



Province of the
EASTERN CAPE
EDUCATION



NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2023

COMPUTER APPLICATIONS TECHNOLOGY P2

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 sub-question.
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 than the question requires as this 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 provided 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, for example 1.11 D.

- 1.1 ... is an acronym that indicates that human error has an influence on the computer's output.
A DIMM
B GIGO
C SOHO
D FOSS (1)
- 1.2 Which ONE of the following is an example of a popular e-reader?
A Kindle
B Phablet
C iPad
D Notebook (1)
- 1.3 A protocol that provides a measure of protection to users of websites when online banking is done.
A HTTP
B HSPA
C HTML
D HTTPS (1)
- 1.4 Identify the statement that is NOT correct.
A A network is a collection of connected computers.
B A LAN can be used within one household.
C Ethernet refers to wireless network technology only.
D A WAN connects computers across cities, countries and continents with each other. (1)
- 1.5 A comment in HTML code will appear ... when the web page is displayed in the browser.
A in brackets
B nowhere
C as a title
D after all the tags (1)

- 1.6 A shortcut for a series of keystrokes and/or mouse moves that can be recorded for future use to automate a procedure or task is known as ...
- A an add-in.
 - B SQL.
 - C a smart tag.
 - D a macro. (1)
- 1.7 Which ONE of the following return fields will calculate the correct value of value-added tax (VAT) at 15% in a database query?
- A BTW= ["Price"]*0.15
 - B BTW: (Price)*0.15
 - C BTW= (!Price)*0.15
 - D BTW: [Price]*0.15 (1)
- 1.8 Which ONE of the following functions results in an answer rounded off to the nearest whole number?
- A =INT(24.7)
 - B =AVERAGE(C1:C6)
 - C =ROUND(5.58,1)
 - D =TRUNC(21.73,1) (1)
- 1.9 Google is an example of ...
- A a web browser.
 - B a website.
 - C social engineering.
 - D a search engine. (1)
- 1.10 ... is a broadband access technology that allows for high-speed internet connection from a private household.
- A WiMAX
 - B FTTH
 - C LTE
 - D ADSL (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 (2.1–2.10) in the ANSWER BOOK, for example 2.11 U.

COLUMN A		COLUMN B	
2.1	Web browsers store web documents such as HTML pages and graphics temporarily on the hard disk	A	shaping
2.2	Software programs designed to run on smartphones	B	metadata
2.3	A protocol used to define the structure and layout of a web page	C	multiprocessing
2.4	Fast and powerful computers used for weather forecasting	D	pirated copies
2.5	Making use of quad-core processors to increase the speed of the computer	E	combination
2.6	The set of data that describes the size, colour depth, resolution, date created, etc., of an image	F	multitasking
2.7	A concept where employees can work from home making use of the internet, telephone and e-mail	G	summary
2.8	Different technologies and functions are combined into one single device	H	telecommuting
2.9	The illegal downloading and distribution of films	I	html
2.10	Data saved online on server computers (remote servers) that can be accessed	J	mainframe computers
		K	catching
		L	cloud storage
		M	http
		N	worm
		O	teleconferencing
		P	hacking
		Q	privacy
		R	apps
		S	convergence
		T	supercomputers

(10 x 1) [10]

Please turn over

QUESTION 3: TRUE/FALSE ITEMS

Indicate whether the following statements are TRUE or FALSE. Write 'true' or 'false' next to the question numbers (3.1–3.5) in the ANSWER BOOK. If the statement is false write FALSE and then change the underlined word(s) to make the statement TRUE. (You may not simply use the word 'NOT' to change the statement. NO mark will be awarded if only FALSE is written down.)

EXAMPLES:

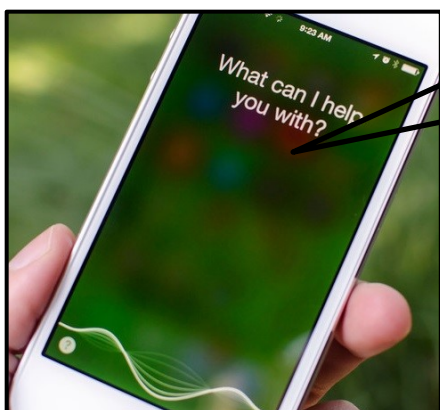
QUESTION	ANSWER
The initial loading instructions ('start-up instructions') are stored in the <u>ROM</u> .	True
An <u>NIC</u> has slots for hardware components, such as the CPU.	False – motherboard

- 3.1 Green computing is the study and design of the workplace and the equipment that is used in the workplace, for the comfort and safety of the people in their work environment.
- 3.2 The 'wild card' character can be used in the Search and Find ('Find and Replace') feature of a word processor.
- 3.3 Broadband refers to the total amount of data transferred over the Internet in a given period.
- 3.4 Backwards compatible is the ability of software to open and use files created in previous (older) versions of the software.
- 3.5 Application software is software intended to control, support or operate the computer. (5 x 1)

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

SECTION B**QUESTION 4: SYSTEM TECHNOLOGIES**

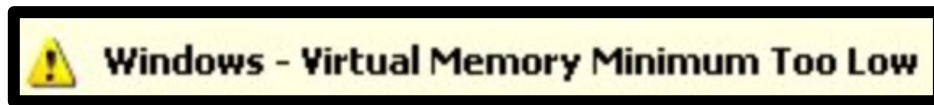
- 4.1 Describe a SOHO user and give ONE example of such a user. (2)
- 4.2 Utility programs perform routine tasks.
List TWO common tasks that are carried out by various utility programs. (2)
- 4.3 Backup is important to ensure that data is not lost.
- 4.3.1 Discuss TWO ways in which data on a computer could get lost. (2)
- 4.3.2 Suggest ONE way in which the backup of data can be done more securely. (1)
- 4.4 Mobile users want and need their technology with them wherever they are.
- 4.4.1 Explain the downside related to the concept of:
'Always on – Always connected'. (1)
- 4.4.2 Give ONE reason why note-taking software will be an advantage for a traffic officer to have on his mobile device. (1)
- 4.5 Computer programs that work as intelligent virtual assistants are installed in source smartphones and mobile devices.



"Hey *Siri*,
How is the weather this
week?"

- 4.5.1 Name the general term used to describe technology that enables voice recognition in smartphones or mobile devices. (1)
- 4.5.2 Which technology makes it possible for a personal voice assistant to determine the geographical location of a person or place? (1)
- 4.6 Explain why it may be important to compress files. (2)
- 4.7 Why will defragmentation of a hard drive not make extra space available on the hard drive? (1)

4.8 Your computer occasionally displays the following message:



4.8.1 Define the concept *virtual memory*. (1)

4.8.2 Give TWO examples of when the operating system will make use of virtual memory. (2)

4.9 Study the image below and answer the questions that follow.



4.9.1 Identify the technology that the image refers to. (1)

4.9.2 Give TWO limitations of the above-mentioned technology. (2)

4.10 Study the picture of *Virtual Reality* below and answer the questions that follow.



4.10.1 Give a simple explanation of how *Virtual Reality* works. (2)

4.10.2 Give THREE possible limitations of the use of Virtual Reality. (3)
[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

- 5.1 Define the concept *e-commerce*. (2)
- 5.2 Provide TWO recommendations in which you can ensure better privacy on social media, such as Facebook or WhatsApp. (2)
- 5.3 Give TWO reasons why a user would rather opt for a fibre internet connection than an ADSL connection. (2)
- 5.4 Give any TWO advantages of online shopping. (2)
- 5.5 Name TWO measures used by the banks to protect their clients when they do their banking online. (2)
- 5.6 Why is it not recommended to use VoIP for emergency calls? (1)
- 5.7 Briefly explain what *information overload* is. (1)
- 5.8 Explain the difference between *a router* and *a modem*. (2)
- 5.9 Give the file format/type typically used to save a podcast. (1)

[15]

QUESTION 6: INFORMATION MANAGEMENT

- 6.1 Give TWO advantages of using electronic forms to collect information. (2)
- 6.2 Why is there a need for a conclusion in a formal report? (2)
- 6.3 Study the statement below, that comes from a formal report published in 1975, and answer the questions that follow.

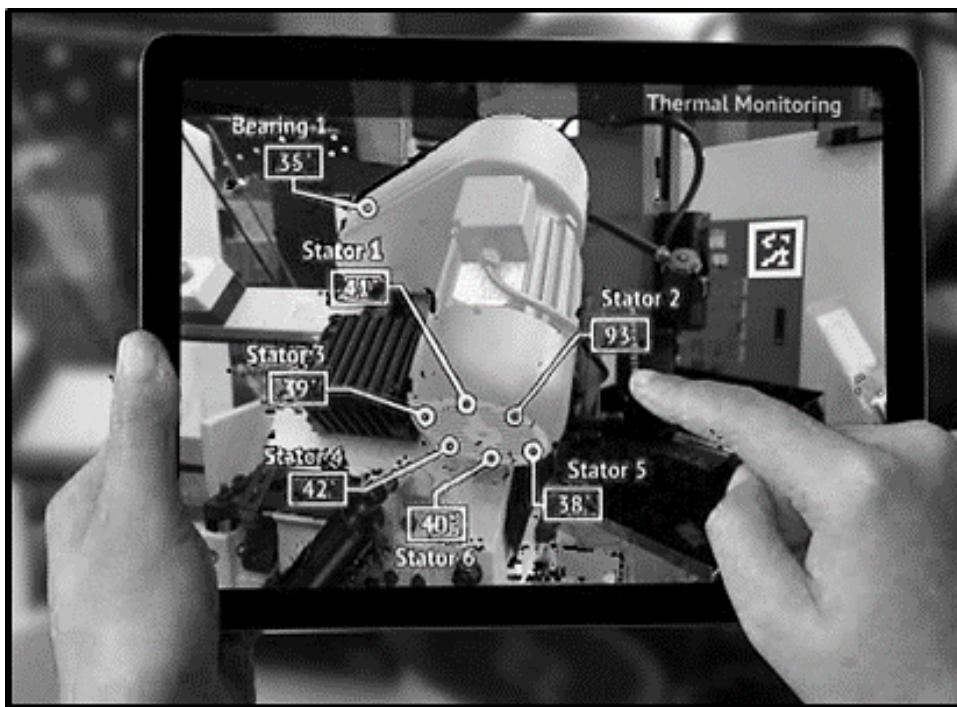
“Material manufacturers claim that layers give a rich look to any garment and that this will undoubtedly remain valid for centuries to come. Although that may be true, people may still think otherwise.”

- 6.3.1 Give TWO reasons why the information in this paragraph is not reliable by referring to the evaluation of sources. (2)
- 6.3.2 Suggest ONE way to make this paragraph more suitable for inclusion in a formal report. (1)
- 6.4 Give TWO aspects that you must include in a task definition for a research project, such as the PAT. (2)
- 6.5 Briefly explain how you can avoid being guilty of plagiarism when doing research. (1)

[10]

QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Define the concept *user-centred design (UCD)*. (1)
- 7.2 Suggest a software accessibility option that will help a person suffering from tremors when giving input to a computer. (1)
- 7.3 DDoS attacks are becoming more widespread each year.
- 7.3.1 Describe the role of a bot in a DDoS attack. (2)
- 7.3.2 Discuss how a DDoS attack can be used by a hacktivist group like Anonymous to wage cyberwarfare against enemies, such as during the Ukraine/Russia war. (2)
- 7.4 An e-learning application was developed to help train new employees to use the equipment in the laboratory (see below).



- 7.4.1 What is the name of the technology used by this e-learning application? (1)
- 7.4.2 Explain why this technology will be more useful compared to watching a video about the same equipment. (1)
- 7.5 Give TWO examples of the use of artificial intelligence in our everyday lives. (2)
- Do not just list the names of applications. (2)

[10]

QUESTION 8: SOLUTION DEVELOPMENT

The PAT forms part of the CAT syllabus. You are expected to write a report and the following are the challenges that you come across.

- 8.1 You need to create an automatic table of contents. Every time you attempt to create the table of contents, the following message appears.

No table of contents entries found.

- 8.1.1 Knowing that you used styles, what could be the reason for the above message and how can you fix the problem? (2)
- 8.1.2 When you copy and paste information to your word processing document, you are sometimes forced to change the font and format. How can this be prevented? (2)
- 8.2 You will use a spreadsheet to help you with calculations in your assignment. Study the spreadsheet below. Write down a possible formula/function that was used to obtain the result in column D3. (4)

	A	B	C	D
1	Dressing Room Allocations			
2	Surname	Name	Gender	Dressing Room
3	Stark	Tony	Male	Old
4	Wayne	Bruce	Male	Old
5	Johansson	Scarlett	Female	New
6	Fox	Megan	Female	New
7				

- 8.3 Name TWO features of a spreadsheet, other than graphs, that help with the processing and analysis of data. (2)
- 8.4 In a database table, you need to create a field to restrict the capturing of a code. Give the input mask you will use to obtain the following result: (3)

E263r

Keep in mind that every code must start with a capital letter E, followed by three compulsory numbers and one optional small letter. (3)

- 8.5 A database query was created to display the records of all the donors who had contributed money and water to assist in drought-stricken areas.

Give TWO reasons why the query below will NOT produce the required result.

Field:	Surname	Money	Water	Received	
Table:	tblWater	tblWater	tblWater	tblWater	
Sort:					
Show:	☒	☒	☒	☒	
Criteria:		< > 0			
or:			Is Not Null		

(2)
[15]

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

Most government offices, companies and schools chose to continue their services online during the Covid-19 pandemic. Adapting to new technology can often be difficult, but it does not have to be.

- 9.1 Name TWO advantages of using an online platform such as ZOOM for learning and teaching. (2)
- 9.2 Would you prefer to receive resources from your educator via a WhatsApp group or by e-mail? Provide TWO reasons to motivate your choice. (2)
- 9.3 Teachers used videos to support learners.
- 9.3.1 Name TWO disadvantages to the learners when the teacher asked them to download high resolution videos. (2)
- 9.3.2 Name ONE software application you can use to edit videos. (1)
- 9.4 List TWO hardware requirements required to hold video conferencing meetings. (2)
- 9.5 Write down the difference between a *service pack* and a *patch* by referring to the function of each. (2)
- 9.6 Mention TWO aspects whereby the implementation of a BYOD policy would have complied with Covid-19 safety protocols. (2)
- 9.7 Provide TWO reasons why a laptop would be a better option to use as an online learning device instead of a tablet computer. (2)
- 9.8 Companies had several questions about wearable technologies and their development. Help them understand ICT better by answering the following questions.
- 9.8.1 Explain the term *wearable technology*. (2)
- 9.8.2 State TWO uses of wearable technology. (2)
- 9.9 Blockchain is a new technology used in financial transactions. Explain how this technology works. (3)
- 9.10 Give the generally accepted term that describes a process where a single idea or business practice is funded by several small donations from volunteer contributors, usually before starting the business venture. (1)
- 9.11 Define the concept *5th industrial revolution* ('5IR'). (2)

[25]

QUESTION 10: INTEGRATED SCENARIO

10.1 Authentication is a safety measure that can be used while doing business on the internet.

10.1.1 Explain what is meant by a Two Factor (Two-step) Authentication. (2)

10.1.2 Give TWO advantages of authentication as a safety measure. (2)

10.2 Digital currency is increasingly becoming common.

10.2.1 Define the term *digital currency*. (2)

10.2.2 Name ONE example of a digital currency. (1)

10.2.3 Evaluate the efficiency of using digital currencies. (2)

10.3 Your image does not display on your website. You want the image info.png to display with a width and height of 200.

10.3.1 You used the following HTML coding:

```
<img scr = "info" width = "200" hight = "200">.
```

The image does not display. Correct the errors so that the image will display correctly. (3)

10.3.2 Name any other possible reason why an image will not display (except in the coding itself). (1)

10.4 Your school decided to have an online competition showcasing projects learners have produced. Each entrant needs to pay a registration fee before the competition.

10.4.1 Suggest TWO technologies that participants can use to pay the registration fee, if they cannot get to the school or a bank. (2)

10.4.2 How could the organisers of the competition confirm that the registration fee has been paid, other than calling the bank? (2)

10.5 The following spreadsheet was created to keep track of entrants:

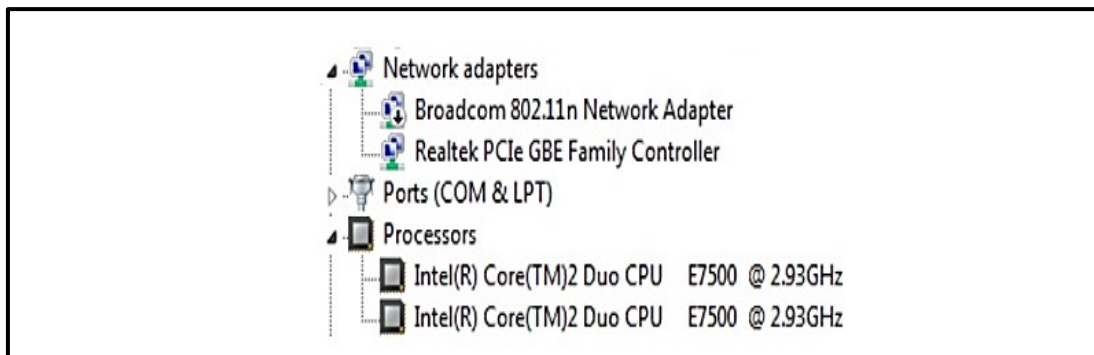
	A	B	C	D	E
1	Project Name	Project type	Stands	Paid	Contact person
2	New discoveries	Science	1	Yes	Thabo
3	Language literacy	Language	2	No	Susan
4	French in school	Language	1	No	Grant
5	New textbooks	Science	3	Yes	Barry
6	Chemistry in school	Science	2	Yes	Sandy
7	Tech in cars	Science	1	Yes	Kagiso
8					
9	Registration fee:	R 250.00			

10.5.1 Which function would you use to determine how many entrants have already paid? (2)

10.5.2 Explain how to add a column between column D and E. (2)

10.5.3 How will you ensure that the amount in cell B9 is used in each cell when a formula is filled down, without retyping the amount? (1)

10.6 The screenshot below contains system information of a computer that will be used in online teaching.



10.6.1 Which ONE of the network adaptors in the advert above, will be instrumental in providing Wi-Fi access? (1)

10.6.2 Why are there two processors listed in the image above? (2)

[25]

TOTAL SECTION C: 50
GRANDTOTAL: 150



**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2023

**COMPUTER APPLICATIONS TECHNOLOGY P2
MARKING GUIDELINE**

MARKS: 150

This marking guideline consists of 19 pages.

SUGGESTIONS AND RECOMMENDATIONS TO MARKERS

- Revisit the questions and the marking guideline 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 guideline.
 - o Ask yourself if the response could 'fit' into the marking guideline before allocating the correct marks to the candidate.
 - o Accept correct answers that are expressed differently, e.g. the marking guideline states 'slow' and the candidate responds with 'not fast'.
- Beware of overlapping answers to a specific question. In general, ONE mark is awarded per fact.
- Do not choose answers on the candidate's behalf. Where a question requires a candidate to LIST or NAME: 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 B
- 1.2 A
- 1.3 D
- 1.4 C
- 1.5 B
- 1.6 D
- 1.7 D
- 1.8 A
- 1.9 D
- 1.10 A

(10 x 1) **[10]****QUESTION 2: MATCHING ITEMS**

- 2.1 K
- 2.2 R
- 2.3 I
- 2.4 T
- 2.5 C
- 2.6 B
- 2.7 H
- 2.8 S
- 2.9 D
- 2.10 L

(10 x 1) **[10]****QUESTION 3: TRUE/FALSE ITEMS****Note to marker:**

- In QUESTIONS 3.1, 3.3, and 3.5: Candidates need to provide the correct term, in order to get the mark.
- Award the mark if the correct answer is given without the word FALSE.
- DO NOT award the mark if only the word FALSE is given without the correct answer.

- 3.1 False – ergonomics (1)
 - 3.2 True (1)
 - 3.3 False – bandwidth (1)
 - 3.4 True (1)
 - 3.5 False – system software (1)
- [5]**

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

4.1	<u>Describe a SOHO user and give ONE example of such a user</u> <u>Description</u> - SOHO (Small Office Home Office) users usually use common entry-level computers for common functions such as for example, accounting tasks or sending out bills, planning, electronic documentation, etc. ✓ <u>Example</u> Architect, estate agent, legal services, etc. or anyone who works from home ✓			2
4.2	<u>TWO common tasks/functions performed by utility software</u> <u>Function:</u> - Programs that maintain the system, ✓ perform system administration ✓ and do hardware and network configuration OR <u>Tasks:</u> - File management ✓ - File sorting ✓ - File renaming - File conversion - File recovery - Disk scanning and defragmentation - Print tasks - Backup of data - Anti-virus - Compression <u>Note to marker: (Any other acceptable examples)</u> ✓✓(any two functions and/or tasks)			2
4.3	4.3.1	<u>TWO ways data can be lost on a computer</u> - Hard drive failure ✓ - Data is corrupted ✓ - Data is accidentally deleted - Computer is stolen - Computer would be damaged or destroyed in fire or earthquake - Virus <u>Note to marker: (Any other acceptable examples)</u> ✓✓ (Any two)		2

	4.3.2	<u>ONE way how backing up data can be done more securely</u> • Store data on external devices such as flash drives, portable hard drives ✓ • Keep data in a safe place away from the computer. • Online backup services ✓ (Any one)	1	3
4.4	4.4.1	<u>Negative association associated with the concept of: 'Always On – Always Connected'</u> • Workers tend to be involved in work-related matters 24/7/No break from the work environment ✓ • Social Media/Internet Addiction Disorder • No relaxation • Health problems • Lack of privacy • No social relationships/poor communication • Impact on sleeping habits Note to marker: (Any other acceptable examples)	1	
	4.4.2	<u>ONE reason why note-taking software on mobile devices will benefit traffic officers</u> • Notes are recorded, stored and organized in one device/place ✓ • Prevent data loss • Notes always at hand – no risk of no paper to write on • Can integrate the notes and photos of the accident scene ✓ (Any one)	1	2
4.5	4.5.1	<u>Technology in smartphones that enables voice recognition</u> Biometric input ✓	1	
	4.5.2	<u>Technology to determine geographic location</u> GPS ✓	1	2
4.6		<u>Importance of compressing files</u> • To make files smaller, so they take up less storage space ✓ • Free up disk space ✓ • To make an e-mail attachment smaller and easier to send • Can support effective backup plan • Can ensure that saved files are more secure ✓✓ (Any two)		2
4.7		<u>Hard disk defragmentation will not make extra space available</u> A disk defragmenter is a utility that reorganizes parts of files ✓ and make your computer faster and does not make extra space available.		1

4.8	4.8.1	<u>Concept of virtual memory</u> The unused disk space of a hard drive, which allows the operating system to operate as if it had access to more RAM, enables the computer to run even more programs at once ✓	1	3
	4.8.2	<u>TWO examples when operating system uses virtual memory</u> • When too many programs are open ✓ • When programs are too large to run from available RAM ✓ • When the available memory is full ✓✓(Any two)	2	
4.9	4.9.1	<u>Technology to which the image refers</u> Drone technology ✓	1	3
	4.9.2	<u>TWO limitations of drone technology</u> • The battery life limits the flying time of the drone ✓ • Weather changes in an area affect the use of drones and rain or snow can damage the electronic components and hinder the communication between the drone and the controller ✓ • The use of drones may be restricted by airspace rules/laws ✓✓(Any two) • A person requires a special flying license to fly drones	2	
4.10	4.10.1	<u>Explaining how Virtual Reality works</u> • Allows users to be surrounded by a virtual world/tricks your brain into believing you are in a 3D world ✓ • This is done with stereoscopic images and works by showing two slightly different angles of the scene to each eye, thereby simulating depth ✓	2	5
	4.10.2	<u>THREE limitations of using virtual reality</u> • Incomplete technology (still new) ✓ • Can cause motion sickness ✓ • Technical limitations: movement, poor hardware and low resolution ✓ • Psychological: moral and ethical issues ✓✓✓ (Any three)	3	
				[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1	<u>Concept e-commerce</u> - E-commerce is the general term for any type of business transaction that involves communication over the Internet ✓ - It refers to the buying and selling of goods or services and also to their marketing ✓		2
5.2	<u>TWO recommendations for better privacy on social media, such as Facebook</u> - Ensure that only authorized persons can see the posts/content/use privacy settings (hide personal details) ✓ - Turn off cookies ✓ - Disable/restrict access to third-party apps/Disable data sharing with social network service provider, if possible - Block users you do not want to communicate with - Hide/do not share personal details - Turn off the "Share Location" feature ✓✓ (Any two)		2
5.3	<u>TWO reasons for choosing fiber internet connection over ADSL connection</u> - Optical fibre is faster ✓ - More reliable ✓ - Better (clearer) in data transfer - Optical cables are not easily stolen (like copper cables) - Less interference from electrical sources - No matter how far from the central point, but still strong data transmission - Does not need a fixed line to access the internet ✓✓ (any two)		2
5.4	<u>TWO advantages of online shopping</u> - Delivery to your home/You don't have to leave your home/More convenient, 24/7 from the comfort of your own home ✓ - Prices could be cheaper ✓ - The business can reduce its overhead costs (wages, shop rent and trade worldwide). - The business does not need to carry large amounts of inventory. - Safer than going to a store - Can do your shopping from any device connected to the internet - Can easily compare specs/prices/find specific items easier - Can see recommendations/choices from other customers - Much wider variety of articles to choose from/can be purchased from overseas stores - Save on travel costs when shopping, etc. ✓✓ (Any two)		2

5.5	<u>TWO measures to protect customers when banking online</u> • Use of one-time/per-session passwords sent to your smartphone ✓ • 2 step/factor authenticator ✓ • Passwords/PIN numbers per session • SMS notification of transactions • Secure protocols such as SSL • On-screen keyboard to enter PIN numbers and eliminate the risk of keyloggers • An online session will automatically stop if the user shows no activity for a certain time. • Banks post prominent warnings and safety tips on their websites. ✓✓ (Any two)		2
5.6	<u>Why not VoIP for emergency calls</u> • Internet connection may not be reliable ✓ • Lack of bandwidth • Destination may not have VoIP • It is difficult for emergency services to trace the origin of the call ✓(Any one)		1
5.7	<u>Brief explanation of what information overload is.</u> Information overload is what happens when people cannot handle the amount of information they are exposed to on a daily basis. ✓		1
5.8	<u>Difference between router and modem</u> You need a modem to connect to the internet ✓ while a router distributes the internet access to your devices (computer, smartphone, smart TV, etc.). ✓ OR The difference between a modem and a router is that a modem connects to the Internet ✓ and a router connects devices to Wi-Fi ✓ OR Router creates a network between the computers in your home, ✓ while the modem connects that network (computers, devices) to the internet ✓		2
5.9	<u>File format/type to save podcast</u> MP3 ✓		1
			[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1	<u>TWO advantages of electronic forms for collecting information</u> - Improved accuracy/Data validation can be done/No problems with handwriting ✓ - Less time required for data capture/Respondents may be more likely to complete the survey/answer ✓ - Data can be exported directly for analysis (eg. to a spreadsheet) - Easier to 'spread' survey/has a wider variety of respondents, etc. (Note to marker: Accept responses related to any type of electronic form, such as Google Docs, Microsoft Word forms, etc.) ✓✓(Any two)		2
6.2	<u>Two reasons for a conclusion in a formal report</u> It ... - Provides a summary of the main arguments ✓ - Provides a moral/call to action ✓ - Provides a general answer to the Focus question ✓✓(any two)		2
6.3	6.3.1	<u>TWO reasons information is not reliable – evaluate sources</u> It has a source evaluation problem regarding ... - Authority (are fabric manufacturers fashion experts?) ✓ - Accuracy (is the information substantiated?) ✓ - Timeliness (is it still relevant, not even a century old yet?) - Objectivity (material manufacturers may pursue their own interests) ✓✓ (Any two)	2
	6.3.2	<u>ONE way to make a paragraph more suitable for inclusion in a report</u> - Include a reference to the source, for example by means of a quote, hyperlink, etc. ✓ - Exclude the information that cannot be substantiated - Include information from another source to support the current statement ✓ (Any one)	1
6.4	<u>TWO aspects that must be included in a task definition</u> - State the problem/current situation / Why it is a problem ✓ - Focus of the investigation ✓ - How to do the research - Where to get information / How information will be used - Target audience - How the information will be presented ✓✓(Any two)		2

6.5	<u>How to avoid being guilty of plagiarism</u> • Give acknowledgment to sources, (e.g. bibliography and citation) ✓ • Write in your own words / Use a paraphrasing tool • Do not copy and paste text • Use a similarity checker (e.g. Turnitin) ✓ (Any one)		1
		[10]	

QUESTION 7: SOCIAL IMPLICATIONS

7.1	<u>Concept of user-centered design (USD)</u>			
	A method of computer program design that is based on the user's specific needs and requirements focus. ✓			1
7.2	<u>Software accessibility option for person with disabilities</u>			
	• Slow mouse speed ✓ • Filter keys • Voice typing/voice recognition/speech to text/narrator ✓ (Any one)			1
7.3	7.3.1	<u>Role of bot in DDoS attack</u>		
		• DDoS attack uses thousands of infiltrated computers (bots) to overwhelm a server computer with mass requests ✓ • The bot (computer) is controlled by an attacker and the attack is successful if the server becomes so overwhelmed that normal users can no longer access the system ✓	2	
	7.3.2	<u>How DDoS attack is used to wage cyberwarfare</u>		
		• They can use it to attack/take over an enemy/another country's services such as: ✓ • (military/broadcast) communications ✓ • nuclear sites (launch/disable missiles) • infrastructure (e.g. water, sanitation, power grid) • transportation, etc. ✓✓ (Any two)	2	4
7.4	7.4.1	<u>Technologic used by E-learning application</u>		
		Augmented Reality ('Augmented Reality') ✓	1	
	7.4.2	<u>Why AR technology is more useful compared to watching a video</u>		
		• It fits/is applied to the environment/equipment YOU see (not just a generic example) ✓ Note to marker: accept any valid explanation that is an advantage of AR, or also accept a suitable comparison.)	1	2

7.5	<u>TWO examples of the use of Artificial Intelligence</u> • Voice assistant apps/apps you can ask for help looking up information: Alexa, Siri, Google Assistant, Bixby, etc. ✓ • Personalised suggestions in (entertainment) applications such as: Spotify, Apple Music, Netflix, YouTube, etc. ✓ • Application shop social media and the facial recognition feature on our smartphones • Financial institutions to identify which transactions are likely to be fraudulent, provide a fast and accurate credit rating, as well as to automate manual intensive data management tasks • In the retail sector, AI offers virtual shopping possibilities that offer personalised recommendations • Inventory management and site layout technologies can also be improved with the use of AI • It can offer personalised medicine and X-ray readings and personal healthcare assistants can act as life coaches and remind you to take your medicine, exercise or eat healthier • Self-driven cars were developed using machine learning (which are humans, which mean road signs) and now rely on AI for real-time decision-making to drive, given the available data (to avoid accidents, take the best route etc.) Note to marker: NOT just the names of apps		
	✓✓ (Any two)		2
			[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1	8.1.1	<u>Automatic table of contents, styles used – reason for error message and how to solve it</u> <u>Reason</u> Proper/suitable heading styles ('heading styles') were not used ✓ <u>Solution</u> To correct this, you must change all the headings in the document to a suitable heading style and update the table of contents ✓ OR <u>Reason</u> The table of contents option is not set to display the selected style ✓ <u>Solution</u> Go to the table of contents option box and select the style you have chosen ✓ ✓✓ (any reason with acceptable solution)	2	4
	8.1.2	<u>How to prevent font and format from changing</u> Use Paste Special ✓ Use Keep source formatting ✓	2	
8.2	<u>Write formula/function in column D3</u> =IF✓(C3="Female",✓"New",✓"old"✓) Note to marker: (-1 if quotes were not used Other alternatives may also be acceptable, for example a VLOOKUP function)			4
8.3	<u>TWO spreadsheet features, other than graphs, that will help with processing</u> Functions and formulas ✓ Sorting ✓ Filtering Conditional formatting Pivot tables ✓✓ (Any two)			2

8.4	<u>Input mask – capital letter E starts, followed by three mandatory digits and one non-mandatory lowercase letter</u> >E000<? >E (1 mark) ✓ 000 (1 mark) ✓ <? (1 mark) ✓		3
8.5	<u>TWO reasons why a query does not produce desired result</u> Water field's Criteria (Is Not Null) should be moved to the 'Criteria' row and not in the 'Or' row ✓ Received field must contain the following criteria: Yes/True ✓		2
			[15]
TOTAL SECTION B			75

SECTION C: INTEGRATED SCENARIO

QUESTION 9

9.1	<u>TWO advantages of using online platform like ZOOM for learning</u>			
	• The user interface is very easy to use ✓ • The ability to host very large online conferences ✓ • More cost-effective compared to physical meetings • It enables connection from anywhere in the world • Virtual meetings make it possible to share a wide variety of information in real time with all participants • Increased productivity and efficiency		✓✓ (Any two)	2
9.2	<u>Would you prefer to receive resources from your educator via a WhatsApp group or via e-mail? Give TWO reasons to motivate your Choice.</u>			
	The following is only a guideline that can serve as possible answers: WhatsApp • Can communicate quickly ✓ • Can set only the administrator to send messages ✓ • Can send multi-media Email • Can communicate quickly • Can send to many learners at once Note to marker: (Accept any acceptable reasons for choosing the learner)		✓✓ (Any two)	2
9.3	9.3.1	<u>TWO disadvantages for learners to download videos with a high resolution</u>		
		• Slow download speed ✓ • Higher data costs ✓ • More storage of data required	✓✓ (Any two)	2
	9.3.2	<u>ONE software application to edit videos</u>		
		• Adobe Premiere ✓ • Windows Movie maker • Blender • Lightworks • Open shot	✓ (Any one)	1
				3

9.4	<u>TWO hardware requirements to hold video conference meetings</u>			
	- video camera ✓ - a microphone ✓ - speakers connected to their computer ✓✓ (Any two)			2
9.5	<u>Difference between service pack and patch – refer to the function of each</u>			
	Patch – an update to fix a specific error (bug) in a program ✓ Service pack – collection of updates, bug fixes and enhancements delivered as a single package and allowing for an easy single installation ✓			2
9.6	<u>TWO aspects of how BYOD policy complies with Covid-19 security protocols</u>			
	- Only the owner will use/handle the device ✓ - The device does not stay at the school, so there is no need to disinfect for the following day ✓ Note to marker: (Or any other acceptable answer)			2
9.7	<u>TWO reasons why a laptop is a better option than a tablet computer for online learning</u>			
	- Longer battery life ✓ - Bigger screen ✓ - More apps/features - More memory ✓✓ (Any two)			2
9.8	9.8.1	<u>Explain the term wearable technology</u>		
		Wearable devices and technologies are electronic mobile devices worn as accessories or as a garment, ✓ that constantly generates data from different environments and communicate with other devices/personal computers (PCs)/networks ✓		2
	9.8.2	<u>TWO uses of wearable technology</u>		
		Smart watches give a person not only the time, but also notifications of their calls, messages, e-mails, etc. on social media ✓ Fitness trackers and sports watches keep track of the number of steps/amount of time you exercise and monitor the heart rate ✓ 'Smart glasses' can in the corner of your eye offer functionality such as GPS navigation, the ability to easily take a photo, take incoming calls etc. Smart clothes were developed to monitor things like heart rate, blood glucose levels and fitness levels when worn Implanted portable devices that is surgically implanted under the skin and is usually used for medical reasons such as indicating insulin levels, symptoms of diseases, etc. - The gaming industry is adding more wearables such as gloves and headsets for virtual reality ✓✓ (Any two)		2 (4)

9.9	<u>Explain how blockchain works</u> - Blockchain is a specific type of database ✓ - Blockchains store data in blocks that are chained together and when new data comes in, it is entered into a new block ✓ - Once the block is filled with data, it is chained to the previous block, so the data is chained in chronological order ✓		3
9.10	<u>Term for: a single idea funded by several small donations</u> Crowd funding ✓		1
9.11	<u>Define concept 5th industrial revolution</u> (5IR) puts the focus back on people and human endeavours, ✓by defining the ethics and the impact of technology developed in the 4IR ✓		2
			[25]

QUESTION 10

10.1	10.1.1	<u>Explained: Two Factor (Two Step) Authentication</u> Two-factor (two-step) authentication is a security process ✓ in which users provide two different authentication factors to verify themselves, ✓ usually something you know (like a password) plus something you have (like a one-time password – OTP – sent to your phone). Note to marker: (Accept any answer where the learner explains how a two-step verification can be done, or if they give examples of two-step verification.)	2	4
	10.1.2	<u>TWO benefits of authentication as a security measure</u> • More secure - helps prevent unauthorised access to your bank account ✓ • Malicious software cannot access your data even if your password is compromised ✓ • This can alert you to a possible fraud attempt on your account if you receive an OTP and have not requested it. ✓✓ (Any two)	2	
10.2	10.2.1	<u>Define the term 'digital currency'</u> Digital currency is a form of virtual currency, ✓ it can be exchanged for other currencies, products and services ✓	2	5
	10.2.2	<u>ONE example of a digital currency</u> • Bitcoins ✓ • Ethereum • Luno ✓ (Any one)	1	
	10.2.3	<u>Efficiency of the use of digital currencies</u> • Digital currency has low fees ✓ • Fast transactions and ease of use ✓ • Mostly used for paying criminal activities such as ransom demands. Note to marker: (Any other acceptable logical explanation) ✓✓ (Any two)	2	
10.3	10.3.1	<u>Correct HTML code</u> src instead of scr ✓ "info.png" ✓ spelling of height ✓	3	4
	10.3.2	<u>Any other reason why the image will not display</u> If the image is not in the same folder as the text document. ✓	1	

10.4	10.4.1	<u>TWO technologies to pay registration fee</u> - Internet banking/Banking app ✓ - Mobile banking services ✓ - Snapsan / Zappe ✓✓ (Any two)	2	4
	10.4.2	<u>How can the organisers confirm that registration fee is paid</u> - Receive a confirmation notification by e-mail or SMS ✓ - Electronic receipts ✓ - Check - Online bank statements ✓✓ (Any two)	2	
10.5	10.5.1	<u>Which function: how many participants have already paid</u> =✓COUNTIF ✓	2	5
	10.5.2	<u>How to add a column between column D and E</u> Right click on Column E ✓ Click on Insert ✓	2	
	10.5.3	<u>How to secure that the amount remains the same</u> Use absolute cell reference ✓	1	
10.6	10.6.1	<u>ONE network connector that provides Wi-Fi access</u> Broadcom 802.11n ✓	1	3
	10.6.2	<u>Reason for two processors listed</u> Processor has two ✓cores ✓	2	
				[25]
			TOTAL SECTION C:	50
			GRAND TOTAL:	150