

Confidential



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

NOVEMBER 2025

MARKS: 150

TIME: 3 hours

This question paper consists of 16 pages.

INSTRUCTIONS AND INFORMATION


1. This question paper consists of:

SECTION A (25)
SECTION B (75)
SECTION C (50)
2. Answer ALL the questions.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. Do NOT write in the right-hand margin of the ANSWER BOOK.
6. Leave a line after EACH subquestion.
7. Generally, one mark is allocated per fact; therefore, a 2-mark question would require TWO facts, etc.
8. Read the questions carefully. Do NOT give more answers than the question requires as it will NOT be marked.
9. All answers MUST be related to Computer Applications Technology.
10. Unless otherwise specified, answers such as 'cheaper', 'slower'/'faster', etc. will NOT be accepted.
11. Do NOT use brand names in your answers, unless specifically required.
12. Write neatly and legibly.

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

Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1 to 1.10) in the ANSWER BOOK, e.g. 1.11 D.

- 1.1 Which ONE of the following file extensions represents a compressed file?
- A .wav
 - B .rtf
 - C .bmp
 - D .zip
- (1)
- 1.2 Which ONE of the following is NOT netiquette?
- A Proofread the e-mail before sending
 - B Not adding a subject line to the e-mail
 - C Make sure there are no large attachments
 - D Be concise in the content of the e-mail
- (1)
- 1.3 Which communication medium is used in a PAN?
- A Bluetooth
 - B WiMax
 - C Fibre optics
 - D Microwaves
- (1)
- 1.4 Which statement about a touch screen is FALSE?
- A Allows natural input, such as gestures
 - B Serves as both a mouse and keyboard
 - C Unlimited simultaneous physical touches
 - D Standard device on most mobile devices
- (1)
- 1.5 What is the primary function of a firewall?
- A Protects against unauthorised access
 - B Removes malware from the computer
 - C Only allows incoming communication
 - D Prevents software piracy activities
- (1)
- 1.6 If the display of text by a projector appears to be too light or too dark, the ... setting can be adjusted.
- A brightness
 - B contrast ratio
 - C resolution
 - D aspect ratio
- (1)

- 1.7 A dedicated device which performs calculations and executes instructions necessary to display animations and videos:
- A CPU
 - B GPU
 - C NIC
 - D RAM
- (1)
- 1.8 What would the following paragraph setting be used for in a word processing document?
- 
- A To adjust alignment of text between lines
 - B To adjust spacing of text in a paragraph
 - C To adjust indentation of text in a paragraph
 - D To adjust spacing between lines of text
- (1)
- 1.9 Why would some mobile users avoid a video call?
- A Cameras only capture and send images
 - B Rapid decrease of storage capacity
 - C Rapidly reaches available cap
 - D Users are not concerned about privacy
- (1)
- 1.10 Which ONE of the following criteria for a query will display ALL netball players who are NOT in Grade 10?
- A Sport = "Netball" OR Grade <> 10
 - B Sport = "Netball" AND Grade <> 10
 - C Sport = NOT LIKE "Netball" AND Grade = 10
 - D Sport = "Netball" AND Grade >= 10
- (1)
[10]

QUESTION 2: MATCHING ITEMS

Choose a term/concept from COLUMN B that matches the description in COLUMN A. Write only the letter (A–T) next to the question numbers (2.1 to 2.10) in the ANSWER BOOK, e.g. 2.11 U.

COLUMN A		COLUMN B	
2.1	Provides battery backup only for a short period of time to prevent data loss	A	website
		B	crowd funding
2.2	A compromised computer being remotely controlled by a hacker	C	botnet
		D	ROM
2.3	The trend whereby different household devices are connected to one another	E	blogs
		F	COUNTIFS
2.4	A software application used to view and explore pages on the web	G	theme
2.5	A wireless technology used to make wireless payments if the devices are close to the POS	H	solar
		I	big data
2.6	A type of memory that stores data and instructions permanently	J	IF
		K	browser
2.7	Multiple software updates installed simultaneously	L	patch
2.8	Online platforms where many people contribute to a project financially	M	style
		N	zombie
2.9	A feature that uses multiple settings to format an entire document with certain fonts, colour schemes and effects	O	RFID
		P	service pack
2.10	A spreadsheet function that chooses one of two options based on a condition	Q	NFC
		R	UPS
		S	RAM
		T	IoT

(10 x 1)

[10]

QUESTION 3: TRUE/FALSE ITEMS

Indicate whether the following statements are TRUE or FALSE. Write 'true' or 'false' next to the question numbers (3.1 to 3.5) in the ANSWER BOOK. Correct the statement if it is FALSE by changing the underlined word(s) to make the statement TRUE. (Do NOT simply use the word 'NOT' to change the statement.)

NO mark will be awarded if only FALSE is written.

EXAMPLES:


QUESTION	ANSWER
Computer program instructions are executed by the <u>CPU</u> .	True
An <u>NIC</u> has slots for hardware components, such as the CPU.	False, motherboard

- 3.1 The snipping tool utility can be used to capture a portion of the screen. (1)
- 3.2 Digital divide refers to the ongoing transformation of society and industry, driven by the convergence of digital, physical and biological technologies. (1)
- 3.3 The MAX function can be used to find the second highest value in a list. (1)
- 3.4 Intellectual property refers to the ownership of an idea or design that is protected by copyright and patent laws. (1)
- 3.5 The special character that prevents a line break from occurring between two words or characters is known as a non-breaking hyphen. (1)

[5]

TOTAL SECTION A: 25

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

- 4.1 Learners at a school were provided with flash drives.
- 4.1.1 Name the technology that automatically detects new hardware and installs a driver. (1)
- 4.1.2 During which stage in the information processing cycle is a flash drive used? (1)
- 4.1.3 Give TWO reasons why a flash drive is NOT suitable for archiving files. (2)
- 4.2 Give TWO reasons why a motherboard is important. (2)
- 4.3 Explain TWO uses of a recycle bin. (2)
- 4.4 What do **A** and **B** in the path below represent? (2)
- 
- 4.5 A school must have a backup policy to prevent data loss.
- 4.5.1 Explain TWO ways in which data loss can take place. (2)
- 4.5.2 Suggest TWO guidelines that must be included in a backup policy regarding storage media. (2)
- 4.6 Explain what a *Creative Commons (CC) licence* is. (2)
- 4.7 State TWO ways of locating a video file if the user is unsure of the date on which the file was saved. (2)
- 4.8 Name the accessibility feature that is available for users experiencing challenges pressing multiple keys on a keyboard. (1)
- 4.9 What does the term *ergonomically designed* mean? (2)
- 4.10 Your monitor's light is on, but nothing displays on the monitor. Give TWO troubleshooting tips you can follow to solve the problem. (2)
- 4.11 Explain the process used by a 3D printer to create objects. (2)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

- 5.1 What is a *podcast*? (2)
- 5.2 Name TWO services, apart from internet access, that an ISP can offer. (2)
- 5.3 Explain ONE effect that an acceptable use policy (AUP) has on a user when using streaming services. (1)
- 5.4 Discuss ONE benefit and ONE limitation of using cloud computing. (2)
- 5.5 State TWO disadvantages of purchasing from an online store rather than a physical store. (2)
- 5.6 Name any TWO mobile internet technologies that can be used for connecting remotely to a company's network. (2)
- 5.7 Which TWO aspects should you consider when creating a website such that it is accessible to visually impaired users? (2)
- 5.8 Explain TWO reasons why incognito/in-private browsing benefits a user. (2)
- [15]**

QUESTION 6: INFORMATION MANAGEMENT

6.1 A user uses a URL shortening service.

State TWO benefits of using a URL shortening service. (2)

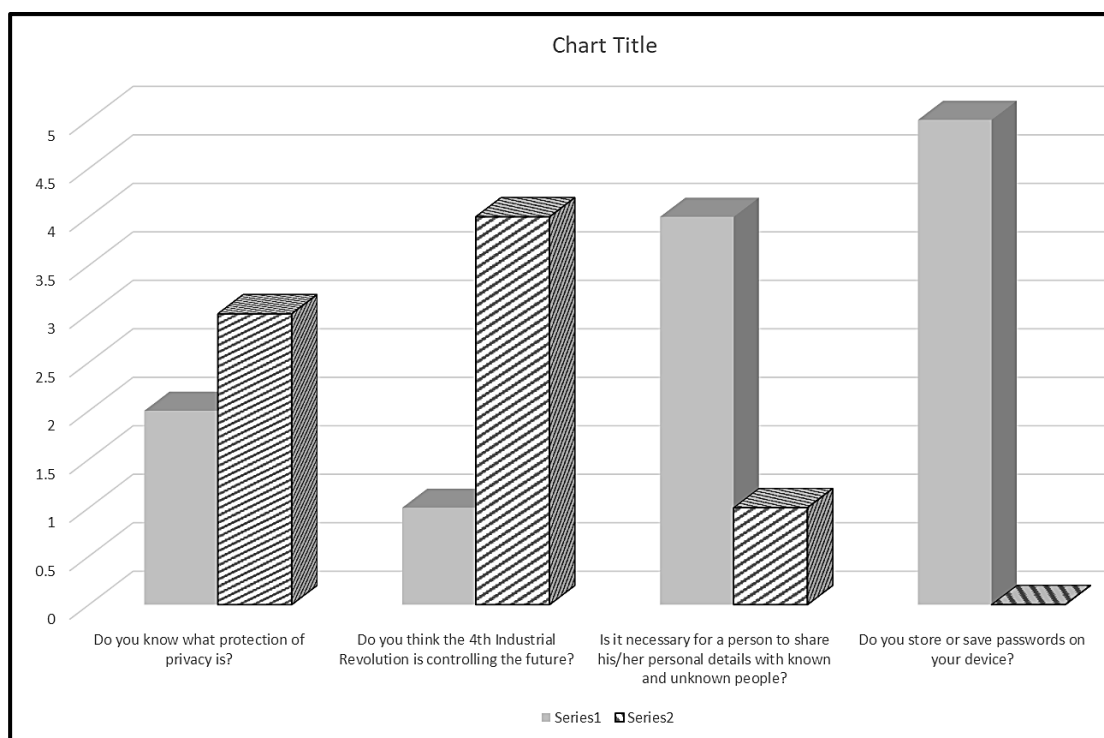
6.2 Name TWO elements of a report that must be included in your final practical assessment task (PAT) report. (2)

6.3 State TWO criteria you should consider when evaluating the reliability of an online source. (2)

6.4 When working on your PAT, it is important to create a suitable folder structure.

State TWO factors that you need to consider when creating your folder structure. (2)

6.5 Study the chart below showing a summary of responses on a questionnaire.



Give TWO reasons why it is difficult to interpret the chart.

(2)
[10]

QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Define the term *click-jacking*. (2)
- 7.2 Name and briefly describe ONE type of e-mail threat. (2)
- 7.3 Discuss TWO ways in which you can protect yourself from online harassment. (2)
- 7.4 Describe TWO privacy issues that individuals can experience when businesses use their information in big data. (2)
- 7.5 Briefly explain TWO long-term impacts of software piracy on the global software industry. (2)
- [10]**

QUESTION 8: SOLUTION DEVELOPMENT

8.1 State the actions you have to perform in a word processing document prior to creating EACH of the following:

8.1.1 An automatic table of figures displaying all diagrams (1)

8.1.2 An automatic index to display an alphabetic list of words (1)

8.2 What is the difference between an *embedded object* and a *linked object*? (2)

8.3 A teacher captured learners' marks in a spreadsheet, as shown in the screenshot below. Levels 1 to 7 in **column D** are determined by the percentage that the learners obtained in **column C**.

	A	B	C	D
1			Percentage	Level
2	1	Halley, Sevres	29	1
3	2	Town, Lindiwe	33	2
4	3	Bergen, Erik	47	3
5	4	Draco, Elizabeth	56	4
6	5	Buck, Bongiwé	65	5
7	6	Van Tonder, Gert	73	6
8	7	Salos, Ruphus	82	7
9				

8.3.1 Name a function, other than a LOOKUP function, that was used to determine the correct level for each percentage. (1)

8.3.2 Which spreadsheet feature was used to complete the list of numbers in **column A**? (1)

8.4 You received a spreadsheet from a friend, but can only enter data in certain cells. You receive a pop-up message when trying to work in other cells.

Give ONE reason why you are only able to work in certain cells. (1)

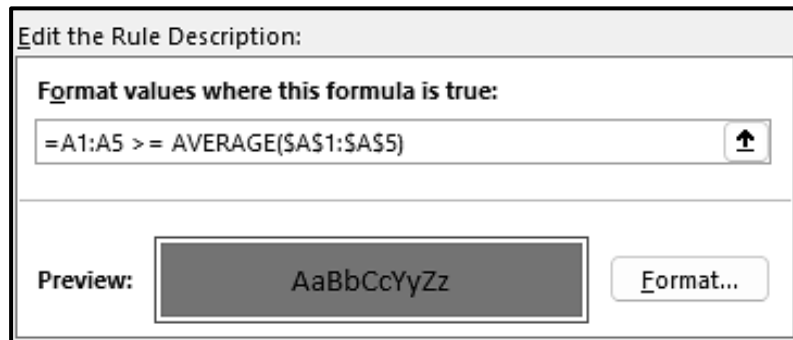
8.5 The following fields were used in a database table to store the records of the learners participating in various sports:

Field Name	Data Type
Surname	Short Text
Date_Of_Birth	Date/Time
Age	Number
SportType	OLE Object

8.5.1 Suggest a more suitable data type for the *SportType* field. (1)

8.5.2 Why should you NOT make the field size of the *Surname* field less than 10? (1)

8.6 Study the screenshot of a conditional formatting rule in a spreadsheet.



Briefly explain the result of the rule that was applied to **cells A1:A5**. (2)

8.7 Study the HTML code below, which is used to place the image **Well done.jpg** on a web page.

```
<img src = "Well done" alt = "Top achiever" width = "100" height = "75" />  
<a href = "#Stars"> They brought us pride </a>
```

- 8.7.1 Give TWO reasons for setting the width and height attributes in the image tag. (2)
- 8.7.2 Why would the image NOT display on the web page? (1)
- 8.7.3 What does "#Stars" in the <a>... tag refer to? (1)
- [15]**

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

Mr Brown is establishing a coding and robotics club at the school. The club will consist of learners from all grades and volunteer teachers.

- 9.1 The club needs laptops. Mr Brown submitted TWO quotations for laptops to the school governing body.

Quotation 1

- 15.6" FHD IPS 165 Hz display
- 16 GB RAM and 1 TB HDD storage
- Intel Core i5-1135G7
(4 cores, 2.4 GHz to 4.2 GHz)
- 802.11 b/g/n
- 3-year warranty (upon registration)
- Free AVG Antivirus
- Windows 11
- Office 2019
- Scratch software

Quotation 2

- 14.0" 16:10 OLED display
- 32 GB RAM and 1 TB SSD storage
- Intel Core i7-1255U
(10 cores, 1.7 GHz to 4.7 GHz)
- 802.11 b/g/n
- 3-year warranty (upon registration)
- Free AVG Antivirus
- Windows 11
- Office 365
- MakeCode software

- 9.1.1 Which operating system is installed on both laptops? (1)
- 9.1.2 State TWO functions of an operating system. (2)
- 9.1.3 Give TWO reasons why Quotation 2 is better than Quotation 1. (2)
- 9.1.4 What is the purpose of the 802.11 specification? (1)
- 9.1.5 State ONE disadvantage that can be associated with using the type of antivirus indicated in the quotations. (1)
- 9.2 The new laptops need to be set up in a network.
- 9.2.1 Why is a WAN NOT a suitable type of network for these computers? (1)
- 9.2.2 Suggest a network communication medium that the club can use. Motivate your answer. (2)
- 9.2.3 Explain TWO ways in which the club can ensure ethical use of the network. (2)

9.3 The learners are allowed to bring their own computing devices for their projects.

9.3.1 State TWO disadvantages of BYOD for the club. (2)

9.3.2 A learner's device does not respond when he/she tries to open a video file.

State TWO ways in which this problem can be resolved. (2)

9.4 An incomplete spreadsheet is used to capture the total number of hours spent at the club.

	A	B	C	D	E	F
1	Coding and Robotics Club					
2		Monday	Tuesday	Wednesday	Thursday	Friday
3	Week 1	1:42	1:00	2:10	1:30	0:45
4	Week 2	0:50	1:50	1:15	2:00	1:00
5	Week 3	1:30		3:00	1:12	0:56
6	Week 4	1:45	0:33	1:00		2:00
7	Total time	#NAME?				
8						

To calculate the total number of hours spent at the club on Mondays, the function **=SUMS(B3:B6)** was entered in **cell B7**, but it gives an error message.

9.4.1 What does the **#NAME?** error message in **cell B7** indicate? (1)

9.4.2 The spreadsheet data is copied into a word processing document, but not all the columns are visible on the page.

Without changing the font size, state TWO ways in which the learners can adjust the table so that all the columns appear. (2)

9.5 Spreadsheet data will be displayed within the body section of an HTML document.

What is the purpose of the `<body>` tag in HTML? (1)

9.6 Learners use online social networks to do research and to solve problems.

9.6.1 State TWO advantages of being part of online social networks. (2)

9.6.2 Why is cybersecurity important while learners are using online social networks? (1)

9.7 During the competition, plagiarism leads to immediate disqualification.

Briefly explain the concept *plagiarism*. (2)

[25]

QUESTION 10: INTEGRATED SCENARIO

A welcoming committee needs to organise an orientation week for 150 Grade 8 learners. The learners will be placed into specific groups that will participate in different activities.

- 10.1 The committee chairperson will do a presentation at the welcoming ceremony in the school hall using a laptop.
- 10.1.1 Name TWO additional hardware devices that the chairperson will need during the welcoming ceremony. (2)
- 10.1.2 Identify an appropriate type of application software that can be used during the welcoming ceremony in the hall. Motivate your answer. (2)
- 10.1.3 While preparing for the welcoming ceremony, the chairperson tries to shut down the laptop and receives a message that updates are running.
- Discuss TWO possible consequences if the laptop is switched off while the updates are being installed. (2)
- 10.2 The Grade 8 learners will be divided into their different groups.
- 10.2.1 The details of the Grade 8 learners will be captured into a database.
- Which TWO objects in a database can be used to capture the Grade 8 learners' information? (2)
- 10.2.2 A database table has to be exported into a spreadsheet.
- Name TWO factors to consider before exporting a database table to a spreadsheet. (2)
- 10.2.3 Each Grade 8 learner will receive a personalised letter to indicate in which group they are placed.
- Which word processing feature can the welcoming committee use to quickly generate the letters for all Grade 8 learners? (1)
- 10.3 The committee will use augmented reality to create a guided tour of the school for the different groups.
- Discuss TWO benefits of using augmented reality instead of virtual reality for the guided tour. (2)

- 10.4 The welcoming committee is planning an online gaming day in the ICT centre.
- 10.4.1 Explain the concept of *broadband*. (2)
- 10.4.2 Give TWO reasons why the school should have a large bandwidth available for playing online games. (2)
- 10.5 The welcoming committee needs to provide the school management with a report on the orientation week.
- 10.5.1 Suggest TWO data gathering tools that can be used to get direct feedback from the Grade 8 learners. (2)
- 10.5.2 State TWO ways in which to ensure that data collected is free from errors before analysis is started. (2)
- 10.6 Drones will be used to capture videos of all the outdoor activities.
- State TWO limitations that can be experienced when using drones for video capture. (2)
- 10.7 A video with all the highlights will be created and uploaded to the school's website. The link will be e-mailed to the parents, using a distribution list.
- State TWO advantages of using a distribution list. (2)
- [25]**
- TOTAL SECTION C: 50**
GRAND TOTAL: 150



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GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

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MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 18 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 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 guidelines.
 - Ask yourself or your senior marker if the response could 'fit' into the marking guidelines before allocating the correct marks to the candidate.
 - Accept correct answers that are expressed differently, e.g. the marking guidelines state '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 LIST or NAME: mark the first number of answers/facts 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	D	✓	1
1.2	B	✓	1
1.3	A	✓	1
1.4	C	✓	1
1.5	A	✓	1
1.6	B	✓	1
1.7	B	✓	1
1.8	D	✓	1
1.9	C	✓	1
1.10	B	✓	1
Total: [10]			

QUESTION 2: MATCHING ITEMS

2.1	R	✓	1
2.2	N	✓	1
2.3	T	✓	1
2.4	K	✓	1
2.5	Q	✓	1
2.6	D	✓	1
2.7	P	✓	1
2.8	B	✓	1
2.9	G	✓	1
2.10	J	✓	1
Total: [10]			

QUESTION 3: TRUE/FALSE ITEMS

<i>(Note to marker:</i>		
<ul style="list-style-type: none"><i>In Question 3.2, 3.3 and 3.5, candidates need to provide the correct term, e.g. 4IR, in order to get the mark</i><i><u>Award the mark if the correct answer is given without the word FALSE</u></i><i>Do NOT award the mark if only the word FALSE is given without the correct answer)</i>		
3.1	True ✓	1
3.2	False, 4IR ✓	1
3.3	False, Large ✓	1
3.4	True ✓	1
3.5	False, space ✓	1
		[5]

TOTAL SECTION A: 25

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

4.1.1	<i>The technology that automatically detect and install devices</i> Plug-and-play ✓	1	
4.1.2	<i>Stage in the information processing cycle</i> Storage ✓	1	
4.1.3	<i>TWO reasons why a flash drive is not suitable for archiving files</i> (1) Smaller storage capacity (2) Can easily be misplaced/lost/stolen (3) Size to cost ratio is expensive per GB (4) Better storage technology such as optical storage or magnetic tape ✓✓ (Any two)	2	4
4.2	<i>TWO reasons why a motherboard is important</i> (1) Connects all the components (2) Connects all peripherals/connection ports (3) Allows communication between components/peripherals (4) Provides power to components/peripherals ✓✓ (Any two)		2
4.3	<i>TWO reasons for using the recycle bin</i> To temporarily store deleted files/folders ✓ To recover files that were deleted ✓		2
4.4	<i>File path</i> A: Drive ✓ C: B: Folder (Folder name) ✓		2
4.5.1	<i>TWO ways data loss can take place</i> (1) Hardware Failure: Hard drive crashes, power surges, or other hardware malfunctions can lead to data loss (2) Malware: Viruses, ransomware, or other malicious software can corrupt or delete data (3) Accidental Deletion: Users can accidentally delete files or format storage devices (4) Natural Disasters: Fires, floods, or other disasters can damage equipment and data ✓✓ (Any two)	2	

4.5.2	<i>TWO guidelines in a backup policy regarding storage media</i> (1) Do not store backup in the same location as the original data (2) Specify storage media (3) Backup to multiple types of media/make multiple backups ✓✓ (Any two)	2	4
4.6	<i>Explanation of creative commons licence</i> Copyright agreement ✓ that allows anyone to use and share ✓ the content under certain conditions (e.g. free) from the copyright holder/owner		2
4.7	<i>TWO ways of locating for a video file if unsure of the date</i> (1) Search by file type/extension (2) Search by file name/portion of name (3) Check the "Recent Files" list in the application they used to download or save the video ✓✓ (Any two)		2
4.8	<i>Accessibility utility used for pressing multiple keys</i> Sticky keys/Filter keys/Toggle keys ✓		1
4.9	<i>Meaning of ergonomic design</i> Devices/equipment that is designed to be comfortable ✓ and prevent health issues ✓		2
4.10	<i>TWO tips to troubleshoot unresponsive monitor</i> (1) Check that the computer is switched on (2) Check the connection cables (3) Check the brightness and contrast ratio settings (4) Check the signal input button (5) Check if graphics card is faulty ✓✓ (Any two)		2
4.11	<i>Objects created from 3D printer</i> Reads the design from a file/digital model of the item ✓ by gradually layering the material in thin layers ✓ on top of one another		2
			[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	<p>Define a podcast</p> <p>A podcast is a series of pre-recorded audio or video files ✓ that a user can download or stream ✓ to a computer or mobile device for listening/viewing</p>		2
5.2	<p>TWO additional services offered by ISP apart from internet access</p> <p>(1) Personalised e-mail addresses with their internet service (2) Offer web hosting services, allowing users to create and host websites (3) Bundle security software or services with their internet packages (4) Customer support for troubleshooting internet connectivity issues</p> <p>✓✓ (Any two)</p>		2
5.3	<p>ONE effect of AUP for a user when using streaming services</p> <p>(1) Prohibits access to inappropriate content (2) Limits excessive streaming to preserve network performance (3) Preventing unauthorised sharing of streaming accounts</p> <p>✓ (Any one)</p>		1
5.4	<p>ONE benefit and ONE limitation of using cloud computing</p> <p>Benefit</p> <p>(1) Access files and applications from anywhere with an internet connection (2) Save local storage space/no need to carry storage device (3) Collaboration and sharing of files (4) Work with the latest updated versions (5) Can be used on variety of platforms (6) Cloud providers often offer robust data backup and recovery services (7) Cost Savings: Less expensive to use cloud computing than to purchase the software (8) Synchronisation features</p> <p>✓ (Any one)</p> <p>Limitation</p> <p>(1) Slow internet connection may cause apps to load slower and not refresh on time (2) You no longer have control over security and backup (3) Uploading/saving to cloud can use up data (4) Free versions have limited storage/features/support</p> <p>✓ (Any one)</p>		2

5.5	<p><i>TWO disadvantages of purchasing from an online store</i></p> <p>(1) Potentially a fake online shop (2) Product might not be the same as advertised (3) Product could be damaged during transport (4) There may be hidden cost e.g. import tax (5) Enforcement of the return policy might be difficult (6) Clothing cannot be fitted for size (7) One cannot physically feel the quality of the product ✓✓ (Any two)</p>		2
5.6	<p><i>TWO mobile internet access technologies that remote users can use</i></p> <p>(1) LTE (4G/5G) (2) WiFi hotspot (3) Wimax/Bluetooth (via a dongle) ✓✓ (Any two)</p>		2
5.7	<p><i>TWO aspects when creating a website for visually impaired users</i></p> <p>(1) Colour schemes/High contrast (2) Readability/Web pages not too busy (3) Audio comments/sound for navigation and feedback ✓✓ (Any two)</p>		2
5.8	<p><i>Incognito/private browsing benefits for a user</i></p> <p>(1) Your browsing activity is not saved in the browser history (2) Cookies and site data are deleted after you close the session (3) Prevents leaving personal data on shared computers (4) Autofill details like usernames and passwords are not stored (5) Third-party cookies are blocked, reducing tracking by advertisers (6) Allows signing into multiple accounts on the same site simultaneously (7) Helps check how websites appear to new visitors ✓✓ (Any two)</p>		2
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	<p><i>TWO benefits of using URL shortening service</i></p> <p>(1) Easier to use than type or remember the URL (2) Shortened URLs can be customised (3) Enhanced tracking and analytics (4) Provide a more professional appearance</p> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.2	<p><i>TWO report writing elements in your final report</i></p> <p>(1) Cover page (2) Table of contents/Figures (3) Introduction (4) Body (5) Discussion (6) Findings/Recommendations (7) Conclusion (8) Bibliography</p> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.3	<p><i>TWO criteria to evaluate the reliability of an online source</i></p> <p>(1) Authority (2) Accuracy (3) Currency (4) Objectivity (5) Coverage</p> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.4	<p><i>TWO factors to consider when creating your folder structure</i></p> <p>(1) Start by creating a main folder (2) The names of the folders and files should be meaningful (3) Ensure there are a variety of folders created that cater for all category of files to be saved (4) Each phase needs to have its own subfolder</p> <p style="text-align: right;">✓✓ (Any two)</p>		2
6.5	<p><i>TWO reasons why chart is difficult to interpret</i></p> <p>(1) No clear indication of what the questionnaire is about/No title is indicated (2) No axis labels indicated (3) No data labels provided (4) Legend is meaningless</p> <p style="text-align: right;">✓✓ (Any two)</p>		2
			[10]

QUESTION 7: SOCIAL IMPLICATION

7.1	<p>Definition of click-jacking</p> <p>Users are tricked ✓ into clicking on an item on a web page which acts as a concealed link. ✓</p>		2
7.2	<p>Type and description of e-mail threat</p> <p>(1) Phishing: Deceptive e-mails that try to trick users into revealing personal information (2) Spam: Unsolicited bulk e-mails, often used for advertising or spreading malware (3) Malware: E-mails that contain attachments or links that install malicious software on the recipient's computer (4) Spoofing: Process of altering an e-mail (header) so that the message appears to have come from someone other than the actual source/sender</p> <p>✓✓ (One for type – One for explanation)</p>		2
7.3	<p>TWO ways to protect yourself from online harassment</p> <p>(1) Use strong privacy settings on social media and other online platforms (2) Avoid sharing personal information or engaging with online bullies (3) Do not make a controversial post that can lead to online harassments</p> <p>✓✓ (Any two)</p>		2
7.4	<p>TWO privacy issues associated with use of big data for individuals</p> <p>(1) Excessive personal data collection without individuals consent (2) Sharing personal data with third parties (3) Creating detailed profiles of individuals based on their data (4) Monitoring individuals' activities without their knowledge</p> <p>✓✓ (Any two)</p>		2

7.5	<i>TWO impacts of software piracy on the global software industry</i> (1) Financial losses: reduced revenue; increased costs; higher prices for legitimate users (2) Security risks: malware and viruses; system instability; data breaches; loss of trust; ethical concerns (3) Lack of technical support (4) Do not qualify for updates and upgrades ✓✓ (Any two)		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1.1	Action for creating a table of figures Add captions ✓ to the figures/diagrams/images	1							
8.1.2	Action for creating an index MARK the entries ✓ on all words to be included in the index	1	2						
8.2	Difference between an embedded object and a linked object <table border="1" data-bbox="325 636 1193 860"> <thead> <tr> <th>Embedded object</th> <th>Linked object</th> </tr> </thead> <tbody> <tr> <td>Not linked to the source document</td> <td>Linked to the source document</td> </tr> <tr> <td>Opens as a separate/independent document</td> <td>Updates with data from the original source document before opening</td> </tr> </tbody> </table> ✓✓ (one per row difference)	Embedded object	Linked object	Not linked to the source document	Linked to the source document	Opens as a separate/independent document	Updates with data from the original source document before opening		2
Embedded object	Linked object								
Not linked to the source document	Linked to the source document								
Opens as a separate/independent document	Updates with data from the original source document before opening								
8.3.1	Function other than a LOOKUP function <u>Nested IF</u> -statement ✓	1							
8.3.2	Feature to complete list of numbers AutoFill/Fill series ✓	1	2						
8.4	ONE reason why you can only work in certain cells The cells are protected and only the unprotected cells can be worked in ✓		1						
8.5.1	Data Type for SportType Short Text/Lookup ✓	1							
8.5.2	Field size must not be reduced (1) If the field is edited, all characters after the specified size will be lost (2) New records will not be able to store surnames exceeding 10 characters ✓ (Any one)	1	2						

8.6	Result of the conditional formatting rule Formatting applied e.g. shading ✓ to cells A1:A5 where the value of a cell is >= average of the range A1:A5 ✓		2
8.7.1	TWO reasons for including the width and height (1) To change the size of the image/To ensure correct proportions in any browser/resolution (2) The original image does not have the right aspect ratio (3) To improve the layout of the webpage ✓✓ (Any two)		2
8.7.2	Reason for image not displaying The file extension is missing ✓		1
8.7.3	Bookmark in HTML #Stars is a bookmark on the webpage ✓		1
			[15]

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

9.1.1	<i>Installed operating system</i> Windows ✓	1	
9.1.2	<i>TWO functions of an operating system</i> (1) Manages and controls the hardware (2) Manages and controls the software (3) Provides a user interface (4) Organising and managing files and folders (5) Provides basic security (6) Input/Output management (7) Memory management (8) Device management ✓✓ (Any two)	2	
9.1.3	<i>TWO reasons why quotation 2 is better</i> (1) It has more primary memory that can be utilised (2) SSD is faster since it is electronic (3) It has more cores to process instructions from the RAM which will result in faster processing (4) Office 365 has the latest features ✓✓ (Any two)	2	
9.1.4	<i>Purpose of the 802.11 specification</i> The laptops have the ability to connect to a wireless network ✓	1	
9.1.5	<i>ONE disadvantage associated with free antivirus</i> (1) Limited technical support (2) Many different versions (3) May contain malware in certain versions (4) No guarantee that the free anti-virus will not corrupt your computer system (5) Additional pop-up advertisements ✓ (Any one)	1	7

9.2.1	Reason for WAN not being the correct type of network The computers are in a small geographic area (school lab) ✓	1	
9.2.2	Type of network connection medium and reason Wireless connection: (1) Less clutter (2) Devices can easily be added (3) Mobility Wired connection: (1) Less prone to interference (2) Constant/stable transmission speed (UTP) (3) No electrical interference and faster (Fibre optic) ✓✓ (One for type of connection – One for reason)	2	
9.2.3	Ethical use of computers in a network (1) Ensure that each user has a unique log-in with strong passwords (2) Different users will have different access rights/Review user permissions (3) Change password regularly (4) Clearly inform club members about network policies and data usage ✓✓ (Any two)	2	5
9.3.1	TWO disadvantages of own devices (1) Learners devices can get stolen (2) Compatibility problems with operating system, hardware or software (3) Personal devices may contain apps or games that distract learners from their work (4) Increasing the risk of malware spreading over the network (5) Difficult to control data usage (6) Not all learners may have their own device (7) Security cannot be enforced on all devices (due to different operating systems and software/hardware versions) (8) Compatibility issues due to different hardware/software configurations/Software incompatibility (9) May cause bottleneck on the network (10) Possible for learners to access sensitive data on the network ✓✓ (Any two)	2	

9.3.2	<p>TWO ways to open a non-responding video</p> <p>(1) Update software/Re-install software (2) Close unused tasks on device (3) Restart the device (4) Use alternative video player (5) Update codecs (6) Convert to another video format</p> <p style="text-align: right;">✓ ✓ (Any two)</p>	2	4
9.4.1	<p>#NAME? Error</p> <p>The function is typed incorrectly/spelling error in cell B7 ✓</p>	1	
9.4.2	<p>Ways to fix entire table to display in Word</p> <p>(1) Adjust Column Widths ✓ (2) AutoFit To Content ✓</p>	2	3
9.5	<p>Purpose of <body> tag</p> <p>The <body> tag in HTML contains the content ✓ that will be displayed in the browser window</p>		1
9.6.1	<p>TWO advantages of using online social networks</p> <p>(1) Wide range of expertise (2) Can provide immediate feedback (3) Enhances collaborative problem solving</p> <p style="text-align: right;">✓ ✓ (Any two)</p>	2	
9.6.2	<p>The importance of cybersecurity</p> <p>(1) Protect learners' devices from malware and hacking (2) Crucial to safeguard sensitive data (3) Prevent unauthorised access</p> <p style="text-align: right;">✓ (Any one)</p>	1	3
9.7	<p>Explain concept of plagiarism</p> <p>Plagiarism is the act of using someone else's work or ideas ✓ and presenting them as your own without giving proper credit ✓</p>		2
			[25]

QUESTION 10: INTEGRATED SCENARIO

10.1.1	<p><i>TWO other hardware devices needed during the demonstration</i></p> <p>(1) Data projector (2) Pointing device (3) Smart board (4) Microphone (5) Speakers</p> <p style="text-align: right;">✓✓ (Any two)</p>	2							
10.1.2	<p><i>Type of application software and motivation</i></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Application</th> <th style="text-align: left;">Motivation</th> </tr> </thead> <tbody> <tr> <td>Presentation software</td> <td>Presentation software allows the team leader to create visually engaging slides with text, images and multimedia</td> </tr> <tr> <td>Any applicable software</td> <td>Suitable motivation</td> </tr> </tbody> </table> <p style="text-align: center;">✓ (Type of application) ✓ (Suitable motivation)</p>	Application	Motivation	Presentation software	Presentation software allows the team leader to create visually engaging slides with text, images and multimedia	Any applicable software	Suitable motivation	2	
Application	Motivation								
Presentation software	Presentation software allows the team leader to create visually engaging slides with text, images and multimedia								
Any applicable software	Suitable motivation								
10.1.3	<p><i>TWO possible consequences when switching of, while updating</i></p> <p>The download or install process will be interrupted ✓ causing errors or corruptions in the software ✓</p>	2	6						
10.2.1	<p><i>TWO objects in a database for entering information</i></p> <p>Table ✓ Form ✓</p>	2							
10.2.2	<p><i>TWO factors to consider before exporting from database table to spreadsheet</i></p> <p>(1) Make sure that the data types are suitable for a spreadsheet (2) Any formatting and layout should display as is within the spreadsheet (3) Select records to be exported (4) To verify the potential limitations when exporting a very large number of records (5) To ensure that if the spreadsheet will be used for calculations that the exported data is suitable for spreadsheet functions</p> <p style="text-align: right;">✓✓ (Any two)</p>	2							
10.2.3	<p><i>Feature used in word processing to generate letters</i></p> <p>Mail Merge ✓</p>	1	5						

10.3	<p>TWO benefits for using Augmented Reality instead of Virtual Reality</p> <p>(1) No additional equipment required (e.g. VR goggles) (2) Accessible to more learners (3) Augmented reality allows for direct interaction with real-world/actual school while receiving digital overlays ✓✓ (Any two)</p>		2	
10.4.1	<p>Explain broadband</p> <p>Refers to a high-speed, ✓ always on ✓ internet connection</p>		2	
10.4.2	<p>TWO reasons why the school should have a large bandwidth</p> <p>(1) To ensure an online gaming experience without any lagging or buffering (2) There will be many learners participating online simultaneously that will require sufficient bandwidth (3) To accommodate online multiplayer allowing learners to play together seamlessly (4) A robust internet connection ensures a more enjoyable and engaging experience for learners ✓✓ (Any two)</p>		2	4
10.5.1	<p>TWO data gathering tools</p> <p>(1) Survey (Online or paper-based) (2) Interview (3) WhatsApp poll ✓✓ (Any two)</p>		2	
10.5.2	<p>TWO ways to ensure that data collected is free from errors</p> <p>(1) Use of controls: combo boxes/checkboxes/drop-down list/date picker, etc (2) Avoid open-ended questions (3) Administer the survey to the correct or suitable participants ✓✓ (Any two)</p>		2	4
10.6	<p>TWO limitations of using drone technology</p> <p>(1) Limited battery life (2) Potentially poor camera quality (3) Potentially low storage capacity (4) Risk of flying drones over people. ✓✓ (Any two)</p>			2

10.7	<i>TWO advantages of distribution list</i> (1) Saving time by just typing in the group name (2) More accuracy/cannot leave out certain addresses (3) Message is sent simultaneously to different recipients ✓✓ (Any two)		2
			[25]

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