

1. Evolution of Computers

Teaching Objectives

Students will learn about

- ☞ Early Counting Tools
- ☞ Charles Babbage's Analytical Engine
- ☞ ENIAC—The First Electronic Computer
- ☞ IBM PC
- ☞ Abacus—First Calculating Device
- ☞ Lady Ada Lovelace's Programs
- ☞ UNIVAC
- ☞ Modern Computers

Number of Periods

Theory

2

Practical

1

Teaching Plan

While teaching this chapter, tell the students how people in ancient times invented tools for calculations.

Tell the students about the first calculating machine i.e. Abacus.

Tell them about Charles Babbage and his inventions.

Tell them about that Lady Ada Lovelace who was the first to introduce the concept of programming.

Show the picture of ENIAC—the First Electronic Computer, UNIVAC, and the IBM PC and explain it to the students.

Explain to the students about modern computers and the types of modern computers given below:

- Desktop Computer
- Laptop
- Tablet
- Smartphone

Also, teach the students through Topic Animation.

Ask the students to solve the exercise given on page 15 as **AI Reboot**.

Ask the students to solve the task given on page 12 as **AI Task**.

Ask the students to read the **Brainy Fact** given on page 9.

Extension

Ask the students some oral questions based on this chapter.

- Q. Name the different types of modern computers.
- Q. Which is the first calculating device?
- Q. Who was the first to introduce the concept of programming?
- Q. Which device is used to calculate numbers at a fast speed?
- Q. In which year Charles Babbage developed a steam-driven calculating machine?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 15 to 17 of the main course book as **AI Quiz** and **Exercise**. Tell them to solve the critical and computational skill-developing exercises as **AI in Life** given on page 17

Take the students to the computer lab and let them practice the activity given in the **AI Lab** section on Page 17 in the main course book. This will enhance the abilities of the students and serve as a Subject Enrichment Activity.

Suggested Activity

- Ask the students to draw an Abacus on an A-4 size sheet and also color it.
- Ask the students to create an underwater scene in Tux Paint.

2. Artificial Intelligence

Teaching Objectives

Students will learn about

- ☞ What is AI?
- ☞ Real-Life Examples of AI
- ☞ Advantages and Disadvantages of AIs

Number of Periods

Theory

2

Practical

2

Teaching Plan

While teaching this chapter, tell the students that AI stands for Artificial Intelligence. It is the process of making a machine intelligent.



Teach the students through real-life examples of AI which are:

- Google Assistant
- Face lock
- Robots
- YouTube
- Google Maps

Tell the advantages and disadvantages of AI using various examples to the students.

Also, show pictures of real-life examples of AI.

Teach the students through Topic Animation and show the video about artificial intelligence on the link given on pages 19 and 22 as **Video Session**.

Ask the students to solve the exercise given on page 23 as **AI Reboot**.

Ask the students to solve the task given on page 20 as **AI Task**.

Ask the students to read the **Brainy Fact** given on pages 19 and 21.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is AI?
- Q. What is the full-form of AI.
- Q. Which is known as a virtual assistant or voice assistant?
- Q. Which feature in a smartphone is used for scanning our face to unlock?
- Q. Name an automatic machine that can do almost any task without the help of a human.

Evaluation

Encourage the students to walk through the chapter and ask them to play the game given on page 24 on their own under the name **AI Game** after learning about the rules and basics.

After explaining the chapter, let the students do the exercises given on pages 25 and 26 of the main course book as **AI Quiz** and **Exercise**. Tell them to solve the critical and computational skill-developing exercises as **AI in Life** given on page 26

Take the students to the computer lab and let them practice the activity given in the **AI Lab** section on page 27 in the main course book. This will enhance the abilities of the students and serve as a Subject Enrichment Activity.

Suggested Activity

Ask the students to play and draw in the Quickdraw AI game by using the link given below:

<https://quickdraw.withgoogle.com/>

3. AI-enabled Devices

Teaching Objectives

Students will learn about

- ☞ Smartphone
- ☞ Chatbot
- ☞ Smart Doorbell
- ☞ Smart Speakers
- ☞ Smartwatch
- ☞ Smart TV
- ☞ Driverless Cars

Number of Periods

Theory

2

Practical

1

Teaching Plan

While teaching this chapter, tell the students that Artificial Intelligence has become an important part of our lives.

Make them understand about the following:

- Smartphone
- Smartwatch
- Chatbot
- Smart TV
- Smart Doorbell
- Driverless Cars
- Smart Speakers

Show the pictures of AI-enabled devices to the students.

Also, teach the students through Topic Animation.

Ask the students to solve the exercise given on page 32 as **AI Reboot**.

Ask the students to solve the task given on page 29 as **AI Task**.

Ask the students to read the **Brainy Fact** given on page 32.

Extension

Ask the students some oral questions based on this chapter.

- Q. What are smartphones?
- Q. What do you mean by a chatbot?
- Q. Name an AI-enabled doorbell that informs the homeowner when a visitor arrives at the door.
- Q. Which device accepts our voice commands to play music?



Evaluation

After explaining the chapter, let the students do the exercises given on pages 33 to 35 of the main course book as **AI Quiz** and **Exercise**. Tell them to solve the critical and computational skill-developing exercises as **AI in Life** given on page 35.

Take the students to the computer lab and let them practice the activity given in the **AI Lab** section on page 35 in the main course book. This will enhance the abilities of the students and serve as a Subject Enrichment Activity.

Suggested Activity

Ask the students to open the link given below and play TicTacToe.

<https://playtictactoe.org/>

4. Introducing Robots

Teaching Objectives

Students will learn about

- ☞ What is a Robot?
- ☞ Popular Robots
- ☞ Advantages of Robots
- ☞ Disadvantages of

Number of Periods	
Theory	Practical
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Teaching Plan

While teaching this chapter, tell the students that most of the smart devices are made to help us in doing our work fast and efficiently. Similarly, robots are also made to help us.

Make them understand that a robot is a smart machine which can resemble human behaviour and can perform various tasks.

Share information about the popular robots with the students.

Show the pictures of different robots and also explain their role to the students.

Also, tell the advantages and disadvantages of robots to the students.

Also, teach the students through Topic Animation and show the video about artificial intelligence on the link given on pages 38 and 45 as **Video Session**.

Ask the students to solve the task given on page 40 as **AI Task**.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is a Robot?
- Q. Which is known as a lovable robotic dog whose personality and behaviour changes with time?
- Q. What is the advantage of using a Robot?
- Q. What is the name of a delivery robot that delivers food items?
- Q. Which robot can move as quickly as 3.2 meters per second?

Evaluation

Encourage the students to walk through the chapter and ask them to play the game given on page 41 on their own under the name **AI Game** after learning about the rules and basics.

After explaining the chapter, let the students do the exercises given on Pages 43 to 45 of the main course book as **AI Quiz** and **Exercise**. Tell them to solve the critical and computational skill-developing exercises as AI in Life given on page 45

Take the students to the computer lab and let them practice the activity given in the **AI Lab** section on Page 45 in the main course book. This will enhance the abilities of the students and serve as a Subject Enrichment Activity. Ask the students to think and answer the exercise as **AI Ready 1** given on page 46.

Suggested Activity

Ask the students to collect pictures of atleast 10 different robots and paste them in an A-3 size sheet. Also, write their names on the sheet.

