

TOUCHPAD

Prime Ver. 2.2

8

TEACHER'S MANUAL

Extended Support for Teachers



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Teacher's Time Table		B R E A K						
Periods / Days								
		0	I	II	III	IV	V	VI
Days	Monday							
	Tuesday							
	Wednesday							
	Thursday							
	Friday							
	Saturday							
	Sunday							

Teacher's Time Table		B R E A K						
Periods / Days								
		0	I	II	III	IV	V	VI
Days	Monday							
	Tuesday							
	Wednesday							
	Thursday							
	Friday							
	Saturday							
	Sunday							

DEVELOPMENT MILESTONES IN A CHILD

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher identify and understand how children differ in different age groups.



Age
5 - 8 Years

Physical

- First permanent tooth erupts
- Shows mature throwing and catching patterns
- Writing is now smaller and more readable
- Drawings are now more detailed, organised and have a sense of depth

Cognitive

- Attention continues to improve, becomes more selective and adaptable
- Recall, scripted memory, and auto-biographical memory improves
- Counts on and counts down, engaging in simple addition and subtraction
- Thoughts are now more logical

Language

- Vocabulary reaches about 10,000 words
- Vocabulary increases rapidly throughout middle childhood

Emotional/ Social

- Ability to predict and interpret emotional reactions of others enhances
- Relies more on language to express empathy
- Self-conscious emotions of pride and guilt are governed by personal responsibility
- Attends to facial and situational cues in interpreting another's feelings
- Peer interaction is now more prosocial, and physical aggression declines

“ If you cannot do great things, do small things in a great way. ”

Age
9 - 11 Years

Physical

- Motor skills develop resulting in enhanced reflexes

Cognitive

- Applies several memory strategies at once
- Cognitive self-regulation is now improved

Language

- Ability to use complex grammatical constructions enhances
- Conversational strategies are now more refined

Emotional/ Social

- Self-esteem tends to rise
- Peer groups emerge

Age
11 - 20 Years

Physical

- If a girl, reaches peak of growth spurt
- If a girl, motor performance gradually increases and then levels off
- If a boy, reaches peak and then completes growth spurt
- If a boy, motor performance increases dramatically

Cognitive

- Is now more self-conscious and self-focused
- Becomes a better everyday planner and decision maker

Emotional/ Social

- May show increased gender stereotyping of attitudes and behaviour
- May have a conventional moral orientation

Managing the children's learning needs according to their developmental milestones is the key to a successful teaching-learning transaction in the classroom.

“Family is the most important thing in the world.”

TEACHING PEDAGOGIES



Lesson Plans

A lesson plan is the instructor's road map which specifies what students need to learn and how it can be done effectively during the class time. A lesson plan helps teachers in the classroom by providing a detailed outline to follow in each class.

A lesson plan addresses and integrates three key components:

- ✦ Learning objectives
- ✦ Learning activities
- ✦ Assessment to check the student's understanding

A lesson plan provides an outline of the teaching goals:

Before the class

1. Identify the learning objectives.
2. Plan the lesson in an engaging and meaningful manner.
3. Plan to assess student's understanding.
4. Plan for a lesson closure.

During the class

Present the lesson plan.

After the class

Reflect on what worked well and why. If needed, revise the lesson plan.

“Knowing yourself is the beginning of all wisdom.”

Teaching Strategies

Numerous strategies have evolved over the years to facilitate the teaching-learning process in the classrooms.



Bloom's Taxonomy

Bloom's Taxonomy was created by Dr Benjamin Bloom and several of his colleagues, to promote higher forms of thinking in education instead of rote learning. There are three domains of learning: cognitive (mental), affective (emotional), and psychomotor (physical). However, when we refer to Bloom's Taxonomy we speak of the cognitive domain. Bloom's Taxonomy is a list of cognitive skills that is used by teachers to determine the level of thinking their students have achieved. As a teacher, one should attempt to move students up the taxonomy as they progress in their knowledge.



Teachers should focus on helping students to remember information before expecting them to understand it, helping them understand it before expecting them to apply it to a new situation, and so on.

“ If you have no confidence in self,
you are twice defeated in the race of life. ”

Latest Technological Development

Teaching Objectives

Students will learn about

- ★ Artificial Intelligence
- ★ Augmented Reality and Virtual Reality
- ★ Internet of Things
- ★ 3D Printing
- ★ RPA (Robotic Process Automation)

Number of Periods

Theory

Practical

2

0

Teaching Plan

Demonstrate Artificial Intelligence to the students along with the main areas of AI:

- Expert system
- Pattern recognition
- Natural Language processing
- Robotics
- Intelligent agents
- Intelligent Apps (I-Apps)

Explain the following to the students along with the examples in detail:

- Augmented Reality
- 3D Printing
- Virtual Reality
- RPA (Robotics Process Automation)
- Internet of Things (IOT)

Ask the student to solve the exercise Warm Up! given on page number 13.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is an Artificial Intelligence?
- Q. What is an Augmented Reality?
- Q. What is a Virtual Reality?
- Q. What is Internet of Things?
- Q. What is 3D Printing?
- Q. What is RPA?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 14 to 16 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Page 16 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in the **Find Out** and **In the Lab** section on Page 16 in the main course book. This will enhance the ability of the students and serve as Information Literacy and Technology Literacy activity.

Suggested Activity

Ask the students to try any digital assistant like Alexa or Siri and ask "What is Virtual Reality?".

2 Computer Networking

Teaching Objectives

Students will learn about

- ★ Computer Network
- ★ Need for Computer Network
- ★ Advantages of Computer Network
- ★ Components of a Network
- ★ Network Terminology
- ★ Devices Required for a Network
- ★ Types of Network
- ★ Topology
- ★ Network Architecture
- ★ Wireless Networking Technology
- ★ Protocol

Teaching Plan

Number of Periods	
Theory	Practical
3	1

While teaching this chapter, tell the students that the process of connecting computers and peripheral devices with each other to exchange data is called computer networking.

Tell the students about the meaning and basics of computer network.

Share with the students the need for computer network – for resource sharing and for communication.

Discuss with the students the advantages of a computer network.

Familiarise to the students the components of data communication system covering sender, receiver, transmission medium, message and protocol.

Introduce network terms like Server (host computer) and Client (dependent on server).

Explain the different network terminologies like Internet, Intranet, URL, ISP, IP address, DNS, Web page, website, Web portal, Hypertext, Link, Hyperlink and Bandwidth.

Tell the students about the components required for a network covering NIC, hub/switch, router, gateway, modem and networking cable.

Share with the students that on the basis of geographical area covered, the networks can be classified into LAN (Local Area Network), MAN (Metropolitan Area Network), WAN (Wide Area Network), PAN (Personal Area Network) and CAN (Campus Area Network).

Introduce Topology as geometric arrangement of computers or nodes in a network.

Explain the different types of topologies covering bus topology, ring topology, star topology, tree topology and mesh topology.

Tell the students that the network architecture defines the overall design of the computer network.

Share with the students the two types of network architectures as Peer-to-Peer network and Client-Server network.

Share with the students about the wireless networking technologies detailing about Wi-Fi and Bluetooth.

Introduce Protocol as a set of rules that govern the communication between the computers on a network.

Discuss briefly about the different types of protocols explaining about HTTP, HTTPS, FTP, TCP/IP, POP3, IMAP and SMTP.

Extension

Ask the students some oral questions based on this chapter.

- Q. Define computer network.
- Q. What is the need for a computer network?
- Q. What are the advantages of a computer network?
- Q. Define server / client.
- Q. What are the different types of network terminologies?
- Q. What are the components required for a network?
- Q. Define LAN / MAN / WAN / PAN / CAN.
- Q. Define Topology.
- Q. Name different types of topologies.
- Q. What is meant by protocol?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 28 to 30 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Page 30 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in the **Find Out** and **In the Lab** section on Page 31 in the main course book. This will enhance the ability of the students and serve as Media Literacy and Technology Literacy activity.



Suggested Activity

Ask the students to make models of different types of topologies using marbles and used wire pieces / straws.

3

Working with Access 2016

Teaching Objectives

Students will learn about

- ✦ Concept of a Database
- ✦ Advantages of a Database System
- ✦ Types of Databases
- ✦ Naming Convention for Writing a Field Name in Access
- ✦ Terms Related to a Database
- ✦ Access 2016
- ✦ Starting Access 2016
- ✦ Exiting Access 2016
- ✦ Data Types in Access 2016
- ✦ Types of Views in Access
- ✦ Creating a Table
- ✦ Opening an Existing Database
- ✦ Components of Access 2016
- ✦ Creating a Database

Number of Periods	
Theory	Practical
3	2

Teaching Plan

While teaching this chapter, tell the students that the computerised database system was introduced in 1960s.

Introduce:

- Database as a structured collection of data that is stored and managed to facilitate easy access, retrieval, and manipulation.
- Database Management System as a software that enables users to create, manage, and manipulate databases

Explain to the students the meaning of the two types of databases – Flat File Database and Relational Database.

Share with the students the advantages of a database system.

Draw on board and explain the structure of a database to the students explaining about table, fields, records, primary key, query, report and form.

Introduce MS Access 2016 as a powerful and easy to use Relational Database Management System and is a part of MS Office Suite.

Demonstrate the steps to start MS Access 2016.

Familiarize the students with the various components of MS Access 2016 window covering Quick Access Toolbar, Title Bar, Ribbon, Navigation Pane, Navigation Buttons, Work Area and Objects Tabs. Demonstrate to the students the two ways of creating a database as:

- Creating a blank database
- Creating a database using Templates

Tell the students about different data types in Access 2016 covering short text, long text, number, autoNumber, date/time, yes/no, OLE, hyperlink, lookup wizard, currency and attachment.

Discuss with the students the use of the different types of views in MS Access 2016 as Datasheet view and Design view.

Share with the students the rules for defining field names in MS Access 2016.

Tell the students that Tables can be created in three ways.

Demonstrate to the students the steps to create a Table:

- In Design view
- In Datasheet view
- By using Templates

Show to the students the method to open an existing database and exit MS Access 2016.

Ask the student to solve the exercise Warm Up! given on page number 41.

Extension

Ask the students some oral questions based on this chapter.

- Q. Define database.
- Q. What is Database Management System?
- Q. Name the different types of databases.
- Q. What type of database is MS Access 2016?
- Q. Give any two advantages of Database System.
- Q. Define Table / Query / Report / Form.
- Q. Name any three data types used in MS Access 2016.
- Q. What does OLE stands for?
- Q. What are the rules for writing field names?
- Q. What is the use of Field Name / Description in the Table design window?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 45 and 46 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Page 46 in the main course book to imbibe Critical Thinking skill in them.



Take the students to the computer lab and let them practice the activity given in **In the Lab** section on Page 47 in the main course book. This will enhance the ability of the students and serve as Technology Literacy activity.

Suggested Activity

Ask the students to create a table storing information about details of their ten friends and sort the records in the table in alphabetical order.

4

More on Access

Teaching Objectives

Students will learn about

- ✦ Forms in Access
- ✦ Queries in Access
- ✦ Reports in Access

Teaching Plan

Number of Periods	
Theory	Practical
2	2

While teaching this chapter, tell the students that MS Access is used to create tables and maintain records in a database along with preparing Forms, Queries and Reports.

Introduce Forms as objects used to add, edit and display data from tables in a user friendly manner.

Share with the students that a Form can be displayed in three views – Form View, Design View and Layout View.

Demonstrate to the students the steps to create a Form.

Explain different types of Forms covering Multiple Items, Datasheet, Split Form and Modal Dialog.

Familiarise the students with the Navigation Bar of the Form window to view and navigate between records in a Table.

Tell the students that the appearance of the Form can be formatted using Design and Format tabs.

Introduce Query as the object that can give information which the user might not be able to find by looking at the Table directly.

Explain the different types of Queries as: Select Query, Parameter Query, Action Query, Crosstab Query and SQL.

Tell the students about the relationship between the Primary Key and the Foreign Key.

Show to the students the steps to define relationships between tables.

Demonstrate the steps to create a query.

Introduce Report as a feature which allows to organise and present the data in a user-friendly format

so that it can be printed.

Demonstrate the steps to:

- Create a Report
- Print a Report

Extension

Ask the students some oral questions based on this chapter.

- Q. Define Form / Query / Report.
- Q. Name the different views in which a Form can be displayed.
- Q. Name the different types of Forms in MS Access.
- Q. Where is Navigation Bar located?
- Q. Name the different types of Queries.
- Q. Define Primary Key / Foreign key.
- Q. Name any four parameters of Query window.

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 56 to 58 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Page 58 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in **In the Lab** section on Page 59 in the main course book. This will enhance the ability of the students and serve as a Technology Literacy activity.

Suggested Activity

Using the Table created in the previous chapter create a query to display names of friends whose name starts with A or D.

5 More on HTML

Teaching Objectives

Students will learn about

- ✦ Inserting Images
- ✦ Linking Web Pages
- ✦ Forms in HTML5
- ✦ Adding Audio & Video
- ✦ Frames

Number of Periods	
Theory	Practical
1	3

Teaching Plan

While teaching this chapter, tell the students that HTML allows inserting images and frames on web pages as well as interlinking them.

Tell the students that tag is used to insert images and it takes the attributes as SRC, WIDTH, HEIGHT and ALT.

Demonstrate to the students the use of tag and its attributes.

Introduce Marquee as the moving objects on a web page to get special attention of the users.

Make the students understand that a hyperlink is an underlined text or an image which when clicked takes the user to some other location.

Explain the two types of linking:

- Internal linking
- External linking.

Share with the students that <A> is used to create links and the attributes that this tag can take are – HREF and TARGET.

Demonstrate the use of <A> tag and its attributes to hyperlink web pages.

Tell the students that HTML5 <audio> and <video> tags allows to add media (audio and video) to a website.

Explain autoplay attribute and controls attribute to the students.

Explain the students how to add audio and video in an HTML document.

Introduce Frames as a feature to display more than one web page on a single screen of the web browser.

Explain the use of <IFRAME> tag to create and define frames on a web page.

Tell the students that the <IFRAME> tag can take HEIGHT, WIDTH, NAME and SRC as attributes.

Demonstrate the use of <IFRAME> tags to create frames on a web page.

Tell the students that HTML5 form is an interface of a web page that enables the user to enter data (such as names, e-mail addresses, passwords, phone numbers, etc.) to be sent to the server for processing.

Explain the students the different tags used to create a form like <FORM> Tag, <INPUT> tag, <select> tag and <TEXTAREA> tag.

Extension

Ask the students some oral questions based on this chapter.

- Q. Which tag is used to insert images on a web page?
- Q. State the use of SRC / WIDTH / HEIGHT /ALT attribute of IMG tag.
- Q. What are the attributes of tag?

- Q. Define Forms in HTML.
- Q. Which tag is used to link web pages?
- Q. Name the attributes that can be taken by <IFRAME> tag.

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 83 to 85 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 85 and 86 in the main course book to imbibe Critical Thinking, Media Literacy and Technology Literacy skills in them.

Take the students to the computer lab and let them practice the activity given in the **In the Lab** section on Pages 86 and 87 in the main course book. This will enhance the ability of the students and serve as Technology Literacy activity.

Suggested Activity

Ask the students to create an e-shopping web site listing categories of items on home page and details of items on separate category pages.

6 Introduction to Photoshop

Teaching Objectives

Students will learn about

- ✦ Features of Adobe Photoshop CC
- ✦ Opening Adobe Photoshop CC 2018
- ✦ Cropping Tools
- ✦ Painting Tools
- ✦ Inserting Text
- ✦ Placing an Image in an Existing Document
- ✦ Tools in Photoshop
- ✦ Creating a New Document
- ✦ Adobe Photoshop CC 2018 Interface
- ✦ Opening an Image in Photoshop
- ✦ Saving a File in Photoshop

Teaching Plan

While teaching this chapter, tell the students that Adobe Photoshop CC is a graphics designing software that creates a virtual studio for artists and designers.

Tell the students that Photoshop is a designing software developed in 1988.

Introduce student with Adobe Photoshop CC using examples.

Explain the features of Photoshop to the students in detail.

Demonstrate to the students the steps involved in opening Photoshop CC 2018.

Number of Periods	
Theory	Practical
3	3

Demonstrate to the students the steps involved in creating a new document in Photoshop.

Explain all the components of Photoshop interface with proper labeled pictures covering application bar, options bar, tools panel, color panel, adjustments panel, layers panel, document window and timeline panel.

Tell the students the steps to open an image in Photoshop.

Demonstrate to the students the steps involved in placing an image in an existing document in Photoshop.

Explain to the students the following tools of Photoshop and explain them in details with steps:

a. Move and Selection tools

- Move tool
- Rectangular Marquee tool
- Polygonal Lasso tool
- Magic Wand tool
- Elliptical Marquee tool
- Magnetic Lasso tool
- Lasso tool
- Quick Selection tool

b. Cropping tools

- Crop tool
- Perspective Crop tool

c. Painting tools

- Brush tool
- Mixer Brush tool
- Paint Bucket tool
- Pencil tool
- History Brush tool
- 3D Material Drop tool
- Color Replacement tool
- Gradient tool

d. Inserting Text

- Using Horizontal Type Tool
- Using Horizontal Type Mask Tool

Tell the students the steps to save a file in Photoshop.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is the role of Adobe Photoshop?
- Q. What are the features of Photoshop?
- Q. What is the use of Cropping tool?
- Q. What is the use of Inserting text tool?
- Q. What is the use of transform tool?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 110 and 111 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 111 and 112 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in the **In the Lab** section on Page 112 in the main course book. This will enhance the ability of the students and serve as Creativity and Technology Literacy activity.

Suggested Activity

Ask the students to crop two images and make them one using proper Photoshop tools taught in this chapter.

7

More on Photoshop CC

Teaching Objectives

Students will learn about

- ✦ Layers in Photoshop
- ✦ Painting Tools in Photoshop
- ✦ Retouching Tools
- ✦ Drawing Tools
- ✦ Shape Tools
- ✦ Navigation Tools

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, revise the features and tools of Photoshop CC for the students taught in the earlier chapter.

Demonstrate to the students the Layers in Photoshop CC 2018 and explain the step involved in creating a new layer.

Explain to the students the following tools of Photoshop and explain them in details with steps:

a. Painting tools

- Eye Dropper tool
- 3D Material Eyedropper tool
- Color Sampler tool
- Note tool
- Eraser tool
- Background Eraser tool
- Magic Eraser tool

b. Retouching tools

- Spot Healing Brush tool
- Healing Brush tool
- Patch tool
- Content Aware Move tool
- Red Eye tool
- Clone Stamp tool
- Pattern Stamp tool
- Blur, Sharpen and Smudge tool
- Dodge, Burn and Sponge tool

c. Drawing tools

- Pen tool

- d. Shape tools
 - Custom Shapes
- e. Navigation tools
 - Hand tool
 - Rotate view tool
 - Zoom tool

Extension

Ask the students some oral questions based on this chapter.

- Q. What is the use of Painting tool?
- Q. What is the use of Retouching tool?
- Q. What is the use of Navigation tool?
- Q. What is the use of Drawing tool?
- Q. What is the use of Shapes tool?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 127 to 129 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 129 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in the **Find Out** and **In the Lab** section on Page 129 in the main course book. This will enhance the ability of the students and serve as Media Literacy, Information Literacy, Creativity and Technology Literacy activity.

Suggested Activity

Ask the students to download and edit an image and make them one using proper tools.

8

Algorithmic Intelligence

Teaching Objectives

Students will learn about

- ✦ Multiple Conditions in a Program
- ✦ Loops in a Program

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Begin with introduction of multiple conditions in a program based on algorithmic intelligence.

Let them know that the conditional statements are used in a program to instruct the computer to make a decision.

Make the students aware of multiple conditions like If... And/Or... followed by Then... Else.

Make the students understand that a loop allows a set of instructions or a block of code to be executed repeatedly.

Explain to the students that a loop is a sequence of instructions when repeated for a fixed number of times or until the condition is true.

Also let them know that there are two types of loops. They are Counting loops and Conditional loops.

Extension

Ask the students some oral questions based on this chapter.

- Q. What are conditional statements used for?
- Q. What is the result of the computer's decision for a condition?
- Q. What is the result of 'If... And' condition in a program based on algorithmic intelligence?
- Q. What is the result of 'If... Or' condition in a program based on algorithmic intelligence?
- Q. What is a loop?
- Q. What is a loop used for?
- Q. What is infinite loop?
- Q. How many types of loops are there in a program? Name them.

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 135 to 137 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 137 and 138 in the main course book to imbibe Critical Thinking and Information Literacy skills in them.

Take the students to the computer lab and let them practice the activity given in the **In the Lab section** on Page 138 in the main course book. This will enhance the ability of the students and serve as Technology Literacy activity.

Suggested Activity

Ask the students to write any if-then-else conditional statements.

9

Loops in Python

Teaching Objectives

Students will learn about

- ✦ Iterative Statements
- ✦ Infinite Loop
- ✦ Types of Iterative Statements
- ✦ Loop with else Statement

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter revise Python for the students and repeat the features of Python from the earlier class.

While teaching this chapter, tell the students about Python has some looping statements.

Demonstrate to the students the steps involved in using these statements using programs and syntax are:

- a. FOR statement
 - using the range() statement
- b. WHILE statement
 - infinite loop
 - while loop using else statement
- c. JUMP statement
 - break statement
 - continue statement

Extension

Ask the students some oral questions based on this chapter.

- Q. What are looping statement?
- Q. What is the function of FOR statement?
- Q. What is the function of WHILE statement?

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 147 and 148 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 148 and 149 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in **Find Out** and **In the Lab** section on Page 149 in the main course book. This will enhance the ability of the students and serve as Media Literacy and Technology Literacy activity

Suggested Activity

Ask the students to make a list of series where you can apply the FOR and JUMP statements.

10 AI Domains

Teaching Objectives

Students will learn about

- ✦ Domains of AI

★ Real Life Applications of Different Domains of AI

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Begin with introduction of AI as the part of computer science concerned with designing intelligent computer systems, i.e. systems that exhibit characteristics we associate with intelligence in human behaviour.

Let them know that there are different approaches or domains to achieve artificial intelligence.

Explain the following to the students along with proper examples:

- Natural Language Processing (NLP)
- Data science
- Computer Vision (CV)

Make the students aware of applications of Natural Language Processing.

Make the students aware of the usage of Data science in AI.

Let the students know about the applications of Computer Vision.

Extension

Ask the students some oral questions based on this chapter.

- Q. Define AI.
- Q. Name the different approaches or domains to achieve artificial intelligence.
- Q. What is NLP?
- Q. Name any one application of Natural Language Processing.
- Q. What is Data science?
- Q. Name the biggest data provider of consumer habits, likes and dislikes, activities and personal preferences which were otherwise not possible.
- Q. Explain Computer Vision.
- Q. Name any one application of computer vision.

Evaluation

After explaining the chapter, let the students do the **Mind Drill** given on Pages 162 and 163 in the main course book as **Rapid Fire** and **Evaluation Time**. Tell the students to try sections under **Activity Time** given on Pages 163 and 164 in the main course book to imbibe Critical Thinking skill in them.

Take the students to the computer lab and let them practice the activity given in the **Find Out** and **In the Lab** section on Page 164 in the main course book. This will enhance the ability of the students and serve as Media Literacy and Technology Literacy activity.