LESSON PLAN

Touchpad MODULAR Ver 2.0
Class-3

1. A Computer System

Teaching Objectives

Students will learn about

☞ Hardware   ☞ Software

☞ How Does a Computer Work?

Teaching Plan

While teaching this chapter, tell the students that a computer is an electronic machine made up of various devices that help to enter data, process it and give the results.

Explain the meaning of the terms input devices.

Tell them how keyboard, mouse and scanner are used to input data into a computer.

Explain the meaning of the terms processing device.

Tell them how CPU runs all the programs and manages all the operations.

Explain the meaning of the terms output devices.

Tell them how monitor, printer and speakers are used to give output data from a computer.

Make the students understand the meaning of the term Storage.

Tell them examples of some commonly used storage devices and basic features of each of the storage device.

Tell them that a computer works through Input-Process-Output (IPO) cycle.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. Expand IPO.

Q. Define input / output / processing.

Q. Name some input, processing and output devices.

Q. What is storage?

Q. Give examples of some storage devices.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 11 and 12 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 12 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to prepare a comparative table on chart paper comparing the features of different types of computers on various parameters with the help of examples and pictures/drawings.

2. Computer Memory

Teaching Objectives

Students will learn about

☞ Memory

☞ Measuring the computer's memory

Teaching Plan

While teaching this chapter, tell the students that like human beings, computers also have memory to store all data and instructions for performing various tasks.

Tell the students about the two types of computer memory – primary memory and secondary memory.

Share with the students that the primary memory of the computer is fixed on the motherboard of the computer.

Explain in detail about the types of Primary Memory covering:

- Random Access Memory (RAM) – the volatile memory
- Read Only Memory (ROM) – the non-volatile memory

Share with the students the meaning and difference between the two types of RAM – Dynamic RAM and Static RAM.

Give a brief introduction about secondary memory or secondary storage devices covering in detail:

- Magnetic Disk (Hard Disk – Internal and External)
- Optical Disk (CD, DVD, Blue-ray Disk – ROM, R and RW))
- Flash Drive (Pen Drive, Memory Card)

Introduce byte as the basic unit of measuring computer memory and nibble as half a byte.

Share with the students the meaning and relationship between higher units of measurement of computer memory – KB, MB, GB, TB, PB, EB, ZB and YB.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is computer memory?

Q. What is primary memory?

Q. Name the different types of primary memory.

Q. Expand RAM / ROM.

Q. What are the different types of RAM?

Q. What is the difference between primary and secondary memory?

Q. Name the categories in which secondary storage devices are divided into.

Q. What are the different types of CDs and DVDs?

Q. Expand CD / DVD.

Q. What is a pen drive / memory card?

Q. Define a byte.

Q. Name any three higher units of measurement of computer memory.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 15 and 16 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 16 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

3. Let's Know About Windows 10

Teaching Objectives

Students will learn about

☞ Windows 10
☞ Selecting and Deselecting Icons
☞ Hiding Desktop Icons
☞ Setting the Screen Saver

☞ Desktop
☞ Sorting Desktop Icons
☞ Changing Desktop Background

Teaching Plan

While teaching this chapter, tell the students that operating system is one of the most important software as without this software we cannot use our computer at all.

Give a brief introduction of Microsoft Windows.

Tell the students the about the useful features of Windows 10.

Demonstrate to the students the steps to start Windows 10.

Make the students aware about the concept of desktop.

Familiarize the students with some important icons on the desktop like Computer, Recycle Bin and Network.

Demonstrate to the students the steps to sort icons on the desktop.

Show to the students that how some or all of the icons on the desktop can be hidden.

Introduce the students to the taskbar and its components covering Start button, Opened program icons and Notification Area.

Demonstrate to the students the steps involved in changing the position of the taskbar.

Explain to the students the use of the 'Computer' icon.

Tell the students that the mouse pointer changes its shape on the basis of our actions performed.

Demonstrate to the students the steps to change desktop background.

Show the students the correct method of changing the screen saver.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is the importance of an operating system?

Q. Give examples of some popular operating systems.

Q. Which company developed Windows operating system?

Q. What are the important features of Windows 10?

Q. What is desktop?

Q. Define icons.

Q. What is taskbar?

Q. Can the position of the taskbar be changed?

Q. When does the mouse pointer change to Double-headed Arrow / I Beam / Four-headed Arrow?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 221, 22 and 23 of the main course book as Exercise.

In Creative Assignment, activities like Hands-On and In The Lab given on Page 23 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to draw the various shapes of a mouse pointer and the action being performed at that time on an A3 sheet of paper.

4. Advance Features of Paint

Teaching Objectives

Students will learn about

☞ Components of Paint Window   ☞ Drawing Shapes

☞ Foreground and Background Color   ☞ Color Picker Tool

☞ Text Tool   ☞ Opening an Existing Drawing

Teaching Plan

While teaching this chapter, tell the students that Paint is used to:

- Draw and colour new pictures.
- View and edit the scanned pictures.
- Set your picture as wallpaper.

Ensure that the students are able to recall the components of Paint window.

Tell the students about how to draw shapes in Paint.

Explain them about Polygon shape which is used to draw a polygon or a closed figure.

Demonstrate the steps to draw a polygon to the students.

Tell the students about Callout shape which is a text box and is used to type a comment in box.

Tell them bout different types of Callout shapes; Rounded rectangle callout, Oval callout and Cloud callout.

Demonstrate the steps to draw a Callout shape to the students.

Explain the students that the colour that is in front is called Foreground and the colour that is in back or behind is called Background.

Tell them the steps involved to use Foreground and Background colour.

Make the students understand that the tool which is used to pick a colour from an existing object and reuse in other object within the same drawing area is Color Picker Tool.

Demonstrate the steps to use Color Picker Tool.

Explain the students about Text tool which is used when you want to type text in your drawing area.

Tell them the steps involved to use Text tool.

Make the students understand that they can open their existing drawing and tell them the steps involved to open an existing drawing.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Tools group?

Q. What is the use of callout shape?

Q. Difference between Foreground and Background color.

Q. What is the use of Text tool?

Q. Name any 5 components of Paint window.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 29 and 30 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 30 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a drawing of a village scene in Paint.

5. More on Paint

Teaching Objectives

Students will learn about

☞ Selecting an Image   ☞ Flipping an Image

☞ Rotating an Image   ☞ Zooming an Image

☞ Copying/Cutting and Pasting

Teaching Plan

While teaching this chapter, tell the students that they will learn more features of paint like copy, paste, flip and rotate,

Tell the students that Select command is used to select a drawing or part of a drawing and have two types of selection which are Rectangular selection and Free form selection.

Show to the students how a drawing or part of a drawing can be selected.

Tell the students that Rectangular selection is used to select the drawing in rectangular form.

Demonstrate to the students the steps involved in using Rectangular selection.

Explain the students that Free form selection is used to select the drawing in free form.

Demonstrate to the students the steps involved in using Free form selection.

Demonstrate to the students the meaning of and steps involved in:

● Resizing an image   ● Flipping an image

● Rotating an image   ● Zooming an image

Make the students understand the difference between Copying-Pasting an image and Cutting-Pasting an image.

Demonstrate to the students the steps involved in both these activities (Copy-Paste and Cut-Paste).

Tell the students the method to save a drawing.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What can Paint be used for in computers?

Q. What do you understand by the term flipping an image?

Q. What is the meaning of zooming an image?

Q. What is the difference between Cut-Paste and Copy-Paste?

Q. Can drawings made in Paint be set as Desktop Backgrounds?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 37 to 39 of the main course book as Exercise.

In Creative Assignment, activities like Hands-On and In The Lab given on Page 39 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

6. Working with Paint 3D

Teaching Objectives

Students will learn about

☞ Starting Paint 3D   ☞ Paint 3D Window

☞ Freehand Drawing   ☞ Creating 2D Shapes

☞ Creating 3D Shapes   ☞ Saving a Project

☞ Opening a Saved Project   ☞ Closing Paint 3D

Teaching Plan

While teaching this chapter, tell the students that Paint 3D is used to create and edit 3D images.

Tell them the steps involved in starting Paint 3D.

Demonstrate to the students about all the components of Paint 3D window:

● Title bar displays the name of the program and the name of your drawing on the top-left corner.

● Menu displays options such as New, Open, Insert, Save and Save As.

● Canvas is the area where you can create or draw your shape or you can say it is the drawing area of Paint 3D.

● Brushes Tool opens a panel on the right side of the drawing area and displays brush options, and colour palette. It has options Brushes Option and Color Palette.

● 2D Shapes Tool replaces brushes option and displays a 2D shapes library with options like line and curve and 2D shapes to select from.

- 3D Shapes Tool replaces the Brushes options and displays options like Open 3D library, 3D Doodle, 3D Objects and 3D Models to select from.
- Names Toggle Tool is on the right side of the toolbar and has an option for hiding/showing the tool names.
- Options Tool displays options such as Select, Crop, Magic select, 3D View, Mixed reality and Zoom slider.

Explain the students about Brushes tool which is used for freehand drawing.

Demonstrate the step involved in using Brushes tool.

Show the step involved in creating 2D and shapes with example.

Demonstrate the step involved in creating 2D and 3D text with example.

Explain the steps involved in selecting a shape and changing colour in a shape.

Show to the students the steps involved in saving and opening a drawing. Also show the steps to close Paint 3D.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What can Paint 3D be used for in computers?

Q. State the use of Shapes / Text / Brushes Tool.

Q. How to add 3D shape and text?

Q. How to save a drawing?

Q. How to open a saved drawing?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 47 and 48 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 48 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to draw a bus using shape tool and also add 3D text in the drawing.

7. More on Paint 3D

Teaching Objectives

Students will learn about

☞ Filling Colours in a Shape   ☞ Changing Colour of a Shape

☞ Adding Text   ☞ Adding Stickers

☞ 3D Library   ☞ Adding Effects

Teaching Plan

While teaching this chapter, tell the students that in Paint 3D they can make changes in the shapes.

Tell students the uses of Fill tool (to fill colours in a shape), Edit color option (t change co our of a shape), Text tool (to add text), Stickers tool (to add stickers), 3D Library (to add 3D objects) and Effects option (to add effects).

Demonstrate the steps to:

- Fill colours in a shape
- Change colour of a shape
- Add text
- Add stickers
- Add 3D objects
- Add effects

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is th use of Fill tool?

Q. Which option is used to change colour of a shape?

Q. What is 3D library?

Q. Which option is used to add effects?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 54 and 55 of the main course book as Exercise.

In Creative Assignment, activities like Hands-On and In The Lab given on Page 55 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

8. Introduction to Google Blockly

Teaching Objectives

Students will learn about

☞ Starting Blockly
☞ Puzzle Game
☞ Maze Game

Teaching Plan

While teaching this chapter, tell the students that Google Blockly is a tool that helps the users to learn block-based programming quickly and easily, in this blocks are dragged and dropped to give instructions.

Tell the students that it is also known as a play-way programming platform where users play games and learn programming simultaneously.

Demonstrate the steps to start Blockly.

Explain the students about the Puzzle game that teaches to:

- join the blocks.
- create stack of blocks.
- change instructions in the variable blocks.
- placing stack of blocks inside a container block.

Demonstrate the steps to play the Puzzle game to the students.

Explain the students about the Maze game that teaches to:

- join the blocks.
- create loops or blocks to repeat actions.
- change instructions in the variable blocks.
- placing stack of blocks inside a container block.

Demonstrate the steps to play the Maze game to the students.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Puzzle / Maze game?

Q. What does Puzzle / Maze game teaches the user?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 63 to 65 of the main course book as Exercise.

In Creative Assignment, activities like Hands-On and In The Lab given on Page 65 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity