

LESSON PLAN

COMPUTER – A WONDER MACHINE CLASS VIII

Chapter 1: COMPUTER NETWORK

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning and purpose of a Computer Network and about the advantages and applications of networking.
 - Identify the components of a computer network.
 - Differentiate between types of networks (PAN, LAN, MAN, WAN).
 - Understand network architecture – Client/Server and Peer-to-Peer.
 - Identify different network topologies.
 - Recognize network devices and transmission media.
 - Explain common wireless technologies like Bluetooth and Wi-Fi.
-

PERIOD 1: INTRODUCTION TO COMPUTER NETWORK, ADVANTAGES AND APPLICATIONS

Previous Knowledge Testing (5 min)

- Do you use the internet at home or in school?
- How do mobile phones send messages?
- Have you heard of the word Wi-Fi?

Content Explanation (25 min)

- **Introduction to Computer Network:** Meaning of Computer Network, Purpose – Communication and Resource Sharing
- Advantages of Networking
- Applications of Networking

Activity (10 min)

Students to perform 'Do It Yourself' – List five devices at home/school connected to internet and what information do they share and also create a Network Application Diary.

Visual Aid (3 min)

Show students the diagram of a computer network by drawing it on the board.

Recapitulation (2 min)

- What is a computer network?
 - Name any two advantages of networking.
-

PERIOD 2: COMPONENTS OF COMPUTER NETWORK**Previous Knowledge Testing (5 min)**

- What devices are connected in your school computer lab?

Content Explanation (25 min)

- Components of Network: Workstation/Node, Server, Network Interface Card (NIC), Connection Medium (Cables/Wireless), Network Operating System.
- Basic Hardware

Activity (10 min)

Explain 'Do It Yourself' – Visit computer lab and identify network components. Later, students to perform the same during the lab period.

Visual Aid (3 min)

Present the images provided in the chapter.

Recapitulation (2 min)

- What is NIC?
 - What is a Server?
-

PERIOD 3: TYPES OF NETWORKS (AREA COVERED)**Previous Knowledge Testing (5 min)**

- Is your school network bigger than your home network?

Content Explanation (25 min)

- PAN – Personal Area Network
- LAN – Local Area Network
- MAN – Metropolitan Area Network
- WAN – Wide Area Network (Internet)
 - Differences based on Area Coverage
 - Real-life examples (Home, School, City, Country)

Activity (10 min)

Explain ‘Do It Yourself’ – Draw a map and mark PAN, LAN, MAN, WAN using colours.

Visual Aid (3 min)

Present the images provided in the chapter.

Recapitulation (2 min)

- Which network covers the largest area?
- Example of LAN.

PERIOD 4: NETWORK ARCHITECTURE AND TOPOLOGY

Previous Knowledge Testing (5 min)

- Have you seen computers arranged in rows in a lab?

Content Explanation (25 min)

- Network Architecture
 - Client/Server Network
 - Peer-to-Peer Network
- Network Topologies
 - Bus Topology
 - Star Topology
 - Ring Topology
 - Tree Topology
 - Mesh Topology

Activity (10 min)

- Explain ‘Do It Yourself’ – Make a comparison chart of topologies.

Visual Aid (3 min)

Present the images provided in the chapter.

Recapitulation (2 min)

- What is topology?
 - Name any two topologies.
-

PERIOD 5: TRANSMISSION MEDIA, NETWORK DEVICES

Previous Knowledge Testing (5 min)

- How does Wi-Fi work without wires?

Content Explanation (25 min)

• Transmission Media

- Twisted Pair Cable
- Coaxial Cable
- Fibre Optic Cable
- Satellites

• Network Devices

- Hub
- Switch
- Router
- Repeater
- Bridge

Activity (10 min)

Explain 'Do It Yourself' – Draw diagram of home internet connection with router and devices.

Visual Aid (3 min)

Present the images provided in the chapter.

Recapitulation (2 min)

- Which device connects multiple computers to internet?
-

PERIOD 6: WIRELESS TECHNOLOGIES

Previous Knowledge Testing (5 min)

- Do you use Bluetooth to share songs or photos?
- How does your mobile connect to the internet without wires?
- Have you ever used Google Maps for directions?

Content Explanation (25 min)

- Meaning of Wireless Technology
- Bluetooth
- Wi-Fi (Wireless Fidelity)
- GPS (Global Positioning System)
- Infrared (IR) Communication

Activity (10 min)

Explain 'Do It Yourself' – Walk around the classroom/home with a Bluetooth or Wi-Fi device and note the distance where connection becomes weak. Students will later perform this as homework or lab activity.

Visual Aid (3 min)

Show students images given in the chapter.

Recapitulation (2 min)

- What is Wi-Fi used for?
- Give one example of Infrared communication.

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 2: MORE ON HTML

Period Duration: 45 minutes

LEARNING OBJECTIVES

After completing this chapter, students will be able to:

- Recall basic structure of HTML
 - Identify and use formatting tags in HTML
 - Create lists in web pages
 - Insert images and hyperlinks and also understand URL and its syntax
 - Design tables in HTML
 - Use Marquee tag for scrolling text
 - Create forms with different controls
-

PERIOD 1: RECALL OF BASIC HTML STRUCTURE and BODY ATTRIBUTES

Previous Knowledge Testing (5 min)

- Have you seen a website?
- Do you know how web pages are created?
- Have you heard of HTML?

Content Explanation (25 min)

- Introduction to HTML
- Basic Structure Tags
- Attributes of BODY Tag

Visual Aid (10 min)

Show sample HTML code and corresponding output on the board.

Recapitulation (5 min)

- What is HTML?
 - Which tag contains page content?
-

PERIOD 2: TEXT FORMATTING TAGS and HR TAG

Previous Knowledge Testing (5 min)

- How do we make text bold or big in Word?

Content Explanation (25 min)

- Heading Tags <H1> – <H6>
- Paragraph <P>
- Line Break

- Comments Tag
- Bold, Italic, Underline
- Big & Small Tag
- Subscript & Superscript

- Horizontal Rule <HR> Tag
 - Meaning and Use

Activity (10 min)

- Explain 'Do It Yourself' activity to the students and later students to perform it in the computer lab.

Visual Aid (3 min)

Show sample HTML code and corresponding output on the board.

Recapitulation (2 min)

- Which tag is used for line break?
 - How many heading levels are there?
-

PERIOD 3: LISTS IN HTML

Previous Knowledge Testing (5 min)

- Have you written points or numbered lists?

Content Explanation (25 min)

- Types of Lists
- Nested Lists

Activity (10 min)

Explain 'Do It Yourself' activities which students will later perform in the computer lab.

Visual Aid (3 min)

Show students images of code provided in the chapter.

Recapitulation (2 min)

- Difference between UL and OL?
-

PERIOD 4: IMAGE TAG and ANCHOR TAG (HYPERLINKS)

Previous Knowledge Testing (5 min)

- How do we open a website by clicking a link?

Content Explanation (25 min)

- Image Tag
- Anchor Tag <A>
 - URL

Activity (10 min)

Discuss 'Do It Yourself' – Photo gallery HTML page, My Favourite Websites. Later, students will perform it in the computer lab.

Visual Aid (3 min)

Show students images of code provided in the chapter.

Recapitulation (2 min)

- What is hyperlink?
 - Which attribute links another page?
-

PERIOD 5: TABLE TAG & MARQUEE TAG

Previous Knowledge Testing (5 min)

- Where have you seen tables?

Content Explanation (25 min)

- Table Tags
 - Attributes of Table tag
- Marquee Tag <MARQUEE>

Activity (10 min)

Discuss ‘Do It Yourself’ – Class Timetable using table and Scrolling name using marquee. Later, students will perform them in the computer lab.

Visual Aid (3 min)

Show students images of the code provided in the chapter.

Recapitulation (2 min)

- Which tag creates rows?
 - What does marquee do?
-

PERIOD 6: FORMS IN HTML**Previous Knowledge Testing (5 min)**

- Have you ever filled online forms?

Content Explanation (25 min)

- Form Tag <FORM>
- Form Controls

Activity (10 min)

Discuss ‘Do It Yourself’ – Create simple registration form. Later, students will perform it in the computer lab.

Visual Aid (3 min)

Show students images of code provided in the chapter.

Recapitulation (2 min)

- Difference between get and post method.
- Which button sends data to server?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 3: APP DEVELOPMENT

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning of an Application (App)
 - Identify features and uses of applications
 - Differentiate between types of applications – Desktop, Web and Mobile
 - Recognize different types of application software
 - Understand basic concepts of Application Development
 - Identify features of a good application
 - Recall basics of Scratch
 - Use MIT App Inventor interface
 - Create simple mobile applications using drag-and-drop blocks
-

PERIOD 1: INTRODUCTION, FEATURES and USES OF APPLICATIONS

Previous Knowledge Testing (5 min)

- What apps do you use on your mobile?
- Have you ever used WhatsApp or YouTube?
- What do you use a computer for?

Content Explanation (25 min)

- Meaning of Application/App
- Examples – Word, Excel, Browser, Games, WhatsApp
- Features of an Application
 - Uses of Applications

Activity (10 min)

Students to list five apps they use daily and mention their purpose.

Visual Aid (3 min)

Show icons/screenshots of different apps.

Recapitulation (2 min)

- What is an App?
 - Name any two features of an application.
-

PERIOD 2: TYPES OF APPLICATION SOFTWARE**Previous Knowledge Testing (5 min)**

- Which app do you use for studies?
- Which app do you use for games?

Content Explanation (35 min)

- Types of Application Software
 - Word Processor
 - Spreadsheet
 - Database
 - Administration
 - Presentation Graphics
 - Accounting Software
 - Photo editing Software
 - Email Software
 - Web Browser
 - WhatsApp Messenger
 - Videoconferencing Application

Visual Aid (3 min)

Show students images provided in the chapter.

Recapitulation (2 min)

- Which app is used to create documents?
 - Which app is used to browse the internet?
-

PERIOD 3: TYPES OF APPLICATIONS – DESKTOP, WEB and MOBILE**Previous Knowledge Testing (5 min)**

- Do you install games on the computer?
- Do you open websites on browser?

Content Explanation (25 min)

- Desktop Applications
- Web Applications
- Mobile Applications

- Difference between Desktop and Web/Mobile Apps
(Maintenance, Cost, Security, Connectivity)

Activity (10 min)

Students to create a comparison table in the notebook.

Visual Aid (3 min)

Show students images provided in the chapter and also draw a table on the board.

Recapitulation (2 min)

- Which app runs on the browser?
 - Example of a mobile app.
-

PERIOD 4: INTRODUCTION TO APPLICATION DEVELOPMENT**Previous Knowledge Testing (5 min)**

- Have you ever thought of making your own game/app?

Content Explanation (25 min)

- Meaning of Application Development

• Points to Remember:

- Uniqueness
- User-friendly
- Rich Features
- Flawless Coding
- Powerful Marketing

Activity (10 min)

Students should think of an app idea and write its features.

Visual Aid (3 min)

Teacher to explain with example like 'School App'.

Recapitulation (2 min)

- Name two points to be kept in mind while developing an app.
-

PERIOD 5: SCRATCH and INTRODUCTION TO MIT APP INVENTOR

Previous Knowledge Testing (5 min)

- Have you used Scratch before?

Content Explanation (25 min)

- Scratch – Drag and Drop Programming
- MIT App Inventor – Mobile App Development Tool
- Similarity between Scratch and App Inventor

Activity (10 min)

Students recall Scratch blocks and functions.

Visual Aid (3 min)

Show students images of interfaces provided in the chapter.

Recapitulation (2 min)

- What is Scratch used for?
 - What is App Inventor?
-

PERIOD 6: APP INVENTOR – DESIGNER VIEW

Previous Knowledge Testing (5 min)

- What is a Web Browser?

Content Explanation (35 min)

- Login to App Inventor
- Designer View Panes: Palette, View, Components and Properties

Visual Aid (3 min)

Show students the screenshots provided in the chapter.

Recapitulation (2 min)

- Name any two panes of Designer View.
-

PERIOD 7: BLOCKS EDITOR

Previous Knowledge Testing (5 min)

- What happens when we click a button on an app?

Content Explanation (25 min)

- Blocks Editor
- Button Click Event
- TextToSpeech Component
- Testing with Emulator/Mobile

Activity (10 min)

Discuss creating an App in the class and later students to perform it in the computer lab.

Visual Aid (3 min)

Present the screenshots provided in the chapter.

Recapitulation (2 min)

- What is Blocks Editor used for?
-

PERIOD 8: BEAT APP DEMONSTRATION AND TESTING APPLICATION

Previous Knowledge Testing (5 min)

Quick oral revision.

Content Explanation (25 min)

- Beats App Demonstration
- Testing Application

Activity (10 min)

Discuss about the adding sounds and later students try drawing lines or adding sounds in the computer lab during the practical session.

Visual Aid (3 min)

Show students images provided in the chapter.

Recapitulation (2 min)

- Name any two types of applications.
- Which tool is used for mobile app development?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 4: ARRAYS IN PROGRAMMING

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept of Arrays in programming and explain the need for and advantages of arrays.
 - Identify array rules and perform array indexing and access elements.
 - Use array methods – append(), insert(), pop(), remove(), len(), index(), count()
 - Sort arrays in ascending and descending order
 - Search elements in an array
 - Develop simple programs using arrays and loops
 - Apply arrays in real-life problem-solving
-

PERIOD 1: INTRODUCTION TO ARRAYS

Previous Knowledge Testing (5 min)

- How do you store multiple numbers in Python?
- Have you created many variables like num1, num2, num3?

Content Explanation (25 min)

- Meaning of Arrays
- Need for Arrays
- Real-life examples – Pencil box, Playlist, Class Register
- Advantages of Arrays

Activity (10 min)

Discuss 'Do It Yourself' – students list items in their school bag and relate it to an array container. Students later perform it in the computer lab.

Visual Aid (3 min)

Present the code provided in the chapter.

Recapitulation (2 min)

- What is an array?
 - Why do we use arrays?
-

PERIOD 2: RULES OF ARRAYS and ARRAY CREATION

Previous Knowledge Testing (5 min)

- Can we mix numbers and names in one list?

Content Explanation (25 min)

- Rules of Arrays:
- Creating Arrays in Python
- Example – Colors, Subjects, Grades

Activity (10 min)

Discuss ‘Do It Yourself’ – Favourite songs using loops which students to perform later in the computer lab.

Visual Aid (3 min)

Show sample Python list on the board.

Recapitulation (2 min)

- Name two rules of arrays.
-

PERIOD 3: ARRAY INDEXING and ACCESSING ELEMENTS

Previous Knowledge Testing (5 min)

- What is the first position number when counting?

Content Explanation (25 min)

- Index starts from 0
- Accessing first, middle and last element
- Negative Index concept (basic introduction)

Activity (10 min)

Discuss ‘Do It Yourself’ – Practise Indexing and Digital Lunch Box which students to perform later during the practical session.

Visual Aid (3 min)

Present the code provided in the chapter.

Recapitulation (2 min)

- What is the index of the first element?
-

PERIOD 4: ARRAY METHODS – ADDING, REMOVING ELEMENTS and GETTING INFORMATION

Previous Knowledge Testing (5 min)

- How do we add a new contact in a phone?

Content Explanation (25 min)

- `append()` – Add at end
- `insert()` – Add at position
- `pop()` – Remove last
- `remove()` – Remove specific element

- `len()` – Number of elements
- `index()` – Position of element

Activity (10 min)

Discuss ‘Do It Yourself’ -- Weekend Activities Planner.

Visual Aid (3 min)

Present the code provided in the chapter.

Recapitulation (2 min)

- Difference between `append()` and `insert()`.
-

PERIOD 5: SORTING ARRAYS

Previous Knowledge Testing (5 min)

- How are students arranged in order of height?

Content Explanation (25 min)

- Meaning of Sorting
- Ascending Order
- Descending Order
- sort() and sort(reverse=True)

Activity (10 min)

Discuss ‘Do It Yourself’ – Test Scores Organizer. Students to perform it later in the computer lab.

Visual Aid (3 min)

Present the code provided in the chapter.

Recapitulation (2 min)

- Discuss real-life sorting examples.

PERIOD 6: SEARCHING IN ARRAYS

Previous Knowledge Testing (5 min)

- How do you find your name in the attendance list?

Content Explanation (25 min)

- Searching meaning
- “in” keyword
- index() method
- count() method

Activity (10 min)

Discuss ‘Do It Yourself’ -- Sports Team Manager. Students to perform it later in the computer lab.

Visual Aid (3 min)

Present the code provided in the chapter.

Recapitulation (2 min)

- Which keyword checks existence?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE_ CLASS VIII

Chapter 5: DECISION-MAKING AND LOOPS IN PYTHON

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept of decision-making in programming.
 - Differentiate between sequential, selection and iteration control structures.
 - Use *if*, *if...else*, *elif*, *nested if* and *shorthand if* statements.
 - Understand the need and importance of loops.
 - Differentiate between *while* loop and *for* loop.
 - Use nested loops in simple programs.
 - Identify exit criteria and avoid infinite loops.
 - Develop simple Python programs using decision-making and loops.
 - Apply concepts in real-life problem-solving situations.
-

PERIOD 1: INTRODUCTION TO DECISION-MAKING and CONTROL FLOW

Previous Knowledge Testing (2.5 min)

- Do you make decisions daily? Give examples.
- What do you do if it rains while going to school?

Content Explanation (25 min)

- Meaning of Decision-Making
- Real-life decision examples
- Program Control Flow
 - Sequential
 - Selection (Conditional)
 - Iteration (Looping)

Activity (10 min)

Perform 'Do It Yourself' given in the book about programming decisions and understanding conditions.

Visual Aid (5 min)

Draw flow diagrams of Sequential, Selection and Iteration on board as provided in the chapter.

Recapitulation (2.5 min)

- What is decision-making?
 - Name three types of control flow.
-

PERIOD 2: *IF* STATEMENT

Previous Knowledge Testing (2.5 min)

- What happens if marks are above 90?

Content Explanation (25 min)

- Syntax of *if* statement
- True and False conditions
- Examples – marks check, password length, birthday check

Activity (10 min)

Discuss 'Do It Yourself' – *if* statements – which students perform in the computer lab later.

Visual Aid (5 min)

Teacher to show simple Python examples on board and the code provided in the chapter.

Recapitulation (2.5 min)

- When does the *if* block execute?
-

PERIOD 3: *IF...ELSE* AND *ELIF* STATEMENTS

Previous Knowledge Testing (5 min)

- What if marks are below 40 and 20?

Content Explanation (25 min)

- *if...else* statement
- *elif* statement (multiple conditions)
- Examples – Adult/Minor, Traffic Light, Weather Advice

Activity (10 min)

Discuss ‘Do It Yourself’ – *if-else* statements and *elif* programs. Later, students will perform them in the computer lab.

Visual Aid (3 min)

Present the code provided in the chapter. Teacher to draw the flowchart on the board as given in the chapter.

Recapitulation (2 min)

- Difference between *if...else* and *elif*.
-

PERIOD 4: SHORTHAND IF, IF-ELSE and NESTED IF

Previous Knowledge Testing (5 min)

- Can we write short answers instead of long ones?

Content Explanation (25 min)

- *Shorthand if*
- *Shorthand if...else*
- *Nested if* concept
- Examples – ATM System, Login Access

Activity (10 min)

Students perform ‘Do It Yourself’ – regular *if-else* statements to one-liners and *nested if* programs. Later, students will implement programs in the computer lab.

Visual Aid (3 min)

Present the syntax and code provided in the chapter.

Recapitulation (2 min)

- What is *nested if*?
-

PERIOD 5: INTRODUCTION TO LOOPS and *WHILE* LOOP

Previous Knowledge Testing (5 min)

- What tasks do you repeat daily?

Content Explanation (25 min)

- Meaning and Importance of Loops
- Benefits – Saves time, reduces mistakes
- *while* loop syntax
- Example – Printing numbers 1 to 5
- Exit Criteria and Infinite Loop concept

Activity (10 min)

Discuss ‘Do It Yourself’ – Loops, Counting Game – in the class. Later, students to perform it in the computer lab.

Visual Aid (3 min)

Show students the loop flow diagram provided in the chapter.

Recapitulation (2 min)

- What is a *while* loop?
 - Why is exit criteria important?
-

PERIOD 6: *FOR* LOOP

Previous Knowledge Testing (5 min)

- How do you read names from attendance list?

Content Explanation (25 min)

- *for* loop syntax
- Iterating through list and string
- Examples – Squares of numbers, Fruits list

Activity (10 min)

Discuss ‘Do It Yourself’ – Grade Calculator – in the class which students to implement later in the computer lab.

Visual Aid (3 min)

Show students the flowchart and code provided in the chapter.

Recapitulation (2 min)

- When do we use a *for* loop?
-

PERIOD 7: NESTED LOOPS

Previous Knowledge Testing (5 min)

- Have you seen tables or grids?

Content Explanation (25 min)

- Meaning of Nested Loop
- Real-life examples – Bags & Apples, Rows & Columns
- Simple pattern logic

Activity (10 min)

Students perform ‘Do It Yourself’ *for* loops in the class.

Visual Aid (3 min)

Show students the code provided in the chapter.

Recapitulation (2 min)

- What is a nested loop?
- XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 6: PYTHON FUNCTIONS

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept and purpose of functions in Python programming.
 - Learn how to define and call functions in Python.
 - Understand the role of parameters and arguments in functions.
 - Explain the use of return statements in functions.
 - Develop simple Python programs using functions.
-

PERIOD 1: INTRODUCTION TO FUNCTIONS

Previous Knowledge Testing (5 min)

What is a Python program?

Have you written simple Python statements before?

Do you know what a block of code is?

Content Explanation (25 min)

- Introduction to Functions
- Meaning of Function – A Function is a block of code that performs a specific task.
- Need for Functions
- Examples of Functions in daily life and programming.
- Types of Functions

Visual Aid (10 min)

Show the syntax of a simple function on the board.

Recapitulation (5 min)

What is a Function?

Why are Functions useful in programming?

PERIOD 2: DEFINING A FUNCTION

Previous Knowledge Testing (5 min)

- Do you remember the meaning of a Function?
- What keyword is used in Python to create a Function?

Content Explanation (25 min)

- Defining a Function

Syntax:

```
def function_name():  
    statement
```

- Explanation of Function name

Colon (:)

Indented statements (Function body)

Example:

```
def greet():  
    print("Hello Students")
```

Visual Aid (10 min)

Present examples and screenshots given in the textbook.

Recapitulation (5 min)

- Which keyword is used to define a Function?
 - What is the Function body?
-

PERIOD 3: CALLING A FUNCTION

Previous Knowledge Testing (5 min)

- What happens after we define a function?
- How do we run the function?

Content Explanation (25 min)

- Function Calling

Example:

```
def greet():  
    print("Hello Students")
```

`greet()`

Explanation that the function executes when it is called.

- Flow of program execution.

Visual Aid (10 min)

Present examples and screenshots provided in the chapter.

Recapitulation (5 min)

- What is function calling?
 - How do we call a function?
-

PERIOD 4: FUNCTIONS WITH PARAMETERS

Previous Knowledge Testing (5 min)

- Can we give input values to a function?
- What are parameters?

Content Explanation (25 min)

- Parameters and Arguments

Example:

```
def add(a, b):  
    print(a + b)  
add(5, 3)
```

Explanation:

a and b → Parameters

5 and 3 → Arguments

- Importance of parameters in Functions.

Visual Aid (10 min)

Present examples and screenshots provided in the chapter.

Recapitulation (5 min)

- What are parameters?
 - What are arguments?
-

PERIOD 5: RETURN STATEMENT IN FUNCTIONS

Previous Knowledge Testing (5 min)

- What happens when a function finishes its work?
- Can a function give a result back to the program?

Content Explanation (25 min)

- Return Statement

Example:

```
def square(n):  
    return n*n
```

```
result = square(5)  
print(result)
```

Explanation of returning values from functions.

- Difference between printing and returning values.

Visual Aid (10 min)

Show students examples provided in the chapter.

Recapitulation (5 min)

- What is a return statement?
- What does the function return in the example?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 7: E-COMMERCE

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning of E-Commerce.
 - Identify different types of E-Commerce.
 - Explain the advantages and disadvantages of online shopping.
 - Understand the process of buying and selling goods online.
 - Understand the concept of online shopping, E-Ticketing and E-Banking as well.
-

PERIOD 1: INTRODUCTION TO E-COMMERCE

Previous Knowledge Testing (5 min)

- Have you ever bought something online?
- Which websites are used for online shopping?
- What is the use of internet in shopping?

Content Explanation (20 min)

- Meaning of E-Commerce
- Examples of E-Commerce websites
- Importance of E-Commerce in modern business

Activity (15 min)

Teacher to discuss 'Do It Yourself' activities – Shopping Challenge, Explore online shopping and Create a timeline.

Visual Aid (3 min)

Show images of popular online shopping websites.

Recapitulation (2 min)

- What is E-Commerce?
 - Give one example of an E-Commerce website.
-

PERIOD 2: TYPES OF E-COMMERCE

Previous Knowledge Testing (5 min)

- What is E-Commerce?
- Where can we buy products online?

Content Explanation (20 min)

- Types of E-Commerce
 1. Business to Consumer (B2C) – Businesses selling products directly to customers.
 2. Business to Business (B2B) – Businesses selling products to other businesses.
 3. Consumer to Consumer (C2C) – Individuals selling products to other individuals.
- Examples of each type.

Activity (15 min)

Teacher to explain 'Do It Yourself'. Students to identify examples of each type of E-Commerce and also list all electronic home devices that can be used for E-Commerce.

Visual Aid (3 min)

Show diagrams explaining types of E-Commerce.

Recapitulation (2 min)

- Name any two types of E-Commerce.
- What is B2C?

PERIOD 3: FEATURES OF E-COMMERCE and E-SHOPPING

Previous Knowledge Testing (5 min)

- Why do people prefer online shopping?
- Is online shopping always safe?

Content Explanation (25 min)

- Features of E-Commerce
 - E-Shopping
 - Steps to perform E-shopping
 - Advantages of E-commerce
 - Disadvantages of E-commerce

Activity (10 min)

Students to perform 'Do It Yourself' activities based on e-commerce and online shopping provided in the chapter.

Visual Aid (3 min)

Show images and screenshots given in the chapter.

Recapitulation (2 min)

- Mention one advantage of E-Commerce.
 - Mention one disadvantage of E-Commerce.
-

PERIOD 4: E-TICKETING and E-BANKING**Previous Knowledge Testing (5 min)**

- Have you ever booked movie tickets online?
- Do you know how to make online transactions?

Content Explanation (25 min)

- E-Ticketing
- Example
- E-Banking
- Services provide by internet banking
- Three kinds of systems provided by E-banking
- Advantages of E-ticketing and E-banking

Activity (10 min)

Students to perform 'Do It Yourself' activities based on E-ticketing and E-banking.

Visual Aid (3 min)

Show screenshots of websites provided in the chapter.

Recapitulation (2 min)

- What is the first step in online shopping?
 - Name any two payment methods.
-

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 8: SAFE COMPUTING – PREVENTING VIRUSES AND CYBER THREATS

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the meaning of computer viruses and cyber threats.
 - Identify different types of computer viruses and malware.
 - Explain how viruses spread in computers.
 - Understand the role of antivirus software in protecting computers.
 - Follow safe computing practices to prevent cyber threats.
-

PERIOD 1: INTRODUCTION TO COMPUTER VIRUSES

Previous Knowledge Testing (10 min)

- What is a computer program?
- Have you heard about computer viruses?
- What happens if a computer gets infected?

Content Explanation (30 min)

- Meaning of Computer Virus
- Common traits of Computer Viruses
- Examples of common viruses

Recapitulation (5 min)

- What is a computer virus?
 - What damage can a virus cause?
-

PERIOD 2: TYPES OF COMPUTER VIRUSES AND ANTIVIRUS

Previous Knowledge Testing (5 min)

- What is a computer virus?
- How can a virus affect a computer?

Content Explanation (25 min)

- Types of Computer Viruses
 - Symptoms of a Virus
 - Antivirus Software
 - Main functions of Antivirus
 - Examples of Antivirus
 - Protecting computer from virus
 - Benefits and ways of updating Antivirus

Activity (10 min)

Students to perform 'Do It Yourself' – List all software that need regular updates.

Recapitulation (5 min)

- Name any two ways to update an antivirus.
 - What are the symptoms of a virus?
-

PERIOD 3: MALWARE and CYBER THREATS

Previous Knowledge Testing (5 min)

- How do viruses enter a computer?
- Can viruses spread through the internet?

Content Explanation (25 min)

- Malware
- Types of Malware
- Unsafe online practices
- Plagiarism
- Cyberbullying
- Preventive Measures of Cyberbullying and Plagiarism

Activity (10 min)

Students to perform 'Do It Yourself' – Practise rewriting information and Create awareness campaign.

Visual Aid (3 min)

Show examples and images provided in the chapter.

Recapitulation (2 min)

- What are the steps to prevent cyberbullying?
 - What is Email virus?
-

PERIOD 4: UNSAFE ONLINE PRACTICES

Previous Knowledge Testing (5 min)

How can we protect computers from cyber threats?

Content Explanation (25 min)

- Hacking
- Phishing
- Spamming
- Right to Privacy
- Software Privacy
- Intellectual Property Rights
- Their Preventive Measures

Activity (10 min)

Students to perform 'Do It Yourself' – Test and Improve password security, based on software privacy.

Visual Aid (3 min)

Show images provided in the chapter.

Recapitulation (2 min)

- What are the measures to prevent Software Privacy?
 - What is Phishing?
-

PERIOD 5: ETHICAL USE OF COMPUTERS AND DIGITAL FOOTPRINTS

Previous Knowledge Testing (5 min)

What are computer ethics?

Content Explanation (25 min)

- Computer ethics to be followed on the internet
- Do's and Don'ts of safe and ethical computing
- Digital Footprints
- Examples
- Users of Digital Footprints

Activity (10 min)

Students to perform 'Do It Yourself' based on ethical computing in the class and 'Access the current digital footprint' in the computer lab.

Visual Aid (3 min)

Discuss with students the images provided in the chapter.

Recapitulation (2 min)

- Mention any two Do's and Don'ts of safe and ethical computing.
- What is a digital footprint?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 9: INCREASING PRODUCTIVITY USING ARTIFICIAL INTELLIGENCE

Period Duration: 45 minutes

LEARNING OBJECTIVES

After completing this chapter, students will be able to:

- Understand the meaning and importance of Artificial Intelligence (AI).
 - Explain how AI helps increase productivity.
 - Identify AI tools used in **Microsoft Word**.
 - Identify AI tools used in **Microsoft Excel**.
 - Identify AI tools used in **Microsoft PowerPoint**.
 - Understand the concept of **AI-powered chatbots**.
 - Recognize real-life uses of AI in daily activities.
-

PERIOD 1: INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Previous Knowledge Testing (5 min)

- What do you understand by Artificial Intelligence?
- Have you used voice assistants like Google Assistant or Alexa?
- How can computers help us work faster?

Content Explanation (25 min)

- Meaning of Artificial Intelligence
- AI as a technology that mimics human thinking
- Role of AI in increasing productivity
- Uses of AI in daily life

AI in Productivity

- Planning tasks
- Writing assistance
- Reading and summarizing
- Research support
- Creative tasks like music and images

Activity (10 min)

Students will discuss five daily life uses of AI such as voice assistants, recommendation systems, online shopping suggestions.

Visual Aid (3 min)

Show students images or examples of AI such as smart assistants and recommendation systems.

Recapitulation (2 min)

- What is Artificial Intelligence?
 - Name one way AI helps in daily life.
-

PERIOD 2: AI TOOLS IN MICROSOFT WORD**Previous Knowledge Testing (5 min)**

- What software do we use to type documents?
- What problems do we face while writing?

Content Explanation (25 min)

AI tools in Microsoft Word:

- Editor – checks spellings and grammar
- Researcher – collects information from the web
- Ideas – suggests improvements in writing
- Translator – translates text into different languages
- Dictation – converts speech to text
- Accessibility Checker – makes documents easier for people with disabilities
- Smart Lookup – searches for information with Bing

Visual Aid (10 min)

Discuss with students about the screenshots provided in the chapter.

Recapitulation (5 min)

- Name any two AI tools in Word.
 - Which tool converts speech into text?
-

PERIOD 3: AI TOOLS IN MICROSOFT EXCEL

Previous Knowledge Testing (5 min)

- What is Microsoft Excel used for?
- Have you worked with data tables?

Content Explanation (25 min)

AI tools in Microsoft Excel:

- Analyze Data – analyzes data and provides insights
- New Data Types – converts text into real-world data types
- Insert Data from Picture – converts images of tables into Excel data
- Dynamic Arrays – automatically updates data ranges
- Excel Formula Bot – generates formulas using AI

Visual Aid (10 min)

Discuss with the students about the screenshots provided in the chapter.

Recapitulation (5 min)

- What does Analyze Data do?
 - Which tool converts picture data into spreadsheet data?
-

PERIOD 4: AI TOOLS IN MICROSOFT POWERPOINT

Previous Knowledge Testing (5 min)

- What software do we use for presentations?
- What makes a presentation attractive?

Content Explanation (25 min)

AI tools in Microsoft PowerPoint:

- Designer (Design Ideas) – suggests slide layouts and designs
- Presenter Coach – provides feedback while practising presentations
- Live Captioning and Subtitles – shows captions during presentations

Visual Aid (10 min)

Discuss the screenshots provided in the chapter.

Recapitulation (5 min)

- What does the Presenter Coach do?
- Which feature suggests slide designs?

PERIOD 5: AI-POWERED CHATBOTS

Previous Knowledge Testing (5 min)

- Have you chatted with a chatbot online?
- What kind of questions can a chatbot answer?

Content Explanation (25 min)

Meaning of AI-powered chatbots

Examples of chatbots:

- Chatfuel – used for Facebook Messenger bots
- Dialogflow – developed by Google
- IBM Watson Assistant – handles complex conversations
- ChatGPT – AI chatbot developed by OpenAI
- Bing Chat – Microsoft AI chatbot powered by GPT-4

Uses of chatbots:

- Answering questions
- Assisting research
- Helping in writing
- Solving problems
- Generating creative ideas

Visual Aid (10 min)

Discuss the screenshots provided in the chapter.

Recapitulation (5 min)

- What is an AI chatbot?
- Name one chatbot example.

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 10: ARTIFICIAL INTELLIGENCE – PROJECT LIFE CYCLE

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept of Artificial Intelligence project life cycle.
 - Identify the different stages involved in an AI project.
 - Explain the importance of problem scoping in AI development.
 - Understand data acquisition and data exploration processes.
 - Recognize how AI models are developed and evaluated.
 - Brief introduction of NLP.
-

PERIOD 1: INTRODUCTION TO AI PROJECT LIFE CYCLE

Previous Knowledge Testing (5 min)

- What is Artificial Intelligence?
- Where do we see AI usage in daily life?
- What do you understand by a project?

Content Explanation (25 min)

- Meaning of AI Project Life Cycle
- Importance of following structured steps in AI projects.
- Overview of the stages of the AI Project Life Cycle.

Activity (10 min)

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

Visual Aid (3 min)

Show a diagram of AI Project Life Cycle stages provided in the chapter.

Recapitulation (2 min)

- What is an AI project life cycle?
- Why is it important in AI development?

PERIOD 2: PROBLEM IDENTIFICATION and SCOPING

Previous Knowledge Testing (5 min)

Why is it important to understand a problem before solving it?

Content Explanation (25 min)

- Meaning of Problem Identification
- Meaning of Problem Scoping
- Steps involved in Problem Scoping
- Importance of clearly defining the problem.

Activity (10 min)

Students to perform 'Do It Yourself' – 4W's Canvas.

Visual Aid (3 min)

Show students images provided in the chapter.

Recapitulation (2 min)

- What is problem scoping?
- Why is it important in an AI project?

PERIOD 3: DATA ACQUISITION AND DATA EXPLORATION

Previous Knowledge Testing (5 min)

- What is data?
- Why is data important for AI?

Content Explanation (25 min)

- Data Acquisition
- Sources of Data
- Data Exploration
 - Understanding and analyzing collected data.
- Importance of quality data in AI projects.
 - Artificial Intelligence (AI)
 - Machine Learning
 - Deep Learning

Activity (10 min)

Students to perform 'Do It Yourself' based on data sources and AI, Machine Learning and Deep Learning.

Visual Aid (3 min)

Show charts or diagrams representing data collection and analysis.

Recapitulation (2 min)

- What is data acquisition?
 - Why is data important in AI projects?
-

PERIOD 4: MODELLING**Previous Knowledge Testing (5 min)**

What do you understand by a model?

Content Explanation (25 min)

- Meaning of Modelling
 - Creating an AI model that can learn from data and make predictions or decisions.
- Role of algorithms in building AI models.
 - Types of AI Models
- Examples of simple AI models.

Activity (10 min)

Students to perform 'Do It Yourself' – Create a simple rule-based decision tree.

Visual Aid (3 min)

Show diagrams explaining AI model and types provided in the chapter.

Recapitulation (2 min)

- What is modelling in AI?
 - What helps an AI model learn from data?
-

PERIOD 5: EVALUATION AND NLP

Previous Knowledge Testing (5 min)

How do we know if a solution works correctly?

Content Explanation (25 min)

- Evaluation
- NLP
- What NLP does

Activity (10 min)

Students to discuss 'Do It Yourself' – AI project life cycle different from a regular project life cycle.

Recapitulation (5 min)

- What is evaluation in an AI project?
- Why is improvement necessary?

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 11: AI ETHICS

Period Duration: 45 minutes

LEARNING OBJECTIVES

After studying this chapter, students will be able to:

- Understand the concept of ethics in Artificial Intelligence.
 - Recognize the importance of responsible and ethical use of AI.
 - Identify ethical issues related to AI such as privacy and bias.
 - Understand the need for fairness and transparency in AI systems.
 - Develop awareness about responsible use of technology.
-

PERIOD 1: INTRODUCTION TO AI ETHICS

Previous Knowledge Testing (5 min)

- What is Artificial Intelligence?
- Where do we see AI used in our daily life?
- What do you understand by ethics?

Content Explanation (25 min)

• Meaning of Ethics

Ethics refers to moral principles that guide human behaviour and decision-making.

• Meaning of AI Ethics

AI Ethics refers to the guidelines and principles that ensure Artificial Intelligence systems are developed and used responsibly.

• Importance of ethics in technology.

Activity (10 min)

Students to discuss 'Do It Yourself' – Situations where technology should be used responsibly.

Visual Aid (3 min)

Show examples of AI systems used in daily life.

Recapitulation (2 min)

- What are Ethics?
 - What are AI Ethics?
-

PERIOD 2: IMPORTANCE OF AI ETHICS

Previous Knowledge Testing (5 min)

Why should technology be used responsibly?

Content Explanation (25 min)

- Need for AI Ethics
- Importance of AI Ethics

Activity (10 min)

Students to discuss 'Do It Yourself' based on AI Ethics and conduct bias investigation.

Recapitulation (5 min)

- Why are AI Ethics important?
 - How do AI Ethics protect users?
-

PERIOD 3: ETHICAL ISSUES IN AI

Previous Knowledge Testing (5 min)

What problems can occur if AI is misused?

Content Explanation (25 min)

- Ethical Issues in AI
- Explanation with real-life examples.

Activity (10 min)

Students to perform 'Do It Yourself' – identify potential AI bias.

Recapitulation (5 min)

Name one ethical issue in AI.

Why is privacy important in AI systems?

PERIOD 4: INTEGRATING ETHICS INTO AI

Previous Knowledge Testing (5 min)

How can we ensure AI is integrated into AI?

Content Explanation (25 min)

- Human-centric AI Solutions
- Unbiased AI Solutions
- Data Protection AI Solutions
- Sustainable AI Solutions
- Examples

Activity (10 min)

Students to perform ‘Do It Yourself’ – Designing an AI system for the school.

Visual Aid (3 min)

Show students images provided in the chapter.

Recapitulation (2 min)

What are the factors responsible for integrating ethics into AI?
What is ethical AI?

PERIOD 5: REFLECTION AND DISCUSSION

Previous Knowledge Testing (5 min)

How do you think AI will affect our future?

Content Explanation (25 min)

- Ethical AI rules
- Ethics Reflection Journal

Activity (10 min)

Students to perform ‘Do It Yourself’ – AI Ethics Debate – in the class and create a personal action plan for promoting ethical AI.

Visual Aid (3 min)

Show charts explaining ethical AI principles.

Recapitulation (2 min)

- Why is ethical responsibility important in AI?
 - How can learning opportunities for AI be extended to all?
-

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 12: APPLICATIONS OF ARTIFICIAL INTELLIGENCE

Period Duration: 45 minutes

LEARNING OBJECTIVES

After completing this chapter, students will be able to:

- Define Artificial Intelligence (AI).
 - Identify the three main domains of AI.
 - Understand the applications of AI in different sectors.
 - Explain the role of AI in healthcare, education, agriculture, gaming and robotics.
 - Identify advantages and disadvantages of AI.
 - Understand how AI supports decision-making and automation.
-

PERIOD 1: INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Previous Knowledge Testing (5 minutes)

- What is Artificial Intelligence?
- Where have you seen AI in daily life?
- Can machines think like humans?

Content Explanation (25 minutes)

- Meaning and definition of Artificial Intelligence
- AI as a branch of Computer Science
- Machines performing tasks that require human intelligence
- Importance of AI in modern life

Three Main Domains of AI

1. Data Science/Big Data – analyzing large data
2. Computer Vision – understanding images and videos
3. Natural Language Processing (NLP) – understanding human language

Activity (10 minutes)

Students to perform 'Do It Yourself' – Make a list of 10 things of daily use, which involve AI.

Recapitulation (5 minutes)

- What is Artificial Intelligence?
 - Name the three domains of AI.
-

PERIOD 2: AI IN VIDEO GAMES AND RULES OF GAMING

Previous Knowledge Testing (5 min)

- Which video games do you play?
- Do computers act like real players?

Content Explanation (25 min)

- Role of AI in video games
- Improving game design and performance
- Examples of AI games:
 - Minecraft
 - Rocket League
 - Chess
 - Tic-Tac-Toe

Rules for Online Games

1. Understand the game instructions
2. Stay respectful while playing
3. Play for fun

Visual Aid (3 min)

Discuss the images provided in the chapter.

Activity (10 min)

Students to perform 'Do It Yourself' based on AI in Video Games.

Recapitulation (2 min)

- How does AI improve video games?

PERIOD 3: AI IN HEALTHCARE

Previous Knowledge Testing (5 min)

- How do doctors diagnose diseases?

Content Explanation (25 min)

- Applications of AI in healthcare:
 - Disease diagnosis
 - Treatment development
 - Drug development
 - Patient monitoring
 - Robotic surgery
 - Maintaining medical records
 - Brain-Computer Interface (BCI)
 - Helps physically disabled patients interact with computers.

Visual Aid (3 min)

Discuss the images provided in the chapter.

Activity (10 min)

Students to discuss 'Do It Yourself' based on AI in healthcare.

Recapitulation (2 min)

- Name two uses of AI in healthcare.
-

PERIOD 4: AI IN EDUCATION

Previous Knowledge Testing (5 min)

- How has technology changed classrooms?

Content Explanation (25 min)

Applications of AI in Education:

1. Intelligent Tutor System (ITS) – provides automated feedback
2. Smart Classroom Technology – digital teaching methods
3. Adaptive Learning – personalized learning methods
4. Pedagogical Agents – virtual characters assisting learning

Visual Aid (3 min)

Discuss the images provided in the chapter.

Activity (10 min)

Students to perform 'Do It Yourself' based on AI in Education.

Recapitulation (5 min)

- What is Adaptive Learning?
-

PERIOD 5: AI IN AGRICULTURE AND DECISION-MAKING**Previous Knowledge Testing (5 min)**

- What challenges do farmers face?

Content Explanation (25 min)

AI applications in agriculture:

- Weather forecasting
- Monitoring crop health
- Agricultural robots
- Intelligent spraying drones
- Disease detection
- Precision farming

AI in Decision-Making

Example:

- Self-driving cars using autopilot technology.

Visual Aid (3 min)

Discuss the images provided in the chapter.

Activity (10 min)

Students to discuss 'Do It Yourself' based on AI in agriculture and decision-making.

Recapitulation (2 min)

- What is precision farming?
-

PERIOD 6: AI AND ROBOTICS – ADVANTAGES and DISADVANTAGES of AI

Previous Knowledge Testing (5 min)

- What are robots?

Content Explanation (25 min)

- Robotics
- Definition: Machines that perform tasks automatically

Applications of robots:

- Defence
- Medical field
- Industries
- Entertainment
- Mining

Advantages of AI

- Reduces human errors
- Faster decision-making
- Works continuously
- Reduces risk to human life

Disadvantages of AI

- High cost
- Unemployment
- Lack of emotions and ethics
- Human dependency on machines

Visual Aid (3 min)

Discuss the images provided in the chapter.

Activity (10 min)

Students to perform 'Do It Yourself' based on AI in Robotics and debate on 'Is AI More Helpful or More Harmful?'

Recapitulation (2 min)

- List two advantages and two disadvantages of AI.

-----XXXXXXXXXXXXXXXXXXXXXXXXXXXX-----

LESSON PLAN

COMPUTER – A WONDER MACHINE

CLASS VIII

Chapter 13: SKILL SETS REQUIRED FOR THE FUTURE

Period Duration: 45 minutes

Learning Objectives

After completing this chapter, students will be able to:

- Understand how Artificial Intelligence helps society in different sectors
 - Explain the applications of AI in healthcare, education, environment and disaster management
 - Identify the challenges and ethical issues related to AI
 - Understand the impact of AI on jobs and industries
 - Identify new career opportunities created by AI
 - Recognize technical and non-technical skills required for careers in AI.
-

PERIOD 1: AI IN HEALTHCARE

Previous Knowledge Testing (5 minutes)

- What role does technology play in hospitals?
- How do doctors diagnose diseases?

Content Explanation (25 minutes)

Applications of AI in Healthcare:

- Diagnosis and Treatment – AI analyzes medical images such as X-rays and mammograms to detect diseases early.
- Drug Discovery and Development – AI analyzes large datasets to discover new medicines.
- Robot-assisted Surgery – AI surgical robots assist doctors in performing precise and safe operations.

Activity (10 minutes)

Students to perform 'Do It Yourself' – Discuss examples of AI used in hospitals and medical research.

Recapitulation (5 minutes)

- Name two applications of AI in healthcare.
-

PERIOD 2: AI IN EDUCATION

Previous Knowledge Testing (5 min)

- How has technology improved learning in classrooms?

Content Explanation (25 min)

Applications of AI in Education:

- Personalized Learning – AI adapts lessons according to the learning pace of the students.
- Intelligent Tutoring Systems – AI tutors provide feedback and assistance to students.
- Language Learning Tools – AI-based apps help students practise and learn new languages effectively.

Activity (10 min)

Students to perform 'Do It Yourself' – Design an ideal AI tutor.

Recapitulation (5 min)

- What is personalized learning?
-

PERIOD 3: ENVIRONMENT AND SUSTAINABILITY

Previous Knowledge Testing (5 min)

- What problems are caused by climate change?

Content Explanation (25 min)

AI helping environment through:

- Climate Change Prediction – AI analyzes climate data to predict weather patterns and environmental changes.
- Precision Agriculture – AI helps farmers analyze soil conditions, weather patterns and crop health.
- Conservation Efforts – AI tracks endangered species and monitors illegal deforestation.

Activity (10 min)

Students to perform 'Do It Yourself' – Design an AI solution based on environment.

Recapitulation (5 min)

- What is precision agriculture?
-

PERIOD 4: DISASTER RELIEF AND CRISIS MANAGEMENT

Previous Knowledge Testing (5 min)

- What happens during natural disasters such as earthquakes or floods?

Content Explanation (25 min)

AI in disaster management:

- Predicting Natural Disasters – AI analyzes weather and seismic data to predict disasters.
- Search and Rescue Operations – AI drones help locate missing persons in disaster-affected areas.
- Resource Allocation – AI helps distribute food, medicine and aid efficiently.

Activity (10 min)

Students to perform 'Do It Yourself' – Create an Emergency Response Flowchart.

Recapitulation (5 min)

- How can AI help during disasters?
-

PERIOD 5: AI CHALLENGES AND FUTURE OF JOBS

Previous Knowledge Testing (5 min)

- Do you think robots can replace human jobs?

Content Explanation (25 min)

Challenges and Considerations of AI:

- Bias and Fairness – AI systems may show bias based on the data they are trained on.
- Data Privacy – AI requires large amounts of personal data.
- Accessibility and Affordability – AI technology should be accessible to everyone.

Future of AI for Social Good and Jobs:

Job Automation

- Robots in factories
- AI in customer service
- Self-driving vehicles

Job Transformation

- Healthcare
- Finance
- Retail

Job Creation

- AI development
- AI integration
- AI maintenance and monitoring

Activity (10 min)

Students to perform 'Do It Yourself' – based on challenges, job automation.

Recapitulation (5 min)

- What is job automation?
-

PERIOD 6: SKILLS REQUIRED FOR JOBS IN AI

Previous Knowledge Testing (5 min)

- What skills are important for future careers?

Content Explanation (25 min)

Skills required for AI careers:

Technical Skills

- Programming languages (Python, R, Java, C++)
- Machine Learning and Deep Learning
- Data Science and Statistics
- Software Development
- Cloud Computing

Non-Technical Skills (Soft Skills)

- Critical thinking and problem-solving
- Communication and collaboration
- Creativity and innovation
- Domain knowledge
- Adaptability and lifelong learning
- Ethics and responsibility

Additional Considerations

- Specialization in specific AI fields
- Experience working with AI technologies

Activity (10 min)

Students to perform 'Do It Yourself' – Soft Skills Assessment – in the class.

Recapitulation (5 min)

- Name two technical skills and two soft skills required for careers in AI.

-----XXXXXXXXXXXXXXXXXXXXXXXXXX-----