

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**SEPTEMBER 2019**

**COMPUTER APPLICATIONS TECHNOLOGY P2  
MARKING GUIDELINE**

**MARKS: 150**

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This marking guideline consists of 12 pages.

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

- 1.1 C
- 1.2 A
- 1.3 A
- 1.4 B
- 1.5 D
- 1.6 D
- 1.7 B
- 1.8 A
- 1.9 C
- 1.10 B

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

- 2.1 J
- 2.2 D
- 2.3 M
- 2.4 S
- 2.5 G
- 2.6 B
- 2.7 P
- 2.8 C
- 2.9 A
- 2.10 H

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

- 3.1 True (1)
- 3.2 True (1)
- 3.3 True (1)
- 3.4 False Internet of Things (1)
- 3.5 False Shareware (1)

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

## SECTION B

## QUESTION 4: SYSTEM TECHNOLOGIES

4.1	4.1.1	<ul style="list-style-type: none"> <li>• CPU ✓</li> <li>• RAM ✓</li> </ul>	2	10
	4.1.2	<ul style="list-style-type: none"> <li>• More data/programs can be loaded simultaneously into RAM</li> <li>• No need for virtual memory</li> <li>• Faster access to data (✓✓ any two)</li> </ul>	2	
	4.1.3	<ul style="list-style-type: none"> <li>• SSD is faster</li> <li>• More durable</li> <li>• Uses less electricity</li> <li>• No moving parts</li> <li>• Less noise</li> <li>• SSD becomes cheaper in sub 250GB systems</li> <li>• Etc. (✓✓ any two)</li> </ul>	2	
	4.1.4	<ul style="list-style-type: none"> <li>• Cost saving/Cheaper</li> <li>• (Physical) Space-saving</li> <li>• Less components/no cabling</li> <li>• Uses less power (one component)</li> </ul> ✓✓ (any two or any acceptable answer)	2	
	4.1.5	<ul style="list-style-type: none"> <li>• Better image quality/video/audio</li> <li>• The signals are digital (not analogue)</li> <li>• HDMI cable carries video AND audio (✓✓ any two)</li> </ul>	2	
	4.1.6	<ul style="list-style-type: none"> <li>• Better image quality/video/audio</li> <li>• The signals are digital (not analogue)</li> <li>• HDMI cable carries video AND audio (✓✓ any two)</li> </ul>	2	
4.2	4.2.1	<ul style="list-style-type: none"> <li>• Camera</li> <li>• Touch screen</li> <li>• Bigger screen on phablet</li> <li>• Multi-media capabilities (✓✓ any two)</li> </ul>	2	5
	4.2.2	<ul style="list-style-type: none"> <li>• Via SD card in card reader</li> <li>• Bluetooth</li> <li>• USB cable</li> <li>• Via cloud storage/service (✓ any one)</li> </ul>	1	
	4.2.3	<ul style="list-style-type: none"> <li>• Pinch</li> <li>• Swipe</li> <li>• Zoom/spread</li> <li>• Tap</li> <li>• Double tap</li> <li>• Long press (✓ any one)</li> </ul>	1	
	4.2.4	<ul style="list-style-type: none"> <li>• Iris scanner</li> <li>• Fingerprint scanner (✓ any one)</li> </ul>	1	
	4.2.5	(a) Apple software is proprietary and subject to cost, ✓ whilst Android is open source free of charge. ✓	2	
		(b) <ul style="list-style-type: none"> <li>• MacOS Sierra is well-supported ✓ by developer (Apple)</li> <li>• Android (as open-source) not well supported ✓</li> </ul>	2	
	4.2.6	<ul style="list-style-type: none"> <li>• Better image quality/video/audio</li> <li>• The signals are digital (not analogue)</li> <li>• HDMI cable carries video AND audio (✓✓ any two)</li> </ul>	2	
4.3		<ul style="list-style-type: none"> <li>• Input ✓</li> <li>• Output ✓</li> </ul>	2	2

4.4	The CPU needs cache memory to store frequently or recently accessed data ✓ based on the assumption that it will probably be accessed again soon. ✓	2	2
4.5	<ul style="list-style-type: none"> <li>• 3D printing is much cheaper than conventional manufacturing methods.</li> <li>• 3D printing technology enables home users to have access to machines that can build 3D models.</li> <li>• Parts needed for a project can be made 'on-demand'.</li> <li>• Print a model of a product that does not yet exist.</li> <li>• Customers can inspect a physical model before it is manufactured.</li> <li>• Ordinary users can easily create 3D objects.</li> <li>• Companies may use it in the manufacturing process as it may be more efficient or cost effective. (✓✓ any two)</li> </ul>	2	2
			<b>25</b>

**QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES**

5.1	<ul style="list-style-type: none"> <li>• Faster upload/save time during uploading</li> <li>• Save cap/data bundle</li> <li>• Uses less online storage space (✓✓ any two)</li> </ul>		2	2
5.2	5.2.1	Throttling ✓	1	5
	5.2.2	<ul style="list-style-type: none"> <li>• Quality of the modem/router</li> <li>• The computer might be slow</li> <li>• Network traffic is high</li> <li>• The type of cable used</li> <li>• The capacity the ISP allows per user is low</li> <li>• Distance between the computer and the server of the ISP (✓✓ any two)</li> </ul>	2	
	5.2.3	<ul style="list-style-type: none"> <li>• Certain internet services are given preference ✓ above others thus performance is maintained for more critical services. ✓</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Any suitable situation, e.g. e-mail ✓ should be given higher priority than downloading videos, or blocking torrents at the workplace. ✓</li> </ul>	2	
5.3	A podcast reader is connected to an RSS feed that contains information about the podcast. ✓		1	1
5.4	5.4.1	<ul style="list-style-type: none"> <li>• The chat feature ensures that participants can ask live questions ✓ and respond to questions during the video conference. ✓</li> </ul> <p>OR</p> <p><b>NOTE TO MARKER:</b> Accept wide range of possibilities to <b>interact</b> with audience – award 2 marks ✓✓</p>	2	4
	5.4.2	<ul style="list-style-type: none"> <li>• It is interactive</li> <li>• No travelling between presenter and participant</li> <li>• No special equipment needed, webcam used for broadcasting</li> <li>• Less cost because it is based on people who sign up (✓✓ any two)</li> </ul>	2	
5.5	<ul style="list-style-type: none"> <li>• Ensure that you have up to date anti-spyware/anti-virus software installed.</li> <li>• Many sites requiring secure information are now created so that browsers will warn you if you are re-directed to another site.</li> <li>• Ensure that the site you are accessing is secure/refrain from visiting websites that are doubtful.</li> <li>• Never enter personal or banking details on suspicious websites. (✓✓ any two)</li> </ul>		2	2
5.6	A process in which broadcasting services using traditional analogue technology are replaced with digital technology.		1	1
				<b>15</b>

**QUESTION 6: INFORMATION MANAGEMENT**

6.1	6.1.1	Yes ✓ People rather text and tweet on smartphones than engaging or interacting face-to-face ✓  OR  No People use social media to communicate socially, gain knowledge and learn about different opinions	2	4
	6.1.2	<ul style="list-style-type: none"> <li>• People usually advertise jobs on Facebook</li> <li>• Leave links to job adverts</li> <li>• You can put a CV on Facebook (✓✓ any two)</li> </ul>	2	
6.2		<ul style="list-style-type: none"> <li>• Switch the Internet off while you are working so that it will not interrupt you</li> <li>• Make a timetable for your work</li> <li>• Filter your e-mail by creating categories for example work, friends or family</li> <li>• Use RSS feed to structure the news that you read on the web and that you are not only searching around on the web</li> <li>• Learn to use search engines properly (✓✓ any two)</li> </ul>	2	2
6.3	6.3.1	<ul style="list-style-type: none"> <li>• Plagiarism is the act of passing off someone else's work as your own ✓</li> <li>• Copyright refers to the legal right to make copies ✓</li> </ul>	2	2
	6.3.2	<ul style="list-style-type: none"> <li>• Plagiarism: All work must be properly cited ✓</li> <li>• Copyright: Do not make copies of content without gaining permission first ✓</li> </ul>	2	2
				<b>10</b>

**QUESTION 7: SOCIAL IMPLICATIONS**

7.1	<ul style="list-style-type: none"> <li>Confidential data may leave the school on one of the devices. ✓</li> <li>Malware and viruses could enter the network from a personal device. ✓</li> </ul>		2	2
7.2	7.2.1	<b><u>Definition</u></b> A type of malware designed to encrypt or block access to your computer system and files ✓ <b><u>What is required of a user?</u></b> Pay an amount of money as ransom ✓	2	4
	7.2.2	<ul style="list-style-type: none"> <li>Do not download from suspicious sites</li> <li>Always keep the latest antivirus definitions updated</li> <li>Always keep regular backups in a safe place (✓✓ any two)</li> </ul>	2	
7.3	<ul style="list-style-type: none"> <li>Bitcoins (BTC) are a form of virtual, digital currency. ✓</li> <li>Bitcoins are accepted as a way of payment and can be exchanged for other currencies, products, and services. ✓</li> </ul>		2	2
7.4	<ul style="list-style-type: none"> <li>Consider the source</li> <li>Check the author</li> <li>Check the date</li> <li>Verify the news on supporting sources</li> <li>Read more about the topic</li> <li>Etc. (✓✓ any two)</li> </ul>		2	2
				<b>10</b>

**QUESTION 8: SOLUTION DEVELOPMENT**

8.1	<ul style="list-style-type: none"> <li>Database table (or query)</li> <li>Spreadsheet</li> <li>E-mail contact list</li> <li>E-mail address list</li> <li>Text files</li> </ul> (✓✓ any two)		2	2
8.2	Add an automatic caption ✓ to each image		1	1
8.3	Cell A1 has been formatted to display a whole number. ✓  When the value in A1 is multiplied by 5, the number originally typed in the cell is used for the calculation. ✓		2	2
8.4	A validation rule is a field property that sets limits or conditions on the values that can be entered in the field ✓  Validation text is a custom message that's displayed if invalid data is entered in a field or control where a validation rule exists ✓		2	2
8.5	When the 'eye' symbol is clicked the actual password is revealed instead of the placeholder character ✓		1	1
8.6	8.6.1	It will search ✓ for all text that starts with the word Gold ✓	2	4
	8.6.2	3 ✓	1	
	8.6.3	10 ✓	1	
8.7	<td rowspan = 2>Cell 1</td>  Add the attribute rowspan ✓ and value 2 ✓ to the <td> tag		2	2
8.8	<ul style="list-style-type: none"> <li>Author</li> <li>Subject</li> <li>Company</li> <li>Dates created and modified</li> <li>Size</li> <li>Pages</li> <li>Words</li> <li>Title</li> <li>Tags</li> <li>Comments</li> <li>Template</li> <li>Status</li> <li>Categories</li> <li>Etc.</li> </ul> (✓ any one)		1	1
				<b>15</b>

**TOTAL SECTION B: 75**



## SECTION C

## QUESTION 9: INTEGRATED SCENARIO

9.1	9.1.1	The lowest/minimum possible specifications (hardware/software) ✓ needed for the program to load/run ✓	2	5
	9.1.2	<ul style="list-style-type: none"> <li>Although programs will run with minimum specifications, they will perform optimally with higher specifications</li> <li>Hardware would be relevant/usable for a longer period/will be able to run newer/older versions of the software</li> <li>More resources for multi-task performance</li> <li>Computer would be compatible with a wider range of software/hardware (✓✓ any two)</li> </ul>	2	
	9.1.3	<ul style="list-style-type: none"> <li>To test the program first (for suitability) before buying it</li> <li>Checking to see if the full version is required</li> <li>Checking user friendliness/Quality of the user interface</li> <li>Checking for compatibility with the existing software/hardware (✓ any one)</li> </ul>	1	
9.2	9.2.1	RFID uses radio waves ✓	1	2
	9.2.2	Barcodes uses light ✓	1	
9.3		<ul style="list-style-type: none"> <li>No need to manually type in the URL</li> <li>Fewer errors are made, as when manually entering the URL</li> <li>QR code scanners (software) can be downloaded/used for free</li> <li>Can store extra information such as logos (✓ any one)</li> </ul>	1	1
9.4	9.4.1	<ul style="list-style-type: none"> <li>Lock his office when he is not there</li> <li>Lock the notebook in a safe when not being used</li> <li>Activate alarm/motion sensors when he is not in the office</li> <li>Security guards/gates/burglar bars (✓✓ any two)</li> </ul>	2	4
	9.4.2	<ul style="list-style-type: none"> <li>Facial recognition</li> <li>Fingerprint/Iris/Retinal scan</li> <li>Voice recognition</li> <li>Card with biometric data used in the card reader (✓✓ any two)</li> </ul>	2	
9.5		<ul style="list-style-type: none"> <li>Employee can work more flexible hours and are less stressed</li> <li>More productive because of greater work satisfaction</li> <li>Consideration of environmental issues/social issues like less pollution and traffic on the road</li> <li>Potentially fewer distractions than in a formal office environment/no wasting time travelling to office</li> <li>Telecommuters may prefer less formal environment to work in</li> <li>Saves on the cost of travel and clothing suitable for the work environment (✓✓ any two)</li> </ul>	2	2

9.6	<ul style="list-style-type: none"> <li>• Update content regularly</li> <li>• Use catchy titles/informal style</li> <li>• Ask for and respond to feedback/criticism/comments</li> <li>• The text should be easy to read/correct spelling</li> <li>• Use an attractive template/design</li> <li>• Consistent design/formatting</li> <li>• Choose an easy URL to remember, if possible</li> <li>• Make it possible to sign up for RSS</li> <li>• Write concisely/use short sentences/paragraphs/bulleted lists</li> <li>• Check quality/quantity/relevance of graphics</li> <li>• All links should work</li> </ul> <p><b>NOTE TO MARKER:</b> (Accept any valid reasons for attracting or maintaining interest in the blog) (✓✓ any two)</p>		2	2
9.7	<ul style="list-style-type: none"> <li>• Cost</li> <li>• Bandwidth/speed of connection should be high</li> <li>• Wide network coverage</li> <li>• Whether there are capped and uncapped offerings</li> <li>• The services that are offered by the ISP</li> <li>• Reputation of the ISP</li> <li>• Whether data is carried over into the next month</li> <li>• Whether the ISP offers an anti-virus facility</li> <li>• Whether the ISP is known for a stable connection (✓✓ any two)</li> </ul>		2	2
9.8	<ul style="list-style-type: none"> <li>• Can use lots of data/cap</li> <li>• May not want to accept/install all the updates</li> <li>• Programs which are not used can update, wasting space on the device</li> <li>• Etc. (✓✓ any two)</li> </ul>		2	2
9.9	9.9.1	<ul style="list-style-type: none"> <li>• Scanner</li> <li>• Camera</li> <li>• Scanning mouse (✓ any one)</li> </ul>	1	
	9.9.2	<p>OCR ✓</p> <p>OCR will take a scanned copy/image of a document and convert it ✓ into an editable document.</p>	2	
	9.9.3	<ul style="list-style-type: none"> <li>• Not effective if the scanned document is of a low quality</li> <li>• Not always very accurate</li> <li>• In some cases it cannot distinguish between text and images</li> <li>• Language dependent</li> <li>• Not effective if the quality of the camera is low</li> <li>• Scanning can be slow - depends on the type of scanner and its purpose (✓✓ any two)</li> </ul>	2	5
				<b>25</b>

## QUESTION 10

10.1	10.1.1	<ul style="list-style-type: none"> <li>• Video Conferencing / video calls ✓</li> <li>• Taking selfies ✓</li> </ul>	2	
	10.1.2	Data connection via Wi-Fi ✓ or SIM card ✓  <b>NOTE TO MARKER:</b> Also accept: The tablet can be used for voice calls as well as to connect to a network	2	
	10.1.3	Resolution ✓	1	
	10.1.4	<ul style="list-style-type: none"> <li>• Micro SD refers to a type of memory card ✓</li> <li>• To provide extra storage space ✓</li> </ul>	2	
	10.1.5	It tells you how many (in this instance four) physical CPUs ✓ are on the chip  It can split work between the processors making it possible for the computer to work more efficiently/faster ✓	2	
10.2	10.2.1	<ul style="list-style-type: none"> <li>• Watch multimedia presentations</li> <li>• Watch short videos/YouTube learning resources</li> <li>• Take notes (OneNote with stylus)</li> <li>• Complete electronic assessments (Google Forms)</li> <li>• Do research</li> <li>• Capture survey responses</li> <li>• Reading set work books, etc.</li> </ul> (✓✓ any two or other acceptable answer)	2	
	10.2.2	<ul style="list-style-type: none"> <li>• Use a filter program</li> <li>• Activate the safe search option on the search engine</li> <li>• The educator can download the required web pages and make them available offline</li> <li>• The school LAN can restrict access/Use a proxy server/use a firewall</li> <li>• Educate learners about the dangers of inappropriate content or people</li> <li>• Block personal details of learners if available</li> <li>• Use aliases (avatars) for learners</li> </ul> (✓✓ any two)	2	
	10.2.3	<ul style="list-style-type: none"> <li>• Less paper usage</li> <li>• Less printing</li> <li>• Digitization</li> <li>• Less e-waste</li> <li>• Lower energy costs</li> <li>• Etc.</li> </ul> (✓✓ any two)	2	

	10.2.4	<ul style="list-style-type: none"> <li>You can use the zoom touch features (OR Font size) to increase the size of the text</li> <li>You can increase the brightness of the screen</li> <li>You can increase the contrast of the screen</li> <li>You can use a lighted magnifier glass to increase the virtual size of the screen</li> <li>You can use software to magnify text on the screen</li> <li>You can use text-to-speech software (✓✓ any two)</li> </ul>	2	8
10.3	10.3.1	<ul style="list-style-type: none"> <li>They are not limited to a set amount of data per month</li> <li>They can access the Internet 24/7 without worrying about how much data you are using (✓✓ any two)</li> </ul>	2	4
	10.3.2	A Hard cap is a type of an account that <b>stops</b> ✓ all Internet access once the cap limit has been reached while with a Soft cap the user is <b>allowed some Internet connectivity</b> ✓ after the limit has been reached	2	
10.4	10.4.1	<ul style="list-style-type: none"> <li>Use software that updates your data automatically</li> <li>Backup data only, not programs (have CD or Internet to retrieve these)</li> <li>Use external storage medium (external hard drive)</li> <li>Keep backup in other location in case of theft, fire, etc.</li> <li>Do maintenance of data to have no unnecessary duplicates</li> <li>Archive large files not used often</li> <li>Check that backup works by opening backed up files once in a while. (✓✓ any two)</li> </ul>	2	4
	10.4.2	<ul style="list-style-type: none"> <li>Scheduling when to back up the files</li> <li>Choosing to do a full backup of all the files or just those that have been changed since the last backup</li> <li>Compressing the files to save space on the backup media, etc. (✓✓ any two)</li> </ul>	2	
				<b>25</b>

**TOTAL SECTION C: 50**  
**GRAND TOTAL: 150**