Computer: A Wonder Machine

BOOK 3

Chapter 1

A Computer System

1. Fill in the blanks:

(a) A Computer System

(b) Programs

(c) Hardware

(d) (i) run basic operations of a computer

(ii) manage the hardware

(e) input, output

2. Define the following terms:

(a) **Input Devices:** An Input device is a device through which we give commands and instructions to the computer. Two important input devices are keyboard and mouse.

(b) **CPU:** Central Processing Unit or the system unit is the processing device of a computer. CPU processes data by executing instructions given by us. CPU is also known as the brain of a computer.

(c) **Storage Devices:** The external storage devices are also known as storage devices. These are used to store data and information permanently. For example, compact disc, pen drive, etc.

(d) **Data:** Anything entered through the keyboard is known as data.

(e) **Information:** CPU processes the data. This processed data is known as information.

3. Classify the following devices in the columns below:

Input devices	Processing device	Output devices	Storage devices
Mouse	CPU	Monitor	Pen drive
Keyboard		Printer	Compact disc
Joystick		Speaker	Hard disk
Camera			

4. Complete the following:

(a) MOUSE
(b) KEYBOARD
(c) INFORMATION
(d) PROGRAM
(e) DATA
(f) INSTRUCTION
(g) HARD DISK
(h) PEN DRIVE
(i) COMPACT DISC
(j) CONTROL UNIT

5. Choose the correct option:

(a) (i) Input-Process-Output

(b) (iv) Data

(c) (iv) RAM

(d) (ii) Instructions

(e) (i) Output

6. Draw I-P-O Cycle for the following:

(a) Preparing lemonade

Input–Put water, sugar and lemon in the glass.

Process–Mix water, sugar and lemon juice in a glass with the help of spoon.

Output–Lemonade is ready.

(b) ATM for taking out money

Input–Put ATM card in the ATM machine.

Enter the amount required.

Punch PIN number.

Process–The ATM machine counts the money.

Output–Collect the money and ATM card from the machine.

(c) Washing machine for washing clothes

Input–Put dirty clothes in the washing machine.

Pour soap in the washing machine

Process–Switch on the electricity and start the washing machine.

Output–Clean clothes.

Chapter 2
GUI Operating System—An Introduction

1. Fill in the blanks:

(a) Graphical User Interface

(b) Windows desktop

(c) (i) The start menu button

(ii) Search textbox

(iii) Icons of frequently used applications, *i.e.*, pinned applications for quick access.

(iv) The notification area that informs the user of various things like laptop battery remaining, Wi-Fi signals, etc.

(v) Date and time

(d) Wallpaper

(e) Lock screen

2. Define the following terms:

(a) **Screen saver**–Screen saver is a software program that gets activated after the computer becomes inactive.

(b) **CLI**–Full form of CLI is Command Line Interface. The interface where we type all the commands on the keyboard to make our computer work is known as CLI.

(c) **Wallpaper**–Wallpaper is an image that appears on the screen when we open our computer.

(d) **GUI**–GUI stands for Graphical User Interface. It is a visual way of interacting with computer using graphical symbols.

(e) **Icons**–An icon is a graphical representation of an application. To open it, we have to double click on it.

3. Answer the following questions:

(a) (i) **Safe mode and Normal mode**

The main difference between Windows safe mode and normal mode is their purpose. Normal mode is the default-working mode of the operating system whereas safe mode is a diagnostic mode that is used to detect and repair issues of a computer.

(ii) **CLI:** Full form of CLI is Command Line Interface. The interface where we type all the commands on the keyboard to make our computer work is known as CLI.

GUI: GUI stands for Graphical User Interface. It is a visual way of interacting with the computer using graphical symbols.

(b) Write down the steps for:

(i) We can set the wallpaper by following the steps given below:

- Click on the Windows icon on the taskbar.
- From the pop-up menu, click on Settings option.
- Settings window opens up. Click on Personalization option in the left pane.
- Personalization options appear on the right pane. Click on Background options in the right pane.
- Here, we can search and choose the background image. It immediately sets in the background.

(ii) We can set our screensaver by following the steps given below:

- Click on Windows icon and from the pop-up menu, select Settings option.
- From Settings window, select Personalization option in the left pane. Personalization options appear on the right pane.
- On the right pane, select Lock screen option.
- Lock screen option appear on the right pane. Click on screen saver option.
- Screen saver settings window appears.
- Here, we select the screen saver from the drop-down and set the wait time. Wait time is the time after which the screen saver becomes active.

(iii) We can arrange desktop icons one by one by moving them with the help of the mouse. Another way of arranging the icons on the desktop is as follows:

- Right click on the desktop.
- A pop-up menu appears.
- Click on the arrow in front of the View option.
- From the sub-pop-up menu, click on Auto arrange icons option.
- All the icons get arranged properly.

4. Choose the correct option:

(a) (ii) Graphical User Interface
(b) (iv) All of these
(c) (iv) Safe
(d) (iv) Notification area
(e) (ii) Personalization

5. Left for the students.

Chapter 3
Word Processor

1. Choose the correct option:

(a) (i) Ctrl+O.

(b) (i) Ctrl+S.

(c) (iii) Status bar

(d) (iv)  Icon on the Quick Access toolbar.

(e) (iv) .docx

(f) (iv) Quick Access toolbar.

(g) (iii) Left clicking on  icon on the Quick Access toolbar.

(h) (iii) Formatting toolbar

(i) (i) Workspace

(j) (i) Ribbon

2. Five important features of a Word Processor are:

(a) Save (b) Edit

(c) Auto correct (d) Format

(e) Spelling and Grammar check

3. Left for the students.

Chapter 4
Internet—An Introduction

1. Choose the correct option:

(a) (iv) All of these (b) (i) Email

(c) (iv) Running (d) (iv) Money transaction done online

(e) (ii) Website (f) (ii) Be Strong and Unique

2. Answer the following questions:

(a) Following are the uses of internet:

(i) Email

(ii) Research

(iii) Downloading files

(iv) Discussion groups

(v) Interactive games

(vi) Education and self-improvement

(vii) Socialising

(viii) Electronic newspaper and magazines

(ix) Job-hunting

(x) Shopping

(b) (i) **Web browser**–Web browser is a program which allows us to access different websites on the internet.

(ii) **Web page**–A web page is a document written using HTML programming language.

(iii) **Web server**–A computer that hosts the website on the internet.

(iv) **Website**–A collection of web pages forms a website. All these web pages are interlinked and share single domain name. Websites are accessible to us through the internet. Some of the popular websites are *wikipedia.org, google.com*, and *amazon.com*.

(v) **Internet**–A huge network of computers that is spread all over the world is known as Internet.

(c) For opening a web page in the browser window using the URL, we need to know the URL of the web page. Follow the steps given below:

(i) Open a web browser window.

(ii) Type the URL or the web address in the search textbox. For example, if you want to open Microsoft web page, type www.microsoft.com in the search textbox.

(iii) Press Enter.

(iv) The web page opens.

3. Advantages and Disadvantages of internet:

Advantages:

(i) **Communication**–It provides fast communication. We can communicate through emails, chats, video or audio calls.

(ii) **Information**–Internet is full of information. It has become the source of all knowledge. For example, if we want to buy a mobile phone, we can compare all the models available in that range. This helps us to decide easily.

(iii) **Learning**–Children use internet for learning and doing their work. For example, for doing holiday homework, we use internet.

(iv) **Entertainment**–All the movies, videos, songs and games are available on the internet. We can view any of them anytime from anywhere.

(v) **Social Networking**–Social networking sites are used to communicate with family and friends all around the world. For example, Facebook, Twitter, etc.

(vi) **E-commerce**–E-commerce is any transaction of money that we do online. For example, booking online movie tickets, railway tickets or airline tickets are all money transactions. Online shopping is also an example of e-commerce.

Disadvantages:

(i) Loss of information like our account numbers, passwords, etc.

(ii) We get unnecessary emails that are known as SPAM.

(iii) Our computers get infected with virus. These virus attacks slow down our system, corrupt our files, sometimes erase our important data.

(iv) Sitting for long durations in front of the computer and not doing any physical activity causes various health issues like obesity, body pain, cervical, etc.

Chapter 5
Fun with Paint 3D

1. Answer the following questions:

(a) The main difference between Microsoft Paint and Microsoft 3D Paint application is that Microsoft 3D Paint software allows us to create and color 3D models.

(b) Main contents of 3D Paint screen:

(i) Toolbar

(ii) Control buttons

(iii) Drawing area

(iv) Right pane

(v) Scroll bars

(c) When the shape is placed on the drawing area, the following tools are shown:

(i) **Grab points**—With these points, we can increase or decrease the size of our shape.

(ii) **Rotate tool**—With this tool, we can rotate our shape.

(iii) **Clone tool**—When we want to create the same shape, we can make a copy of it with the clone tool.

(iv) **Complete**—After modifying a shape, we can click on complete tool

(d) Paint 3D provides us three types of shapes:

(i) **3D Objects**—These are the basic geometrical shapes.

(ii) **3D Doodle**—Here, abstract shapes are displayed for inserting in the drawing area.

(iii) 3D Models

(e) We can rotate 3D objects in all directions using rotate tool.

2. Fill in the blanks:

(a) Grab point

(b) Five

(c) Brush

(d) Stickers

(e) Canvas

3. Match the following:

(a) (iv) Geometrical shapes

(b) (v) Backstage view

(c) (vi) Drawing area

(d) (vii) 3D Models

(e) (i) Same shapes

(f) (iii) Abstract shapes

(g) (ii) Background color

4. Write T for True and F for False statements:

(a) F

(b) T

(c) T

(d) F

(e) F

5. Choose the correct option:

(a) (iv) Move

(b) (i) Right panel

(c) (ii) Clone

(d) (iii) Backstage

(e) (i) Drawing

Chapter 7
File Management—Organization of Folders

1. Fill in the blanks:

(a) Recycle Bin

(b) Permanently

(c) File explorer

(d) Preview

(e) Files

2. Answer the following:

(a) To keep our work well organized and easily accessible, we need files and folders for saving our data.

(b) When we delete our unwanted files, they move to the recycle bin. We can retrieve these files back till the recycle bin is emptied. Right-click on the file to be retrieved and then left-click on Restore. The file will be placed back to its original location.

(c) (i) **Right pane**–Also known as details pane, it shows the properties of the selected files.

(ii) **Left pane**–Also known as navigation pane, it displays all the folders. When we click on the arrow in front of any folder, it expands and displays all the folders saved in it.

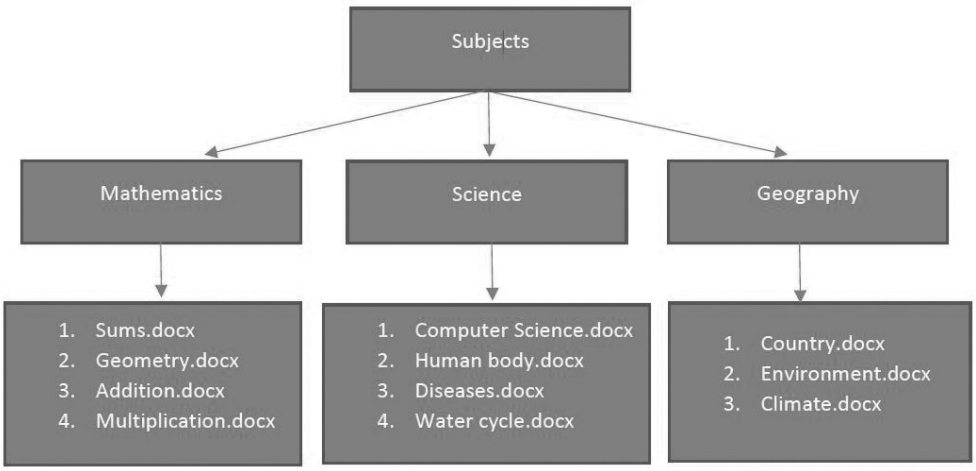
(iii) **Preview pane**–It shows the content of the file selected in the right pane.

(d) Secondary part of any file name is the extension and the main differentiator. It determines the software to which the file belongs. For example, Word file has .docx extension and Paint file has .bmp extension.

(e) Recycle Bin is also called dustbin because all the unwanted files that are deleted move to the recycle bin.

3. All the data on our computer consists of files and folders. The basic difference between the two is that files store data and information, while folders store files and other folders. The folders are used to organize files on our computer.

4.



5.

Primary Name	**Secondary Name**
Butterfly	.bmp
tiger200	.docx
computer	.pptx
India_country	.bmp
cow_calf	.docx
dog_puppy	.xlsx

Chapter 8
Step-Wise Thinking

1. Fill in the blanks:

(a) American Society of Mechanical Engineers

(b) Graphical representation

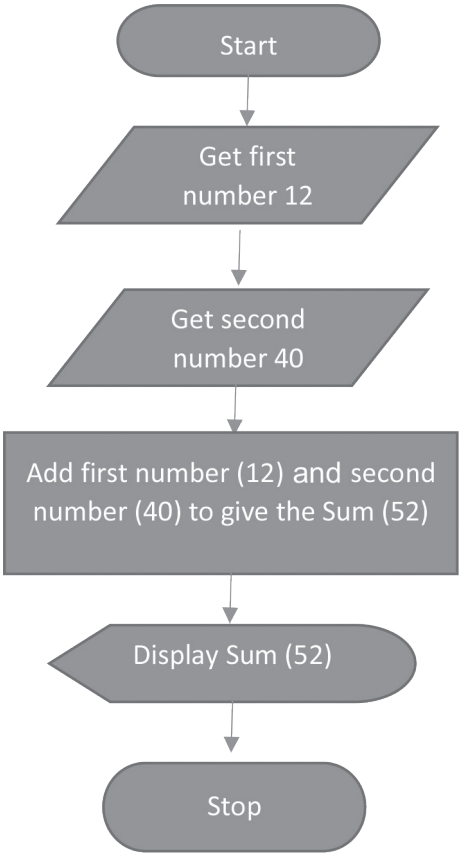
(c) step-wise

(d) Analysis, Reasoning and Process flow diagram

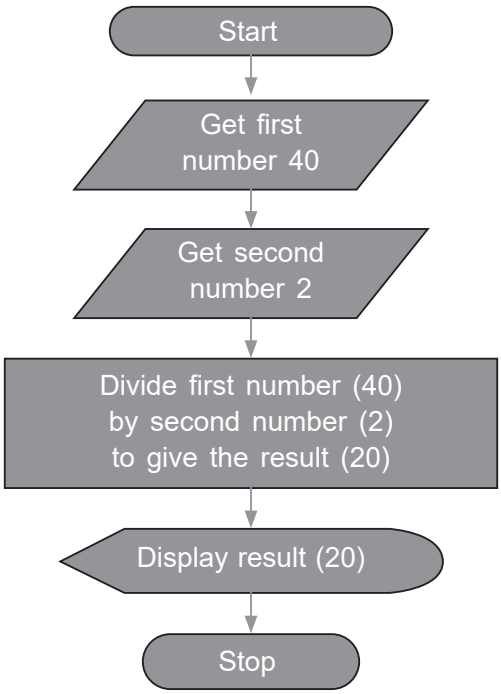
(e) Flow chart

4. Draw flow charts for calculating the following:

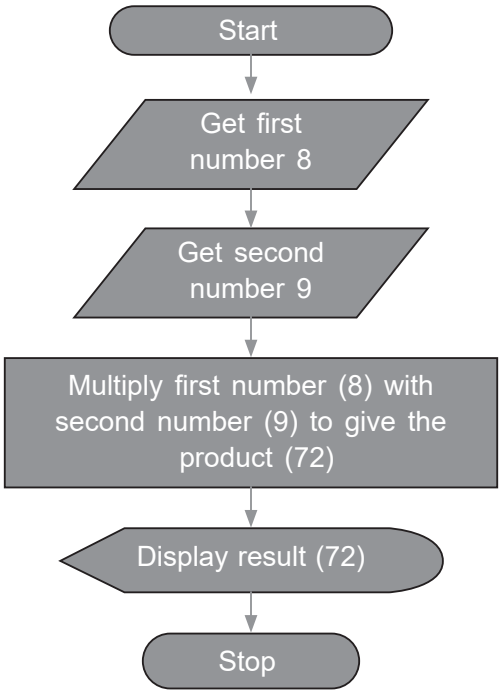
(a) 12 + 40



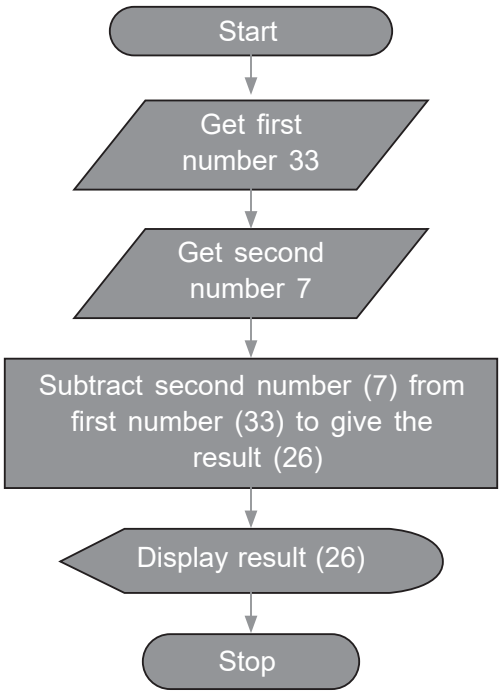
(b) 40/2


Start
Get first number 40
Get second number 2
Divide first number (40) by second number (2) to give the result (20)
Display result (20)
Stop

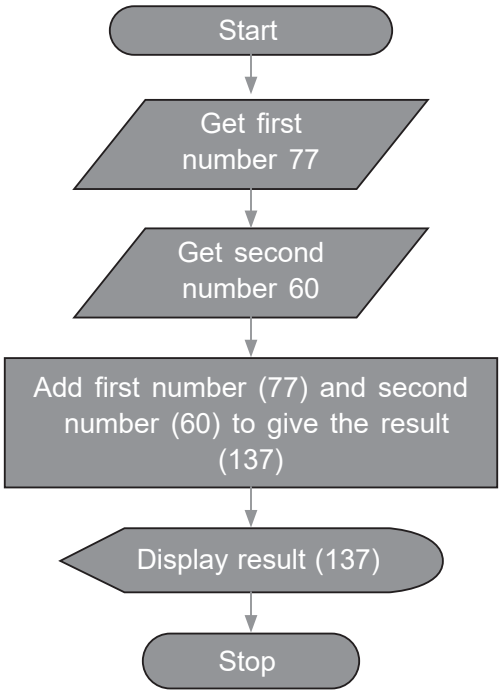
(c) 8*9


Start
Get first number 8
Get second number 9
Multiply first number (8) with second number (9) to give the product (72)
Display result (72)
Stop

(d) 33 – 7


Start
Get first number 33
Get second number 7
Subtract second number (7) from first number (33) to give the result (26)
Display result (26)
Stop

(e) 77 + 60


Start
Get first number 77
Get second number 60
Add first number (77) and second number (60) to give the result (137)
Display result (137)
Stop

Chapter 9
Introduction to Scratch Programming

1. Answer the following questions:

(a) Define the following terms:

(i) **Program**–Program is a set of systematic instructions that directs the computer to do the tasks we want it to do and produce the results we want.

(ii) **Programming language**–The programs are written in a special language known as programming language. Some of the most commonly used programming languages are Visual Basic, Java, etc. Computer understands only the instructions/programs written in these programming languages.

(iii) **Programmers**–The persons who write these programs are known as Programmers.

(iv) **Script**–Scratch allows us to use event-driven programming with multiple active objects that are moved on the stage/background using various small programs. These programs are known as scripts in Scratch programming language.

(v) **Sprites**–Sprites are the multiple active objects used in Scratch programming. Sprites are the images on the Scratch programming screen. Programs are written in Scratch to move Sprites in x and y coordinates on the Stage area.

(b) Blocks are puzzle-piece-like shapes which are used to create code in Scratch. They are placed in the Block palette under Block Description area. These pieces connect to each other like a jigsaw puzzle. They are of the following shapes:

(i) Hat block  – Starts with this block.

(ii) Stack block  – Perform the main commands.

(iii) Boolean block  – Used for True or False conditions.

(iv) Reporter block  – Contains the values.

(v) C block  – also known as Wrap block. They loop the conditions in the code.

(vi) Cap block  – Ends with this block.

(c) The blocks are grouped under nine different categories. Under the Scripts tab, all blocks are listed and categorized as:

(i) Motion (ii) Looks
(iii) Sound (iv) My blocks
(v) Data (vi) Events
(vii) Control (viii) Sensing
(ix) Operators

(d) For writing a program or scripts in Scratch, we follow the steps given below:

(i) Click on the arrow next to File menu.
(ii) From the drop-down menu, select New option.
(iii) Click on the Script tab under the scripts description.
(iv) We drag the instructions from the Block palette to the script area. We can connect them into single block and edit the numbers in the instructions.

2. Fill in the blanks:

(a) Program (b) Programming language
(c) Drag-and-drop (d) Blocks (e) Motion

3. Choose the correct option:

(a) (i) 

(b) (iii) 

(c) (iv) Events

(d) (ii) 

(e) (iii) Sprites

4. Match the following:

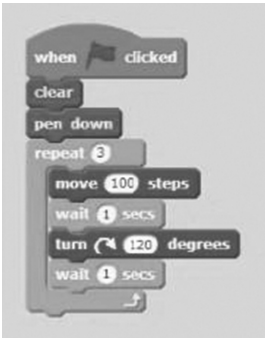
(a) (iv) Scripts (b) (v) Scripts are executed
(c) (vi) Execution of scripts is stopped (d) (vii) Blocks
(e) (viii) Pen blocks (f) (ix) Events block
(g) (x) Sprites (h) (i) Programming
(i) (ii) Programmer (j) (iii) Programming language

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

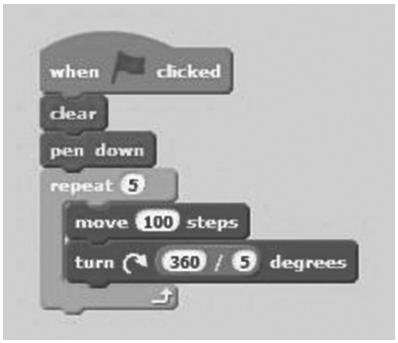
(a) T (b) F (c) T (d) F (e) T
(f) T (g) T (h) F (i) T (j) T

6. Machine Room Exercise:

(a) Triangle

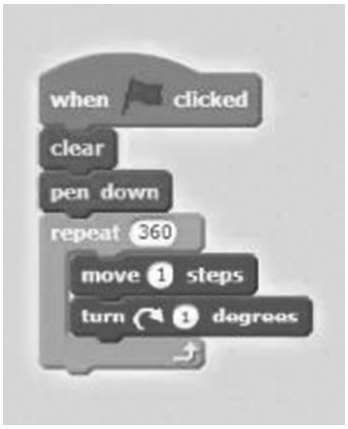


(b) Pentagon



(c) Hexagon

(d) Circle



Chapter 10
Artificial Intelligence in Digital World

1. Fill in the blanks:

(a) recommending

(b) Digital Footprints

(c) Autocomplete

(d) Autocorrect

(d) Alexa, Siri and Google Voice

2. Answer the following questions:

(a) Artificial Intelligence (AI) is a branch of science and technology that makes devices which mimic human intelligence.

(b) Applications that use Artificial Intelligence track us by accessing the following:

1. The links or buttons we have clicked on the website.
2. The websites we have visited the most.

3. The part of the webpage we have scrolled the most.
4. The time we have spent on the webpage.

(c) The actions we take in the digital world leave behind Digital Footprints.

(d) When we do a Google Search by typing in the Search textbox, it automatically displays the related options in a drop-down list

(e) (i) **Autocorrect:** When applications like Microsoft Word automatically correct our mistakes, the feature is called Autocorrect.

(ii) **Autocomplete:** Whenever we start typing any text on WhatsApp, Microsoft Word or Gmail, these applications automatically complete our sentences and words. This feature is known as Autocomplete.

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

(a) F
(b) T
(c) F
(d) T
(e) T

4. Choose the correct option:

(a) (iii) Social science
(b) (iv) All of these
(c) (iv) Recommendation
(d) (i) Digital footprints
(e) (ii) Tracking