

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

COMPUTER APPLICATIONS TECHNOLOGY P2

2021

MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 20 pages.

SUGGESTIONS AND RECOMMENDATIONS TO MARKERS

- Revisit the questions and the marking guidelines frequently during the marking session.
- It is advisable to read (and re-read) the question frequently together with the candidate's response to check that they correlate, 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 and the answer in the marking guideline.
 - Ask yourself or your senior marker if the response could 'fit' into the marking guideline before allocating the correct marks to the candidate.
 - Accept correct answers that are expressed differently, e.g. the marking guideline states 'slow' and the learner 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>, <u>NAME</u> or <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

QUESTION 1: MULTIPLE-CHOICE

1.1	В	✓	1
1.2	С	✓	1
1.3	D	✓	1
1.4	С	✓	1
1.5	С	✓	1
1.6	А	✓	1
1.7	D	✓	1
1.8	В	✓	1
1.9	А	✓	1
1.10	В	✓	1
Total: [10]			

QUESTION 2: MATCHING ITEMS

	Total: [10]				
2.10	F	✓	1		
2.9	E	✓	1		
2.8	С	✓	1		
2.7	D	✓	1		
2.6	А	✓	1		
2.5	М	✓	1		
2.4	К	✓	1		
2.3	Н	✓	1		
2.2	0	✓	1		
2.1	Р	✓	1		

QUESTION 3: TRUE/FALSE ITEMS

	o marker: In Question, 3.3, and 3.5 candidates need to provide both the word 'False rect term, e.g. False - motherboard, in order to get the mark.)	' and
3.1	True ✓	1
3.2	True ✓	1
3.3	False, size/type/extension ✓	1
3.4	True ✓	1
3.5	False, Antivirus/Anti-malware ✓	1
		[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1.1	Choice:		
	HDD ✓	1	
4.1.2	Reason:		
	(1) Improves performance/speed(2) More RAM will enable working with many programs/data files opened at the same time without slowing the computer down, etc.		
	✓ (Any one)	1	
4.1.3	Choice:		
	Windows 10 Professional Edition ✓	1	
4.1.4	Reason for choosing an operating system		
	(1) Business users will require latest features/security offered by Windows 10		
	(2) Windows 7 is not supported by Microsoft anymore(3) Windows 10 is currently preloaded		
	✓ (Any one)	1	4
4.2	TWO reasons for an entry level CPU		
	(1) An entry level CPU has enough processing power for a computer used in a SOHO ✓		
	(2) It would be an unnecessary expense to get a more powerful CPU that is used to capacity ✓		2
4.3	Software/Hardware used to prevent unauthorised network access		
	Firewall/Router ✓		1
4.4.1	TWO problems that occur when the hard disk drive is full		
	(1) (Getting prompts that) there is no space left/Cannot save anything(2) Thrashing/System is slow(3) System sometimes freezes/crashes(4) Programs do not open		
	✓✓ (Any two)	2	
4.4.2	A system utility used to remove unwanted files		
	Disk Cleanup/CCleaner, etc. ✓ (Accept any other valid response)	1	4

4.4.3	ONE way to free up space on the HDD		
	 (1) Compress (Zip/Archive) files/folders/drive (Do not accept any reference to removing files or defragging) (2) Disable hibernation/Disable System Restore (on Windows 10)/ Change the settings of the virtual memory (Windows 7) 		
	✓ (Any one)	1	
4.5	TWO ways to solve the problem of a PC that will not boot		
	 (1) Re-seat all cards/modules on the motherboard (2) Boot up/Repair/Update/Reinstall the system from an external device, e.g. drive, USB stick or optical drive, etc. (3) Check for and replace faulty hardware 		
	✓✓ (Any two)		2
4.6	Disadvantage of convergence		
	(1) Functionality of many devices is lost if the device fails(2) Difficult to upgrade only one part of the device		
	✓ (Any one)		1
4.7	 TWO reasons to use note-taking software (1) Enables rapid capturing of ideas from a variety of inputs, e.g. video, audio, handwriting, etc. (2) Access on the go/Synchronises notes between devices (3) Realtime collaboration (4) Can synchronise notes and a sound recording (5) Handwriting recognition can convert 'handwritten' notes into typed text (when a stylus/finger is used on a touchscreen) (6) Enables effective searches for items in notes, i.e. text in diagrams 		
	✓✓ (Any two)		2
4.8	TWO functions of a web browser other than viewing web pages (1) Provides a facility to download files/content (2) Manages plug-ins/extensions (3) Stores the link/URL to recently visited web pages (4) Can store favourites/bookmarks/history (5) Provides a pop-up blocker (6) Enables caching (7) Has a feature to block websites (8) Manages data usage (9) Manages proxy settings (10) Acts as a file explorer/opens different types of files/documents (11) Enables video streaming (12) Allows SaaS (software as a service)		
	✓✓ (Any two)		2

4.9.1	TWO challenges when updating software		
	 May consume too much data Automatic updates could slow down the computer/reduced performance Features could be removed Could be time consuming Updates could be interrupted/corrupted Cannot use software/applications while updating 		
	Accept: Bugs/Security loopholes could be introduced to software/Software could become unstable		
	✓✓ (Any two)	2	
4.9.2	ONE way to ensure computer does not update while it is in use		
	Set a suitable time for updates ✓ /Use Task Scheduler	1	3
4.10	Reason for not successfully saving with Send to and solution		
	Reason: This action will only create a shortcut, and not save the actual file to desktop ✓		
	Solution: (1) Copy and paste to the desktop (2) Open the document and save it to the desktop ('File Save As') (3) Click and drag to the Desktop if already saved elsewhere		
	✓(Any one)		2
4.11	TWO solutions for voice recognition software not understanding		
	 (1) Change/Replace/Check the microphone (2) Adjust the gain on the microphone (3) Reduce background noise (4) Try to speak clearer/slower (5) Spend time training the voice recognition software (6) Update the driver/reset the hardware 		
	✓✓ (Any two)		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	TWO advantages of grid computing		
	 (1) Ability to use many combined resources (2) The use of a combination of resources saves time and money (Do NOT accept 'saves time/money' only – must be qualified) (3) Solves complex problems that need a huge amount of processing power (4) If one computer fails, the task can be taken over by another computer 		
	✓✓ (Any two)		2
5.2.1	Identify devices in a network		
	A – Switch/Router/Hub ✓ B – (Print/NAS) Server ✓ (Accept main computer) C – Router/Modem/Gateway ✓	3	
5.2.2	Type of network for D		
	LAN/HAN ✓ (Accept client-server network)	1	4
5.3	TWO reasons to turn off Bluetooth if connectivity is not required		
	 (1) May interfere with other wireless signals (2) Avoid being tracked (3) Reduces the possibility of hacking attacks/more secure (4) Prevent auto-connect (to other paired devices) (5) Saves battery power 		
	✓✓ (Any two)		2
5.4	 TWO changes to make a password more secure (1) Include at least one special character (Accept an example of a special character) (2) Include at least one upper case character (3) Change the repeating characters 		
	✓✓ (Any two)		2
5.5	Reason for an OTP sent to your smartphone		
	 (1) To continue using the service/To ensure only the authorised/allowed user is using the account (2) Extra layer of security that will prevent use of the service if login details are stolen (3) 2-step/factor authentication 		
	✓ (Any one)		1

5.6	Reason for using Bcc feature in e-mails	
	To hide the addresses of some other recipients/To hide the fact that the e-mail was sent to more recipients ✓	1
5.7	Communication medium used for undersea cables	
	(Optical) fibre ✓/Fibre (optic)	1
5.8	TWO disadvantages of FTP technology (1) More complex/Transfer process may be more complicated than using drag-and-drop methods (2) Modern web browsers are dropping support for FTP (3) In some cases, one has to resort to specialised software (4) FTP lacks security/can be vulnerable to hacking (5) Interruptions and restarting may slow down the process	
	✓✓ (Any two)	2
		[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	TWO ways to detect plagiarism in a learner's PAT		
3.1	 (1) Search for specific sentences from the PAT on the internet to check for the original source/Check internet search history (2) Investigate if no references were given (3) Look for words or phrases that seem beyond the ability of the learner/Americanisms/Some sentences do not seem to fit with the style of the writing (4) Compare work from different learners for similarities (5) Check learner's previous files/folder activity or phases to verify authentic work (6) Use online plagiarism software (Accept valid plagiarism detection services, e.g. Turnitin, SafeAssign, etc.) 		
	✓✓ (Any two)		2
6.2	TWO ways that make a chart/graph easier to interpret (1) Add a chart title/heading (2) Use legends (3) Use axes/series labels (4) Use gridlines (5) Add data labels (6) Add colours (7) Use trend lines (8) Select appropriate chart type		
	✓✓ (Any two)		2
6.3.1	TWO advantages of using drop-down form fields in an electronic questionnaire (1) User is restricted to options given (2) Easier to process the data from the responses (3) Reduce spelling errors (4) Quicker to answer the questionnaire than typing answers (5) Save space on the questionnaire ✓✓ (Any two)	2	
6.3.2	Option that should be removed from the drop-down box and reason why Longer than five days ✓		
	Motivation Partial overlap with 'Three days or more' ✓	2	4

6.4	TWO ways to ensure logical grouping and flow of information in a formal report	
	 Use (numbered) headings/subheadings to group related information in paragraphs Use a Table of Contents as an overview of the document structure Note the order of precedence, e.g. never start with a conclusion ahead of findings, with findings ahead of project background, etc. Remain consistent, e.g. each finding should be linked to the evidence in the same order 	
	✓✓ (Any two)	2
		[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1	Definition of social engineering	
7.1	Definition of Social engineering	
	The act of misleading/manipulating people ✓ to obtain confidential information ✓ for fraudulent purposes	2
7.2	TWO negative implications for a company of employees using work computers for private tasks	
	 (1) Less time for work purposes/Waste of time/Lower productivity (2) Possible loss of revenue/profits for the employer (3) Risk of malware infecting computers (4) Employer may be liable for crimes committed from the workplace (5) <u>Data costs</u> for the employer may rise (6) Company information may be hacked (7) Reputational risk to the company 	
	✓✓ (Any two)	2
7.3	ONE software technology used with cameras to identify criminals	
	 Artificial Intelligence (AI) to enhance quality of images Push technology to alert user when movement is sensed by the camera/to identify the size of moving object or suspicious movement Facial recognition/thermal imaging Number plate/license plate recognition 	
	✓(Any one)	1
7.4	TWO strategies to discourage cyberbullying (1) Report the offender (2) Block the offender from contacting them (3) Do not respond to taunts/messages from the bully (4) Avoid/Be selective in your use of social media/Do not initiate a discussion that could lead to cyberbullying of anyone (5) Do not make controversial posts that may open you up to harassment	
	✓✓ (Any two)	2
7.5	ONE reason for unknowingly trusting a program containing a Trojan	
	Program containing a Trojan pretends to be a useful program ✓	1

7.6.1	Term to describe furniture design in a working environment		
	Ergonomics ✓	1	
7.6.2	Health benefit of the advertised chair		
	 (1) Provides back support to prevent backache (2) Allows the user to sit comfortably for longer periods/improves productivity (3) Adjustable height (4) Head rest for neck support 		
	✓(Any one)	1	2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1	TWO methods to set the indents in a word processing document	
	 (1) Use the ruler (2) Use the paragraph dialog box/Indentation option in paragraph dialog box (3) Use a tab dialog box (4) Use a style 	
	(5) Use the Increase Indent/Decrease Indent button on the ribbon	
	✓✓ (Any two)	2
8.2	ONE example of formatting restriction in an electronic form	
	 (1) Prevent formatting changes (Read-Only) (2) Force all changes to be tracked (3) Allow comments only (4) Allow only the filling in of the form (5) Limit formatting to a selection of styles 	
	✓(Any one)	1
8.3	Reason why an existing file does not show in the file list/dialog	
	(1) 'All files' option is not selected from the list of extensions in the Open dialogThe file has a hidden attribute set(2) Wrong application/folder/drive is used when trying to find the file	
	✓(Any one)	1
8.4	Purpose of a small square in the bottom right corner of cell C1	
	To perform an Auto Fill/copy function ✓ by dragging or double-clicking	1
8.5	Reason for absolute cell reference in VLOOKUP table range	
	So that if the VLOOKUP function is copied and pasted the range being checked will not change ✓/So that it can copy down correctly	1
8.6	Processing that was done to the original data	
	(1) Sorting according to Department first ✓(2) Then sorted by Number_in_Stock ✓	
	(Note to marker: Allocate only one mark if reference has been made to sorting but is not specified)	2

8.7.1	Reason why a merge field cannot be inserted		
	(1) The data source (Recipients) is not linked/connected/created/ selected(2) Incorrect data source		
	✓ (Any one)	1	
8.7.2	Reason why some expected records do not display in Mail Merge		
	(1) Errors in creating the filter or recipient list(2) Some data is missing from the data source		
	✓ (Any one)	1	2
8.8.1	Objects on which database queries can be based		
	(1) Tables (2) Queries		
	✓ (Any one)	1	
8.8.2	How to view the name of the object on which a query is based		
	Open the query in Design View and view the name of the object in the Table row ✓ /The name of the object will appear above the field list in Design view	1	2
8.9	Diagram of table in HTML		
	DESCRIPTION Item 2 Item 1		
	 Mark distribution: (1) Correct diagram of a table structure: 2 rows x 2 columns, 1st row merged ✓ (2) Correct labels ✓ 		
	(3) Correct order: Description, Item 2, Item 1 ✓		3
			[15]

TOTAL SECTION B: 75

SECTION C: INTEGRATED SCENARIO

QUESTION 9

9.1	TWO reasons for using ICTs to record/manage health screening data		
	 Capture data more efficiently/Devices can record data/Reduce queues when capturing data Easier to share data Easier to see patterns Processing/Analysing the data is easier Green computing, saves paper Less handling of paper to reduce the spread of the virus/ ICTs can be easily sanitised 		
	✓✓ (Any two)		2
9.2.1	TWO reasons for a tablet over a laptop for health screening		
	 (1) Tablet is smaller, which makes it more portable and easier to handle while moving around (2) Tablets generally have a longer battery life (3) Input can be faster with a touch screen (4) Graphical input, e.g. barcodes, QR codes (5) Tablets are easier to sanitise (6) Low-end tablets will generally be cheaper than laptops, in this context 		
	✓✓ (Any two)	2	
9.2.2	TWO specifications when buying a tablet		
	 (1) Wi-Fi/Cellular/Bluetooth connectivity (2) Front and rear facing cameras (3) Expandable storage/Size of internal storage (4) Battery life (5) (Screen) size/resolution (6) RAM (7) CPU (8) Software version/Current operating system 		
	✓✓ (Any two)	2	4

9.3.1	ONE way for the tablet to communicate with the server		
	(1) Can be connected via Wi-Fi/Wi-Fi access point(2) Use a USB cable to connect the tablet directly to the server		
	✓ (Any one)	1	
9.3.2	TWO ways to solve the problem of the tablet not connecting		
	 Install an access point closer to the where the tablet is used Restart network devices Move the tablet to a better line of sight to the access point Install range extender/repeater/boost signal strength Set tablet to Wi-Fi Always On/connect automatically/by default 		
	✓✓ (Any two)	2	3
9.4.1	Spreadsheet feature to remove unnecessary spaces in the headings		
	Find and Replace ✓	1	
9.4.2	Spreadsheet feature to automatically highlight a value		
	Conditional formatting ✓	1	
9.4.3	Spreadsheet function to determine number of learners with a cough		
	COUNTIF ✓	1	3
9.5.1	THREE improvements that could be made to Date of birth field		
	 (1) Change Data Type to Date/Time (2) Set Format to Short/Long date (3) Show Date Picker (4) Add a validation rule to limit input to relevant dates (5) Use an input mask to ensure correct format 		
	✓✓✓ (Any three)	3	
9.5.2	Reason for filling in Description options in database table		
	Enables understanding the data required for the records in the database ✓ /Maintenance purposes	1	4
	•		•

9.6	TWO reasons to make a cloud backup of data		
	 (1) Data can be accessed from any device with access to the internet anywhere in the world (2) Backup is at a remote location (Accept any reference to the reasons for offsite backup, e.g. theft, fire, virus, etc.) (3) More secure than removable drives/No physical damage 		
	(Do NOT accept: Free up space on the hard drive)		
	✓✓ (Any two)		2
9.7	TWO ways for school to share health information electronically		
	 (1) Attached the data to an e-mail/WhatsApp/SMS/MMS/Fax (2) Provide access/send a link to the data in a folder on a shared drive (3) Provide the District Office with an electronic storage medium that contains the data (4) Upload data to a central database (via an app) 		
	✓✓ (Any two)		2
9.8.1	Service that makes sharing of long web addresses easier		
	URL shortener ✓ e.g. Bitly, TinyURL, etc. (Accept any other valid response)	1	
9.8.2	TWO ways in which fake information is made to seem believable		
	 (1) Experts are incorrectly cited or referenced (2) Pretends to be from a reliable author (3) Information presented in a professional/technical format that seems to be reliable (4) Sometimes shared by people you normally trust on social media (5) 'Made up' statistics made to seem believable 		
	✓✓ (Any two)	2	
9.8.3	TWO ways to avoid being fooled by fake information		
	 (1) Check information accuracy against other sources (2) Check the credibility of the author (3) Look for bias (4) Use checking services such as Snopes (5) Check the spelling and grammar 		
	✓✓ (Any two)	2	5
	'	1	[25]

QUESTION 10

10.1.1	Definition of m-learning		
	Education and training delivered <u>over the internet</u> ✓ using <u>mobile devices</u> such as tablets/laptops/smartphones ✓ that can be accessed <u>anywhere/anytime/at home</u> ✓	3	
10.1.2	TWO kinds of e-learning resources		
	 (1) Online lessons/virtual meetings/streaming of lessons/webinars, etc. (2) (Educational) videos/images (3) E-books/electronic notes, etc. (4) Online quizzes and tests (5) Simulation apps (6) Podcasts/audio files/pre-recorded lessons (7) Tutoring apps 		
	(Note to marker: Do NOT accept examples such as: Zoom, Google Classroom, etc.)		
	✓✓ (Any two)	2	
10.1.3	TWO examples of virtual reality (VR) enhancing learning		
	(1) Go on virtual 3D educational tours(2) Simulate science experiments, etc.(3) Can develop skills through simulations, e.g. flight simulator		
	✓✓ (Any two)	2	
10.1.4	TWO word processing features for feedback		
	(1) Comments(2) Track changes(3) Highlights/Different font colours to indicate issues(4) Hyperlinks/Embed links		
	✓✓ (Any two)	2	9
10.2	Term for concept of lack of access to ICTs		
	Digital divide ✓		1

		1	
10.3.1	TWO advantages of using the ISP for the website		
	(1) No need for extra local storage space/server		
	(2) Maintenance of hardware/software is outsourced		
	(3) Reduced downtime		
	(4) Separate internal and external networks		
	(5) School does not need to have a server with a fixed IP address		
	(6) Easily scalable		
	✓✓ (Any two)	2	
10.3.2	TWO reasons for image not displaying in a browser		
	(1) Picture resource is not available/deleted		
	(2) Picture is in another folder		
	(3) Browser security may be blocking the picture		
	(4) Browser settings do not show pictures to limit data usage		
	(5) Browser does not recognise the file type associated with the image		
	(Note to marker: Do not accept any reference to HTML code or misspelt		
	file extension.)		
	✓✓ (Any two)	2	
10.3.3	Reason why website displays differently on smartphone screens		
	Layout of the webpage may not have been designed for a smartphone/		
	smaller screen ✓	1	5
10.4.1	Reason for having broadband connection for e-learning		
	(1) High speed access to the internet		
	(2) Always on		
	(3) Large volumes of data		
	✓ (Any one)	1	
10.4.2	Advantage of unshaped line for e-learning		1
	No other services will be given preference over downloading learning		
	material. \checkmark /Line speed will not be negatively affected	1	
		<u> </u>	-
10.4.3	A way to avoid information overload		
	(1) Give priority to certain tasks		
	(2) Take regular breaks from your devices/Do not check your		
	smartphone all the time		
	(3) Organise school work according to subject		
	(4) Limit the number of links followed		
	✓ (Any one)	1	3
		1	1

10.5	TWO criteria to determine if devices are usable for learning		
	 (1) Devices are in good working order (2) Devices are not too old/Compatible with current software/Compatible with school programs (3) Have enough storage space for necessary software (4) All the connected hardware is included, e.g. mouse, keyboard, charger, etc. (5) OS/Application software is licenced 		
	✓✓ (Any two)		2
10.6	TWO technologies used to control stock		
	(1) RFID tags(2) Barcodes(3) Scanners to read tags/barcodes(4) Database (of stock items)		
	✓✓ (Any two)		2
10.7.1	ONE reason why a database is more suitable than a spreadsheet		
	 (1) Ease of capturing through forms (2) Queries based on criteria (3) Easy to do reports (4) Use of functions/calculations in a summary/report (5) Data does not require extensive 'number-crunching'/calculations 		
	✓ (Any one)	1	
10.7.2	ONE way to transfer graph data from database to spreadsheet without retyping		
	Import the data from a database/Export the data to a spreadsheet ✓ / Copy and paste the data to a spreadsheet	1	
10.7.3	ONE way to ensure that graph updates in word processor if spreadsheet data changes		
	Link the graph ✓/Select update	1	3
			[25]

TOTAL SECTION C: 50

GRAND TOTAL: 150