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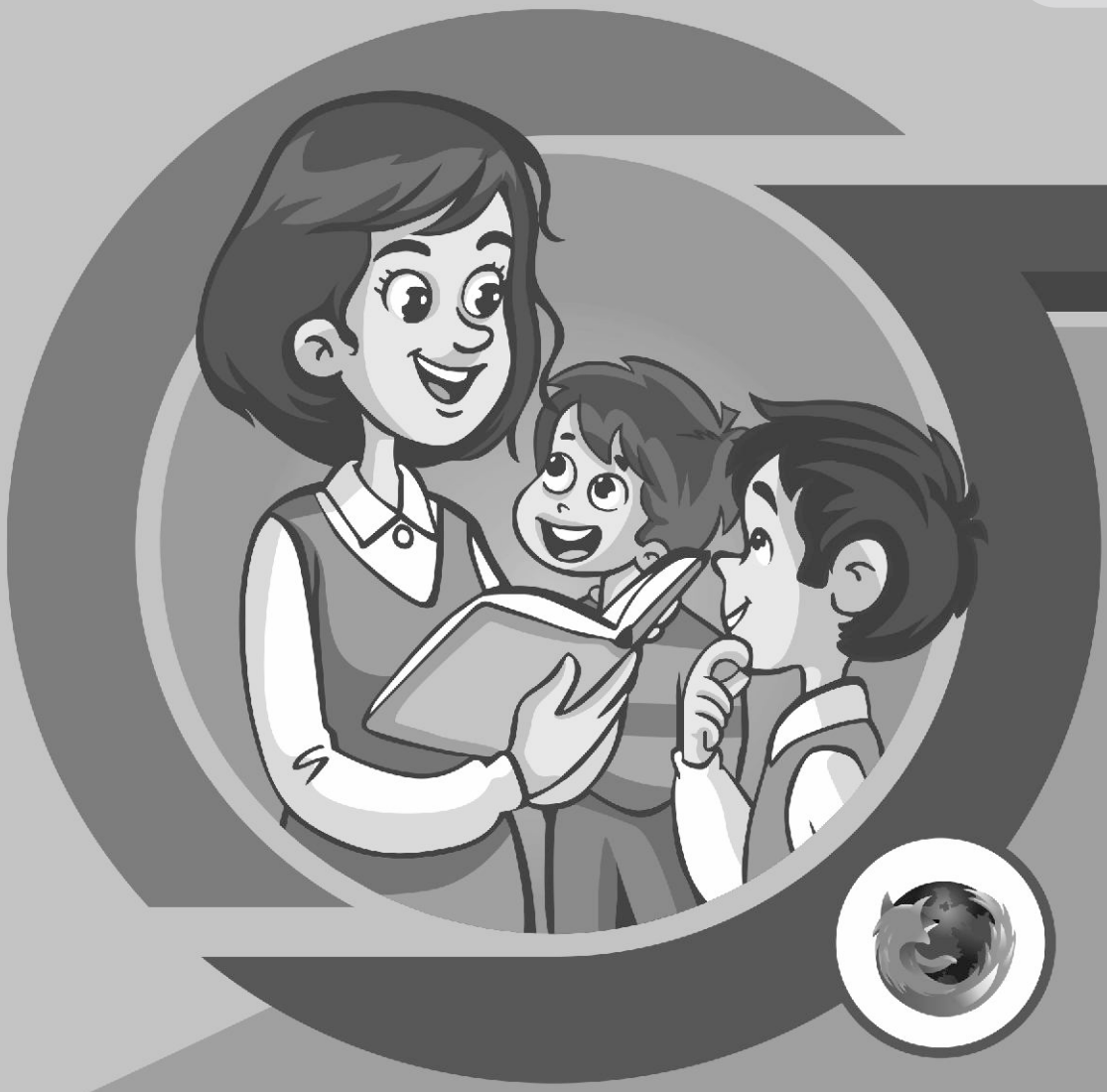
TECHIE TOTS
TECHER'S HANDBOOK

2 STD



Dear Sir / Madam,

Welcome to the Teacher's Handbook for "Techie Tots" – an innovative IT textbook designed to equip students from Grades 1 to 8 with essential digital literacy skills. This handbook is designed to support teachers in delivering engaging and effective IT instruction by providing:

- Clear learning objectives for each grade level.
- Curriculum-aligned lesson plans and activities.
- Assessment strategies to measure student progress.
- Tips for integrating technology into classroom instruction.
- Access to our Learning Management System (LMS) platform.

We understand that each classroom is unique, and the resources provided in this handbook can be adapted to meet the specific needs of your students and school environment. By fostering curiosity, creativity, and critical thinking skills, we aim to empower students to become confident users and creators of technology.

edufy publications
Jaffer Khan Colony Road, Kozhikode, Kerala, India-673004
www.edufypublications.com, edufypublishers@gmail.com
Tel: +918086511165

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SCHEME OF EXAMINATION

TWO TERM SCHEME

BOOKS	TERM I	TERM II
	LESSONS	LESSONS
BOOK 2	1, 2, 3	4,5, 6

THREE TERM SCHEME

BOOKS	TERM I	TERM II	TERM III
	LESSONS	LESSONS	LESSONS
BOOK 2	1, 2	3,4	5,6,

Note: Questions for each terminal examination cover only the portions prescribed for it.

TT-II | 1 | PARTS OF A COMPUTER

General Objectives:

- To develop the interest of students in learning computers.
- To develop the interest of students in computer parts.
- To enable them to identify the purpose of computer parts.

Learning Outcomes:

- Students can identify and name the main parts of a computer.
- Students can recognize various types of machines and their functions.
- Students can talk about the function of the monitor, mouse, CPU, keyboard.
- Students can identify and name other peripheral devices commonly used with computers.

Methodology:

Aim: To familiarize students with the various parts of a computer and their functions through engaging and interactive activities.

Strategy: Begin the lesson with a story of computer and then share a brief discussion on the importance of computers in modern life. Present each part of the computer using visual aids such as diagrams or pictures, explaining their functions and characteristics. Engage students in hands-on activities where they can identify and label the different parts of a computer. Provide a practical demonstration of how each part of the computer works, using a computer if available.

Expected Skills achieved by the learners: Critical Thinking Skills and Problem-solving skills.

Lesson Activities:

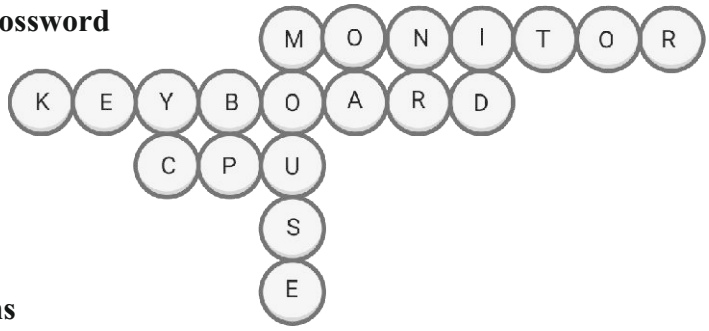
A Fill in the blanks

1. Rat 2. Brain 3. Television 4. Letters 5. Speaker

B Write T for True and F for False

1. F 2. T 3. T 4. T

C Write letters to fill the crossword



D Multiple choice questions

1. Keyboard 2. Speaker 3. Printer

E Answer in one or two words

1. CPU 2. Mouse 3. Charles Babbage

TT-II | 2 | WORKING OF A COMPUTER

General Objectives:

- To familiarize students with the basic operation and navigation of a computer system, including switching it ON/OFF.
- To understand the desktop interface, and opening programs.
- To able to classify computer parts into input, output and processing devices.

Learning Outcomes:

- Students can identify the steps involved in switching ON and OFF a computer system.
- Students can describe the components of the desktop interface, including icons, taskbar, and start menu.
- Students can understand the significance of power buttons and indicator lights in operating a computer system.
- Students can classify each of the computer parts as input, output and processing devices.

Methodology:

Aim: To equip students with the essential skills needed to operate a computer system effectively.

Strategy: Begin the lesson by engaging students in a discussion about the importance of computers in everyday life and the various tasks they can perform. Introduce the concept of switching on and off a computer system by discussing the steps involved, using real-life examples and visuals. Provide a demonstration of the desktop interface, highlighting the different components such as icons, taskbar, and start menu. Introduce some of the computer parts and ask their functions. Classify them as input, output and processing devices.

Expected Skills achieved by the learners: Environmental Awareness, Digital Literacy, Critical Thinking skills.

Lesson Activities:

A Fill in the blanks

1. Taskbar 2. Shut down 3. Power button 4. Title bar 5. Start button 6. UPS

B Write T for True and F for False

1. F 2. T 3. T 4. F

C Multiple choice questions

1. Three 2. Input 3. Start menu 4. CPU

D Match the following

1. Display name of the program 2. Control button
3. Small pictures on desktop 4. Thin bar at the bottom

E Answer the following

1. Desktop contains number of small pictures are called Icons.

2. Maximize and Restore
3. Type Paint in the search box, Then select the Paint option and a window will appear, now it ready to use.

F Write the following

In the given figure write the parts with suitable names.

G Identify the following icons

1. Start button 2. Power button 3. Maximize 4. Minimize 5. Close

Assessment - 1

(Based on chapters 1 and 2)

A Fill in the blanks with suitable letters

1. Brain 2. Television 3. Title bar 4. Letters

B Write T for True and F for False

1. F 2. F 3. F 4. T

C Multiple choice questions

1. Desktop 2. Printer 3. Speaker 4. Taskbar

D Answer in one word

1. Mouse 2. Charlse Babbage 3. Central Processing Unit

TT-II 3 INTRODUCTION TO TUX PAINT

General Objectives:

- To introduce students to Tux Paint, a software application for creating digital art.
- To familiarize students with the Tux Paint window interface and its components.
- To learn students about the various tools available in Tux Paint for drawing and editing images.
- To enable students to insert drawings and pictures using Tux Paint's features.

Learning Outcomes:

- Students can understand the layout and components of the Tux Paint window.
- Students can identify and describe the different tools available in Tux Paint.
- Students can insert drawings and pictures using the new tool and stamp tool, and adjust their size and orientation as needed.

• Students can utilize the magic tool to apply special effects and colours to drawings, enhancing their artistic creations.

Methodology:

Aim: To introduce students to Tux Paint and equip them with the necessary skills to create digital art using its tools and features.

Strategy: Begin by displaying the Tux Paint icon and explaining its significance as a drawing software. Guide students through the Tux Paint window interface, highlighting key components such as the workspace, toolbar, and selector. Introduce each tool available in Tux Paint, explaining its purpose and functionality through interactive demonstrations. Provide step-by-step instructions for using each tool, starting with basic actions like drawing lines and shapes and progressing to more advanced features like inserting drawings and applying special effects.

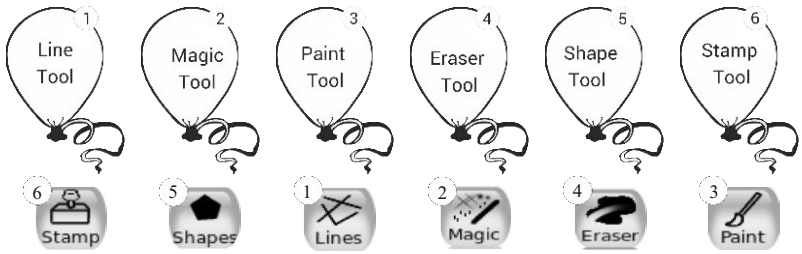
Expected Skills achieved by the learners: Creativity Skills & Fine motor skills.

Lesson Activities:

A Fill in the blanks with suitable words

1. Tux Paint 2. New tool 3. Paint tool 4. Fill tool

B Connect with suitable balloon



C Answer the following

1. New tool and Stamp tool
2. Magic tool is a collection of special effect tools used to fill colours and effects to your drawing.
3. Majic tool, Fill tool and New tool

Fun Time

a. Rectangle -4 b. Circle -5 c. Triangle -5 d. Start -6

SEMESTER - 1

(Based on chapters 1,2 and 3)

A Fill in the blanks

1. Rat 2. UPS 3. Speaker 4. Fill tool 5. Tux paint

B Write T for True and F for False

1. T 2. F 3. T 4. T 5. T

C Multiple choice question

1. Printer 2. New 3. CPU 4. Start Menu 5. Paint tool

D **Match the following**

E **Count the shapes**

a. Rectangle-4 b. Circle-5 c. Triangle- 5 d. Star-6

F **Answer the following**

1. A scanner help you to import or scan your work and picture into the computer.
2. Maximize and Restore
3. Desktop contains number of small pictures are called Icons.
4. Printer, speaker and monitor.
5. Stamp tool, Shape tool and Magic tool.
6. The device used to give commands and enter data into the computer are called Input device.

TT-II 4 LOGICAL REASONING

General Objectives:

To enhance students' cognitive abilities and critical thinking skills through activities aimed at improving numerical, visual, and analytical skills, developing problem-solving abilities, and fostering creativity and goal-setting.

Learning Outcomes:

- Students can demonstrate improved numerical, visual, and analytical skills through participation in activities such as picture sudoku, puzzles, matching cards, identifying the odd one out, predicting what comes next, finding missing numbers, completing patterns, finding paths, and spotting differences between pictures.
- Students can apply problem-solving strategies to effectively tackle various challenges presented in the activities.
- Students can generate creative ideas and set achievable goals based on the outcomes of the activities.

Methodology:

Aim: To engage students in a variety of activities to enhance their logical reasoning skills and foster critical thinking abilities.

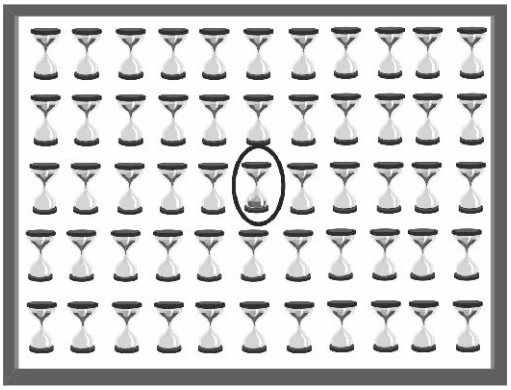
Strategy: Begin by introducing students the concept of logical reasoning and its importance in everyday life. Explain how logical reasoning skills can be developed through engaging activities. Choose a variety of activities from the provided list that align with the learning objectives. Demonstrate the first activity to the students, providing step-by-step instructions and modelling

problem-solving strategies. Guide students in setting personal goals for improving their logical reasoning skills based on their performance in the activities.

Expected Skills achieved by the learners: Numerical, Visual & analytical skills and Problem-solving skills.

Lesson Activities:

A Find the odd one out

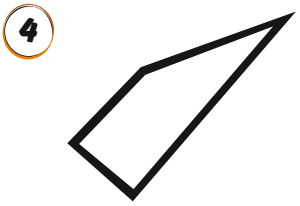


B Find the missing part from the given image

A 

C Identify the suitable images and write letters

D Which one of the following figure is hidden in the figure named X?

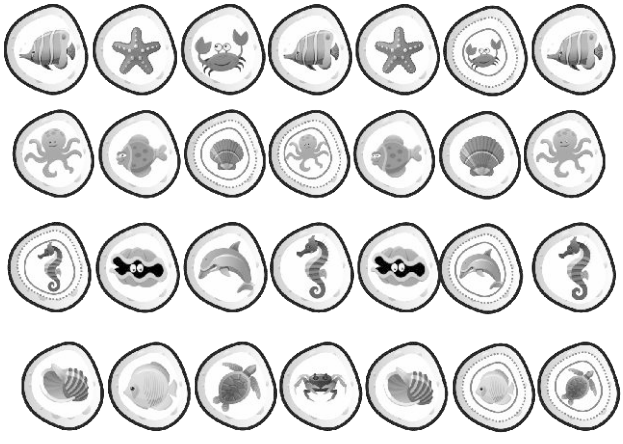


E **Find the hidden object in this picture**

F **Select the appropriate shape for the blank cell**

G **Count and write the number of shapes in the given picture**

H **Complete the sequence by adding the missing figure from the list given below**



I Find hidden words from the given picture

K Sudoku

3	4	2	1
2	1	4	3
1	2	3	4
4	3	1	2

TT-II 5 INTRODUCTION TO SCRATCHJr

General Objectives:

- To introduce students to the ScratchJr programming environment.
- To familiarize students with the basic components and features of ScratchJr.
- To enable students to create and save simple projects using ScratchJr.

Learning Outcomes:

- To introduce students to the ScratchJr programming environment.
- To familiarize students with the basic components and features of ScratchJr.
- To enable students to create and save simple projects using ScratchJr.

Methodology:

Aim: To provide students with an introduction to Scratch Jr programming environment and equip

them with basic skills to create and save simple projects.

Strategy: Begin the lesson with an overview of ScratchJr, explaining its purpose as a visual programming language for creating interactive stories, games, and animations. Introduce the Scratch window, highlighting its main components such as the stage, sprite area, blocks palette, and Coding area. Demonstrate how to navigate the Scratch interface, including how to select and manipulate sprites, navigate the stage, and access different menus and options. Guide students through the blocks palette, explaining the different categories of blocks available and their respective functions.

Expected Skills achieved by the learners: Computational Thinking, Problem-solving & Creativity skills.

Lesson Activities:

A Fill in the blanks

1. ScratchJr 2. Free 3. Triggering 4. six 5.Coding 6. New Background

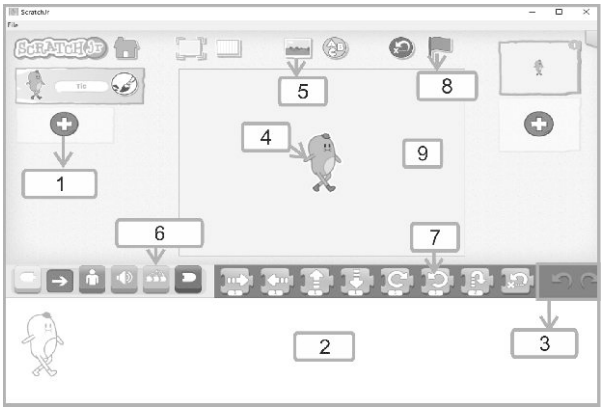
B Multiple choice question

1. Block Categories 2. Green Flag 3. Sound 4. Plus

C Match the following

1.  2.  3.  4.  5. 

D Identify the components of ScratchJr window



E Answer the following

1. ScratchJr is a type of block coding which is simple, easy to learn and available free of cost. It is easy to create games and animation.
2. Sprite, Stage, Green flag and Coding Area
3. Triggering blocks are yellow in colour. We can start different action using these blocks. The motion blocks are blue in colour. They helps the sprite to move on the stage.
4. Click on New Background button. From the appeared window select the Background of your choice. Click on the tick sign to add the selected background.

Assessment - 2

(Based on chapters 4 and 5)

A **Fill in the blanks with suitable letters**

1. c 2. a 3. b

B **Multiple choice questions**

1. Block Categories 2. Green Flag

C **Match the following**

1.  2.  3. 

D **Select the appropriate shape for the blank cell**

3 

E **Answer the following**

1. ScratchJr is a type of block coding which is simple, easy to learn and Available free of cost. It is easy to create games and animation.
2. Triggering blocks are yellow in colour. We can start different action using these blocks. The motion blocks are blue in colour. They helps the sprite to move on the stage.

TT-II 6 AI AND ROBOTICS

General Objectives:

- To introduce students to the concept of Artificial Intelligence (AI) and its applications in daily life.
- To familiarize students with various AI technologies and their impact on society.
- To encourage critical thinking and reflection on the role of AI in shaping the future.

Learning Outcomes:

- Students can define Artificial Intelligence (AI) and explain its significance in modern technology.
- Students can identify and describe common applications of AI in everyday life.
- Students can recognize the role of AI in addressing real-world problems and enhancing efficiency in various domains.

Methodology:

Aim: To engage students in active learning about Artificial Intelligence (AI) and its applications.

Strategy: Begin the lesson with a brief discussion on human intelligence and introduce the concept of Artificial Intelligence (AI) as the intelligence exhibited by machines. Use multimedia resources, videos, and real-life examples to illustrate the diverse applications of AI, including robotics, chatbots, self-driving cars, climate prediction, and personalized recommendations.

Expected Skills achieved by the learners: Critical Thinking and Problem-Solving Skills.

Lesson Activities:

A **Fill in the blanks**

1. Sophia 2. Aibo 3. Chatbot 4. Robots 5. Youtube
6. Robotic Engineering

B **Write T for True and F for false**

1. F 2. T 3. F 4. F 5.

C **Match the following**

Sophia

Chatbots

Self Driving Car

D **Rearrange the jumbled words**

1. KURI 2. AIBO 3. ROBOT

E **Answer the following**

1. Chatbot is a software application used to conduct an online chat conversation via text or text to speech.
2. Robot is a machine resembling a human being and able to replicate certain human movements and functions automatically.
3. Artificial Intelligence is intelligence of machines, that allows them to perform some tasks which requires intelligence.
4. Sophia, Kuri, and Aibo
5. Robot, Chatbot, and self driving car

SEMESTER - 2

(Based on chapters 4,5 and 6)

A **Fill in the blanks**

1. Aibo 2. Youtube 3.ScratchJr 4. New Background 5. Coding

B **Rearrange the jumbled words**

1. Kuri 2. Aibo 3. Robot 4. Sophia

C **Multiple choice question**

1. Saudi Arabia 2. Sound 3. Plus 4. Chatbot

D **Complete the sequence by adding the missing figure from the list given below**

E Sudoku

3	4	2	1
2	1	4	3
1	2	3	4
4	3	1	2

F Answer the following

1. Robot is a machine resembling a human being and able to replicate certain human movements and functions automatically.
2. Artificial Intelligence is intelligence of machines, that allows them to perform some tasks which requires intelligence.
3. Sprite, Stage, Green flag and Coding Area.