

# LESSON PLAN

## COMPUTER -- A WONDER MACHINE

### CLASS VI

#### Chapter 1: COMPUTER SYSTEM

**Period Duration: 45 minutes**

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#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand what a computer is and its importance in daily life and identify the different generations of computers and their characteristics.
  - Explain the categorization of a computer system and their basic features.
  - Understand different types of computer languages.
  - Distinguish between first-generation, second-generation, third-generation and fourth-generation languages and also understand structured programming and modern high-level languages.
  - Identify translators and differentiate between compiler and interpreter.
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#### PERIOD 1: INTRODUCTION TO COMPUTERS, GENERATIONS OF COMPUTERS

##### Previous Knowledge Testing (2.5 min)

- What machines do you use at home or school?
- Can a computer think like humans?
- Have computers always looked the same?

##### Content Explanation (25 min)

- Meaning of computer
- Uses of computers in daily life (school, home, hospitals, banks)
- Advantages of computers (speed, accuracy, storage)
- First to Fifth Generation of Computers
- Key Features: Technology used, size, speed

**Activity (10 min)**

- Perform ‘Do It Yourself’ activity -- List all the devices that have computer inside them.
- Students to list places where computers are used.

**Visual Aid: (5 min)**

- Show to students the images provided in the chapter.
- Also show the components used in each generation of computers.

**Recapitulation (2.5 min)**

- Questions based on uses of computers and generations of computers.
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**PERIOD 2: COMPUTER SYSTEM AND ITS BASIC FEATURES****Previous Knowledge Testing (2.5 min)**

- What factors make computer systems different from each other?

**Content Explanation (30 min)**

- Categorization of computer systems based on their size, cost and performance
- Mobile computers, Mini computer, Mainframe, Game Consoles, Embedded computers
- Features: Speed, accuracy, utility, cost
- Examples

**Activity (5 min)**

- Perform ‘Do It Yourself’ activity to identify things or appliances or toys that have embedded computers.

**Visual Aid: (2.5 min)**

- Show to the students the images provided in the chapter.

**Recapitulation (5 min)**

- Oral questions based on different categories of computers.
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## **PERIOD 3: TYPES OF COMPUTER LANGUAGES**

### **Previous Knowledge Testing (5 min)**

- How do humans communicate?

### **Content Explanation (30 min)**

- Machine language: Features, Advantages, Limitations
- Assembly language: Features, Advantages, Limitations
- High-level language: Features, Advantages, Limitations, Examples, Application
- Object-Oriented Programming Languages: Features, Modularity

### **Activity (5 min)**

- Perform ‘Do It Yourself’: Programming Language Research.

### **Recapitulation (5 min)**

- Name types of computer languages
- 

## **PERIOD 4: TRANSLATORS – COMPILER AND INTERPRETER**

### **Previous Knowledge Testing (5 min)**

- Can computers understand English?

### **Content Explanation (25 min)**

- Meaning of translators
- Types of translators
- Compiler vs Interpreter

### **Activity (5 min)**

- Perform ‘Do It Yourself: Let us play a game!’ and ‘Recipe Compiler’, ‘Interpreter’.

### **Visual Aid: (5 min)**

- Present to the students the images provided in the chapter.

### **Recapitulation (5 min)**

- Difference between Compiler and Interpreter

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# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 2: WORKING WITH WINDOWS

**Period Duration: 45 minutes**

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#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand the concept of an Operating System and its objectives; identify popular operating systems with special focus on Windows 11 and explain the features of Windows 11.
  - Use Control Panel to manage basic system settings and different views.
  - Understand applets of Control Panel.
  - Use Settings app to change display and personalization settings.
  - Understand the role of utility software.
  - Identify antivirus, backup and disk utility tools.
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#### **PERIOD 1: INTRODUCTION TO OPERATING SYSTEM, ITS OBJECTIVES & WINDOWS 11**

##### **Previous Knowledge Testing (2.5 min)**

- Can a computer work without software?
- What happens when we switch on a computer?

##### **Content Explanation (30 min)**

- Meaning of Operating System
- Booting process
- Objectives of an Operating System
- Popular operating systems: MS-DOS, UNIX, LINUX, Microsoft Windows
- Introduction to Windows 11
- Features of Windows 11

**Activity (5 min)**

- Explain 'Do It Yourself' activity to explore Windows 11 features. Later, students to perform it in the computer lab during the practical session.

**Visual Aid (5 min)**

- Show to the students the images provided in the chapter.

**Recapitulation (2.5 min)**

- Oral questions based on Operating System and Windows 11.
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**PERIOD 2: CONTROL PANEL – INTRODUCTION AND VIEWS****Previous Knowledge Testing (2.5 min)**

- Where do we change system settings?

**Content Explanation (20 min)**

- Meaning of Control Panel
- Steps to open Control Panel
- Control Panel views:
  - Category
  - Large Icons
  - Small Icons

**Activity (15 min)**

- Explain 'Do It Yourself' activity to the students to find treasures in the Control Panel. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (5 min)**

- Show students screenshots of Control Panel views.

**Recapitulation (2.5 min)**

- Name the default view of Control Panel.
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## **PERIOD 3: IMPORTANT CONTROL PANEL APPLETS**

### **Previous Knowledge Testing (2.5 min)**

- Can we change mouse pointer shape?

### **Content Explanation (25 min)**

- Mouse Properties
- Devices and Printers
- Programs and Features
- Date and Time

### **Activity (10 min)**

- Explain 'Do It Yourself' – 'Mouse Makeover Challenge' and 'World Clock Poster'. Later, students to perform it in the computer lab during the practical session.

### **Visual Aid (5 min)**

- Show students the images provided in the chapter.

### **Recapitulation (2.5 min)**

- Oral questions based on Control Panel.
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## **PERIOD 4: WINDOW SETTINGS – DISPLAY AND PERSONALIZATION**

### **Previous Knowledge Testing (2.5 min)**

- How do we change desktop background?

### **Content Explanation (25 min)**

- Introduction to Windows Settings
- Ways to open Settings
- Display Settings
- Personalization and themes

### **Activity (10 min)**

- Explain 'Do It Yourself' – 'Dream Desktop'. Later, Design Your Dream Desktop in the computer lab during the practical session.

### **Visual Aid (5 min)**

- Show students the images provided in the chapter.

### **Recapitulation (2.5 min)**

- Difference between Control Panel and Settings
- 

## **PERIOD 5: UTILITY SOFTWARE**

### **Previous Knowledge Testing (2.5 min)**

- What keeps our computer safe?

### **Content Explanation (30 min)**

- Meaning of utility software
- Antivirus software
- Backup software
- Disk tools

### **Activity (5 min)**

- Explain 'Do It Yourself' – 'Backup Battle Plan'. Later, students will perform it in the computer lab during the practical session.

### **Visual Aid (5 min)**

- Show students the images provided in the chapter.

### **Recapitulation (2.5 min)**

- Name any two utility software.
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## **PERIOD 7: DISK TOOLS – DISK CLEANUP AND DISK DEFRAGMENTER**

### **Previous Knowledge Testing (2.5 min)**

- Why does a computer become slow?

### **Content Explanation (30 min)**

- Disk Cleanup: Purpose and steps
- Disk Defragmenter: Fragmentation and benefits

**Activity (5 min)**

- Explain 'Do It Yourself' -- Check disk space before and after cleaning the disk. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (5 min)**

- Show students the images provided in the chapter.

**Recapitulation (2.5 min)**

- Difference between Disk Cleanup and Disk Defragmenter
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# LESSON PLAN

## COMPUTER -- A WONDER MACHINE

### CLASS VI

#### Chapter 3: FILE MANAGEMENT – ORGANIZATION OF DATA

**Period Duration: 45 minutes**

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#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning and importance of File Management; identify files and folders and their uses and explain the role and features of File Explorer.
  - Perform copy, move and drag-and-drop operations and also understand Data Migration and its need.
  - Identify external storage devices and cloud storage; explain multitasking in computers and recognize file formats and file extensions.
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#### PERIOD 1: INTRODUCTION TO FILE MANAGEMENT and FILE EXPLORER

##### Previous Knowledge Testing (5 min)

- How do you arrange your books and toys at home?
- Where do you save your drawings or documents on a computer?
- Have you heard the words *file* or *folder*?
- How do you open saved files on your computer?

##### Content Explanation (25 min)

- Meaning of File Management
- Importance of organizing data
- Concept of Files and Folders
- Meaning of File Explorer
- How to open File Explorer
- Three Panes: Folders Pane, Contents Pane, Preview Pane

**Activity (10 min)**

Explain 'Do It Yourself' – Organization Challenge, Explore File Explorer. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (2 min)**

Show students the images provided in the chapter.

**Recapitulation (3 min)**

Questions based on File Management and File Explorer

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**PERIOD 2: COPYING, MOVING and DATA MIGRATION****Previous Knowledge Testing (5 min)**

- Have you ever copied photos from one phone to another?

**Content Explanation (25 min)**

- Meaning of Data Migration
- Difference between Copy and Move
- Keyboard shortcuts: Ctrl+C, Ctrl+V
- Drag and Drop method
- Reasons for migration (backup, space, safety)

**Activity (10 min)**

Explain 'Do It Yourself' – Copying files, practise drag-and-drop. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (3 min)**

Show to the students the images provided in the chapter.

**Recapitulation (2 min)**

What is the difference between Copy and Move?

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**PERIOD 3: STORAGE DEVICES, CLOUD STORAGE, MULTITASKING and FILE FORMATS****Previous Knowledge Testing (5 min)**

- Where do you store photos or songs?
- Have you heard of Google Drive?

### **Content Explanation (25 min)**

- External Storage Devices: Pen Drive, External Hard Disk, Memory Card, Compact Disc
- Cloud Storage: Meaning and benefits, examples: Google Drive, OneDrive
- Multitasking
- Working with multiple applications at the same time
- File Formats & Extensions: .docx, .pptx, .jpg, .mp3, .mp4, .xlsx
- Meaning of File Extension/File Suffix

### **Activity (10 min)**

Discuss 'Do It Yourself' -- Multitasking Challenge. Identify file formats from sample file names. Later, students will perform it in the computer lab during the practical session.

### **Visual Aid (3 min)**

Show icons of file types and cloud storage logos.

### **Recapitulation (2 min)**

- What is cloud storage?
- What is multitasking?
- What is a file extension?

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# LESSON PLAN

## COMPUTER – A WONDER MACHINE CLASS VI

### Chapter 4: PRESENTATION – VISUAL EFFECTS

**Period Duration: 45 minutes**

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#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Recall the basics of PowerPoint and understand what a presentation and slide are. Identify different panes and views of PowerPoint.
  - Explain the use of Slide Master, Header and Footer and Themes in a presentation.
  - Apply transitions, animations, audio and video in slides. Also understand slide show, action buttons and printing of presentations.
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#### PERIOD 1: INTRODUCTION TO POWERPOINT AND PANES

##### Previous Knowledge Testing (5 min)

- Have you ever seen a slideshow?
- Where have you seen presentations?
- What is PowerPoint used for?

##### Content Explanation (25 min)

- Explain PowerPoint, Slide and Presentation
- How to start PowerPoint
- PowerPoint Start Screen
- Normal View
- Three Panes – Design Pane, Slides Pane, Notes Pane

##### Activity (10 min)

Explain 'Do It Yourself' – Start PowerPoint; identify the three panes. Later, students will perform it in the computer lab during the practical session.

##### Visual Aid (2 min)

Show to students the images provided in the chapter.

### **Recapitulation (3 min)**

Questions based on PowerPoint and panes.

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## **PERIOD 2: DIFFERENT VIEWS IN POWERPOINT**

### **Previous Knowledge Testing (2 min)**

- How do you view pictures in full screen?
- Have you rearranged photos in an album?

### **Content Explanation (30 min)**

- Explain Different Views
- Types of Views – Normal View, Outline View, Slide Sorter View, Notes Page View, Reading View, Slide Show View
- Uses of different views (editing, presenting, printing, reading notes)

### **Activity (9 min)**

Explain ‘Do It Yourself’ – Create slides and switch between views, rearrange slides in Slide Sorter View. Later, students will perform it in the computer lab during the practical session.

### **Visual Aid (2 min)**

Show to the students the icons of different views from the chapter.

### **Recapitulation (2 min)**

Which view is used to present slides?

Which view shows thumbnails?

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## **PERIOD 3: SLIDE MASTER, HEADER and FOOTER**

### **Previous Knowledge Testing (5 min)**

- Have you seen the same logo on all slides of a presentation?

### **Content Explanation (30 min)**

- Meaning of Slide Master
- Uses of Slide Master
- Header and Footer – Date, Slide Number, Footer Text

**Activity (5 min)**

Explain 'Do It Yourself' – Add school name using Header & Footer, apply different themes. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (3 min)**

Show to the students the images provided in the chapter.

**Recapitulation (2 min)**

Questions based on Slide Master, Header and Footer.

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**PERIOD 4: TRANSITIONS, ANIMATIONS, MEDIA AND SLIDE SHOW****Previous Knowledge Testing (1 min)**

- Have you seen text flying or bouncing on slides?

**Content Explanation (35 min)**

- Meaning of Transition
- Steps to apply Transition
- Timing Options – On Mouse Click, After
- Meaning of Animation
- Applying Animation to text and objects
- Inserting Audio and Video
- Slide Show – Start and Stop (F5, Esc Key)
- Themes
- Action Buttons – Home, Next, Previous
- Printing Presentation

**Activity (5 min)**

Explain 'Do It Yourself' – Apply transitions, animations, themes, insert audio and start slide show. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (2 min)**

Show to the students the images provided in the chapter.

**Recapitulation (2 min)**

Difference between animation and transition.

Which key starts the slide show?

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# LESSON PLAN

## COMPUTER – A WONDER MACHINE CLASS VI

### Chapter 5: SPREADSHEET – AN INTRODUCTION

**Period Duration: 45 minutes**

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#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning and uses of a Spreadsheet.
  - Identify features of Spreadsheet software.
  - Start Spreadsheet software and recognize components of its window.
  - Understand the Components of Excel Window in detail.
  - Understand Rows, Columns, Cells and Cell Address.
  - Enter, edit and delete data in a worksheet.
  - Apply basic formatting to data.
  - Perform simple calculations using formulas.
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#### PERIOD 1: INTRODUCTION TO SPREADSHEET

##### Previous Knowledge Testing (5 min)

- Have you seen marksheets prepared on a computer?
- Where do teachers prepare result sheets?
- Have you heard the word Spreadsheet?

##### Content Explanation (25 min)

- Meaning of Spreadsheet
- Uses of Spreadsheet
- Examples of Spreadsheet Software: MS Excel, LibreOffice Calc
- How to start Spreadsheet Software -- Excel 365
- Meaning of Workbook and Worksheet

### **Activity (10 min)**

- Explain Do It Yourself – Grid Game and Create blank workbook. Later, students will perform it in the computer lab during the practical session.

### **Visual Aid (2 min)**

- Present to the students the images provided in the chapter.

### **Recapitulation (3 min)**

- Questions based on Spreadsheet basics.

## **PERIOD 2: COMPONENTS OF EXCEL WINDOW IN DETAIL**

### **Previous Knowledge Testing (5 min)**

- What happens when you open MS Excel?
- Have you seen the many buttons and bars on the screen?

### **Content Explanation (30 min)**

Components of Excel Window:

- Title Bar – Shows the name of the workbook.
- Quick Access Toolbar – Contains Save, Undo, Redo buttons.
- File Tab – Used to open, save, print and close files.
- Ribbon – Contains tabs and groups of commands.
- Name Box – Displays the address of the active cell.
- Formula Bar – Used to enter or edit data/formulas.
- Worksheet Area – Main working area with cells.
- Row Headings – Numbered horizontally (1, 2, 3...).
- Column Headings – Lettered vertically (A, B, C...).
- Scroll Bars – Move worksheet left–right and up–down.
- Status Bar – Shows information about the worksheet.
- Sheet Tabs – Switch between worksheets.

### **Activity (5 min)**

- Explain ‘Do It Yourself’ activities and later, students will perform it in the computer lab during the practical session.

**Visual Aid (3 min)**

- Show labelled diagram of Excel Window from the chapter.

**Recapitulation (2 min)**

- What is Name Box?
  - What is Formula Bar?
- 

**PERIOD 3: ROWS, COLUMNS, CELLS AND CELL ADDRESS****Previous Knowledge Testing (5 min)**

- Have you seen tables in notebooks or books?
- What are rows and columns?

**Content Explanation (25 min)**

- Meaning of Worksheet
- Rows – Horizontal lines
- Columns – Vertical lines
- Cell and Active Cell
- Cell Address (A1, B2, C3, etc.)
- Range of Cells

**Activity (10 min)**

- Explain 'Do It Yourself' – Identify rows, columns and write cell addresses. Later, students will perform it in the computer lab during the practical session.

**Visual Aid (3 min)**

- Show students images from the chapter.

**Recapitulation (2 min)**

- What is a cell?
  - What is a cell address?
-

## **PERIOD 4: DATA TYPES AND ENTERING DATA**

### **Previous Knowledge Testing (5 min)**

- What type of data do we enter in a marksheet – names or numbers?
- Have you ever typed your name or marks on a computer?

### **Content Explanation (25 min)**

- Data Types in Spreadsheet
- Entering Data in Cells

### **Activity (10 min)**

Explain 'Do It Yourself' – Values alignment and Time and Date Practice. Later, students to perform it in the computer lab during the practical session.

### **Visual Aid (3 min)**

Show students the images provided in the chapter.

### **Recapitulation (2 min)**

Question based on Label Data and Value Data.

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## **PERIOD 5: SELECTING, INSERTING and DELETING DATA**

### **Previous Knowledge Testing (5 min)**

- If you type a wrong number, how will you correct it?

### **Content Explanation (25 min)**

- Selecting Data
- Inserting Data
- Deleting Data

### **Activity (10 min)**

- Explain 'Do It Yourself' activities. Later, students to perform them in the computer lab during the practical session.

### **Visual Aid (3 min)**

- Present the images provided in the chapter.

### Recapitulation (2 min)

- How do we select the entire data?
  - Which key is used to delete data?
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## PERIOD 6: COPYING, PASTING, MOVING DATA, DRAGGING and DROPPING CELLS, AUTOFILL

### Previous Knowledge Testing (5 min)

- Have you ever copied text or pictures on a computer?
- What happens when we paste something?
- Can we move data from one place to another without typing again?

### Content Explanation (25 min)

- Copying Data
- Pasting Data
- Moving Data (Cut and Paste)
- Dragging and Dropping Cells
- Difference between Copy and Move using Mouse
  
- AutoFill
- Fill Handle

### Activity (10 min)

Explain 'Do It Yourself' activities. Later, students to perform them in the computer lab during the practical session.

### Visual Aid (3 min)

Show students the images given in the chapter.

### Recapitulation (2 min)

- What is the shortcut key for Copy?
- What is AutoFill used for?

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# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 6: FUNCTIONS IN SPREADSHEET

**Period Duration: 45 minutes**

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#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand formulas and their uses in spreadsheets.
  - Differentiate between label, value and formula.
  - Perform calculations using arithmetic operators.
  - Use cell addresses in formulas.
  - Understand types of cell references (Relative, Absolute, Mixed).
  - Use built-in functions like SUM, AVERAGE, COUNT, MAX, MIN.
  - Use text functions such as LEFT, RIGHT, MID, LEN, FIND, SUBSTITUTE.
  - Insert functions using Function Wizard.
  - Understand AutoSum tool.
  - Rename and delete worksheets.
- 

#### **PERIOD 1: INTRODUCTION TO FORMULAS**

##### **Previous Knowledge Testing (5 min)**

- What is a spreadsheet used for?
- Can a computer calculate totals automatically?

##### **Content Explanation (25 min)**

- Meaning of Formula
- Types of Data: Label, Value, Formula
- Difference between Label and Value

- Formula starts with “=” sign
- Arithmetic Operators: +, -, \*, /

### **Activity (10 min)**

Teacher to explain ‘Do It Yourself – Label vs Value Experiment and Calculator Challenge’ in the class. Later, students to perform them practically in the computer lab.

### **Visual Aid (2 min)**

Teachers show examples of formulas and spreadsheet screenshots provided in the chapter.

### **Recapitulation (3 min)**

- What is a formula?
  - Which symbol starts a formula?
- 

## **PERIOD 2: USING CELL ADDRESSES IN FORMULAS**

### **Previous Knowledge Testing (5 min)**

- What is a cell address?

### **Content Explanation (30 min)**

- Using constants in formulas
- Using cell references (A1, B2, etc.)
- Combining constants and cell references
- Automatic updating of results

### **Activity (5 min)**

Teacher to explain ‘Do It Yourself – Smart Calculator’ to the students in the class. Later, students to perform the same in the computer lab.

### **Visual Aid (3 min)**

Show the screenshots provided in the chapter to the students.

### **Recapitulation (2 min)**

- What happens if a value changes in a referenced cell?
-

## **PERIOD 3: USING TEXT FUNCTIONS**

### **Previous Knowledge Testing (5 min)**

- Can we manipulate text in spreadsheets?

### **Content Explanation (25 min)**

#### **Text Functions**

- CONCATENATE (&)
- LEFT()
- RIGHT()
- MID()
- LEN()
- FIND()
- SUBSTITUTE()

### **Activity (10 min)**

Teacher to explain 'Do It Yourself – Name Builder and Text Extraction Practice' in the class. Later, students to perform them in the computer lab.

### **Visual Aid (3 min)**

Teacher to show screenshots provided in the chapter to the students.

### **Recapitulation (2 min)**

- Which function finds length of text?
- Which function joins text?

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## **PERIOD 3: CELL REFERENCES**

### **Previous Knowledge Testing (5 min)**

- What happens when we copy a formula?

### **Content Explanation (25 min)**

- Meaning of Cell Reference
- Types:

- Relative reference
- Absolute reference (\$A\$1)
- Mixed reference (\$A1 or A\$1)
- Difference between reference types

### **Activity (10 min)**

Teacher to explain 'Do It Yourself – Understanding References' in the class. Later, students to perform it practically on the computer system.

### **Visual Aid (3 min)**

Show screenshots provided in the chapter.

### **Recapitulation (2 min)**

- Which reference does not change when copied?

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## **PERIOD 4: WORKSHEET MANAGEMENT and USING FUNCTIONS**

### **Previous Knowledge Testing (5 min)**

- Have you ever calculated average marks?

### **Content Explanation (25 min)**

- Renaming a sheet in a workbook
- Deleting a sheet from a workbook
- Meaning of Function
- Difference between Formula and Function
- Syntax of Functions
- Common Functions:
  - SUM
  - AVERAGE
  - COUNT
  - MAX
  - MIN

**Activity (10 min)**

Teacher to explain 'Do It Yourself – Create your Subject Worksheets, Quick Addition Practice and Test Score Analysis'. Later, students to implement them practically on the computer system at home or in the school lab.

**Visual Aid (3 min)**

Display screenshots provided in the chapter to the students.

**Recapitulation (2 min)**

- What is the function used to find the highest value?
- 

**PERIOD 5: INSERT FUNCTION AND AUTOSUM TOOL****Previous Knowledge Testing (5 min)**

- Is there a shortcut for adding numbers quickly?

**Content Explanation (25 min)**

- Insert Function Tool
- Function Wizard
- Selecting range using mouse
- AutoSum tool and its uses

**Activity (10 min)**

Teacher to explain 'Do It Yourself – Set up Columns' in the class. Later, students to perform them in the computer lab.

**Visual Aid (3 min)**

Show the screenshots in the book to the students.

**Recapitulation (2 min)**

- Which tool quickly adds selected cells?
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# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 7: ALGORITHM AND FLOWCHARTS

**Period Duration: 45 minutes**

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#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand the meaning of algorithm.
  - Identify IPO cycle in real-life situations.
  - Understand flowchart and its uses.
  - Recognize standard flowchart symbols.
  - Differentiate between variable and constant.
  - Identify types of variables.
  - Understand declaration and initialization of variables.
  - Use arithmetic and relational operators.
  - Understand looping concept.
  - Write pseudocode for simple problems.
- 

#### **PERIOD 1: INTRODUCTION TO ALGORITHM and IPO CYCLE**

##### **Previous Knowledge Testing (5 min)**

- Do you follow steps to solve maths problems?
- What happens if steps are in the wrong order?

##### **Content Explanation (25 min)**

- Meaning of Algorithm
- Importance of step-by-step logic
- IPO Cycle concept
- Real-life IPO examples

- Benefits of using an algorithm

**Activity (10 min)**

Students perform 'Do It Yourself' -- identify IPO cycle for daily activities (making tea, brushing teeth), draw simple diagrams and Morning Routine Algorithms in the class.

**Visual Aid (2 min)**

Show diagrams demonstrating IPO cycle.

**Recapitulation (3 min)**

- What is an algorithm?
  - What does IPO stand for?
- 

**PERIOD 2: FLOWCHART – INTRODUCTION AND FEATURES****Previous Knowledge Testing (5 min)**

- Is it easier to understand pictures or text instructions?

**Content Explanation (30 min)**

- Meaning of Flowchart
- Flowchart vs Algorithm
- Features:
  - Better communication
  - Documentation support
  - Efficient coding

**Activity (5 min)**

Students perform 'Do It Yourself' activity in the class.

**Visual Aid (3 min)**

Teacher displays sample flowchart diagrams on the board in the class.

**Recapitulation (2 min)**

- What is a flowchart?
-

## **PERIOD 3: FLOWCHART SYMBOLS**

### **Previous Knowledge Testing (5 min)**

- Have you seen symbols used in diagrams?

### **Content Explanation (25 min)**

Standard symbols and meanings:

- Start/End – Oval
- Input/Output – Parallelogram
- Process – Rectangle
- Decision – Diamond
- Flow lines – Arrows
- Connector – Circle

### **Activity (10 min)**

Students perform ‘Do It Yourself’ -- draw flowchart symbols and label them based on weather in the class.

### **Visual Aid (3 min)**

Present flowcharts to the students provided in the chapter.

### **Recapitulation (2 min)**

- Which symbol represents decision?
- 

## **PERIOD 4: VARIABLES AND CONSTANTS**

### **Previous Knowledge Testing (5 min)**

- What is a container used for?

### **Content Explanation (25 min)**

- Meaning of Variable
- Meaning of Constant
- Examples using real-life analogy (glass example)
- Types of Variables:
  - Numeric variables

- Character variables

### **Activity (10 min)**

Students write variable names for given data (name, age, address).

### **Visual Aid (3 min)**

Show example flowcharts using variables.

### **Recapitulation (2 min)**

- What is the difference between variable and constant?
- 

## **PERIOD 5: OPERATORS, CONDITIONS AND LOOPS**

### **Previous Knowledge Testing (5 min)**

- Can we compare two numbers?

### **Content Explanation (25 min)**

- Arithmetic Operators (+, -, \*, /)
- Relational Operators (>, <, ==, <=, >=, !=)
- Decision making in flowcharts
- Looping (iteration concept)

### **Activity (10 min)**

Students perform 'Do It Yourself' – create a flowchart for a school record system.

### **Visual Aid (3 min)**

Display sample decision flowchart to the students.

### **Recapitulation (2 min)**

- Which operator checks equality?
- 

## **PERIOD 6: PSEUDOCODE AND REVISION**

### **Previous Knowledge Testing (5 min)**

- How do we write instructions for someone?

### **Content Explanation (25 min)**

- Meaning of Pseudocode

- Difference between Flowchart and Pseudocode
- Structure:
  - Begin
  - Steps
  - End

**Activity (10 min)**

Students perform 'Do It Yourself' -- Write pseudocode for daily tasks (making sandwich, finding largest number) in the class.

**Visual Aid (3 min)**

Show side-by-side example of pseudocode and flowchart.

**Recapitulation (2 min)**

- What is pseudocode?
  - Which keyword starts pseudocode?
-

# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 8: INTRODUCTION TO PYTHON

**Period Duration: 45 minutes**

---

#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand what Python is and why it is used.
  - Identify features of Python programming language.
  - Learn how to start Python and write simple commands.
  - Understand basic syntax, keywords and statements.
  - Use print() to display output.
  - Recognize errors and correct simple mistakes.
  - Develop logical thinking through simple programs.
- 

#### **PERIOD 1: INTRODUCTION TO PYTHON**

##### **Previous Knowledge Testing (5 min)**

- What is a programming language?
- Have you ever seen a computer program?
- Do you know any coding language name?

##### **Content Explanation (25 min)**

- Meaning of Programming Language
- Introduction to Python
- History and creator of Python (brief)
- Features of Python

**Activity (10 min)**

Teacher to show Python logo and simple code examples to the students.

For example,

```
print("Hello Students")
```

Students observe output.

**Visual Aid (3 mins)**

- Teacher to show images provided in the chapter.

**Recapitulation (5 min)**

- What is Python?
  - Name one feature of Python.
- 

**PERIOD 2: STARTING PYTHON****Previous Knowledge Testing (5 min)**

- What did we learn about Python?
- What is a programming language?

**Content Explanation (25 min)**

- Steps to install and start Python
- Python Interactive Mode
- Script Mode (basic idea only)
- Python prompt (>>>)
- Writing first command

**Demonstration (10 min)**

Teacher writes or runs simple commands on board or smart board respectively:

```
print("My name is Rahul")  
print (10+5)
```

**Visual Aid (3 mins)**

- Teacher to show students images and screenshots provided in the chapter.

**Recapitulation (2 min)**

Students tell difference between Interactive Mode and Script Mode.

---

## PERIOD 3: PYTHON STATEMENTS AND SYNTAX

### Previous Knowledge Testing (5 min)

- What symbol shows Python is ready?

### Content Explanation (25 min)

- Meaning of statement
- Syntax rules (simple explanation)
- Case sensitivity
- Importance of correct spelling
- Keywords (basic introduction)

### Activity (10 min)

Teacher writes correct and incorrect statements.  
Students to identify which are correct.

### Recapitulation (5 min)

Why is syntax important?

---

## PERIOD 4: print() FUNCTION

### Previous Knowledge Testing (5 min)

- What is a statement?

### Content Explanation (25 min)

- print() function
- Printing text
- Printing numbers
- Printing multiple items
- Examples:

```
print("Good Morning")  
print(25)  
print("Sum =", 10+5)
```

**Activity (10 min)**

Teacher to explain 'Do It Yourself' – Practise print() function to the students. Later, students to perform it in the computer lab.

**Visual Aid (3 min)**

- Teacher to show screenshots available in the chapter.

**Recapitulation (2 min)**

What is the use of print()?

---

**PERIOD 5: PYTHON EDITOR'S WINDOW****Previous Knowledge Testing (5 min)**

- What happens if we type a wrong command?

**Content Explanation (25 min)**

- Meaning of Error
- Types (basic level)
  - Syntax error
  - Name error (simple explanation)
- Importance of correct spelling and brackets
- Save/Save As
- Opening a program
- Executing a program
- Exiting Python Idle

**Activity (10 min)**

Teacher to explain 'Do It Yourself' – Create simple art using text characters and display text in different languages. Later, students will perform it in the computer lab.

**Visual Aid (3 mins)**

- Present images and screenshots provided in the chapter.

**Recapitulation (2 min)**

What is an error?

What is the shortcut key to exit Python Idle?

---

# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 9: GOOGLE EARTH

**Period Duration: 45 minutes**

---

#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Differentiate between maps and globes.
  - Understand the concept of digital maps and their advantages.
  - Explain what Google Earth is.
  - Identify different versions of Google Earth.
  - Use Google Earth on web to search locations.
  - Use features like Search, Layers, Basemap, Measure Distance, Add Placemark and Projects.
  - Measure distance and area between locations.
  - Create a simple project in Google Earth.
- 

#### PERIOD 1: MAPS, GLOBES AND DIGITAL MAPS

##### Previous Knowledge Testing (5 min)

- Have you seen a globe?
- What is the difference between a map and a globe?
- Show a physical map and globe (if available).

##### Content Explanation (20 mins)

- Meaning of Map and Globe
- Difference between map and globe
- Advantages of digital maps

**Activity (15 mins)**

Students perform 'Do It Yourself' activities in the class.

**Visual Aid (2mins)**

Show globe to the students in the class.

**Recapitulation (3 mins)**

- Why are digital maps better than paper maps?
  - Which is more detailed – map or globe?
- 

**PERIOD 2: INTRODUCTION TO GOOGLE EARTH****Previous Knowledge Testing (5 mins)**

- Have you explored places on mobile or computer maps?

**Content Explanation (30 mins)**

- What is Google Earth
- Versions of Google Earth
- How to Open Google Earth on Web

**Visual Aid (5 mins)**

Show to the students the screenshots provided in the chapter. Later, practically demonstrate them.

**Recapitulation (5 mins)**

- Name three versions of Google Earth.
  - What is the Information Box?
- 

**PERIOD 3: EXPLORING FEATURES****Previous Knowledge Testing (5 mins)**

- Have you ever visited Google Earth on the Web?

**Content Explanation (25 mins)**

Explain all the features of Google Earth on the Web, such as:

- Search Tool
- I'm Feeling Lucky
- Street View
- Data Layers
- Basemap Settings, etc.

#### **Activity (10 mins)**

- Explain 'Do It Yourself - Virtual Tour'. Later, students to perform it during the practical session in the computer lab.

#### **Visual Aid (3 mins)**

Show to the students the screenshots provided in the chapter.

#### **Recapitulation (2 mins)**

- Can we tilt the view to 3D?
  - Can you search your home location through Google Earth?
- 

### **PERIOD 4: PROJECTS IN GOOGLE EARTH**

#### **Previous Knowledge Testing (5 mins)**

- Have you ever tried to create a project on Google Earth?
- Basically, what does the project depict?

#### **Content Explanation (25 mins)**

- Explain how can we create presentations.
- Steps to Create Project.

#### **Visual Aid (3 mins)**

- Show to the students the screenshots provided in the chapter.

#### **Activity (10 mins)**

- Explain 'Do It Yourself – Dream Vacation Project'. Later, students to perform it during the practical session in the computer lab.

#### **Recapitulation (2 mins)**

- What is a placemark?
- Where is the project saved?

---

## **PERIOD 5: DATA LAYERS AND BASEMAP SETTINGS**

### **Previous Knowledge Testing (5 min)**

- What do we see on a normal map?
- Can we add extra information like population or weather on a map?

### **Content Explanation (30 min)**

- Data Layers in Google Earth
- Explain how layers help users understand real-world information visually.
- Basemap Settings
- Types of Basemap Settings:

Later, students will perform this activity in the computer lab.

### **Visual Aid (5 min)**

Show screenshots of Google Earth layers and basemap settings from the chapter.

### **Recapitulation (5 min)**

- What are data layers?
- Name any two basemap settings in Google Earth.

---

## **PERIOD 6: MEASURING AND MARKING DISTANCE, AREA AND PATHS**

### **Previous Knowledge Testing (5 min)**

- How do we measure the distance between two places in real life?
- Can a computer map calculate distance automatically?

### **Content Explanation (25 min)**

- Steps to measure Distance in Google Earth
- Steps to measure Area in Google Earth
- Steps to mark Paths and Areas in Google Earth
  - Path:  
A line created by joining multiple points.  
Used to show routes between places.

- Polygon:  
A closed shape created by joining three or more points.  
Used to mark areas such as parks, playgrounds or campuses.

**Activity (10 min)**

Explain 'Do It Yourself – Distance Detective'. Later, students will perform the activity in the computer lab.

**Visual Aid (3 min)**

Show screenshots of distance measurement and polygon area marking from the chapter.

**Recapitulation (2 min)**

- Which tool is used to measure distance in Google Earth?
  - What is the difference between a path and a polygon?
-

## **LESSON PLAN**

**SUBJECT: COMPUTER**

**CLASS: VI**

### **CHAPTER 10: MIND MAP**

**Period Duration: 45 minutes**

---

#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand the meaning of a Mind Map.
  - Explain the uses and benefits of mind mapping.
  - Identify the components of FreeMind interface.
  - Understand the terms Node, Edge, Root Node, Child Node and Sibling Node.
  - Create a mind map using FreeMind software.
  - Perform operations like adding nodes, deleting nodes and saving a mind map.
  - Apply styles and formatting options in a mind map.
- 

#### **PERIOD 1: INTRODUCTION TO MIND MAP**

##### **Previous Knowledge Testing (5 min)**

- How do you write notes when studying a chapter?
- Have you ever used diagrams or charts to remember things?
- Do you know any tool that helps organize ideas visually?

##### **Content Explanation (25 min)**

- Meaning of Mind Map
- Mind Map as a visual thinking tool
- Difference between linear notes and mind maps
- Uses of Mind Mapping

### **Activity (10 min)**

Teacher to explain 'Do It Yourself – Favourite Subject Mind Map'.

Students will write five things they like about their favourite subject and later create a mind map in the computer lab.

### **Visual Aid (3 min)**

Show the example mind map diagram provided in the chapter.

### **Recapitulation (2 min)**

- What is a mind map?
  - Why are mind maps useful?
- 

## **PERIOD 2: MIND MAPPING SOFTWARE AND FREEMIND INTERFACE**

### **Previous Knowledge Testing (5 min)**

- Have you used any software to draw diagrams?
- Do you know that computers can help create mind maps?

### **Content Explanation (30 min)**

Mind Mapping Software:

- FreeMind
- Padlet
- MindMeister
- Canva

Introduction to FreeMind software

Components of FreeMind Interface:

- Title Bar
- Menu Bar
- Formatting Bar
- Icon Bar
- Working Area
- Note Window

### **Activity (5 min)**

### **Visual Aid (3 min)**

Teacher to show the labelled diagram of FreeMind interface from the chapter.

### **Recapitulation (2 min)**

- Name two mind-mapping software.
  - What is the working area in FreeMind?
- 

## **PERIOD 3: BASIC TERMS IN MIND MAP**

### **Previous Knowledge Testing (5 min)**

- In a family tree, who is at the top?
- How are family members connected?

### **Content Explanation (25 min)**

Important Terminologies:

- **Node** – A textbox used to store information
- **Edge** – Curved line connecting nodes
- **Root Node** – Main node placed at the centre
- **Child Node** – Node added under a parent node
- **Sibling Node** – Nodes at the same level

Family Tree Analogy:

- Root Node → Grandparents
- Child Node → Parents
- Sibling Node → Brothers/Sisters

### **Activity (10 min)**

Explain the 'Do It Yourself – Family Tree Analogy'.

Students will explore the FreeMind interface during the practical session.

### **Visual Aid (3 min)**

Show diagrams explaining nodes and edges.

### **Recapitulation (2 min)**

- What is a root node?

- What is the difference between child node and sibling node?
- 

## **PERIOD 4: CREATING AND DELETING NODES**

### **Previous Knowledge Testing (5 min)**

- Have you ever created diagrams using shapes on a computer?
- What happens if you make a mistake in a diagram?

### **Content Explanation (25 min)**

- Steps to create a Mind Map in FreeMind
- Ways to add nodes:
- Deleting Nodes:

### **Activity (10 min)**

Students perform “Do It Yourself” -- create a simple mind map on ‘My Hobbies’.

### **Visual Aid (3 min)**

Show images and screenshots provided in the chapter.

### **Recapitulation (2 min)**

- How do we add a new node?
  - Which key is used to delete a node?
- 

## **PERIOD 5: SAVING AND APPLYING STYLES**

### **Previous Knowledge Testing (5 min)**

- Why do we save files on a computer?

### **Content Explanation (25 min)**

- Saving Mind Maps:
- Applying Styles:
  - **Bubble Style** – Text enclosed in oval bubble
  - **Fork Style** – Text without enclosure

### **Activity (10 min)**

Explain ‘Do It Yourself – Seasons Mind Map Activity’.

Students will apply Bubble and Fork styles.

### **Visual Aid (3 min)**

Show examples of Bubble and Fork styles provided in the chapter.

### **Recapitulation (2 min)**

- What is the extension of a mind map file?
  - Name the two styles used in FreeMind.
- 

## **PERIOD 6: FORMATTING NODES**

### **Previous Knowledge Testing (5 min)**

- Have you changed font style or color while typing in a document?

### **Content Explanation (25 min)**

Formatting Options in FreeMind:

Text Formatting:

- Bold (Ctrl + B)
- Italic (Ctrl + I)
- Font Size
- Font Style

Color Formatting:

- Text Color
- Node Background Color

Edge Formatting:

- Edge Color
- Edge Styles
- Edge Widths

### **Activity (10 min)**

Students will perform 'Do It Yourself' -- create a Study Mind Map for an upcoming exam and apply formatting options.

### **Visual Aid (3 min)**

Show formatted mind map examples provided in the chapter.

### **Recapitulation (2 min)**

- What shortcut key is used for bold?
  - Name two formatting options in FreeMind.
-

# LESSON PLAN

## COMPUTER -- A WONDER MACHINE CLASS VI

### Chapter 11: INTERNET — ONLINE SURFING

#### Period Duration

---

#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning of the Internet.
  - Explain the World Wide Web (WWW) and URL.
  - Identify different uses of the internet.
  - Understand search engines and how information is searched online.
  - Learn the concept of Netiquette (Internet etiquette).
  - Identify cyber threats such as viruses, malware, phishing, etc.
  - Understand the concept of email and its features.
  - Learn how to create, send, receive and manage emails.
  - Understand Google Drive and cloud storage.
  - Explain E-commerce and online modes of payment.
  - Differentiate between Blog and Podcast.
- 

#### PERIOD 1: INTRODUCTION TO INTERNET

##### Previous Knowledge Testing (5 min)

- Have you ever used the internet?
- What do you use the internet for?
- Can we talk to someone far away using the internet?

##### Content Explanation (25 min)

- Meaning of internet
- Internet as a network of networks

- History of the internet (started in 1969)
- Uses of Internet:

### **Activity (10 min)**

- Students jot down the purposes for which they have used the internet so far.

### **Visual Aid (2 min)**

Show diagrams/images related to internet usage from the chapter.

### **Recapitulation (3 min)**

- What is the internet?
  - Write two uses of the internet.
- 

## **PERIOD 2: WORLD WIDE WEB AND SEARCH ENGINES**

### **Previous Knowledge Testing (5 min)**

- When you search something on Google, what happens?

### **Content Explanation (30 min)**

- Meaning of World Wide Web (WWW)
- Difference between Internet and Web
- Meaning of URL (Uniform Resource Locator)
- Introduction to Web Browsers
  - Microsoft Edge
  - Mozilla Firefox
- Meaning of Search Engines
  - Google
  - Yahoo
  - Bing

### **Activity (5 min)**

Explain 'Do It Yourself – Search Task' (simple internet search examples like capital of Japan, Mount Everest height, etc).

Students will perform this activity later in the computer lab.

### **Visual Aid (3 min)**

Show examples of website addresses and search engine pages provided in the chapter.

### **Recapitulation (2 min)**

- What is a URL?
  - Name two search engines.
- 

## **PERIOD 3: NETIQUETTE AND INTERNET SAFETY**

### **Previous Knowledge Testing (5 min)**

- Do we follow rules while using mobile phones or computers?

### **Content Explanation (25 min)**

Meaning of Netiquette

Basic Netiquette Rules:

- Help new users (newbies)
- Avoid using ALL CAPITAL LETTERS
- Use polite language
- Avoid spam emails
- Respect copyrights
- Use smileys appropriately

### **Activity (10 min)**

Teacher to discuss 'Do It Yourself – Netiquette Scenarios' such as:

- Friend sending messages in ALL CAPS
- Using images from internet
- Receiving spam messages

### **Visual Aid (3 min)**

Show **T.H.I.N.K.** Digital Citizenship rule

True

Helpful

Inspiring

Necessary

Kind

### **Recapitulation (2 min)**

- What is netiquette?
  - Why should we follow internet rules?
- 

## **PERIOD 4: CYBER THREATS AND INTERNET SECURITY**

### **Previous Knowledge Testing (5 min)**

- Have you heard about computer viruses?

### **Content Explanation (25 min)**

#### **Common Cyber Threats:**

- Botnets
- DDoS Attack
- Hacking
- Malware
- Phishing
- Pharming
- Ransomware
- Spam
- Spyware
- Virus
- Trojan Horse
- Worms

Explain each threat briefly with examples.

### **Activity (10 min)**

Students prepare a small chart on cyber threats.

### **Recapitulation (5 min)**

- What is phishing?

- What is malware?
- 

## **PERIOD 5: ELECTRONIC MAIL (EMAIL)**

### **Previous Knowledge Testing (5 min)**

- Have you ever sent a message using Gmail?

### **Content Explanation (35 min)**

- Meaning of Email
- Comparison with traditional postal system
- Meaning of Mail Server
- Popular email services:
  - Gmail
  - Outlook
  - Yahoo

### Advantages of Email:

- Fast communication
- Reliable
- Low cost
- Can send to multiple people

### **Recapitulation (5 min)**

- What is email?
  - Name two email services.
- 

## **PERIOD 6: EMAIL FEATURES AND EMAIL MANAGEMENT**

### **Previous Knowledge Testing (5 min)**

- What happens after we send an email?

### **Content Explanation (25 min)**

Creating Gmail Account

Features of Gmail Interface:

- Folder Pane – Inbox, Sent, Drafts, Spam
- Email Message Pane – shows emails
- Reading Pane – displays message content

Email Actions:

- Compose
- Send
- View
- Reply
- Forward
- Attach files

Logging In and Out

Email Safety Rules:

- Never share passwords
- Always log out on shared computers
- Do not save passwords on public computers

### **Activity (10 min)**

Students classify different emails into Inbox, Spam, Promotions, Drafts.

### **Visual Aid (3 min)**

Show labelled diagram of email window panes and the screenshots provided in the chapter.

### **Recapitulation (2 min)**

- What is Draft folder?
- What is Spam?

---

## **PERIOD 7: GOOGLE DRIVE AND E-COMMERCE**

**Time:** 45 minutes

### **Previous Knowledge Testing (5 min)**

- Have you ever stored files online?

### **Content Explanation (25 min)**

Google Drive:

- Cloud storage service by Google
- Provides 15 GB free storage
- Allows file sharing and access from multiple devices

E-Commerce:

- Meaning of Electronic Commerce
- Buying and selling goods and services online

Advantages:

- 24×7 availability,
- Easy comparison of products,
- Online payment options, etc.

### **Activity (10 min)**

Students create a comparison chart: Traditional Shopping vs Online Shopping.

### **Visual Aid (3 min)**

Show examples of online shopping websites.

### **Recapitulation (2 min)**

- What is e-commerce?
  - What is Google Drive used for?
- 

## **PERIOD 8: BLOGS AND PODCASTS**

### **Previous Knowledge Testing (5 min)**

- Have you read articles online written by people?

### **Content Explanation (25 min)**

Blog:

- Online diary or journal
- Contains text, images, videos

Podcast:

- Recorded audio show available online

Difference between Blog and Podcast:

<b>Blog</b>	<b>Podcast</b>
-------------	----------------

Text-based	Audio-based
------------	-------------

Read online	Listened online
-------------	-----------------

### **Activity (10 min)**

Students perform 'Do It Yourself' – create a class blog post on 'Our School Garden' and create a three-minute podcast on any topic.

### **Visual Aid (3 min)**

Show examples of blogs and podcast platforms.

### **Recapitulation (2 min)**

- What is a blog?
  - What is a podcast?
-

# LESSON PLAN

## COMPUTER – A WONDER MACHINE

### CLASS VI

#### Chapter 12: OUR JOURNEY INTO THE WORLD OF AI

**Period Duration: 45 minutes**

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#### **LEARNING OBJECTIVES**

After studying this chapter, students will be able to:

- Understand the meaning of intelligence and how humans use it in daily life.
  - Explain the concept of Artificial Intelligence (AI).
  - Describe how AI works using simple steps.
  - Understand the concept of automation and identify examples from daily life.
  - Differentiate between Artificial Intelligence and Automation.
  - Identify applications of AI in everyday life.
  - Recognize the properties of intelligent machines.
  - Identify the three main domains of AI.
- 

#### **PERIOD 1: INTRODUCTION TO INTELLIGENCE AND AI**

##### **Previous Knowledge Testing (5 min)**

- What do we mean by intelligence?
- Who do you think is an intelligent person? Why?
- Can machines think like humans?

##### **Content Explanation (25 min)**

- Meaning of Intelligence
- Examples of how humans use intelligence:
  - Solving problems
  - Learning new skills
  - Making decisions

- Introduction to Artificial Intelligence (AI)
- AI as giving machines the ability to think and learn
- Simple examples of AI in daily life

### **Activity (10 min)**

Teacher to explain 'Do It Yourself – Intelligence Word Puzzle' where students identify the words:

- THINK
- LEARN
- SOLVE PROBLEMS

Students will complete the puzzle individually.

### **Visual Aid (2 min)**

Show images of AI applications such as voice assistants, robots or smart devices provided in the chapter.

### **Recapitulation (3 min)**

- What is intelligence?
  - What is Artificial Intelligence?
- 

## **PERIOD 2: HOW ARTIFICIAL INTELLIGENCE WORKS**

### **Previous Knowledge Testing (5 min)**

- Can machines learn from information?
- How do weather apps predict weather?

### **Content Explanation (30 min)**

Explain the four steps of AI working using the hurricane prediction example:

1. Data Collection – Gathering information
2. Pattern Recognition – Studying past data
3. Prediction – Making smart guesses
4. Action – Helping people make decisions

Explain how AI studies large amounts of data to make predictions.

**Activity (5 min)**

Teacher asks students to think of examples where predictions are useful (weather, exam preparation apps, traffic apps).

**Visual Aid (3 min)**

Show the AI working process diagram given in the chapter.

**Recapitulation (2 min)**

- What are the four steps of AI working?
  - Why does AI need large amounts of data?
- 

**PERIOD 3: AUTOMATION AND DIFFERENCE BETWEEN AI AND AUTOMATION****Previous Knowledge Testing (5 min)**

- Have you seen doors that open automatically?
- What happens when we press the start button on a washing machine?

**Content Explanation (25 min)**

- Meaning of Automation
- Examples of automation:
  - Washing machines
  - Automatic doors
  - Escalators
  - Traffic lights
- Difference between Automation and Artificial Intelligence

**Automation**

- Follows fixed instructions
- Cannot learn or adapt

**AI**

- Can learn from data
- Makes decisions
- Adapts to new situations

**Activity (10 min)**

Teacher to explain 'Do It Yourself – AI or Automation' Activity. Students perform it in the class.

**Visual Aid (3 min)**

Display a comparison table of AI vs Automation.

**Recapitulation (2 min)**

- What is automation?
  - Name one difference between AI and automation.
- 

**PERIOD 4: AI IN OUR DAILY LIVES****Previous Knowledge Testing (5 min)**

- Have you used YouTube recommendations?
- Do you use Google Maps for directions?

**Content Explanation (30 min)**

Explain common applications of AI:

- YouTube recommendations
- Google Maps navigation
- Digital assistants (Alexa, Siri, Google Assistant)

Explain how AI learns from user preferences.

**Visual Aid (5 min)**

Show screenshots or images of YouTube recommendations, Google Maps and voice assistants.

**Recapitulation (5 min)**

- Name two AI applications used in daily life.
- 

**PERIOD 5: PROPERTIES OF INTELLIGENT MACHINES AND AI DOMAINS****Previous Knowledge Testing (5 min)**

- Can machines learn like humans?
- What abilities should a smart machine have?

### **Content Explanation (30 min)**

Explain the five properties of intelligent machines:

1. Learning
2. Adapting
3. Pattern Recognition
4. Decision-Making
5. Problem-Solving

Introduce AI Domains:

- Computer Vision – works with images and videos
- Natural Language Processing (NLP) – works with human language
- Statistical Data Analysis – works with numbers and patterns

Explain how these domains help machines understand different types of information.

### **Visual Aid (5 min)**

Show the diagram of three AI domains.

### **Recapitulation (5 min)**

- What are the five properties of intelligent machines?
  - Name the three AI domains.
-

## LESSON PLANS

### COMPUTER – A WONDER MACHINE

#### CLASS VI

#### Chapter 13: EXPLORING AI DOMAINS AND COMPUTER VISION

**Period Duration: 45 minutes**

---

#### LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept of Artificial Intelligence (AI) domains.
  - Identify the three main domains of AI.
  - Explain Computer Vision, Natural Language Processing and Statistical Data Analysis.
  - Understand how Computer Vision helps machines ‘see’ images and videos.
  - Describe how machines learn through pattern recognition.
  - Identify real-life applications of Computer Vision.
  - Understand how different AI domains work together in real-world systems.
- 

#### PERIOD 1: INTRODUCTION TO AI DOMAINS

**Time:** 45 minutes

#### Previous Knowledge Testing (5 min)

- What is Artificial Intelligence?
- Can machines think like humans?
- Have you used a voice assistant like Alexa or Google Assistant?

#### Content Explanation (25 min)

- Introduction to AI Domains
- Why AI needs different domains
- The Three Domains of AI
  - Computer Vision

- Natural Language Processing
- Statistical Data Analysis
- Types of data handled by each domain

### **Activity (10 min)**

Explain 'Do It Yourself – Domain Detective Challenge'. Students match AI domains with the type of data they process. Later students will perform it in class or as a lab activity.

### **Visual Aid (2 min)**

Show diagram explaining three AI domains and their data types provided in the chapter.

### **Recapitulation (3 min)**

- What are the three domains of AI?
  - Which domain works with images and videos?
- 

## **PERIOD 2: COMPUTER VISION – TEACHING MACHINES TO SEE**

### **Previous Knowledge Testing (5 min)**

- How do we recognize objects in pictures?
- Can computers identify faces in photos?

### **Content Explanation (30 min)**

- Meaning of Computer Vision
- How machines analyze images and videos
- Pixels and visual data
- Examples of Computer Vision
  - Face detection in smartphones
  - Image recognition

### **Activity (5 min)**

Explain 'Do It Yourself- Human Vision Exploration' where students discuss how humans recognize images.

### **Visual Aid (3 min)**

Show pictures demonstrating face detection and object recognition provided in the chapter.

### **Recapitulation (2 min)**

- What is Computer Vision?
  - Give one example of Computer Vision.
- 

## **PERIOD 3: HOW MACHINES RECOGNIZE OBJECTS**

### **Previous Knowledge Testing (5 min)**

- How do you recognize a dog or a cat in a picture?

### **Content Explanation (25 min)**

- Difference between Human Vision and Machine Vision
- Pattern Recognition
- Training machines using thousands of images
- Steps in Computer Vision:
  1. Learning from examples
  2. Pattern identification
  3. Recognition of new images

### **Activity (10 min)**

Teacher to explain 'Do It Yourself -Pattern Recognition Challenge' and students choose an object and list patterns that help identify it.

### **Visual Aid (3 min)**

Show images explaining pattern analysis in objects provided in the chapter.

### **Recapitulation (2 min)**

- What is pattern recognition?
  - Why do machines need training examples?
- 

## **PERIOD 4: APPLICATIONS OF COMPUTER VISION**

### **Previous Knowledge Testing (5 min)**

- How do phones unlock using face recognition?

### **Content Explanation (25 min)**

Applications of Computer Vision:

- Facial Recognition Technology
- Face Filters on Social Media
- Google Search by Image
- Self-Driving Cars
- AI-Assisted Fitness Apps
- AI in Creative Applications

### **Activity (10 min)**

Teacher to explain AI-Powered Birthday Card Creation using AutoDraw. Students to later perform the activity in the computer lab.

### **Visual Aid (3 min)**

Show screenshots of face filters, search by image and AutoDraw.

### **Recapitulation (2 min)**

- Name two applications of Computer Vision.
- 

## **PERIOD 5: HOW AI DOMAINS WORK TOGETHER**

### **Previous Knowledge Testing (5 min)**

- Can one AI technology perform all tasks alone?

### **Content Explanation (25 min)**

- Working together of AI Domains
- Example of smart robots using multiple domains:
  - Computer Vision – to see objects
  - NLP – to understand commands
  - Statistical Data Analysis – to learn patterns
- Real-life examples
- Future of AI Domains

**Activity (10 min)**

Teacher to explain Multi-Domain AI Design Challenge and students design an AI assistant for their school.

**Visual Aid (3 min)**

Present diagram showing integration of AI domains.

**Recapitulation (2 min)**

- How do AI domains work together?
  - Which domain works with numerical data?
-