Computer: A Wonder Machine

BOOK 4

Chapter 1

Computers—Storage and Memory Device

1. I-P-O Cycle

Working of a computer involves three steps—Input-Process-Output (I-P-O).

A computer processes raw data that we input and gives us the final data as output.

For example,

Input → 5 + 8

Process → Addition

Output → 13

2. Fill in the blanks:

(a) Information

(b) Bytes

(c) Memory

(d) Main

(e) Non-Volatile

3. Write the full forms of the following:

(a) ROM–Read-Only Memory

(b) RAM–Random-Access Memory

(c) I-P-O–Input-Process-Output

(d) HDD–Hard Disk Drive

(e) CD-RW–Compact Disc-Read Write

4. Differentiate between:

(a) RAM and ROM

RAM	ROM
Random-Access Memory	Read-Only Memory
Read and write both are allowed.	Only read is allowed.
Stores data, program and program result.	Stores permanent instructions for a computer.
This is a temporary storage area. It gets cleared as soon as the computer is switched OFF.	This is a permanent storage area and the instructions are not changed even when the computer is switched OFF.

(b) Internal Memory and External Memory

Internal Memory	External Memory
The computer CPU can directly access it.	The computer CPU cannot directly access it.
It is the main memory.	It is the backup memory.
Computer cannot run without the main memory.	Computer can run without the external memory.
It is faster than external memory.	It is slower than internal memory.
Example: ROM and RAM	Example: Hard disk, Pen drive, CD-RW, SD card, etc.

(c) Data and Information

Data	Information
Data is used as input for computer system.	Information is the output of the data.
Unprocessed facts	Processed data
Data is the raw material.	Information is the product.
Data: Entered numbers 2 and 5	Information: Result 7

5. Measuring Units

(a) 1 byte = 8 bits

(b) 1 KB (Kilobyte) = 1024 bytes

(c) 1 MB (Megabyte) = 1024 KB (Kilobytes)

(d) 1 GB (Gigabyte) = 1024 MB (Megabytes)

(e) 1 TB (Terabyte) = 1024 GB (Gigabytes)

6. Tick (✓) the correct option:

(a) (i) Input-Process-Output

(b) (iii) ROM

(c) (iv) RAM

(d) (ii) Instructions

(e) (i) Output

Chapter 2
Tools of Word Processor

1. Fill in the blanks:

(a) Left, Right

(b) 1.08

(c) Justify

(d) Toggle

(e) Dialog box launcher

2. Tick (✓) the correct option:

(a) (ii) Left, Right, Justify, Center (b) (iii) 1.08

(c) (iv)  (d) (iv) F7

(e) (i) Backstage

3. Match the following:

(a) (iii) Select all the contents of the page.

(b) (iv) Selected text will change to bold.

(c) (v) Copy the selected text.

(d) (ii) Paste the copied text.

(e) (vii) Selected text will change to italics.

(f) (xi) Underline the selected text.

(g) (ix) New blank Word document opens.

(h) (x) Save the document.

(i) (xii) Cut the selected document.

(j) (viii) Redo the last action performed.

(k) (vi) Undo the last action performed.

(l) (i) Print the document.

4. Five important features of a word processor are:

(i) Save (ii) Edit

(iii) Auto correct (iv) Format

(v) Spelling and Grammar check

Chapter 3
The Internet—Web Browser

1. Fill in the blanks:

(a) Web pages (b) Internet

(c) Web browser (d) Address bar

(e) Hyperlink

2. Tick (✓) the correct option:

(a) (iii) Uniform Resource Locator (b) (i) World Wide Web

(c) (ii) Net surfing (d) (iv) Google Search

(e) (iii) Search engine

3. Short notes:

(a) **Search engine**–A Search engine is a software that needs browser window to open. It searches for particular information when specific keywords are entered. It displays a Search textbox in which we can enter the keywords and a Google Search button for searching. All the related documents get listed in the search result window. For example, Google Search.

(b) **Web browser**–A web browser is a software application used for accessing information on the internet. We need to install a web browser on our computers. For example, Google Chrome.

(c) **ISP**–ISP provides the internet connection on our computer. It is similar to the cable operator giving cable connection on our TV. Some of the ISPs are VSNL, MTNL, AIRTEL, TATA, etc.

(d) **World Wide Web**–The World Wide Web (WWW) is a network of web pages that collects and stores the information. The term refers to all the interlinked web pages that can be accessed over the Internet.

Chapter 4
Presentation Software—An Introduction

1. Fill in the blanks:

(a) PowerPoint
(b) Slides
(c) Slide pane
(d) Design
(e) .pptx

2. Tick (✓) the correct option:

(a) (i) Layout
(b) (iv) Center pane
(c) (ii) Ctrl + O
(d) (iv) All of the above
(e) (iv) All of the above

Chapter 5
Microsoft Publisher

1. Tick (✓) the correct option:

(a) (iv) All of these
(b) (iii) Page Navigation
(c) (i) Quick Access toolbar
(d) (iii) .pub
(e) (i) Currently displayed page

2. Publisher allows us to create:

- Brochures
- Business cards
- Greeting cards
- Flyers
- Invitations
- Address labels
- Certificates
- Booklets

Chapter 6
Features of File Management

1. Fill in the blanks:

(a) File explorer
(b) F2
(c) Contents
(d) Copy, Paste
(e) (i) Folder window (ii) Contents window (iii) Preview window

2. Tick (✓) the correct option:

(a) (i) File explorer
(b) (iv) All of these
(c) (i) Contents window
(d) (ii) Folders
(e) (ii) F2

3. Arrange the steps given under each statement in proper sequence:

(a) Renaming files and folders
  (i) Right click on the file or folder
  (ii) Click the rename option from the shortcut menu.
  (iii) Type the new name
  (iv) Press Enter key

(b) Hiding a file or folder
  (i) Open file explorer
  (ii) Right click on File or Folder
  (iii) On the General tab, under Attributes column, check the Hidden checkbox.
  (iv) Click on Apply button

(c) Moving a file or folder
  (i) Select the file or folder
  (ii) Without releasing the button, drag the file or folder to the destination folder.
  (iii) Release the left mouse button on reaching the destination.
  (iv) The selected file or folder will be moved to the destination folder.

4. Write different ways in which you can do the following:

(a) Copy a file:

(i) Left click on the file → Home tab → Organize group → Copy to option

(ii) Right click on the file → Copy option from shortcut menu

(iii) Left click on the file → Ctrl + C

(iv) Left click on the file → Clipboard group → Home tab → Copy option

(b) Move a folder:

(i) Left click on the folder → Home tab → Organize group → Move to option

(ii) Left click on the folder → Drag the folder to the destination location → Release the mouse button

(c) Delete a file:

(i) Left click on the folder → Home tab → Organize group → Delete option

(ii) Right click on the file → Delete option from shortcut menu

(iii) Press Delete (Del) key on the keyboard.

(d) Rename a folder:

(i) Right click on the folder → Rename option from shortcut menu

(ii) Left click on the folder → Press F2 on the keyboard

(e) Hide a folder:

(i) Right click on it → Properties option → under attributes check Hidden checkbox.

Chapter 7
Scratch Categories And Blocks

1. Answer the following questions:

(a) Sprites are the active objects on the stage. Scripts are created using the blocks to control the behaviour of these Sprites. The default Sprite available in the Scratch window is a cat.

(b) Programming language is a special language in which programs are written by programmers to perform specific tasks. Some examples of programming language are Java, Visual Basic, Python, etc

(c) Block palette includes the following categories:

1. Motion
2. Looks
3. Sound
4. Events
5. Control
6. Sensing
7. Operators
8. Variables
9. My Blocks

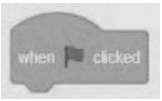
2. Complete the following chart:

Category	Color code	Number of block	Function
Motion	Medium Blue	Eighteen	Controls the motion of the sprite
Looks	Purple	Twenty	Controls the appearance of the sprite
Sound	Pink/Magenta	Nine	Controls the sound of the sprite
Events	Light Yellow	Eight	Each script we create will get executed only when we use an event block in the beginning
Control	Gold	Eleven	For inserting conditional statements, loops, repeats and pauses
Sensing	Cyan	Eighteen	Sensing blocks are used to detect keyboard and mouse movements
Operators	Light Green	Eighteen	Creates mathematical equations
Variables	Orange	Five	Creates and assigns values to the variables
Pen	Green	Nine	Used to draw on the stage

3. Match the following:

(a) (v) Medium Blue
(b) (i) Purple
(c) (vi) Pink/Magenta
(d) (ii) Light Yellow
(e) (vii) Gold
(f) (ix) Cyan
(g) (iii) Light Green
(h) (viii) Orange
(i) (iv) Green

4. Choose the correct option:

(a) (ii) 

(b) (ii) Green
(c) (ii) Control
(d) (ii) Control
(e) (iv) Pen

Chapter 8
Scratch Background and Sprites

1. Answer the following questions:

(a) The blocks are grouped under twelve different categories. All blocks are listed and categorized into the following groups:

- Motion,
- Looks,
- Sound,
- Pen,
- Data,
- Events,
- Control,
- Sensing,
- Operators, and
- More blocks.

(b) (i) **Motion** – Moves sprites and changes angles.

(ii) **Looks** –

- Control the visuals of the sprites
- Attach speech or thought bubble
- Change of background
- Enlarge or shrink
- Transparency
- Add shades

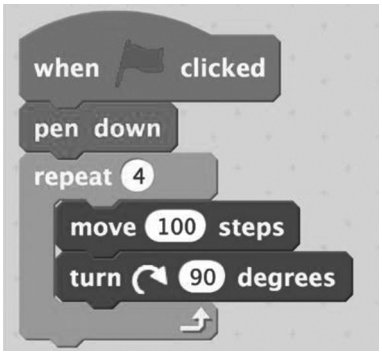
(iii) **Sound** – Plays audio files and programmable sequences.

(iv) **Pen** –

- Draws on the portrait by controlling pen width, colour and shade.
- Allows turtle graphics.

(v) **Control** – Conditional "if-else" statements, "forever", repeat and stop.

(c) When we want to repeat any block or blocks in a script for more than one time, we can use these blocks within the Repeat block. For example, we want to draw a square. Here, we are repeating move and turn blocks 4 times.



(d) Forever block is used to create an infinite loop. It is placed under Control block. This block can be only stopped by clicking Stop sign or when Stop All is activated or stop script is activated within the script. This is used quite often in Scratch programming because during animation an infinite loop is required at many places.

Forever-If is similar to Forever block with IF condition attached to it. It is used to create an infinite loop where it continuously checks for its Boolean condition. If the condition is true, the code within the loop will be executed and the script continues. But if the condition is false, nothing will happen till the condition is true again. The If condition is applied using blocks in Sensing block.

(e) Blocks are puzzle-piece shapes that are used to create code in Scratch. The blocks connect to each other vertically like a jigsaw puzzle, where each block (hat, stack, reporter, Boolean, or cap) has its own shape and a specially shaped slot for it to be inserted into, which prevents syntax errors. Series of connected blocks are called scripts.

2. Fill in the blanks:

(a) Stage, Sprites and Script
(b) X, Y
(c) Sound
(d) Sprite Library
(e) Backdrop
(f) Forever
(g) Stop sign or Stop All or Stop script
(h) Boolean

3. Write T for true and F for false statements:

(a) T (b) F (c) F (d) T (e) F
(f) T (g) T (h) T (i) F (j) F

4. Match the following:

(a) (v) Hat block

(b) (ii) Boolean block

(c) (iv) C block

(d) (iii) Stack block

(e) (vi) Reporter block

(f) (i) Cap block

5. Tick (✓) the correct option:

(a) (i) 3

(b) (i) Scripts

(c) (iii) Library

(d) (i) 

(e) (i) 

(f) (ii) Motion

(g) (i) Cap

(h) (iv) Stack

(i) (ii) 15

(j) (iii) Events

Chapter 9
Need For Artificial Intelligence

1. Answer the following questions:

(a) We need AI in today's world because of the following reasons:

(i) It helps us to create software programs like voice assistance that can solve our day-to-day needs.

(ii) It reduces human error. For instance, robots being used to perform surgeries.

(iii) It works in dangerous places. For example, robots or drones being used in war zones.

(iv) It helps in repetitive tasks. For example, robots being used in the garment industry.

(v) It contributes in learning and helps students to improve and sharpen their skills.

(b) The advantages of artificial intelligence are as follows:

(i) AI-enabled machines are accurate and perform tasks very fast.

(ii) AI-enabled machines can perform a task with speed and accuracy, thus increasing productivity.

(iii) AI-enabled machines diagnose diseases much faster than doctors.

(iv) AI machines can be placed anywhere whereas humans cannot survive in extreme conditions/areas.

(v) AI-enabled machines can work continuously without getting tired or exhausted.

(vi) AI-enabled machines help in cost reduction.

(c) We can say that AI-enabled machines are accurate and perform tasks very fast because humans make mistakes. Therefore, we need to rely on these machines. For example, self-driving cars help in saving human lives by limiting the number of accidents.

2. Fill in the blanks:

(a) Artificial Intelligence

(d) tired, exhausted

(c) cost

(d) personalization

(e) war zones, volcano-prone areas

3. Match the following:

(a) (iv) Alexa

(b) (v) Accurate

(c) (ii) Snapchat

(d) (i) Personalized

(e) (iii) is a machine