



# Lesson Plan

Digicode AI

## 1. Working of a Computer

### Teaching Objectives

Students will learn about

- IPO Cycle
- IPO Devices

Number of Periods	
Theory 2	Practical 1

### Teaching Plan

Before starting the chapter, ask the students to solve the question in Tech Set Go given on Page 7 of the main course book.

While teaching this chapter, tell the students that a computer works according to the commands or instructions given by us.

Tell the students about the working of some machines like:

- Juicer** – we put fruit pieces inside it, the juicer squashes the fruits and gives out fresh juice.

Share with the students that in both these cases, the first step is input, the second step is process and the third step is output.

Share with the students that this cycle of working of machines is called Input-Process-Output cycle or IPO cycle.

Introduce the term Input as giving instructions to the computer.

Ask the students to solve the exercise Byte Quest given on page number 9.

Tell the students that keyboard and mouse are used as input devices in a computer.

Introduce the term Process as action performed by computer on the instructions given by us.

Tell the students that Central Processing Unit (CPU) is processing device of a computer and is called Brain of the computer.

Introduce the term Output as result given by the computer after processing.



Tell the students that monitor and printer are used as output devices in a computer.  
 Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.  
 Ask the students to solve the exercise Tech Set Go given on page number 10.

### Extension

Ask the students some oral questions based on this chapter.

- Q. What does IPO stand for?
- Q. What is Input-Process-Output cycle?
- Q. Define Input / Process/ Output.
- Q. Name two input / output devices.
- Q. Which part of the computer is called Brain of the computer?
- Q. Why is CPU called brain of the computer?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 11 and 12 in the main course book as Tech Ready. Tell the students to try sections under Tech Twister and Byte Task given on page 12 in the main course book.

In Creative Assignment, activities like Byte Task given on page 13 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

### Suggested Activity

Show some more machines with input and output to the students and ask the students to arrange these in correct order of the IPO cycle.

## 2. More on Paint

### Teaching Objectives

- ✎ Selecting an Image
- ✎ Rotating an Image
- ✎ Copying/Cutting and Pasting
- ✎ Flipping an Image
- ✎ Zooming an Image

Number of Periods	
Theory ②	Practical ②

### Teaching Plan

Before starting the chapter, ask the students to solve the question in Tech Set Go given on Page 14 of the main course book.



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

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

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

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

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

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

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

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

- Resizing an image
- Flipping an image
- Rotating an image
- Zooming an image

Ask the students to solve the exercise Byte Quest given on page number 17.

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

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

Tell the students the method to save a drawing.

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

### Extension

Ask the students some oral questions based on this chapter.

- Q. What can Paint be used for in computers?
- Q. What do you understand by the term flipping an image?
- Q. What is the meaning of zooming an image?
- Q. What is the difference between Cut-Paste and Copy-Paste?
- Q. Can drawings made in Paint be set as Desktop Backgrounds?

### Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 19 and 20 of the main course book as Tech Ready.

In Creative Assignment, activities like Tech Twister and Byte Task given on page 21 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

### Suggested Activity

Ask the students to draw a picture of a mouse representing single-click, double click, right-click, drag.

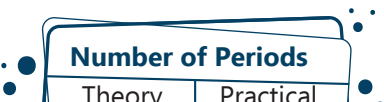


### 3. Introduction to Word 2016


#### Teaching Objectives

Students will learn about

- |                                  |                          |
|----------------------------------|--------------------------|
| 📖 Uses of Word 2016              | 📖 Starting Word 2016     |
| 📖 Components of Word 2016 Window | 📖 Working with Word 2016 |



Number of Periods	
Theory	Practical
2	2



#### Teaching Plan

Before starting the chapter, ask the students to solve the question in Tech Set Go given on Page 23 of the main course book.

While teaching this chapter, tell the students that Microsoft Word is word processing software in the category of application software.

Make the students aware of the various uses of Word 2016.

Demonstrate to the students the steps involved in starting Word 2016.

Show the students the various components of Word 2016 window covering Title Bar, Quick Access Toolbar, Ribbon, Rulers, Horizontal and Vertical Scroll Bars, Text/Document Area and Status Bar.

Demonstrate to the students the steps involved in:

- |                            |                       |
|----------------------------|-----------------------|
| • Creating a new Word file | • Typing text         |
| • Selecting the text       | • Deleting the text   |
| • Inserting the text       | • Saving a document   |
| • Opening a saved document | • Printing a document |
| • Exiting Word             |                       |

Ask the students to solve the exercise Byte Quest given on page number 32.

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

#### Extension

Ask the students some oral questions based on this chapter.

- Q. What is Word 2016?
- Q. What are the various uses of Word 2016?
- Q. Name some important components of Word 2016 window.
- Q. Which company developed Word 2016?
- Q. What are the shortcut keys to open, save and print a document?
- Q. What are the various ways in which the user can exit from Word 2016?

## Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 32 to 34 of the main course book as Tech Ready. After solving the course book exercises, tell the students to solve Tech Twister activity given on page 34 of the main course book to in them. Help the students to solve these questions.

In Creative Assignment, activity like Tech Twister and Byte Task given on pages 34 & 35 of the main course book will enhance the ability of the students and serve as a digital literacy and interdisciplinary activity.

## Suggested Activity

Ask the students to create a Word document on Myself. The students should take a printout of the document and paste it in their computer notebook/practical file.

# 4. Reasoning and Analysis

## Teaching Objectives

Students will learn about

- ☞ Number Pyramid
- ☞ Number Grid
- ☞ Secret Message: Decoding

## Teaching Plan

Before starting the chapter, ask the students to draw the picture to complete the pattern in 'Tech Set Go' given on page 36 of the main course book to imbibe Creativity and Critical Thinking skill.

Introduce Number Pyramids to the students in details with the help of pictures or charts.

Ask the students to solve the activity in 'CODE QUEST' given on page number 37 to imbibe Critical Thinking skill.

Tell the students about Number Grid. Also, tell them how to solve by giving some examples which will improve their understanding of the topic.

Ask the students to solve the activity in 'CODE QUEST' given on page number 38 to imbibe Critical Thinking skill.

Make the students aware of Secret Message: Decoding.

Show examples for all the topics for better clarity of the lesson at the end.

Ask the students to solve the activity 'CODE QUEST' given on pages number 39.

Number of Periods	
Theory ①	Practical ①



## Extension

Ask the students some oral questions based on this chapter.

- Q. What is a number pyramid?
- Q. What is a number grid?
- Q. Define decoding.
- Q. In what forms can the hidden message be present?

## Evaluation

After explaining the chapter, let the students do the exercises given on pages 40 in the main course book. Tell the students to try sections such as 'Tech Twister' and 'Go Online' given on pages 41 and 42 in the main course book to imbibe Critical Thinking and Creativity skill.

## Suggested Activity

Ask the students to practise more questions based on decoding.

# 5. More on Google Blockly Games

## Teaching Objectives

Students will learn about

- 🖱️ Bird Game
- 🖱️ Turtle Game

Number of Periods	
Theory ②	Practical ②

## Teaching Plan

Before starting the chapter, ask the students to Identify the blocks used in the Google Blockly's Maze game and write their use. In 'Tech Set Go' given on page 45 of the main course book.

While teaching this chapter, tell the students that they will learn about next games in Blockly.

Introduce to the students with Bird game and tell them about its uses.

Demonstrate the steps involved to play the Bird game.

Ask the students to solve the Guess! Who am I? in 'CODE QUEST' given on page number 49 to imbibe Critical Thinking and Technology skill.

Explain the students about the Turtle game and the uses of this game.

Tell the steps involved to play this game.



## Extension

Ask the students some oral questions based on this chapter.

Q. Which game uses Rotate the pen?

Q. What does Bird game teaches?

Q. What are the uses of Turtle game?

Ask the students to solve the exercise given on page 49 as 'CODE QUEST'.

## Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 52 & 53 of the main course book.

In Creative Assignment, activity like 'Tech Twister' and 'Code Task' given on Page 54 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Ask the students to find more about Blockly games and make a collage of them.

# 6. More on ScratchJr

## Teaching Objectives

Students will learn about

👉 Components of ScratchJr Window

👉 Blocks in ScratchJr

Number of Periods	
Theory 2	Practical 1

## Teaching Plan

Before starting the chapter, ask the students to attempt the activity in 'TECH SET GO' given on page 52 of the main course book to imbibe Critical Thinking skill.

While teaching this chapter, tell the students that in this chapter they will learn about blocks of ScratchJr.

Tell the students to recall the Components of ScratchJr Window.

Explain the students that Blocks in ScratchJr are divided into different categories based on their functions.

Introduce the students with Motion Blocks which are used to control the movement of a character and are blue in colour.



Tell them that some of the commonly used Motion blocks are:

- Move Right (moves the character to the right)
- Move Left (moves the character to the left)
- Move Up (moves the character up)
- Move Down (moves the character down)
- Turn Right (rotates the character clockwise)
- Turn Left (rotates the character anti-clockwise)

Introduce the students with Looks Blocks which are used to modify the character's costumes and colours.

Tell them that some of the commonly used Looks blocks are:

- Say (show a specific message)
- Grow (increase the character's size)
- Shrink (decrease the character's size)
- Hide (fade out the character)
- Show (fade in the character)

Introduce the students with Control Blocks which are used to repeat and pause the character.

Tell them that some of the commonly used Control blocks are:

- Wait (pauses the script)
- Stop (stops all of a character's script)

Introduce the students with Sound Blocks which are used to control the sound functions and they are green in colour.

Tell them that some of the commonly used Sound blocks are:

- Pop (plays a "pop" sound)
- Play Recorded Sound (plays a sound recorded by the user)

Explain the students about Events Blocks which control how the blocks in a script will start to run.

Tell them that some of the commonly used Events blocks are:

- Start on Green Flag (starts by clicking Green Flag)
- Start on tap (start by tapping)

Ask the students to solve the matching exercise in 'CODE QUEST' given on page number 60 to imbibe Critical Thinking and Technology Literacy skill.

## Extension

Ask the students some oral questions based on this chapter.

Q. Tell the names of the components of ScratchJr window.



- Q. Tell about some commonly used motion blocks.
- Q. Tell the uses of Say / Grow / Shrink / Hide / Show.
- Q. What is the use of stop block in ScratchJr program?
- Q. What is the use of Start on tap?

### Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 60 and 61 of the main course book.

In Creative Assignment, activities like 'Tech Twister', 'Code Task' and 'Go Online' given on pages 61 and 62 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

### Suggested Activity

Ask the students to create a scene of their choice using different blocks of ScratchJr.

## 7. AI Machine Around Us

### Teaching Objectives

Students will learn about

- ☞ AI in Toys
- ☞ AI in Factories
- ☞ AI in Television
- ☞ AI in Smartphones

Number of Periods	
Theory ①	Practical ①

### Teaching Plan

Before starting the chapter, ask the students to attempt the activity in 'TECH SET GO' given on page 64 of the main course book to imbibe Information Literacy and Technology Literacy skill.

While teaching this chapter, tell the students that Artificial Intelligence (AI) is the ability of a computer or a machine to think, learn and act like human brain.

Make them understand about that for a machine to be artificially intelligent, it must be able to:

1. solve tasks and take decisions
2. understand and express human language
3. recognise images

Show the pictures of the following artificially intelligent devices to the students and also, explain their working and uses:

- AI Toys
- AI in Factories
- AI in Television
- AI in Smartphones

Ask the students to read the 'AI Fact' given on page 67.

Ask the students to perform the activity in 'AI QUEST' given on page number 67 to imbibe Information Literacy and Technology Literacy skill.

### Extension

Ask the students some oral questions based on this chapter.

- Q. Name an artificial dog with artificial intelligence.
- Q. Which devices used in factories are capable of lifting, moving, and packing objects, just like human beings?
- Q. Why machines are useful to us?
- Q. How AI is used in Smartphones?
- Q. Define Intelligence
- Q. Which makes machines as smart as humans?

### Evaluation

Encourage the students to walk through the chapter and ask them to play the game given on page 67 and 68 on their own under the name 'AI QUEST' and 'AI Game' after learning about the rules and basics.

After explaining the chapter, let the students do the exercises given on Pages 69 and 70 of the main course book as Tech Ready. Tell them to solve the Critical Thinking, Creativity and Art Integration Learning skill-developing exercises as 'Tech Twister' and 'AI Task' given on pages 70 and 71. This will enhance the abilities of the students and serve as a Subject Enrichment Activity.

### Suggested Activity

Ask the students to collect the pictures of some Artificially Intelligent machines and make a collage with them.



## 8. AI in Games and Movies

### Teaching Objectives

Students will learn about

- 👁️ AI in Games
- 👁️ AI in Movies

Number of Periods	
Theory ②	Practical ①

### Teaching Plan

Before starting the chapter, ask the students to attempt the activity in 'TECH SET GO' given on page 72 of the main course book to imbibe Critical Thinking skill.

While teaching this chapter, tell the students that modern education revolves around game-based learning and Artificial Intelligence ensures that children learn and have fun together.

Make them understand that CodeMonkey Jr. is a platform where they can learn computational thinking skills and the basic concepts of coding. It is a block-based coding platform.

Make them understand that the Emoji Scavenger Hunt game uses AI to identify emojis in the real world using the mobile device's camera. Also, tell the steps to play the game.

Tell the students about Shadow art which is an age-old game where one would make a shadow with one hand and ask our friends to guess.

Tell the students about Rock, paper, scissors game which is a hand game typically played by two people. In this game, both players make one of three hand shapes at the same time say aloud: "rock," "paper," or "scissors."

Ask the students to solve the exercise in 'AI QUEST' given on page number 75 to imbibe Critical Thinking and Technology Literacy skills.

Introduce them to AutoDraw which is a powerful tool used for drawing images.

Introduce to the students about the role of AI in Movies. Also, tell them about the movies in which AI is used. Those are:

- Robots
- Wall-E
- I, Robot
- The Iron Giant
- Big Hero 6
- A.I. Artificial Intelligence



## Extension

Ask the students some oral questions based on this chapter.

- Q. Which movie of 2001 revolves around a "Kid Robot" with real emotions?
- Q. Which game allows kids to learn how to make shadow puppets just by using their hands?
- Q. Which is an AI-based coding platform?
- Q. What is the moral of the movie Big Hero 6?
- Q. Name the three AI movies for kids.
- Q. Which movie is about a kind-hearted garbage collector robot?

## Evaluation

Encourage the students to walk through the chapter and ask them to play the games, their links given on pages 73,74,75 and 76 on their own after learning about the rules and basics.

After explaining the chapter, let the students do the exercises given on pages 81 and 82 of the main course book.

Take the students to the computer lab and let them practice the activity given in the 'Tech Twister' and 'AI Task' section on page 82 and 83 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 create their own AI Superhero on an A4-size sheet and speak about its role in approximately five lines.