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SUBJECT		COMPUTER APPLICATIONS TECHNOLOGY
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INFORMATION AND INSTRUCTIONS

1. This question paper consists out of:
SECTION A: (25 marks)
SECTION B: (75 marks)
SECTION C: (50 marks)
2. Answer **ALL** the questions/sections in the answer book.
3. Number the questions correctly according to the numbering system used in this question paper.
4. Start **EACH** question on a **NEW** page.
5. Leave a line open between **EACH** sub question.
6. Read each question carefully before answering and do **NOT** give more information than the question requires as this will **NOT** be marked.
7. One mark is awarded per fact; therefore, a 2-mark question would require **TWO** facts, etc.
8. Answers such as 'slower/faster' and 'cheaper' etc. will **ONLY** be accepted if they are motivated.
9. All answers **MUST** be related to Computer Applications Technology. Do **NOT** use brand names in your answers, unless specifically required.
10. Write neatly and legibly, in **BLUE** ink only.



SECTION A

QUESTION 1: MATCHING ITEMS

Choose an appropriate term/concept from COLUMN B to match the description in COLUMN A. Write down ONLY the letter (A–T) next to the question numbers (1.1 to 1.10) in the ANSWER BOOK, e.g., 1.11 W.

COLUMN A		COLUMN B	
1.1	Non-responding programs are best closed using ...	A	RFID
		B	Wishlist
1.2	A technology often used to follow the progress of cyclists in a race.	C	Plagiarism
		D	Geotagging
1.3	Software that provides additional functionality to a web browser.	E	IMAP
		F	Vault
1.4	An audio file that can be downloaded from the internet.	G	Router
		H	Vodcast
1.5	A point of sales (POS) system stores and retrieves data from a ...	I	Shopping cart
		J	Task manager
1.6	A device that directs data between different networks.	K	SMTP
		L	e-Theft
1.7	A virtual tool that allows customers to select and store items they want to buy online.	M	Switch
		N	Database
1.8	You can read, organise, and manage your emails from any device, and any changes you make will be reflected on all the devices.	O	Podcast
		P	Plug-in
1.9	A protocol that makes video calls over the internet possible.	Q	POP3
		R	Copyright
1.10	The act of using someone else's work or ideas and presenting it as one's own.	S	Spreadsheet
		T	VoIP

(10)

**QUESTION 2: MULTIPLE CHOICE**

2.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question numbers (2.1 to 2.5) in the ANSWERBOOK, for example 2.6 D.

2.1 Malware that poses as a useful application.

- A Phishing
- B Virus
- C Trojan
- D Pharming (1)

2.2 One of the possible dangers of big data is ...

- A a loss of income.
- B a loss of user privacy.
- C virus infection.
- D amount of bandwidth used. (1)

2.3 Which one of the following statements is true for Grid computing?

- A It allows processing of high volumes of data.
- B It saves on electricity costs and data usage costs.
- C The number of computers used in a grid is always the same.
- D It uses a very powerful server for processing. (1)

2.4 The following function was entered in a spreadsheet; choose the correct descriptions for the underlined parameters:

=VLOOKUP(A1, B2:D10, 3, FALSE)

- A B2:D10: Is the range of cells containing the data, 3: is the column number in the table array from which to retrieve the value.
- B B2:D10: Is the range of cells containing the data, 3: determines whether the values must be an exact match or an approximate match.
- C B2:D10: This is the value you want to find in the table, 3: is the column number in the table array from which to retrieve the value.
- D B2:D10: All these values will be added together, 3: is the column number in the table array where values will be inserted. (1)



2.5 What is the purpose of the following icon in word processing software?



- A Erase a section of a picture or shape.
 - B Fill a single line of text with the selected colour.
 - C Fill multiple lines of text with the selected colour.
 - D Copies and applies text formatting in a document.
- (1)
- (5)**



QUESTION 3: TRUE OR FALSE ITEMS

Indicate whether the following statements are **TRUE** or **FALSE**. Write 'true' or 'false' next to the question numbers (3.1 to 3.10) in the ANSWER BOOK. Correct the statement if it is FALSE by changing the underlined word(s) to make the statement TRUE.

NOTE:

- You may **NOT** only use the word 'not' to change the statement.
- No mark will be awarded if only FALSE is written.

- 3.1 'Read-only' and 'Hidden' are examples of file extensions. (1)
- 3.2 The bookmarks/favourites feature is used by web browsers to automatically store recently visited webpages or content. (1)
- 3.3 DPI stores additional information about a file e.g., location of where a photo was taken. (1)
- 3.4 Augmented Reality enables a user to interact with a world that is entirely created with software. (1)
- 3.5 Virtual Thinking is the development of computer systems capable of performing tasks that typically require human intelligence. (1)
- 3.6 Autofill in a spreadsheet would populate a column with a list of consecutive numbers without typing each number. (1)
- 3.7 You will enter the criteria below to search for all text documents in a folder or drive: &.txt (1)
- 3.8 The following calculated field will add 10 to the value in the Salary field of a database table:
NewSalary: [Salary] + 10 (1)
- 3.9 A table in a database can be seen as the core of the database, all other database objects are dependent on information therein. (1)
- 3.10 When creating a table in HTML you will use <tr> to create a row and <td> to create a cell in that row. (1)

(10)

TOTAL SECTION A: [25]



SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

4.1 Name the two main types of system software. Avoid referencing any brand names or examples. (2)

4.2 Some icons on your operating system interface contain an arrow as seen below. Identify this type of icon and provide a brief explanation of what it is used for. (2)



4.3 A computer is running very slow, and you have determined that the issue is software-related. Identify TWO software-related problems that could affect the computer's speed. (2)

4.4 Various types of malware affect computers in different ways. Answer the questions that follow.

4.4.1 Differentiate between a zombie and a botnet in terms of their definitions. (2)

4.4.2 What does the acronym DoS stand for, and what could happen if you fall victim to such an attack? (2)

4.5 Devices that are plug and play, attempt to locate and install the appropriate driver automatically. Name THREE locations from which a device driver can be automatically installed. (3)

4.6 Both an ultrabook and a tablet offer portability. Which of these devices would you prefer to use for entering a large amount of data if you are using the same software? Justify your answer. (3)

4.7 The following are commonly included in system requirements when installing new software:

- RAM
- Processor speed
- Available storage space
- Graphics card

Which one is not ALWAYS a system requirement when installing new software? Justify your answer. (2)



- 4.8 When sending and receiving electronic files on different computers, is it important to consider backward and upward compatibility. What is upward compatibility? (2)
- 4.9 Which TWO features in Windows 11 can be used to take screenshots and choose exactly what content to capture? (2)
- 4.10 Give the term for the software licensing and distribution model where users pay a recurring fee, typically on a monthly or yearly basis, to access and use the software. (1)
- 4.11 Video conferencing and video calling have become very popular since the COVID pandemic. Answer the following questions.
- 4.11.1 Why would you add geotagging to a video conference? (1)
- 4.11.2 Give one example of software specifically designed for video conferencing. (1)
- (25)**



QUESTION 5: NETWORK AND INTERNET TECHNOLOGIES

- 5.1 Explain what the Internet of Things (IoT) is. (2)
- 5.2 Near Field Communication (NFC) has become a very popular method to transfer data. Provide TWO practical ways NFC can be used. (2)
- 5.3 Mention TWO negative aspects of web-based applications. Do NOT refer to security-related issues and a dependence on an internet connection in your answer. (2)
- 5.4 Smartphones can function as Wi-Fi hotspots. Briefly explain TWO disadvantages of using a smartphone as a Wi-Fi hotspot. (2)
- 5.5 Briefly discuss THREE reasons why it is essential to restrict the access rights of users on a Local Area Network (LAN). (3)
- 5.6 You are streaming videos using a wired connection, but the video stalls or freezes. Identify TWO solutions to resolve this issue without upgrading to a faster internet connection or addressing hardware-related problems. (2)
- 5.7 Unwanted advertisements during browsing the internet are disruptive for users. Discuss TWO effective methods to block unwanted advertisements while browsing the internet. (2)
- (15)**

**QUESTION 6: INFORMATION MANAGEMENT**

- 6.1 Citations and footnotes are both used in documents when conducting research. Distinguish between citations and footnotes in terms of their use. (2)
- 6.2 Explain why an asterisk (*) is next to some fields in an electronic questionnaire. (1)
- 6.3 Give TWO reasons why you would use a URL-shortener. (2)
- 6.4 List boxes and Combo boxes can be used in word processing software to enable more accurate completion of a form. Indicate for each of the following whether you would use a List box or a Combo box and clearly motivate your answer.
- 6.4.1 Limited space is available on the form. (2)
- 6.4.2 Multiple correct answers exist in the values given. (2)
- 6.5 Briefly discuss how web caching can influence the quality of information found on web pages. Exclude any answers related to security or authentication. (1)
- (10)**



QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Briefly describe TWO reasons why organisations benefit from marketing their products or services on the internet. (2)
- 7.2 Most new computers are equipped with SSD (solid state drive) storage. Explain how the use of an SSD contributes to green computing principles. (1)
- 7.3 Why does convergence make it more convenient for users? (2)
- 7.4 Briefly discuss TWO security advantages of using Bitcoin for online shopping compared to using a credit card. (2)
- 7.5 Explain TWO signs that a received message might be a hoax. (2)
- 7.6 Give ONE reason why you would advise a friend to use incognito mode or private browsing mode when using web-based services. (1)

(10)



QUESTION 8: SOLUTION DEVELOPMENT

- 8.1 The following fields are included in a database table. Study the table and answer the questions.

Field name	Description
Surname	Surname of the learner
Name	Name of the learner
Grade	Grade of the learner
Address	Address of the learner
Password	Password assigned to the learner
Internet usage	Amount of data used by the learner

- 8.1.1 Can you use any of the fields as a primary key? Motivate your answer. (2)
- 8.1.2 Give TWO reasons why is it considered bad practice to store an address in a single field instead of separating it into street, suburb, and city fields. (2)
- 8.2 Various tools are available in a database to ensure valid data entry. Differentiate between the Input Mask and Validation Rule properties in terms of their purpose for controlling data entry. Clearly indicate Input Mask and Validation Rule followed by your answer. (2)
- 8.3 There is a specific type of file commonly used to transfer data from a spreadsheet to a database. What is this type of file called? (1)
- 8.4 Different breaks in a document perform different tasks. Answer the questions that follow.
- 8.4.1 Explain the difference between page breaks and section breaks in terms of their purpose. Clearly state page break and section break followed by your answer. (2)
- 8.4.2 You want to make the text in the footer on the last page of a document different from the previous pages. Which kind of break should you use, and what feature needs to be turned off/disabled to do this? (2)
- 8.5 Explain what is inserted into, or contained in a merge field of a mail merge document. (1)
- 8.6 Why would you use the Round function in a spreadsheet when doing calculations instead of just formatting to decrease decimal places? (1)



- 8.7 Briefly explain why the HTML code `<hr width="600">` will not automatically adjust the length of the line when the window/browser is resized. (1)
- 8.8 You intended to bold one word in an HTML document using the `<b>` tag, but all the text following the `<b>` tag became bold. Explain the possible cause of this issue. (1)

(15)

TOTAL SECTION B: [75]



SECTION C: INTEGRATED SCENARIO

Consider the following scenario when answering QUESTIONS 9 and 10.

SCENARIO

A local hospital is establishing a communication area for patients and visitors. This area will include:

- Public-use computers: Available for individuals to use.
- Wireless internet access: Allowing visitors to connect their own devices (laptops, tablets, smartphones) to the internet.

QUESTION 9: INTEGRATION

- 9.1 The communications area will be equipped with entry-level computers. Briefly discuss TWO advantages of using entry-level computers in this context compared to mid-range computers. (2)
- 9.2 Security cameras will be installed in the communication area to prevent the misuse of the equipment. Answer the following questions.
- 9.2.1 In what unit is the number of images a camera captures per second measured when taking a video? (1)
- 9.2.2 Security cameras are equipped with both digital and optical zoom. Recommend whether to use digital or optical zoom to obtain better image quality. Provide a reason for your recommendation. In your answer do not simply state that it provides better image quality. (2)
- 9.3 The IT technician is researching the various uses for HDMI cables. Identify one type of connection that newer HDMI cables can support, excluding transferring video and audio signals from your answer. (1)
- 9.4 The hospital is using images which are protected by a Creative Commons license. Differentiate between Creative Commons and copyright. (2)
- 9.5 The computers in the communication area will be equipped with standard USB and USB-C ports. Answer the following questions.
- 9.5.1 USB-C ports have a reversible design. Explain what is meant by a reversible design. (1)
- 9.5.2 List TWO advantages of USB-C ports when compared to traditional USB ports. Exclude reversible design from your answer. (2)



- 9.6 The marketing department uses computers with high-end specifications. Differentiate between a CPU used in a high-end computer and a CPU used in an entry-level computer in terms of the physical build of the CPU. (2)
- 9.7 One of the computers is experiencing issues with the operating system. Answer the following questions.
- 9.7.1 A computer powers on but fails to load the operating system. Identify TWO possible software-related causes of this issue, excluding virus infections. (2)
- 9.7.2 A computer powers on but fails to load the operating system. Identify TWO possible hardware-related causes of this issue. (2)
- 9.8 The communication area will be equipped with computers with different web browsers installed to cater for all visitors. Discuss web browser features that can contribute to a safer browsing experience. (2)
- 9.9 Medical staff will be issued with laptops. Suggest THREE biometric security measures that can be implemented on a laptop. (3)
- 9.10 Propose THREE methods for transferring of data between digital cameras and personal computers. (3)
- (25)**



QUESTION 10: INTEGRATION

NOTE: The scenario of QUESTION 9 also applies to QUESTION 10.

- 10.1 Remote access to a hospital's intranet introduces additional security considerations. Answer the following questions.
- 10.1.1 Explain what an intranet is. (3)
- 10.1.2 Explain how a VPN can enhance the security of an intranet. (2)
- 10.1.3 Describe TWO ways a firewall can enhance the security of an intranet. (2)
- 10.2 Visitors to the communication area can connect wirelessly to the network. Explain TWO reasons why a wireless LAN might not achieve its maximum connection speed. (2)
- 10.3 Identify a hardware component that may be necessary to enhance or extend Wi-Fi coverage inside the hospital. (1)
- 10.4 The hospital wants to ensure that all computer equipment complies with its health policies. Answer the following questions.
- 10.4.1 Which part of the body is affected by CTS? (1)
- 10.4.2 Give brief descriptions of TWO ergonomically designed devices. (2)
- 10.5 Posters with guidelines on how to avoid becoming a victim of phishing will be displayed on the walls of the communication area. Identify TWO common characteristics typically found in a phishing email. (2)
- 10.6 The hospital aims to teach its staff about online cyberstalking and cyberbullying. Differentiate between online cyberstalking and cyberbullying by comparing the actions and what they aim to achieve. Clearly indicate cyberstalking and cyberbullying followed by your answer. (4)
- 10.7 The HTML code below was inserted into the hospital's webpage. Analyse the code and answer the following questions.
- ```


```
- 10.7.1 What is the purpose of the <a...> anchor in the code? (1)
- 10.7.2 What is the purpose of href="webpage1.html"? (2)



10.8 The financial department uses a spreadsheet containing multiple formulae. Explain how to prevent users from modifying these formulae. (2)

10.9 The following formula was entered into a spreadsheet:

$2*2*2$  (2 multiplied by 2 multiplied by 2)

Give the name of ONE function that can replace the entire formula. (1)

(25)

**TOTAL SECTION C: [50]**

**GRAND TOTAL: [150]**