6

Computer Genius!

Teacher's Manual

Extended Support for Teachers

ORANGE
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Teacher's Time Table

Periods / Days	0	I	II	III	IV		V	VI	VII	VIII
Monday						B				
Tuesday						R				
Wednesday						E				
Thursday						A				
Friday						K				
Saturday										

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

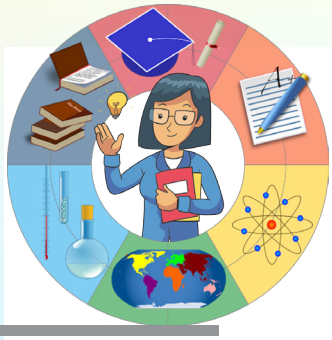
"If you cannot do great things, do small things in a great way."

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

Pedagogy is often described as the approach to teaching. It is the study of teaching methods including the aims of education and the ways in which such goals can be achieved.

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.

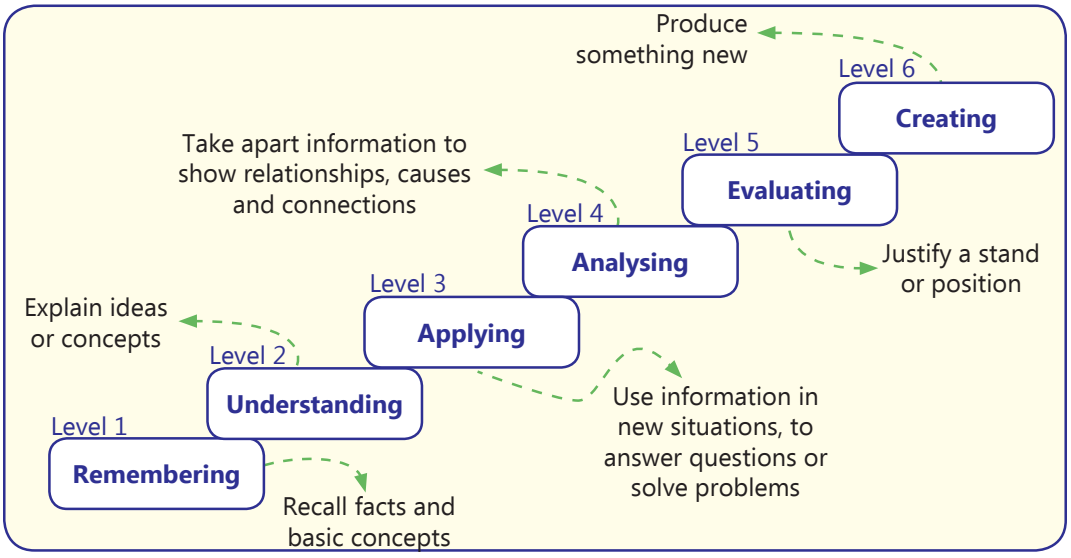
"Knowing yourself is the beginning of all wisdom."

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 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."

Class 6

Lesson Plan

Computer Genius

1. Safeguarding your Computer

Teaching Objectives

Students will learn about

- ☞ Cyber Crimes
- ☞ Protecting your Computer from Illegal Access
- ☞ Protecting Your Computer from a Computer Malware

Number of Periods	
Theory	Practical
2	0

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 7 of the main course book.

Let the students know that a computer also falls sick as harmful files and applications damage it.

Explain to the students about cybercrimes, which are unlawful acts conducted utilizing computers and smart devices via the internet.

Tell the students about the most commonly used ways to commit cybercrimes including Cyberbullying, Spamming, Hacking, Online Transaction Fraud and Plagiarism.

Make the students understand the rules for using social media.

Explain to the students how to protect computers from illegal access.

Make them understand about the importance of authentication to protect the data.

Explain that a computer malware is a software made to cause harm to your system.

Make the students aware of diffrent types of malware like virus, worm, trojan horse, spyware, adware, etc.

Let them know about the most dangerous malwares known such as Wabbit virus, ILOVEYOU virus, Code Red worm, Mydoom worm, Storm worm, Zeus, Emotet, Pegasus, etc .

Make them aware of the various harms caused by computer malware.

Let the students know about the symptoms of an infected computer.

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Make them understand how one can protect one's computer.

Finally, let them know that an antivirus is a set of programs that identify and remove malware. Some of the well-known antivirus programs are Norton, Quick heal, AVG, McAfee, Symantec, Kaspersky, etc.

Ask the students to solve the exercise given on page 16 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Can computer also fall sick?

Q. What do you understand by the term cybercrimes?

Q. What is cyberbullying?

Q. Define spamming.

Q. What is hacking?

Q. How can you protect yourself from an online transaction fraud?

Q. What do you mean by plagiarism?

Q. Name some methods to protect your computer from illegal access.

Q. What is a computer malware?

Q. What is trojan horse?

Q. Name some most dangerous malwares known.

Q. What are the harms caused by computer system?

Q. Name a few sources through which a computer gets infected.

Q. What are the symptoms of an infected computer?

Q. How can you protect your computer?

Q. What is an antivirus?

Q. Name some well-known antivirus programs.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 17, 18 and 19 in the main course book as Exercise. After solving the course book exercises, tell the students to do Fun Zone given on page 19 of the main course book. Ask the students to answer the questions given as Competency-based/Application-based questions on page 19 of the main course book. Help the students to solve these questions

In Creative Assignment, activity like Lab Activity on page 20 of the main course book will enhance the ability of the students and serve as a Technology Literacy and Experiential Learning.

Suggested Activity

Ask the students to find more about the computer malware and popular antivirus.

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2. Formulas and Functions in Excel

Teaching Objectives

Students will learn about

- ☞ Different Ways to Enter Formulas
- ☞ Cell Referencing in Formulas and Its Types
- ☞ Functions
- ☞ Understanding Cell Range
- ☞ Customise Worksheet Tab

Number of Periods	
Theory	Practical
2	3

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 21 of the main course book.

While teaching this chapter, tell the students that Excel has some built-in formulas called functions.

Share with the students the basic elements and rules of writing a formula in Excel.

Show them the different methods of copying and pasting a formula.

Tell them the order of operation followed in Excel.

Introduce cell referencing as use of cell address while writing a formula.

Make them understand the different types of cell referencing and the difference between the three – Absolute, Relative and Mixed.

Tell the students about rules for using Functions and different categories of Functions in Excel.

Demonstrate the use of mathematical functions – SUM, PRODUCT, MOD, SQRT, INT, POWER, COUNT, ROUND and ABS.

Demonstrate the use of text functions – CONCATENATE, LEFT, RIGHT, LEN, UPPER and LOWER.

Demonstrate the use of logical functions – MAX, MIN, AVERAGE and IF.

Demonstrate the use of date functions – TODAY, MONTH, YEAR, DAY, NOW, HOUR and MINUTE.

Ask the students to solve the exercise given on page 28 and 34 as Quest of the main course book..

Extension

Ask the students some oral questions based on this chapter.

Q. What are Functions in Excel?

Q. Name the different elements of a formula in Excel.

Q. What is the order of operation followed in Excel?

Q. Define cell referencing.

Q. Name some important categories of Functions.

Q. State the purpose of SUM / SQRT / MOD / COUNT / LEN / RIGHT / TODAY / MAX Function.

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Q. What is the syntax of PRODUCT / INT / POWER / CONCATENATE / LEFT / UPPER / LOWER / MIN / AVERAGE function?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 35 and 36 in the main course book as exercise. After solving the course book exercises, tell the students to solve Fun Zone activity given on page 36. Ask the students to answer the questions given as Competency-based/Application-based questions on page 37 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 37 will enhance the ability of the students and serve as Experiential Learning and Information Literacy activity.

Suggested Activity

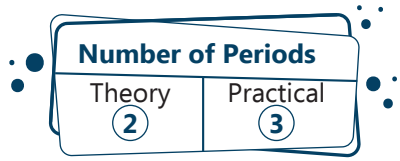
Ask the students to enter their last mark sheet in Excel and calculate total marks scored, average marks scored, maximum and minimum marks amongst all the marks and the number of subjects using various Functions used in Excel.

3. Charts in Excel

Teaching Objectives

Students will learn about

- ☞ Charts in Excel
- ☞ Sorting Data



Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 38 of the main course book.

While teaching this chapter, tell the student to the concept of charts and their importance in data representation using Excel.

Show them different types of charts available in Excel and their applications.

Explain the process of sorting data in Excel.

Show the different components of an Excel chart.

Demonstrate the steps of:

- Creating a chart.
- Modifying a chart by changing its type, layout and design.

Demonstrate and explain to the students the procedure to apply sorting in MS Excel.

Explain and demonstrate custom sort.

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Ask the students to solve the exercise given on page 43 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. What is the purpose of using charts in Excel?
Q. Can you name some components of a chart in Excel?
Q. Explain the difference between the X-axis and Y-axis in a chart.
Q. Why do you think it's important to have a chart title?
Q. What are the types of charts available in Excel?
Q. What is the significance of sorting data in Excel?
Q. Can you describe the difference between sorting data in ascending order and descending order?
Q. How do gridlines help in understanding data displayed in a chart?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 45 and 46 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 46. Ask the students to answer the questions given as Competency-based/Application-based questions on page 47 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 47 will enhance the ability of the students and serve as Experiential Learning and Information Literacy activity.

Suggested Activity

Ask the student to collect the temperature data for the past 4 days of your city and create a line chart in Excel to visualize the trend.

4. Advanced Features of PowerPoint 2016

Teaching Objectives

Students will learn about

- Slide Views
- Animation
- Importing Data from other Applications
- Slide Transition
- Uses of Media Clips and Action Buttons

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 49 of the main course book.

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While teaching this chapter, tell the students that PowerPoint 2016 is used to create electronic presentations.

Tell the students about different slide views in PowerPoint and how to effectively use them to create and navigate presentation.

Explain to the students that transitions are used to determine how the presentation moves from one slide to the next.

Tell the students about the various categories of slide transitions available in PowerPoint.

Demonstrate the application of transitions to slides in a presentation.

Introduce animation as the feature that gives a moving effect to text and other objects on the slide.

Show to the students the steps involved in applying custom animation to various objects on a slide.

Tell the students the animation effects applied to different objects on a slide can be reordered.

Share with the students that running a presentation is called Slide Show.

Demonstrate to the students the various steps involved in running a slide show.

Show to the students how sound and audio files can be inserted into a presentation.

Demonstrate the steps involved in inserting a video file into a presentation.

Demonstrate the steps to import data from other applications into the presentation.

Ask the students to solve the exercise given on page 54 and 60 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Define slide area, slides pane and notes pane.
Q. What do you mean by notes page view?
Q. What is the shortcut key to start the slide show from the current slide?
Q. What do you understand by the term loop until next sound?
Q. What type of audio files can be inserted into a presentation?
Q. Can we add video files on a slide?
Q. Define transition.
Q. How many transitions can be applied to a slide?
Q. What happens if more than one slide transitions are added to a slide?
Q. What is meant by animation in PowerPoint?
Q. Can we reorder the animations applied to different objects on a slide?
Q. What is a Slide Show?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 62, 63 and 64 in the main course book as Exercise. After solving the course book exercises, tell the students

to solve Fun Zone given on page 64. Ask the students to answer the questions given as Competency-based/Application-based questions on page 64 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 65 will enhance the ability of the students and serve as Creativity and Information Literacy activity.

Suggested Activity

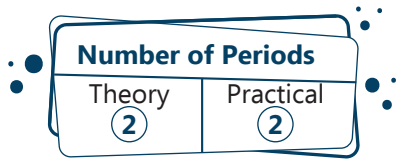
Divide the class into two teams. Ask one team to prepare charts on various types of pollution. Ask the other team to prepare a PowerPoint presentation on the same topic. Make the students share the benefits enjoyed and limitations faced by each team while working on their project.

5. Algorithm and Pseudocode

Teaching Objectives

Students will learn about

- How Do Traffic Lights Work?
- What is a Programming language?
- Algorithm
- Flowchart
- Coding in Computer Science
- About Syntax
- Representation of an Algorithm
- Pseudocode



Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 66 of the main course book.

While teaching this chapter, tell the students that coding is a process of creating codes to instruct a computer to perform a specific task.

Show them the uses of coding in day to day life.

Explain to the students about coding and programming language as well as syntax.

Tell the students about algorithm as the representation of data in a sequential way.

Make them understand the features as well as the advantages of an algorithm.

Introduce Flowchart and Pseudocode to represent algorithm.

Explain to the students about Pseudocode, features of Pseudocode and rules for writing a Pseudocode.

Tell them about the keywords used in Pseudocode such as SEQUENCE, REPEAT UNTIL, REPEAT, IF-THEN-ELSE.

Ask the students to solve the exercise given on page 69 as Quest of the main course book.

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Extension

Ask the students some oral questions based on this chapter.

Q. What is coding?

Q. What is a programming language?

Q. Define syntax.

Q. What do you mean by the term Pseudocode?

Q. What are the features of Pseudocode?

Q. Define keywords.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 71 and 72 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 72. Ask the students to answer the questions given as Competency-based/Application-based questions on page 72 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 72 will enhance the ability of the students and serve as Computational Thinking and Information Literacy activity.

Suggested Activity

Ask the students to find some questions which can be solved using algorithm and flowchart.

6. Using MakeCode Arcade

Teaching Objectives

Students will learn about

- ☞ Starting MakeCode Arcade
- ☞ Commonly Used Blocks
- ☞ Changing the Background
- ☞ Logical operators
- ☞ Nested Conditional Statements
- ☞ Components of MakeCode Arcade Window
- ☞ Adding a Sprite
- ☞ Getting started with Block Coding
- ☞ Relational Operators
- ☞ Jump Statements

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 76 of the main course book.

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While teaching this chapter, tell the students about MakeCode Arcade.

Demonstrate the steps to start MakeCode Arcade.

Explain to the students about the components of MakeCode Arcade.

Tell them about the variety of code blocks used such as Sprites Blocks, Controller Blocks, Game Blocks, Music Blocks, Scene Blocks, Info Blocks, Loops Blocks, Logic Blocks, Variable Blocks, Math Blocks, Advanced Blocks, Animation Blocks, Images Blocks, Function Blocks, Array Blocks, Text Blocks, Console Blocks.

Demonstrate the steps to create a sprite using the image editor.

Show them the steps to change the background in MakeCode Arcade.

Explain to the students about Block Coding and how it is used in MakeCode Arcade.

Tell them about the Logical and Relational Operator and their types.

Explain to the students about Nested Conditional Statements, Jump Statements, Break Statements and Continue statements with their examples.

Ask the students to solve the exercise given on page 90 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Define MakeCode Arcade.

Q. Name some components of MakeCode Arcade Window.

Q. Name any five blocks with their functions.

Q. What is the difference between Logical and Relational operator?

Q. What do you understand by the term Break statement?

Q. Define Jump statements.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 91 and 92 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 92. Ask the students to answer the questions given as Competency-based/Application-based questions on page 92 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 92 will enhance the ability of the students and serve as Creativity and Technology Literacy activity.

Suggested Activity

Ask the students to create a program in a MakeCode Arcade to check whether the number is divisible by 5 or not.

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7. More on MakeCode Arcade

Teaching Objectives

Students will learn about

- What are Variables?
- Performing Operations on Variables
- Data types in Programming
- Loop
- What is a Bug?
- What are Collections?
- Naming Variables
- What is Variable Initialization?
- What is a Sequence?
- Apply Loops and Conditionals with Sequencing
- What is an Event?

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 93 of the main course book.

While teaching this chapter, tell the students about variables as names given to locations in computer memory to store values or data.

Introduce the concept of scope by relating it to the use of household items in specific areas.

Explain to the student that the scope or accessibility of variables in a program depends on where they are declared.

Illustrate with examples how variables defined outside of a certain scope cannot be accessed.

Explain to the student that variable names act as identifiers for storing and accessing data.

Emphasize that reusing the same variable name can lead to errors and confusion.

Tell them that there are certain rules for naming a variable in Python.

Explain to the student that variables can be manipulated using operators to perform various operations.

Introduce the terms "operator" and "operand" and provide examples of each.

Tell the students operators as symbols that perform operations on values assigned to variables. Some of the common operators are addition (+), subtraction (-), multiplication (*), division (/) and modulus (%).

Explain that assignment operators are essential for updating variable values during program execution.

Discuss the importance of understanding how assignment operators work.

Demonstrate the steps to create/declare a variable.

Tell them about the importance of Sequence in programming.

Explain to the students about the concept of Loop and its types.

Demonstrate the steps to apply loop and conditional with the help of sequencing.

Tell the students that Bug is a general term which is used to describe any unexpected problem with the program.

Introduce the concept of event as an action that occurs as a result of user interaction or another source, such as a mouse click, keyboard input, or timer.

Make them understand event handlers as blocks of code that execute in response to events.

Explain to the students that collections are containers that allow programmers to group multiple elements into a single object.

Highlight the importance of collections in organizing and manipulating data efficiently in programs.

Ask the students to solve the exercise given on page 104 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. What are Variables?

Q. What are the rules for naming a variable in Python?

Q. What is the difference between Operator and Operand?

Q. Name some common data types used in programming.

Q. What is a sequence?

Q. Define the following:

(a) While Loop

(b) For Loop

(c) Nested Loop

(d) Bug

Q. What is an event?

Q. What are collections?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 105 and 106 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 106 and 107. Ask the students to answer the questions given as Competency-based/Application-based questions on page 107 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 107 and 108 will enhance the ability of the students and serve as Critical Thinking and Collaboration activity.

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Suggested Activity

Ask the student to create a program in a MakeCode Arcade to check whether the current year is a leap year or not.

8. Types of Robots

Teaching Objectives

Students will learn about

- ☞ Categories of Robots
- ☞ Robots Vs Humans—Advantages and Disadvantages

Number of Periods	
Theory	Practical
2	0

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 109 of the main course book.

Define the meaning of robots and categories of robots with proper examples:

- Industrial Robots
- Collaborative Robots or Cobots
- Service Robots
- Security Robots
- Military Robots
- Robots in the Agriculture Industry
- Robots in Medicine
- Robots in Space and Research
- Toy Robots
- Humanoid

Explain to the students about difference between Human and Robots as per the given parameter.

Ask the students to solve the exercise given on page 117 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Define Industrial Robots/Collaborative Robots or Cobots.

Q. What do you understand by Service Robots/Security Robots/Military Robots?

Q. State the use of Robots in the Agriculture Industry.

Q. How are Robots useful in the fields of Medicine/Space and Research?

Q. Define Toy Robots/Humanoid.

Q. Write disadvantages of Robots Vs Human.

Q. What is the difference between humans and robots in terms of speed and accuracy?

Q. What is the difference between humans and robots in terms of workability?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 118 and 119 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 120. Ask the students to answer the questions given as Competency-based/ Application-based questions on page 120 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 107 and 108 will enhance the ability of the students and serve as Communication and Technology Literacy activity.

Suggested Activity

Ask the students to search about different types of robots other than taught in this chapter.

9

9. Exploring Maths with Coding

Teaching Objectives

Students will learn about

- ☞ Multiplication of Two Numbers
- ☞ Area of the Rectangle
- ☞ Cost of Fencing for a Rectangular Farm

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 123 of the main course book.

While teaching this chapter, tell the students that AI can help in solving various mathematical problems.

Introduce the concept of coding as a tool for solving mathematical problems in AI.

Discuss with students about the significance of mathematics in AI development, emphasizing its role in achieving human-level creativity and innovation.

Demonstrate to the students, how coding simplifies the implementation of mathematical algorithms using block commands in AI Connect.

IMPRINT 1

Demonstrate the steps to perform multiplication of two numbers in AI connect.

Explain to the students, how to calculate the area of the rectangle using AI connect.

Ask the students to solve the exercise given on page 125 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Name one applications of math in AI connect.

Q. From which category we find set....to block?

Q. Name the category from which we get int block.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 127 and 128 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 128. Ask the students to answer the questions given as Competency-based/ Application-based questions on page 128 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 107 and 108 will enhance the ability of the students and serve as Interdisciplinary Learning and Information Literacy activity.

Suggested Activity

Ask the student to create a program to calculate the area of a triangle.

10. Plotting Graphs

Teaching Objectives

Students will learn about

- ☞ Blocks to Draw Graphs
- ☞ Vertical Bar Graph in AI Connect
- ☞ Line Graph in AI Connect
- ☞ Horizontal Bar Graph in AI Connect

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 129 of the main course book.

While teaching this chapter, tell the student about the importance of data visualization and its role in presenting information in a simplified visual manner.

Explain to the student how graphs help organize and illustrate relationships in data, making it easier to interpret and analyze.

Introduce different types of charts, including line charts, bar charts, pie charts, etc.

Describe each type of chart and its typical use cases, emphasizing the visual representation of data they provide.

Demonstrate the steps to draw a line graph in AI connect.

Make them understand the difference between vertical bar graph and horizontal bar graph.

Ask the students to solve the exercise given on page 131 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Define graph.

Q. What is the use of blocks in graph plot category?

Q. What is the use of add label block in AI connect?

Q. Which block is used to show chart on the output screen?

Q. Name any two types of charts.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 133 and 134 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 134. Ask the students to answer the questions given as Competency-based/Application-based questions on page 134 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 134 will enhance the ability of the students and serve as Creativity and Computational Thinking activity.

Suggested Activity

Ask the student to create a chart on the basis of their test marks to check their progress.

11. AI in Real World

Teaching Objectives

Students will learn about

- ☞ AI and Facial Detection
- ☞ Face Mask Detection in AI Connect

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in Et's Recap given on page 135 of the main course book.

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While teaching this chapter, tell the students that Artificial Intelligence is the process of simulating human intelligence by machines.

Explain to the students about the use of AI in facial detection.

Explain the following topics:

- If-do block
- '==' block
- Load Image block

Demonstrate the steps to create AI coding for face mask detection activity.

Ask the students to solve the exercise given on page 138 as Quest of the main course book.

Extension

Ask the students some oral questions based on this chapter.

Q. Define Artificial Intelligence.

Q. From which category we find = = to block?

Q. Name the category from which we get numeric block.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 138 and 139 in the main course book as Exercise. After solving the course book exercises, tell the students to solve Fun Zone given on page 139. Ask the students to answer the questions given as Competency-based/ Application-based questions on page 139 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Lab Activity given on page 139 will enhance the ability of the students and serve as Computational Thinking and Technology Literacy activity.

Suggested Activity

Ask the students to create a program in AI Connect to detect whether a person is wearing sunglasses or not.