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TECHIE TOTS TEACHER'S HANDBOOK

4
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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.

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TECHIE TOTS

SCHEME OF EXAMINATION

TWO TERM SCHEME

BOOKS	TERM I	TERM II
BOOK 4	LESSONS 1, 2, 3,4	LESSONS 5, 6, 7

THREE TERM SCHEME

BOOKS	TERM I	TERM II	TERM III
BOOK 4	LESSONS 1, 2	LESSONS 3, 4, 5	LESSONS 6, 7

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

General Objectives:

- To understand the role and significance of the Internet in various aspects of life.
- To explore the applications of the Internet in education, e-commerce and artificial intelligence.
- To recognize the impact of the Internet on society and individual lives.

Learning Outcomes:

- Students can describe the function and structure of the Internet.
- Students can explain the importance of the Internet in education, including access to information, online research, e-learning and distance learning.
- Students can discuss the role of the Internet in e-commerce, including different types of e-commerce business models and applications such as e-shopping, e-banking, and m-commerce.
- Students can identify applications of artificial intelligence (AI) in various fields, including education, gaming, smart assistants, robotics, autonomous systems, and healthcare.

Methodology:

Aim: To engage students in interactive learning activities that foster critical thinking and understanding of the Internet and its applications.

Strategy: Begin the lesson with a brief introduction to the concept of the Internet and its evolution. Use multimedia resources such as videos, images, and real-life examples to illustrate the role of the Internet in education, e-commerce, and AI. Facilitate group **discussions and** brainstorming sessions to encourage students to share their perspectives and insights. Incorporate hands-on activities such as case studies, role-plays, and interactive quizzes to reinforce learning objectives.

Expected Skills achieved by the learners: Critical thinking and problem-solving skills, Digital literacy and research skills.

Lesson Activities:**A Fill in the blanks**

1. Facebook
2. M-Commerce
3. E-Shopping
4. Social Networking Site
5. B2B

B Write T for True and F for False

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

C Match the following

1. Robotics
2. Facebook
3. E-shopping
4. ARPANET

D Multiple choice questions

1. Internet
2. C2C

• **E Answer the following**

1. Social Network Sites help to build online communities, connecting with friends and family members, chatting and stay in touch with them. These are used to communicate over text, voice and video chatting. Some social media accounts are Facebook, WhatsApp, LinkedIn, Botim, Twitter, Instagram etc.
2. E-banking also known as Internet banking, online banking or virtual banking. E-banking is an E-commerce program that has streamlined people's time-consuming and complex banking operations.
3. E-commerce is the buying and selling of goods and services or the transmission of funds or data, over an electronic network, primarily the Internet. Application of E-commerce are E-Shopping, E-banking and M-commerce.
4. Importance of internet in education to the students' means that it makes easier for them to research things and relearn the content taught in the school. There are many benefits of the internet in the field of education. Some of these are Access to Information, Online Research, E-Learning and Online Courses, Distance Learning, Digital Libraries, Multimedia Learning, Assessment and Testing, and Communication.
5. The word blog is the short form of the word Weblog. It is a website or part of a website with contents written frequently and added in a chronological order. The contents of a blog may be in the form of texts, audios, videos and links to other websites.

TT-IV

2

MORE ON SCRATCH 3

General Objectives:

- To familiarize students with advanced features and screen elements of Scratch.
- To enable students to change the appearance of sprites in Scratch projects.
- To teach students how to incorporate sound effects into Scratch programs.

Learning Outcomes:

- Students can identify and explain various screen elements of Scratch, including tabs, sprite header pane, and sprite list.
- Students can change the appearance of sprites by editing costumes and applying graphical effects.
- Students can add sound effects to Scratch projects using the Sound Block Palette.

Methodology:

Aim: To enhance students' understanding and proficiency in using Scratch by exploring advanced features related to sprite appearance and sound effects.

Strategy: Start the lesson with a brief review of previous knowledge about Scratch. Then, demonstrate how to navigate through the different tabs and elements of the Scratch interface.

Guide students through the step-by-step process of changing sprite appearance by modifying costumes and applying graphical effects. Provide hands-on activities where students practice these techniques.

Expected Skills achieved by the learners: Computational Thinking, Problem Solving Skills, Critical Thinking.

Lesson Activities:

A Fill in the blanks

1. Thumb nail
2. Costume
3. Repeat
4. Graphics
5. Ghost
6. Sound

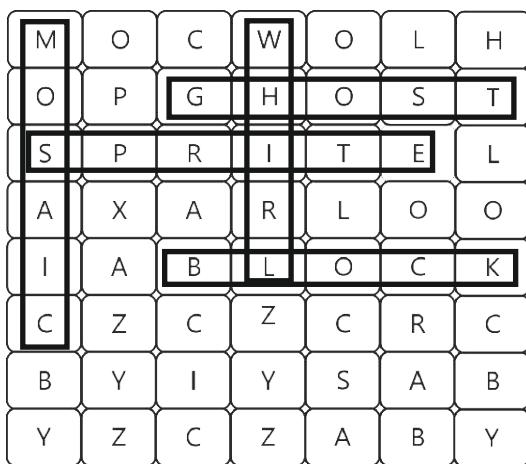
B Write T for True and F for False

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

C Multiple choice questions

1. 
2. Both a and b
3. Code
4. Mosaic

D Find five Scratch related words in the given grid



E Answer the following

1. Code tab is active by default. When you start a new project, the code tab is automatically selected, displaying the Code Area.
2. The Sprite header pane displays about the information about the selected Sprite as well as a few tools for manipulating the Sprite.
3. Click on the Stage thumbnail in the Sprite List. A new screen with 3 tabs Scripts, Backdrop and Sounds will appear. Click on Backdrop tab Click on Choose a Backdrop button in New backdrop section. An Import Backdrop dialog box appears. Select the required image file from the selected folder. Click on OK button. The Stage backdrop will be changed.
4. The Looks Block Palette contains various blocks that control the appearance of Sprite.

It also introduces the blocks that allow you either to show the Sprite on the stage or to make it disappear. For this purpose use the **hide** and **show** block respectively.

5. We can add sound in our Scratch Project either by using the blocks present in the Sound Block Palette or import sound from the Sound Tab.

ASSESSMENT - 1 **(Based on chapters 1 and 2)**

A Fill in the blanks

1. Ghost 2. M-commerce 3. Graphics 4. Social Network site 5. Sound

B Multiple choice questions

1. Internet 2. Mosaic 3. Both a and b 4. Sprite header section 5. AI

C Answer the following

1. The Looks Block Palette contains various blocks that control the appearance of Sprite. It also introduces the blocks that allow you either to show the Sprite on the stage or to make it disappear. For this purpose use the **hide** and **show** block respectively.

2. Code tab is active by default. When you start a new project, the code tab is automatically selected, displaying the Code Area.

3. Social Network Sites help to build online communities, connecting with friends and family members, chatting and stay in touch with them. These are used to communicate over text, voice and video chatting. Some social media accounts are Facebook, WhatsApp, LinkedIn, Botim, Twitter, Instagram etc.

4. E-commerce is the buying and selling of goods and services or the transmission of funds or data, over an electronic network, primarily the Internet. Application of E-commerce are E-Shopping, E-banking and M-commerce.

TT-IV

3

INTERNET ETIQUETTE

General Objectives:

- Introduce students to the concept of Internet Etiquette (Netiquette).
- Teach the basic rules of etiquette, especially in the context of online communication.
- Familiarize students with different types of Internet Etiquette.
- Raise awareness about the importance of respectful and responsible behaviour online.

Learning Outcomes:

- Students can define Internet Etiquette (Netiquette) and explain its significance in online communication.
- Students can identify and describe the basic rules of etiquette applicable to online interactions.
- Students can differentiate between various types of Internet Etiquette, including basic

- netiquette, netiquette of sending, netiquette of replaying, and netiquette of confidentiality.
- Students can recognize the importance of respecting privacy, verifying information, and using appropriate language in online communication.

Methodology:

Aim: To engage students in interactive learning activities that promote understanding and application of Internet Etiquette principles.

Strategy: Begin the lesson by eliciting students' prior knowledge about internet usage and etiquette through discussion and questioning. Introduce the concept of Internet Etiquette using relatable examples and real-life scenarios. Present the basic rules of etiquette and different types of Netiquettes through multimedia presentations, case studies, and group discussions. Facilitate hands-on activities such as role-playing exercises, online etiquette quizzes, and collaborative projects to reinforce learning objectives.

Expected Skills achieved by the learners: Social Awareness, Communication Skills and Critical Thinking Skills.

Lesson Activities:

A Fill in the blanks

- | | | | |
|--------------|------------|-------------|------------|
| 1. Etiquette | 2. Four | 3. Internet | 4. Respond |
| 5. Spamming | 6. Flaming | | |

B Multiple choice questions

- | | | | |
|-------------------|---------------------|--------------|-------------|
| 1. Confidentially | 2. Help the newbies | 3. Replaying | 4. Internet |
|-------------------|---------------------|--------------|-------------|

C Write T for True and F for False

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

D Answer the following

1. Internet etiquette is commonly referred to as Netiquette. Internet Etiquette is a set of social conventions that facilitate interaction over internet, ranging from usenet and mailing lists to blogs and forums.
2. Different type of Netiquette are Basic Netiquette, Netiquette of sending, Netiquette of replaying, and Netiquette of Confidentiality.
3. Do's of Netiquette are Protect your identity and Respond punctually.
Don'ts of Netiquette are Use of coarse language and Sending spam.
4. Some netiquette to be followed while replaying are Check the current information before replaying, Summarize for the group, Reference the past information, Acknowledge important communication, and replaying and forwarding.
5. Netiquette of Sending is the etiquette to be followed while sending or passing an information or data through internet. Be brief while sending and Stay on the topic are the netiquette of sending.

General Objectives:

- To familiarize students with common editing features in MS Word.
- To enable students to efficiently edit text documents using MS Word.

Learning Outcomes:

- Students can understand the common keys and their uses in MS Word.
- Students can perform basic editing tasks such as Cut, Copy, and Paste text in MS Word.
- Students can utilize the Find and Replace feature to locate and modify text efficiently in MS Word.

Methodology:

Aim: To empower students with essential editing skills in MS Word.

Strategy: Begin the lesson by introducing the concept of editing in MS Word and its importance in document creation. Demonstrate the common keys used for editing purposes, including Shift, Caps Lock, Enter, Tab, Delete and Backspace. Provide examples and practical exercises to help students understand the usage of each key effectively.

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

Lesson Activities:**A Fill in the blanks**

1. Editing
2. Find
3. Enter key
4. Alt
5. Triple
6. Copy

B Multiple choice questions

1. Backspace
2. Caps lock
3. Editing
4. Redo

C Write the mouse actions

1. Drag the mouse over the text
2. Double click the word
3. Move the pointer to the top left of the document text. When the cursor shape changes to a right-pointing arrow, triple-click it.
4. Move the pointer to the left of the line. When the cursor shape changes to a right-pointing arrow, click it.
5. Triple click anywhere in the paragraph.

D Match the following

1. To add multiple spaces.
2. Replace icon
3. Bottom left and right corners of keyboard
4. Short for Alternate key
5. To allow a single capital letter.

E Identifying the following icons

1. Paste
2. Cut
3. Copy
4. Redo
5. Undo
6. find

F Answer the following

1. Enter key, Delete or Backspace key, Caps Lock key, Shift Key, Ctrl Key, Alt Key and Tab Key are the commonly used keys in a keyboard for editing.
2. Two ways
3. Enter key is used to move the cursor to the next line.
4. Select the text ‘*Computer*’ from the Document. Click on Copy option on Home tab. Place cursor at the space we want to copy. Then click on Paste option on Home tab. Now a copy of the word ‘*Computer*’ is pasted at the desired place.
5. Select the Home tab. Click on the Find option from the Editing group. A navigation pane will appear on left side of the window. Type the word in the search document. Now the search results are displayed in the navigation pane and each word we typed in document is highlighted in yellow colour and preview of the results will appear in the navigation pane. To replace follow the steps: Click on Replace option from the editing group of home tab. Type word in the Find what field and type replacing word in the Replace with field. Click on Replace button to replace the word one by one or click on Replace All button to replace the word by single click. Also click Ok button on the next window.
6. Making changes in the existing text is called editing.
7. Backspace key is used to removes the character to the left of the cursor position.

G Fill the crossword

1. Find
2. Redo
3. Undo
4. Enter

SEMESTER - 1

(Based on chapters 1, 2,3 and 4)

A Fill in the blanks

1. M-commerce
2. Etiquette
3. Costume tab
4. B2B
5. Thumb nail
6. Alt
7. Sound
8. Respond

B Multiple choice questions

1. Weblog
2. Sprite Header Pane
3. Replaying
4. Redo

C Match the following

1. Mosaic
2. Facebook
3. Roasting
4. Ctrl+Z

D Write T for True and F for False

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

E Answer the following

1. Click on the Stage thumbnail in the Sprite List. A new screen with 3 tabs Scripts, Backdrop and Sounds will appear. Click on Backdrop tab Click on Choose a Backdrop button in New backdrop section. An Import Backdrop dialog box appears. Select the required image file from the selected folder. Click on OK button. The Stage backdrop will be changed.

2. E-banking also known as Internet banking, online banking or virtual banking. E-banking is an E-commerce program that has streamlined people's time-consuming and complex banking operations.
3. Enter key is used to move the cursor to the next line.
4. Different type of Netiquette are Basic Netiquette, Netiquette of sending, Netiquette of replaying, and Netiquette of Confidentiality.
5. M-commerce application is a subset of retail E-commerce. purchases are made by the consumer using mobile or web applications that are optimized for the merchant.
6. We can add sound in our Scratch Project either by using the blocks present in the Sound Block Palette or import sound from the Sound Tab.
7. Code tab is active by default. When you start a new project, the code tab is automatically selected, displaying the Code Area.

General Objectives:

- To introduce students to Microsoft PowerPoint 2019 as a tool for creating dynamic presentations.
- To familiarize students with the basic functions and features of PowerPoint 2019.
- To enable students to create visually compelling presentations for various purposes.

Learning Outcomes:

- Students can understand the purpose and significance of Microsoft PowerPoint 2019 in creating presentations.
- Students can work proficiently with slides, including inserting, duplicating, deleting, and formatting slides.
- Students can insert various shapes, apply styles, and customize shapes to enhance the visual appeal of presentations.
- Students can create their own presentations using different layouts, text formatting options, and multimedia elements.
- Students can utilize advanced features such as table insertion, drawing tools, and slide duplication to improve presentation quality.

Methodology:

Aim: To equip students with the necessary skills to create and deliver effective presentations using Microsoft PowerPoint 2019.

Strategy: The lesson will employ a combination of interactive lectures, hands-on activities, group discussions, and project work to engage students and reinforce learning.

- **Expected Skills achieved by the learners:** Cognitive Skills, Practical Skills.

Lesson Activities:

A Fill in the blanks

1. PowerPoint 2. Home tab 3. Slides 4. Home tab 5. Drawing group

B Write T for True and F for False

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

C Match the following

1. Different Layout 2.Reflection 3.Smooth Animation 4.DrawingGroup

D Fill the following steps

To insert a new slide 1.Click on the arrow of New Slide on Slides group.

2.Click on any layout you prefer.

To duplicate a slide

1. Select the slide that you want to duplicate. 2.On the Home tab, click on the down arrow of the New Slide and Select Duplicate Selected Slides.

To insert a shape

1. Click on the Shapes box in the Drawing group. 2.Then select a shape from Shapes' box
3. Drag the mouse where you want to insert a shape

E Fill the crossword

1. Delete 2. Quick style 3. Drawing 4. Slides 5. Font

F Answer the following

1. A Presentation is a collection of slides.
2. Clipboard, Slides, Font, Paragraph, Drawing and Editing.
3. Slides are individual page of a presentation.
4. In a slide, you can enter or edit text by clicking on the text box .
5. Select the shape that you want to Fill. Click Shape Fill on the drawing group. Click on the down arrow at the Shape Fill. Select Gradient from the drop down menu.

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 various activities.

- 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 Mother

B A

C In this circle pattern consider the difference of two opposite cells are 3 so the missing cells values are 10 & 4
eg: $1-4=3$, $9-6=3$, $5-2=3$

D 16

E Find out

Name of Child	Cat	Dog	Bird	Fish
Bob		✓		
Mary	✓			
Cathy				✓
Sue			✓	

1. The boy has a dog
2. Sue has a pet with 2 legs
3. Mary does not have a fish.

F Find out the age of monsters Clues








Age	Buzz	Chomp	Fuzz Ball	Ruff	Slimy
5					✓
6	✓				
8			✓		
9		✓			
10				✓	

1. Slimy is the youngest of the weird monsters.
2. Chomp has been alive for an odd number of years.
3. Buzz has been alive for the same number of years as he has eyes.
4. Puff is four years older than Buzz.

G Riddles

1. Kate
2. 3(three)

H Robot ages logic puzzle

	3	4	5	6	8
	✓				
		✓			
					✓
			✓		
				✓	

Clues

1. The red robot's age is an odd number.
2. The blue robot is one year older than the green robot, and two years younger than the yellow robot.
3. The green robot was manufactured five years ago.

ASSESSMENT - 2

(Based on chapters 5 and 6)

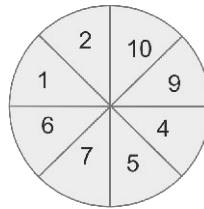
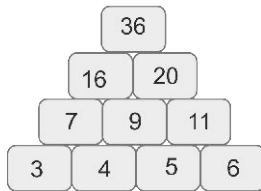
A Fill in the blanks

1. Home
2. Microsoft Powerpoint
3. Slides

B Write T for True and F for False

1. F
2. T
3. F

C Fill the missing cell



D Answer the following

1. Slides are individual page of a presentation.
2. Clipboard, Slides, Font, Paragraph, Drawing and Editing.
3. In a slide, you can enter or edit text by clicking on the text box.

TT-IV

7

HISTORY AND APPLICATION OF AI

General Objectives:

- To provide an overview of the history and development of AI technology.
- To introduce students to the concept of Artificial Intelligence (AI) and its evolution over time.
- To cultivate an understanding of how AI impacts everyday life and society.
- To familiarize students with the definition and applications of Artificial Intelligence (AI).

Learning Outcomes:

- Students can explain the concept of intelligence and identify its criteria.
- Students can define Artificial Intelligence (AI) and differentiate it from human intelligence.
- Students can recognize key milestones and contributors in the history of AI development.

- Students can identify events in the evolution of Artificial Intelligence.
- Students can recognize examples of AI applications in everyday life, such as virtual assistants, recommendation systems, and autonomous vehicles.

Methodology:

Aim: To educate students about the history and evolution of AI, from its early beginnings to its current applications in modern society, and applications of Artificial Intelligence (AI) in society.

Strategy: The lesson will employ a combination of multimedia presentations, interactive discussions, hands-on activities, and real-world examples to engage students and facilitate learning. Begin the lesson by defining Artificial Intelligence (AI) and discussing its importance in contemporary society. Provide a historical overview of AI, starting from its inception in the 20th century to its recent developments. Highlight significant milestones in the evolution of AI, such as Alan Turing's contributions, the development of early AI systems, and breakthroughs in machine learning.

Expected Skills achieved by the learners: Critical Thinking, Ethical Awareness & Problem-solving skills.

Lesson Activities:

A Fill in the blanks

1. Roomba
2. Artificial Intelligence
3. Smart Home
4. John McCarthy
5. Internet of Things

B Write T for True and F for False

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

C Match the following

1. Alexa
2. Self-Driving
3. Urban Area
4. Internet of Things

D Write name of the picture and year of invention

1. Siri-2011
2. ASIMO-2000
3. Roomba-2002
4. Kismet-1990
5. Google home device-2016
6. Sophia-2016

E Multiple choice questions

1. Siri
2. Autonomous
3. John McCarthy
4. Smart Home
5. Smart City
6. Google

F Find the words in the given grid

I	N	T	E	R	N	E	T
W	C	D	V	R	D	C	A
E	M	S	I	R	I	A	B
B	B	H	R	B	C	A	C
S	C	T	T	B	C	L	D
I	N	T	U	R	N	E	T
T	C	P	A	B	C	X	C
T	E	S	L	A	D	A	C

Answer the following

1. Artificial Intelligence can be defined as a branch of computer science that can simulate human intelligence.
2. ASIMO is an artificial Humanoid robot created by honda in 2000.
3. Self-driving vehicles are cars or trucks in which human drivers are not required to take control to operate the vehicle safely.
4. Microsoft launched Kinect for Xbox360, the first gaming device to track human body movement, using just a 3D camera and infrared detection, enabling users to play their Xbox 360 wirelessly.
5. Internet of Things.

SEMESTER - 2

(Based on chapters 5,6 and 7)

A Fill in the blanks

1. Format
2. Drawing
3. Roomba
4. IoT
5. Slide

B Multiple choice question

1. Smart City
2. Alexa
3. Autonomous

C Write T for True and F for False

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

D Match the following

1. Different Layout
2. Self-Driving car
3. Urban area
4. Smooth Animation

E Answer the following questions

1. Smart Home
2. Self-Driving Vehicles
3. Smart City
2. A Presentation is a collection of slides.
3. Internet of Things.
4. Artificial Intelligence can be defined as a branch of computer science that can simulate human intelligence.
5. Select the shape that you want to Fill. Click Shape Fill on the drawing group. Click on the down arrow at the Shape Fill. Select Gradient from the drop down menu.
6. Self-driving vehicles are cars or trucks in which human drivers are not required to take control to operate the vehicle safely.