi means it is a site adapted for mobile use ✓ 3. Ac means it is an academic institution **OR** Za refers to South Africa ✓		3	3
6.5	6.5.1	Any ONE: ✓ • It shows the relationship to the whole • Shows proportions of a whole • Shows what percentage each part makes up	1	
	6.5.2	Petroleum	1	
	6.5.3	Add data labels and/or values to data points	1	3
				[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1	7.1.1	A type of malware assigned to encrypt or block access to your computer system and files ✓ demanding a sum of money (ransom) ✓	2	
	7.1.2	Regular backups in a safe place (not attached to computer) ✓	1	3
7.2		A botnet is a network of private computers infected ✓ with malicious software and controlled as a group ✓ without the owners' knowledge. It can be used for a DDoS attack by sending hundreds of bogus requests to a server ✓ resulting in the server crashing.	3	3
7.3		Account settings – set your username, password so that only you have access to the account. ✓ Privacy settings – the settings that control who has access to your wall and who can see your information. ✓		
7.4		Any TWO ways: ✓✓ • Annalise and compare sources • Access information on a disciplined and structured way • Refer from sending unimportant information to other people • Reads fast and accurate	2	2
				[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1	8.1.1	Any TWO: ✓✓ • Track changes • Comments • Using the option to compare documents side by side • Highlight changes or comments in different colours manually	2	
	8.1.2	**Accessibility of a document:** The readability of the document, in other words how the person reading the document, experiences it e.g. will a blind person be able to 'read' and understand everything in the document	1	3
8.2	8.2.1	Hanging indent	1	
	8.2.2	Any ONE: ✓ • Increase line spacing • Limit number of consecutive hyphens • Decrease font	1	2
8.3	8.3.1	Date/Time	1	
	8.3.2	If the length (number of characters) of any value in the field is greater than the reduced field size, this value will be shortened, all characters after the specified size will simple be lost. ✓ (**Note to marker:** Accept a practical example that correctly described the concept.)	1	
	8.3.3	Wildcard	1	3
8.4	8.4.1	Format the cells as Number or General	1	
	8.4.2	Freeze Panes	1	
	8.4.3	Can specify which row(s) to repeat at the top of each printed page – useful for column headings	1	3
8.5	8.5.1	• To change the size of the image • To help the browser load the image more quickly	2	
	8.5.2	Pixels	1	
	8.5.3	To display a description if the image is broken or are not displayed.	1	4
				[15]
		TOTAL SECTION B:		**75**

SECTION C: INTEGRATED SCENARIO

QUESTION 9

9.1	Any TWO: ✓✓ ● Share it via Dropbox/Google drive ● Use Files Transfer Protocol ● Compress pictures/zip file ● Save as PDF (for compression)		2	2
9.2	9.2.1	Any TWO ways: ✓✓ ● Can speed up Internet access/Caches web pages ● Can be used to mask your IP address/Can 'surf' anonymously ● Can be used to monitor/restrict/control access to websites	2	
	9.2.2	Repeater (Also accept Access Point)	2	4
9.3	● Backup to a cloud service ● Backup to an external storage that can be moved		2	2
9.4	He should be careful because this is a version of software which developers publish knowing that it is in the final stages of development and might have bugs ✓ which they need the public to test the software and give them feedback so that they can fix the flaws before the final version is released ✓		2	2
9.5	9.5.1	Any TWO reasons: ✓✓ ● Fixing problems/bugs/flaws in software ● Improve the security features of the software ● Improve the efficiency of the software	2	
	9.5.2	● Updates ensure minimal problems with software ● Users may forget to update the software ● Developers feel that all updates are important ● Updates ensure that software stays current	1	
	9.5.3	Any TWO disadvantages: ✓✓ ● Features may be unnecessarily updated as they are not used ● Decrease in storage space ● Drop in performance after updates installed ● A drop in computer performance while the update is running may occur ● Downloading updates will have an impact on the speed at which a user can browse the Internet ● Data use could increase dramatically	2	5

9.6		● Microphone ● Braille keyboard ● Keyboard with large keys ● Speakers ● Larger screen		
			2	2
9.7		A template is a document which has pre-set formatting and layout.	2	2
9.8	9.8.1	To insert/convert data produced in another application into a program	1	
	9.8.2	A wizard is a program/software/set of dialogs that guides/helps the user to complete a task ✓ by taking them through a sequence of steps/presenting them with various options to complete the steps. ✓	2	3
9.9	9.9.1	Duplicate values are likely	1	
	9.9.2	Validation rule/required field	1	
	9.9.3	Less mistakes/enter in correct format/faster data entry	1	3
				[25]

QUESTION 10

10.1	10.1.1	This refers to the trend whereby all sorts of objects and devices ✓ are increasingly being connected to one another via the Internet ✓	2	
	10.1.2	Any TWO examples: ✓✓ ● Traffic management through cameras ● Garbage bins can pick up type of waste most disposed in specific areas and place recycling bins where most necessary ● Traffic lights monitor traffic patterns in real time to determine light synchronisation ● Smart cars could report potholes to the city's maintenance team ● Pollution monitors can warn health officials or even the public of pollution levels – reroute traffic to alleviate pollution, encourage public to use 'greener' ways of travelling ● Security cameras from dashcams can be integrated with security cameras of every single building that the police can access at any time.	2	
	10.1.3	The IoT <u>devices</u> ✓ are constantly <u>creating</u> Big Data ✓	2	
	10.1.4	Any TWO: ● Lack of skills/knowledge to implement & maintain such systems ● Lack of skills/knowledge to analyse large datasets ● Lack of storage space for the data ● Bandwidth to transfer such large amounts of data (**Note to marker**: accept any other legitimate challenges, besides anything related to funding/finances involved)	2	
	10.1.5	<u>Disagree</u>: ● All citizen reserves the right to privacy ● Governments/institutions can use such data to protect citizens against regular civilians <u>Agree</u>: ● Such surveillance is simply the side-effect of improving life through technology (**Note to marker**: accept any reasonable arguments on either side that does not come directly from the article. Award one mark for a weak/obvious but correct argument and two marks for an excellent, well thought out argument).	2	

	10.1.6	• Switching off/causing malfunctions in any devices that contain sensors (electricity, traffic lights, water systems). • Taking over administrative systems e.g. using malware such as the WannaCry ransomware attack that affected the NHS in the UK. (*Note to marker: any realistic example*)	1	11
10.2	10.2.1	Any TWO: ✓✓ • Save on paper costs/Save paper • Protects the environment • Backups can easily be done • Save on physical storage space	2	
	10.2.2	Sheet fed scanner	1	
	10.2.3	Some printers have multi-function features/convergence of features in one device/Printer may be a multi-function device	1	
	10.2.4	RSS feeds/Subscribe to a newsletter	1	
	10.2.5	Any TWO: ✓✓ • Do not use capital letters • Attachments should not be too large/Compress large files • Do not make spelling mistakes or grammatical errors • Ensure that your e-mails are free of viruses • Add a meaningful subject line • Only send work related e-mails/No spam	2	
	10.2.6	Mail merge	1	
	10.2.7	Any ONE: ✓ • Resolution • ISO rating • DSLR (not point-and-shoot)	1	
	10.2.8	Any ONE: ✓ • Memory card • Hard drive • SSD	1	10

10.3	10.3.1	Any TWO: ✓✓ ● Geo-tagging ● Drop a pin on a map ● Record GPS coordinates	2	
	10.3.2	Any TWO: ✓✓ ● Use an application that automatically restricts who can view posts ● Use features/privacy controls in the relevant app ● Post information under a nickname/pseudonym	2	4
				[25]
		TOTAL SECTION C:		**50**
		GRAND TOTAL:		**150**