



**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

**NOVEMBER 2022**

**COMPUTER APPLICATIONS TECHNOLOGY P2  
MARKING GUIDELINE  
(EXEMPLAR)**

**MARKS: 150**

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These marking guidelines consist of 12 pages.

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**SECTION A: SHORT QUESTIONS****QUESTION 1: MULTIPLE-CHOICE**

1.1	D ✓	(1)
1.2	B ✓	(1)
1.3	D ✓	(1)
1.4	A ✓	(1)
1.5	D ✓	(1)
1.6	D ✓	(1)
1.7	A ✓	(1)
1.8	C ✓	(1)
1.9	B ✓	(1)
1.10	B ✓	(1)

**[10]****QUESTION 2: MATCHING ITEMS**

2.1	J ✓	(1)
2.2	E ✓	(1)
2.3	A ✓	(1)
2.4	K ✓	(1)
2.5	F ✓	(1)
2.6	C ✓	(1)
2.7	I ✓	(1)
2.8	D ✓	(1)
2.9	O ✓	(1)
2.10	M ✓	(1)

**[10]****QUESTION 3: TRUE/FALSE**

3.1	True ✓	(1)
3.2	False – aspect ✓	(1)
3.3	True ✓	(1)
3.4	False-diagonally ✓	(1)
3.5	False – archiving ✓	(1)

**[5]****TOTAL SECTION A: 25**

## SECTION B

## QUESTION 4: SYSTEMS TECHNOLOGIES

4.1	CPU / Processor ✓ Hard drive / Storage ✓ Memory / RAM ✓		3	3
4.2	Any TWO benefits:  <ul style="list-style-type: none"> <li>Prevents data loss ✓</li> <li>Protects hardware against power surges / spikes ✓</li> <li>Gives time to save work and shut down properly (in case of load shedding, etc.) (Any 2)</li> </ul>		2	2
4.3	Any TWO disadvantages / limitations:  <ul style="list-style-type: none"> <li>Data input / typing is not fast or easy (compared to physical keyboard) ✓</li> <li>Touch screen can become dirty / oily / smudged ✓</li> <li>Does not work well on a desktop device or in office environment but is good on portable / handheld devices</li> <li>On-screen keyboards reduce screen display area whilst in use</li> <li>Some touch screens need extra pressure to work and may seem unresponsive</li> <li>Quality of the 'touch experience' depends on operating system being used (Any 2)</li> </ul>		2	2
4.4	4.4.1	Printed version of a file (paper) ✓	1	3
	4.4.2	Additional hardware: scanner ✓ Additional software: OCR software ✓	2	
4.5	<ul style="list-style-type: none"> <li>Refers to the use of unique biological / physical characteristics ✓</li> <li>for security / identification / authorisation purposes ✓</li> </ul>		2	2
4.6	The maximum number of pages that can be printed in a month ✓ without the printer failing / breaking. ✓		2	2
4.7	Typical installations: the components of the software that most users want ✓  Custom – you can choose which components to install ✓		2	2
4.8	Any TWO advantages:  <ul style="list-style-type: none"> <li>Accessible wherever there is internet access ✓</li> <li>Accessible from / via a variety of devices ✓</li> <li>Backup and security handled by the service provider</li> <li>Saves space on local storage</li> <li>Allows for files to be synchronised across multiple devices</li> <li>Promotes easier sharing of files</li> <li>Do not lose data if computer is damaged / stolen, etc. (Any 2)</li> </ul> <i>(Note to marker: Do not accept answers related to cost savings.)</i>		2	2
4.9	<ul style="list-style-type: none"> <li>Faster speed ✓ (faster access to drive)</li> <li>Less loading time ✓ (retrieves files faster)</li> </ul> <i>(Note to marker: Also accept – reorganises part of files on a disk.)</i>		2	2

4.10	4.10.1	Blogs are online publishing tools. ✓	1	3
	4.10.2	Bloggers make money through: <ul style="list-style-type: none"> <li>• advertising ✓</li> <li>• sponsorship ✓</li> <li>• subscription</li> </ul> (Any 2)	2	
4.11	Any TWO functions: <ul style="list-style-type: none"> <li>• Provides slots for connecting / adding components / adapters ✓</li> <li>• Provides power to connected components ✓</li> <li>• Allows for communication / data exchange between connected components</li> <li>• Provides connection for external devices via ports, etc.</li> </ul> (Any 2)		2	2
				<b>[25]</b>

**QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES**

5.1	<p>Any TWO differences:</p> <ul style="list-style-type: none"> <li>• Fibre cables use light signals to transmit data, whereas UTP cables use electrical signals to transmit data. ✓</li> <li>• Fibre cables can span much longer distances while UTP cables can only span a certain distance before the signal strength gets weaker. ✓</li> <li>• Fibre cables provide for much faster data transmission than UTP cables.</li> <li>• Fibre cable is immune to eavesdropping.</li> <li>• Fibre is not affected by electromagnetic interference.</li> </ul> <p style="text-align: right;">(Any 2)</p>	2	2												
5.2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>5.2.1</td> <td> <ul style="list-style-type: none"> <li>• 3G ✓</li> <li>• 4G / LTE ✓ (Any 1)</li> </ul> </td> <td>1</td> <td></td> </tr> <tr> <td>5.2.2</td> <td> <p>A hotspot is a location/area where people may obtain internet access, ✓ typically using Wi-Fi technology. ✓</p> <p><i>(Note to marker: Do not accept simply 'access point' without further clarification.)</i></p> </td> <td>2</td> <td></td> </tr> <tr> <td>5.2.3</td> <td> <p>Any TWO limitations / disadvantages of:</p> <ul style="list-style-type: none"> <li>• May have limited or slow access if area has poor coverage ✓</li> <li>• You never really escape communication – information overload ✓</li> <li>• Online privacy or security could be an issue</li> </ul> <p style="text-align: right;">(Any 2)</p> </td> <td>2</td> <td>5</td> </tr> </table>	5.2.1	<ul style="list-style-type: none"> <li>• 3G ✓</li> <li>• 4G / LTE ✓ (Any 1)</li> </ul>	1		5.2.2	<p>A hotspot is a location/area where people may obtain internet access, ✓ typically using Wi-Fi technology. ✓</p> <p><i>(Note to marker: Do not accept simply 'access point' without further clarification.)</i></p>	2		5.2.3	<p>Any TWO limitations / disadvantages of:</p> <ul style="list-style-type: none"> <li>• May have limited or slow access if area has poor coverage ✓</li> <li>• You never really escape communication – information overload ✓</li> <li>• Online privacy or security could be an issue</li> </ul> <p style="text-align: right;">(Any 2)</p>	2	5		
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5.3	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>5.3.1</td> <td>Malware ✓</td> <td>1</td> <td></td> </tr> <tr> <td>5.3.2</td> <td> <p>A type of (spyware) software that records keystrokes as you type. ✓</p> <p>They capture passwords, usernames, account numbers, etc. ✓ (and pass these on to a third party), to commit identity theft. ✓</p> </td> <td>3</td> <td>4</td> </tr> </table>	5.3.1	Malware ✓	1		5.3.2	<p>A type of (spyware) software that records keystrokes as you type. ✓</p> <p>They capture passwords, usernames, account numbers, etc. ✓ (and pass these on to a third party), to commit identity theft. ✓</p>	3	4						
5.3.1	Malware ✓	1													
5.3.2	<p>A type of (spyware) software that records keystrokes as you type. ✓</p> <p>They capture passwords, usernames, account numbers, etc. ✓ (and pass these on to a third party), to commit identity theft. ✓</p>	3	4												
5.4	<p>Any FOUR criticisms:</p> <ul style="list-style-type: none"> <li>• Poor layout – can improve by using headings / separate paragraphs / columns / numbered and bulleted lists, etc. <i>[Must mention at least one relevant issue]</i> ✓</li> <li>• Use of (continuous) uppercase ✓</li> <li>• Use of fonts that are difficult to read ✓</li> <li>• Mixture of fonts ✓</li> <li>• Hyperlink at bottom ('Click here') is not meaningful / easy to understand</li> <li>• Use of graphics not applicable to the content etc. (Any 4)</li> </ul>	4	4												
			<b>[15]</b>												

**QUESTION 6: INFORMATION MANAGEMENT**

6.1	Any TWO advantages of:			
	<ul style="list-style-type: none"> <li>Easier / faster to obtain (e.g. via e-mail, SMS, portable storage, download from www). ✓</li> <li>Do not need to retype or scan data to use or process it. ✓</li> <li>More likely to be up to date (published / distributed faster than hard copy) (Any 2)</li> </ul>		2	2
6.2	6.2.1	Data entered in form fields can be extracted ✓ and saved in a separate text file, for further use.		
		<b>OR</b>		
		Importing into Excel. ✓	1	
	6.2.2	TWO ways to change questionnaire <ul style="list-style-type: none"> <li>Name and Surname field could be split into two separate fields (to facilitate processing, e.g., sorting by surname) ✓</li> <li>Response <i>text field</i> could be changed to a <i>drop-down list</i> (to restrict responses to certain allowed values, thereby facilitating processing). ✓</li> </ul>	2	
	6.2.3	<ul style="list-style-type: none"> <li>Blueprint / framework / skeleton for a specific type of document. ✓</li> <li>Promotes reuse / efficiency, in that only the 'missing' info is filled in (customised). ✓</li> </ul>	2	
	6.2.4	Any TWO advantages of: <ul style="list-style-type: none"> <li>Easier for working with large amounts of data (that may be intractable for a spreadsheet). ✓</li> <li>Better for linking / relating to other data. ✓</li> <li>Better for performing (complex) queries on the data.</li> <li>Better for producing (customised) reports on the data.</li> <li>Better / faster customised data entry / editing (use of forms, default values).</li> <li>Better data validation techniques (e.g., validation rule, input mask, required property).</li> </ul>		
		(Any 2)	2	7
6.3	Plagiarism ✓		1	1
				<b>[10]</b>

**QUESTION 7: SOCIAL IMPLICATIONS**

7.1	<p>TWO steps to prevent unauthorised access:</p> <ul style="list-style-type: none"> <li>• Keep computers with valuable information in locked rooms and control access to the room. ✓</li> <li>• Ensure that the screen and keyboard are disabled when you are away from the computer. ✓</li> <li>• Make sure that the computer requires a login when starting and when waking up from screensaver mode.</li> <li>• Make sure that the computer does not have unrestricted access to the Internet – Internet usage is controlled and monitored by utility software such as firewalls, anti-virus and anti-spyware.</li> <li>• Also ensure that not just any device can make a Bluetooth connection to your device. (Any 2)</li> </ul>	2	2
7.2	<p>Any TWO disadvantages:</p> <ul style="list-style-type: none"> <li>• Constant upgrading of skills / hardware / software needed ✓</li> <li>• Increase in unemployment ✓</li> <li>• Need to work longer hours</li> <li>• Negative impact on environment, etc. (Any 2)</li> </ul> <p><i>(Note to marker: Do not accept answers related to cost issues.)</i></p>	2	2
7.3	<p>Any TWO options:</p> <ul style="list-style-type: none"> <li>• Eye tracking devices ✓</li> <li>• Head movement devices ✓</li> <li>• Large key keyboards</li> <li>• (Large) trackballs</li> <li>• Joysticks</li> <li>• Foot pedal control devices</li> <li>• Sip and puff devices, etc. (Any 2)</li> </ul> <p><i>(Note to marker: Do not accept answers <u>not</u> related to poor motor control)</i></p>	2	2
7.4	<p>Any TWO tips on:</p> <ul style="list-style-type: none"> <li>• Take regular breaks (stand up, look away from the screen, etc.). ✓</li> <li>• Ensure correct ambient lighting in the location (enough light, not directly on screen, no reflections, etc.). ✓</li> <li>• Ensure correct brightness / contrast settings of screen.</li> <li>• Use zoom / magnification features of applications.</li> <li>• Use alternate input / output methods (e.g. voice recognition software [for input], text to speech software [for output])</li> <li>• If you have prescription spectacles for computer work, use them. (Any 2)</li> </ul>	2	2
7.5	<p>Any TWO options:</p> <ul style="list-style-type: none"> <li>• Reduce brightness of screen. ✓</li> <li>• Specify time before computer goes into 'sleep mode' or 'hibernation'. ✓</li> <li>• Choose a balance between performance and power consumption.</li> <li>• Switch off devices / apps not in use, e.g., GPS. (Any 2)</li> </ul>	2	2
			<b>[10]</b>

**QUESTION 8: SOLUTION DEVELOPMENT**

8.1	8.1.1	<p><b><u>Reason</u></b></p> <p>When the formula in cell E3 is copied down (autofilled) to cells E4, E5, etc., ✓ the cell reference of D1 will change (to D2, D3, etc.), when it should remain constant / the same. ✓</p> <p><b><u>How to fix the problem?</u></b></p> <p>Use absolute addressing. ✓</p>	3	9
	8.1.2	<p>= D3 / C3</p> <p>Correct cells used ✓ and divided in correct order ✓</p> <p><i>(Note to marker: Award only 1 mark for = D3 / C3 * 100)</i></p>	2	
	8.1.3	Store names and surnames ✓ in separate columns ✓	2	
	8.1.4	<p>Answer: 0 ✓</p> <p>=COUNTA ✓ (A3:A8)</p>	2	
8.2	8.2.1	So that only <u>uppercase</u> instances of CAT ✓ (e.g. not 'cat') are replaced. ✓	2	4
	8.2.2	So that only <u>exact</u> and not partial matches ✓ (e.g. 'catalogue') are replaced. ✓	2	
	8.2.3	Instances of 'CAT' in bold would be searched for and replaced with 'Computer Applications Technology' (normal text / not bold) ✓ instead of replacing 'CAT' (normal text) with 'Computer Applications Technology' in bold. ✓	2	
				<b>[15]</b>
<b>TOTAL SECTION B:</b>				<b>75</b>



## SECTION C: INTEGRATED SCENARIO

## QUESTION 9

9.1	9.1.1	Any ONE example of:  LibreOffice ✓ OpenOffice  (Any 1)	1	3
	9.1.2	The source code is freely available and can be modified. ✓	1	
	9.1.3	Any ONE example of ( <i>except lower hardware specs</i> ): ✓  <ul style="list-style-type: none"> <li>• More difficult or even impossible to upgrade (e.g. add RAM, replace CPU) ✓</li> <li>• More costly to repair</li> <li>• Keyboard and pointing device (touch pad, pointing stick) can be awkward to use and are not designed for extensive data entry – can contribute to RSI</li> <li>• Heat dissipation can become a problem, especially over time – must disassemble laptop completely to clean out the dust</li> <li>• More fragile and likely to be damaged</li> </ul> (Any 1)	1	
9.2	Any THREE suggestions of ( <i>except adding another hard drive</i> ):  <ul style="list-style-type: none"> <li>• Run the Disk Cleanup utility. ✓</li> <li>• Remove duplicate files / files no longer needed. ✓</li> <li>• Delete 'temp' files (also in web browser). ✓</li> <li>• Compress the drive, or selected files.</li> <li>• Archive files no longer in use, to a secondary storage medium (e.g. DVD).</li> <li>• Uninstall programs no longer used, etc.</li> </ul> (Any 3)		3	3
9.3	9.3.1	Size ✓	1	3
	9.3.2	Any ONE port of:  <ul style="list-style-type: none"> <li>• USB 3.0 ✓</li> <li>• USB 3.1</li> <li>• USB Type-C (or USB-C)</li> <li>• FireWire</li> <li>• Thunderbolt</li> </ul> (Any 1)	1	
	9.3.3	Webcam	1	
9.4	9.4.1	Anti-virus software uses virus 'definitions' (available in 'virus definition files') to detect viruses. ✓  New viruses appear regularly, so it is necessary to update the definition files regularly in order to detect the new viruses. ✓	2	4
	9.4.2	A firewall is set up only to allow or block software. ✓ It does not rely on definition files. ✓	2	
9.5	9.5.1	Pop-up ✓	1	2
	9.5.2	Any ONE reason:  This is a hoax. ✓ More than likely there is a criminal intent to install malware / commit identity theft / fraud, etc.  (Any 1)	1	

9.6	9.6.1	To enable you to work faster (without having to remove your hands from the keyboard and use a mouse or other pointing device to do the same task). ✓	1	2
	9.6.2	Ctrl-Z ✓	1	
9.7	9.7.1	USB ✓	1	3
	9.7.2	Any TWO advantages of ( <i>except cost factors</i> ): <ul style="list-style-type: none"> <li>• Less desk space needed (than separate print / scan devices etc.). ✓</li> <li>• Only one USB port needed. ✓</li> <li>• Can perform functions other than just printing (e.g. scan, fax, copy).</li> <li>• Easier / quicker to integrate functions in one location (e.g. scan and fax a document, without transferring hard copy to two separate devices). (Any 2)</li> </ul>	2	
9.8	Any TWO characteristics: <ul style="list-style-type: none"> <li>• Contains both uppercase and lowercase letters. ✓</li> <li>• Contains mixture of letters and numbers / special characters. ✓</li> <li>• Does not use easily identifiable / predictable words or phrases.</li> <li>• Contains at least 8 characters / the more characters the better.</li> <li>• Does not follow 'patterns' on the keyboard (e.g. 'asdf'), or repeated characters. (Any 2)</li> </ul>		2	2
9.9	THREE reasons why not: <ul style="list-style-type: none"> <li>• Animations don't always enhance the user experience. ✓</li> <li>• It increases the loading time of a website. ✓</li> <li>• Less animations help to minimise user errors. ✓</li> <li>• Less animations contribute to better quality data. (Any 3)</li> </ul>		3	3
			<b>[25]</b>	

## QUESTION 10

10.1	Any TWO software features:			
	<ul style="list-style-type: none"> <li>• Screen magnification ✓</li> <li>• Text to speech (narration) ✓</li> <li>• Larger mouse cursor</li> <li>• Higher contrast settings</li> <li>• Speech recognition for voice control of the computer (Any 2)</li> </ul>		2	2
10.2	The program might not work, ✓ or it might work really slow. ✓		2	2
10.3	It means that the program must have Windows 7 ✓ or any later version installed, ✓ e.g., Windows 8 or Windows 10.		2	2
10.4	To use an application other than the one assigned/designated to open that type of file, ✓ or if there is no default application available to open the file ✓ (no application assigned with that type of file).		2	2
10.5	Any two of:			
	<ul style="list-style-type: none"> <li>• You want to send the file to someone using an older version of the package. ✓</li> <li>• You want to allow users who are using a different operating system to access the data. ✓</li> <li>• You want different programs to be able to read the data. (Any 2)</li> </ul>		2	2
10.6	Any TWO of:			
	<ul style="list-style-type: none"> <li>• The name (or partial name) of the file. ✓</li> <li>• The file type (file extension) as it is a video file – e.g., MP4. ✓</li> <li>• The date it was saved (as it was recently downloaded), or you could specify a date range.</li> <li>• The size of the file as video files are often quite large. (Any 2)</li> </ul>		2	2
10.7	Metadata is 'extra information' about a file. ✓ It helps to organise, find and understand data. ✓		2	2
10.8	10.8.1	Any TWO consequences:		
		<ul style="list-style-type: none"> <li>• A breakdown in user trust ✓</li> <li>• A decrease in efficiency ✓</li> <li>• Reduced morale or motivation</li> <li>• An increased workload</li> <li>• Incorrect or delayed decision-making</li> <li>• Decreased product quality, etc. (Any 2)</li> </ul>	2	
	10.8.2	TWO reasons:		
		<ul style="list-style-type: none"> <li>• Data can be retrieved through methods such as: (accept only 1 answer from the list below) ✓ <ul style="list-style-type: none"> <li>• queries,</li> <li>• sorting or filtering</li> <li>• reports</li> </ul> </li> <li>• Database stores information more efficiently. ✓</li> <li>• Database can handle volumes of information that would be unmanageable in a spreadsheet. (Any 2)</li> </ul>	2	4

10.9	10.9.1	Social engineering refers to the use of deception to manipulate or 'con' someone into giving out confidential information (such as a password or account number) ✓ or into giving access to their computer or premises. ✓	2	
	10.9.2	<p>Two examples:</p> <ul style="list-style-type: none"> <li>• E-mails telling you that you have won a competition (that you never entered). ✓</li> <li>• E-mails offering a job or investment opportunity. ✓</li> <li>• E-mails telling you of a tax refund or an inheritance due to you.</li> <li>• Phishing e-mails asking you to confirm your banking details etc.</li> </ul>	2	4
10.10	<p>Any THREE advantages of social networking sites:</p> <ul style="list-style-type: none"> <li>• An easy and cost-effective method to stay in touch and communicate with friends and family all over the world. ✓</li> <li>• Allows you to send and receive messages, update your 'status' and upload photos and videos. ✓</li> <li>• Allows collaboration and interaction to take place. ✓</li> <li>• Allows people who would normally not meet to interact and form communities.</li> <li>• You are not bound by any geographical and cultural differences.</li> <li>• Can be used as a tool to market a business, service, product, or website.</li> </ul> <p style="text-align: right;">(Any 3)</p>		3	3
				<b>[25]</b>
<b>TOTAL SECTION C:</b>				<b>50</b>
<b>GRAND TOTAL:</b>				<b>150</b>