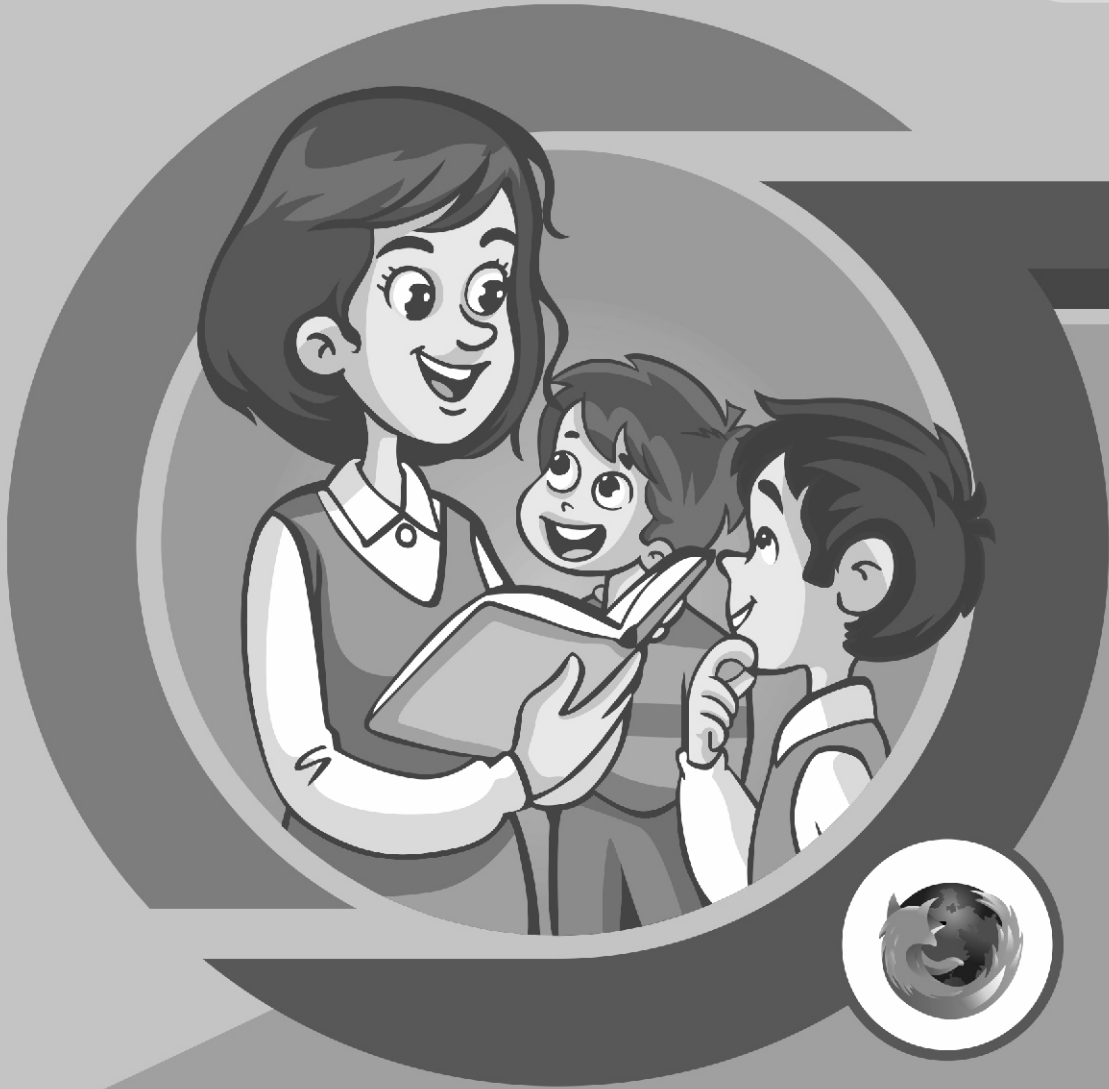




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TECHIE TOTS TEACHER'S HANDBOOK

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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 6	LESSONS 1, 2, 3,4	LESSONS 5, 6,7,8

THREE TERM SCHEME

BOOKS	TERM I	TERM II	TERM III
BOOK 6	LESSONS 1, 2, 3	LESSONS 4, 5, 6	LESSONS 7, 8

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

General Objectives:

- To introduce students to advanced Google Workspace applications.
- To familiarize students with Google Sheets, Google Slides, and other Workspace applications.
- To highlight the features and benefits of Google Workspace.
- To encourage students to explore and utilize various Google Workspace tools for productivity and collaboration.

Learning Outcomes:

- Students can navigate and use Google Sheets effectively.
- Students can create and deliver presentations using Google Slides.
- Students can utilize other Google Workspace applications for productivity and collaboration purposes.
- Students can understand the significance of cloud computing and its applications in Google Workspace.
- Students can demonstrate proficiency in utilizing Google Workspace tools for personal and professional tasks.

Methodology:

Aim: To facilitate an interactive learning experience to introduce students to advanced Google Workspace applications.

Strategy: Begin the lesson with an introduction to Google Workspace and its various applications. Provide hands-on practice sessions for students to explore Google Sheets, Google Slides, and other Workspace tools. Encourage collaborative activities where students work together using Google Workspace applications. Utilize multimedia presentations and demonstrations to showcase the features and capabilities of Google Workspace. Conduct quizzes or assessments to evaluate students' understanding and proficiency in using Google Workspace tools.

Expected Skills achieved by the learners: Communication Skills, Digital Literacy Skills and Creativity Skills.

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

1. Google Classroom 2. Google contact 3. Google Earth 4. Google Translate

B Multiple choice questions

1. Google Classroom 2. Google contact 3. Google Meet 4. Google Calendar
5. Google Translate 6. Google Forms

C Write T for True and F for False

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

D Match the following

1. 3D representation earth 2. Time Management 3. PowerPoint
4. Photo sharing 5. Video Conferencing

E Write the name of the following

1. Google Classroom 2. Google Photos 3. Google Contacts 4. Google Sheet
5. Google Calendar 5. Google Slides

F Answer the following

1. Google Photos lets you access your photos from any device and frees up storage once they're backed up. It offers unlimited free storage and tools for creating movies, animations, collages, and albums. Its powerful search makes finding items easy, and sharing is simple.

2. Google Workspace is a collection of cloud computing, productivity and collaboration tools, software and products developed and marketed by Google.

3. It make decisions faster. Collaborate in real time. Stores and share files in the cloud. Secure data and device cloud storage . Workspace is compatible with almost everything.

4. Google Classroom is a free platform by Google for schools. It simplifies creating, distributing, and grading assignments. Its main goal is to streamline file sharing between teachers and students. It tracks student performance and allows exporting scores to the school's database. Teachers can access additional features with an Education account.

5. Google Translate is a multilingual neural machine translation service developed by Google to translate texts, documents and web sites from one language into another.

General Objectives:

- To introduce students to the concept of HTML and its importance in web development.
- To familiarize students with the structure of HTML documents.
- To teach students about various HTML tags and their functionalities.
- To enable students to create basic web pages using HTML 5.

Learning Outcomes:

- Explain the significance of HTML in web development.
- Identify and describe the structure of an HTML document.
- Recognize and utilize different HTML tags for creating web content.
- Create simple web pages using HTML 5.

Methodology:

Aim: To provide students with a foundational understanding of HTML 5 and its usage in web development.

Strategy: The lesson will be delivered through a combination of theoretical explanations, practical demonstrations, and hands-on exercises.

Expected Skills achieved by the learners: Analytical Skills, Practical Skills & Creativity Skills.

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

1. <BODY TEXT= “color”> 2. Content 3. <TITLE> 4.
 5. Web

B Multiple Choice Questions

1. WWW 2. HTML 3. tags 4. container tag

C Match the Following

1. Bold 2. Superscript 3. Strikethrough 4. Subscript 5. Paragraph

D Find out the odd one

1. <PRE> 2. TEXT

E Answer the following

1. HTML is a simple scripting language to create a web page. Eg: <BODY>, <Head>.
2. MARQUEE tag is used to move the text through the page. Using this tag a text can be moved continuously from one end to the other end of the web page.
3. Attributes are additional parameters that tell how to display HTML elements. Attribute appears as an attribute name followed by an equal to (=) sign and then its value.
4. Image tag is used to insert an image to enhance the look and feel of a web page
Syntax:

ASSESSMENT - 1

(Based on chapters 1 and 2)

A Fill in the blanks

- 1.<BODY TEXT= “color”> 2. Google calendar 3.
 4. Google Translate

B Write T for True and F for False

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

C Multiple choice questions

- 1.WWW 2.Google Meet 3.Tags t 4. Google Forms

C Answer the following questions

- 1.Google Sheet allows collaborative editing of spreadsheets in real-time, with multiple users able to work on the same spreadsheet simultaneously. Google Sheets supports offline editing on desktop or mobile apps and works on any device, including iOS and Android.
2. Google Drive, Google Docs, Google Sheets, Google Slides, Google Calendar etc.
3. Attributes are additional parameters that tell how to display HTML elements.

Attribute appears as an attribute name followed by an equal to (=) sign and then its value.

General Objectives:

- To introduce students to the concept of cyber security and its importance in daily life.
- To familiarize students with various cyber threats and crimes prevalent in the digital world.
- To educate students about essential cyber security measures and safety precautions.
- To introduce students to relevant cyber laws and regulations.

Learning Outcomes:

- Students can understand the meaning and significance of cyber security.
- Students can identify different types of cyber crimes and their potential consequences.
- Students can recognize the importance of maintaining good cyber behaviour and implementing safety measures.
- Students can demonstrate knowledge of essential cyber security measures to protect themselves online.
- Students can understand the role of cyber laws in regulating online activities and protecting individuals' rights.

Methodology:

Aim: The aim of this lesson is to educate students about cyber security, cybercrimes, and relevant laws and regulations.

Strategy: Begin the lesson by discussing the definition and importance of cyber security, using relatable examples to illustrate its relevance in daily life. Introduce the sub-topics of cyber behaviour, cybercrimes, and cyber acts, explaining each concept in detail with real-life examples and case studies. Engage students in interactive discussions and activities to enhance understanding and encourage participation. Use multimedia presentations, videos, and infographics to visually reinforce key concepts and engage students.

Expected Skills achieved by the learners: Ethical and Moral Values, Communication skills and Digital Literacy.

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

1. IT Security 2. IT Act 2000 3. Hacking 4. Identity theft 5. Identity theft

B Multiple Choice Questions

1. Phishing 2. Cyber Law 3. Cyber Crime 4. Plagiarism 5. Stalker 6. Hacker

C Write T for True and F for False

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

D Answer the following

1. Cyber behavior refers to the actions and habits individuals and organizations adopt to

protect themselves and their sensitive information online. This can range from using strong passwords to avoiding suspicious emails and links.

2. When an attacker harasses a victim through emails, social media, chat rooms, blogs, instant messaging, etc., it is called cyber stalking.
3. Cyber crimes are offenses committed using computers and smart devices connected through the internet. Victims of cyber crimes can be organizations or individuals.
4. a) All electronic contracts created through secure electronic channels are legally valid.
b) There is legal recognition for digital signatures. c) Security measures for electronic records and digital signatures are in place under the Copyright Act, 1957.5. Hacking is the unauthorized entry into a network or computer to steal or manipulate information, data, or files.
6. a) Delete the history of your web browser periodically.
b) Clear the cache of your web browser regularly.
c) Consult your parents about which website to view on the Internet.
d) Don't share your personal information without your parent's permission.

General Objectives:

- To familiarize students with creating, formatting, and designing tables in MS Word.
- To teach students how to effectively use tables for presenting information in a tabular form.
- To introduce students to advanced table manipulation techniques such as splitting, merging, and styling.
- To introduce students the concept of charts and its relevance in easy interpretation of complicated series of data.

Learning Outcomes:

- Students can understand the concept of tables in MS Word and their utility in organizing information.
- Students can format tables by adjusting size, applying borders, and shading.
- Students can learn advanced table manipulation techniques including splitting cells, merging cells, and splitting tables.
- Students can demonstrate proficiency in designing tables by selecting appropriate styles and alignments.
- Students can use chart facility, identify different types of charts for easy interpretation of complicated data sets.

Methodology:

Aim: To equip students with the necessary skills to create, format, and design tables effectively using MS Word.

Strategy: Start the lesson with a brief explanation of the importance of tables in MS Word and their various applications. Provide step-by-step demonstrations of inserting tables using different methods, formatting tables, and performing advanced table manipulations. Introduce chart and its components. Discuss the different types of charts and their pictorial representation in any media.

Expected Skills achieved by the learners: Practical skills, Communication skills and Problem-solving skills.

Lesson Activities:

A Fill in the blanks

1. Merge
2. Table
3. Cell
4. Split cell
5. Stock charts

B Multiple choice question

1. Charts
2. Merging
3. Treemap
4. Layout

C Write T for True and F for False

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

D Match the following

1. Alt+End
2. Up Arrow
3. Tab
4. Alt+Home

E Answer in one or two words

1. Insert tab
2. Merge group
3. One
4. Insert below option

F Answer the following

1. A table is an arrangement of text in the form of rows and columns.
2. A chart is a graphical representation of data. Charts display numeric data in a graphical format for easier understanding of large quantities of data and the relationship between different data series.
3. Cell Alignment is used to arrange the text in a cell more attractively. To apply cell alignment, select the cell and select any option from Alignment group.
4. You can enter the text in a table in the same way to enter text in a document. To move between the cells in a table, use arrow keys, mouse pointer or the Tab key.
5. Column Chart, Pie Chart, Line Chart.
6. Select the table. Click on Borders option on the Table Styles group from the Design tab. Select Borders and Shading option from the drop down list. A window named Borders and Shading appears. Select a line style from the Styles option. Select colour from Color option. Change line width from Width option.
7. Select the columns or rows which we want to delete. Click on Delete option on the Rows & Columns group. Select Delete Columns from the drop down list. Now the columns and rows which we want to delete are deleted from the table.
8. Click on the cell. Click on Insert Above option on Rows & Columns group. Type the content in the inserted row.

SEMESTER - 1

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

A Fill in the blanks

1. Design 2. Identity theft 3. Cache Virus 5. Stock Chart

B Write T for True and F for False

- 1.F 2.F 3. T 4. T 5. T 6.F

C Multiple choice questions

1. Web Browser 2. Tags 3. Google Meet 4. Stealing 5. Home tab

D Match the following

1. Photos Sharing 2. Chart 3. Tab 4. Subscript 5. Bold 6. Up arrow

E Answer the following questions

1. A table is an arrangement of text in the form of rows and columns.
2. Google Classroom is a free platform by Google for schools. It simplifies creating, distributing, and grading assignments. Its main goal is to streamline file sharing between teachers and students. It tracks student performance and allows exporting scores to the school's database. Teachers can access additional features with an Education account.
3. Click on the Start button. Choose Windows Accessories option from the Start button. Click on Notepad, type in the program.
4. When an attacker harasses a victim through emails, social media, chat rooms, blogs, instant messaging, etc., it is called cyber stalking.
5. Computer crimes are offenses committed using computers and smart devices connected through the internet. Victims of cyber crimes can be organizations or individuals.
6. It make decisions faster. Collaborate in real time. Stores and share files in the cloud.
7. A chart is a graphical representation of data. Charts display numeric data in a graphical format for easier understanding of large quantities of data and the relationship between different data series. There are several types of charts. Some common types of charts include Column Chart, Bar Chart, Line Chart, Radar chart, Area Chart, Radar chart, Tree map chart, Histogram chart etc.

TT- VI

5

MORE ON EXCEL

General Objectives:

- To familiarize students with the basic features and functionalities of Microsoft Excel.
- To develop students' skills in using Excel for data entry, manipulation, and presentation.
- To provide students with the foundational knowledge required to effectively utilize Excel in various contexts, including academic, professional, and personal settings.

Learning Outcomes:

- Define and identify a range of cells in an Excel worksheet.
- Demonstrate the ability to select and manipulate ranges of cells using various methods, including clicking and dragging, as well as keyboard shortcuts.
- Utilize the AutoFill feature to populate a series of numbers or characters in a specified range.
- Apply the AutoSum feature to calculate the total value of selected cells quickly and efficiently.
- Format worksheets by adjusting cell alignment, font styles, colors, and borders to enhance readability and visual appeal.

Methodology:

Aim: To introduce students to the features of Microsoft Excel and provide hands-on practice to develop their skills in using Range, AutoFill, AutoSum, and Formatting functionalities.

Strategy: The lesson will employ a combination of theoretical explanation, demonstration, guided practice, and independent practice activities to ensure comprehensive understanding and mastery of the concepts.

Expected Skills achieved by the learners: Digital Literacy, Practical Skills.

Lesson Activities:

A Fill in the blanks

1. Worksheet
2. AutoSum
3. Editing
4. Ascending or Descending
5. Orientation
6. Text Alignment

B Write T for True and F for False

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

C Multiple choice questions

1. Formatting
2. Alignment
3. AutoSum
4. AutoFill

D Match the following

1. Font
2. Bold
3. Text Rotation
4. Sigma Sign
5. Cells Group

F Find five Excel related words in the given grid

M	O	S	H	E	E	T	R
I	N	O	E	X	E	T	E
S	P	R	I	T	N	L	M
A	U	T	O	S	U	M	O
I	T	I	R	A	T	E	V
C	Z	N	Z	C	E	L	L
B	Y	G	Y	S	A	B	B
Y	R	A	N	G	E	N	G

F Answer the following

1. AutoSum feature is used to find the total value of the selected cells.
2. Formatting means arranging data in an attractive manner. Text Alignment and Text Formatting.

3. Sorting means arranging data in ascending or descending order.
4. Cell orientation option is used to rotate the text within a cell. It helps you to align data in different orientation according to the user's choice.
5. AutoFill is used to enter a series of numbers or characters in a specified range.
6. Text formatting options are used to change the font size, font colour, bold, italic, underline etc. Whereas Cell Formatting: Cell formatting options are used to change the cell colour, border colour, border style etc.

General Objectives:

- To introduce students to the fundamental concepts of programming.
- To familiarize students with basic programming constructs such as algorithms, flowcharts, loops, counters and pseudocode.
- To develop students' understanding of how computer programs are written and executed.

Learning Outcomes:

- Define a computer program and explain its importance.
- Describe algorithms and their role in program development.
- Create algorithms for simple tasks such as making an omelette or adding two numbers.
- Construct flowcharts to represent algorithms visually.
- Understand the concept of looping and apply it to solve repetitive tasks.
- Utilize pseudocode to outline program logic in a language-independent manner.

Methodology:

Aim: To facilitate student learning and understanding of programming concepts through a combination of theoretical explanations and practical examples.

Strategy: Start the lesson by discussing the importance of programming and its relevance in today's technological world. Introduce the concept of algorithms, explaining their role as step-by-step instructions for solving problems. Provide examples of algorithms for simple tasks and encourage students to create their own. Explain the purpose and significance of flowcharts in visualizing algorithms.



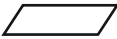
Expected Skills achieved by the learners: Cognitive Skills, Analytical skills.

Lesson Activities:

A Fill in the blanks

1. Graphical 2. Stop 3. Rectangle 4. Flow 5. Pseudocode




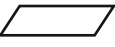
B Multiple choice question

1.  2.  3. Algorithm 4.  5. a symbols 6. Binary

C Write T for True and F for False

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

D Match the following

1.  2. High level Language 3. Pictorial representation 4.
5.  6.  7. 

E Answer the following

1. A flowchart is a step by process to solve a problem in a pictorial form.
2. Oval - Start/ Stop box is used to represent starting and ending of a flowchart.
Parallelogram- Input/ Output box is used to read and print any data.
Rectangle- Processing box is used for calculation.
3. An Algorithm is a step -by-step process of solving any problem. It is the first step of developing a program.
4. A program is a set of instructions that makes the computer work. Some common high-level languages are BASIC, QBASIC, LOGO, C, C++, VISUAL BASIC, JAVA etc

Assessment - 2

(Based on chapters 5 and 6)

A Fill in the blanks

1. Editing 2. Orientation 3. Text Alignment 4. Stop

B Write T for True and F for False

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

C Multiple choice questions

1. Alignment 2. Symbols 3. Binary 4. Formatting

D Answer the following

1. Sorting means arranging data in ascending or descending order.
2. Formatting means arranging data in an attractive manner. Text Alignment and Text Formatting.
3. A program is a set of instructions that makes the computer work. Some common high-level languages are BASIC, QBASIC, LOGO, C, C++, VISUAL BASIC, JAVA etc.

General Objectives:

- To introduce students to the features and capabilities of Python programming language.
- To equip students with the fundamental skills required to write and execute Python programs.
- To familiarize students with different data types used in Python programming.

Learning Outcomes:

- Understand the features and characteristics of Python as a programming language.
- Write basic Python programs to perform simple tasks and calculations.
- Identify and utilize different data types such as integers, floats, strings, lists, and dictionaries in Python programming.

Methodology:

Aim: To provide students with a foundational understanding of Python programming language, focusing on its features, basic syntax, and data types.

Strategy: The lesson will be delivered through a combination of interactive lectures, hands-on coding exercises, and group discussions. Visual aids such as slides and diagrams will be used to illustrate key concepts, while practical coding sessions will enable students to apply their knowledge in real-time.

Expected Skills achieved by the learners: Logical Thinking, Computational Thinking and Programming Skills.

Lesson Activities:

A Fill in the blanks

1. Compiler
2. .py
3. Ctrl+D, Ctrl+Q or type quit()
4. >>>

B State True or False

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

C Differentiate the Following

1. In Interactive mode, Python Interpreter waits for you to type commands and they go ahead and execute the command. Whereas In Script mode Python Interpreter runs a program from the source file.
2. The source file contains the program you prepared in the editor after you save it. Whereas the file containing the translated source code is called object file.

E Answer the following

1. Python is a high level, general purpose programming language created by Guido Van Rossum. It was publicly released in 1991.
2. Keywords are the word which have fixed meaning and these meaning cannot be changed. The identifiers are user defined names. A valid identifier is a sequence of one or more letters, digits or underscore characters.
3.
 - Python is easy to learn
 - Python portable/ platform independent
 - Python is an interpreted language
 - Large standard libraries to solve common tasks etc.
4. Compiler, translates the source code to machine language.
5. To execute the Python script by choosing Run option or press Ctrl +F5.

General Objectives:

- Introduce students to the concept of AI ethics and its relevance in personal and societal contexts.
- Familiarize students with various ethical issues surrounding AI, including bias, privacy, and access.
- Raise awareness about the potential impacts of AI on individuals and society.

- Encourage critical thinking and reflection on ethical considerations in AI development and implementation.

Learning Outcomes:

- Students can understand the importance of AI ethics in personal and professional settings.
- Students can identify and explain different ethical issues related to AI, such as bias, privacy, and access.
- Students can recognize the potential consequences of unethical AI practices on individuals and society.
- Students can discuss and analyse real-life examples of AI ethics violations.
- Students can reflect on the guiding values of AI ethics and their significance in AI development and implementation.

Methodology:

Aim: To engage students in critical discussions about AI ethics and its implications.

Strategy: Begin the lesson by presenting relatable scenarios related to ethics in personal and professional life. Use examples from everyday experiences to illustrate the importance of ethical considerations. Encourage students to share their thoughts and opinions on ethical dilemmas.

Expected Skills achieved by the learners: Analytical Thinking, Ethical Decision Making, Communication and Collaboration Skills.

Lesson Activities:

A Fill in the blanks

1. Access 2. Designed 3. Three 4. Four 5. Emoji -Scavenger Hunt

B State True or False

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

C Multiple choice questions

1. Both a and b 2. AlphaGO

D Answer the following

1. AI ethics is the moral principles governing the behaviour or actions of humans as they design, make, use and treat AI systems. It is the part of technology ethics specific to AI systems.
2. Machine learning is a branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.
3. Rock-Paper-Scissors, Mystery Animal and Emoji -Scavenger Hunt.
4. Privacy, Bias and Access.
5. Respect, Connect, Protect and Care.
6. ANN and DL are types of ML. ANN's structure mimics the human brain, with neurons in layers connected. DL is an approach using ANN with multiple layers. "Deep" refers to

many layers for complex processing. DL is considered powerful in helping computers learn, using concepts of the human brain and Deep Neural Network for learning.

7. Here are explanations for some common AI terminologies. **Machine Learning (ML)** is a branch of AI that uses data and algorithms to imitate human learning, improving accuracy over time. It's crucial in data science. **Artificial Neural Network (ANN)** is an ML model inspired by the human brain's structure, with interconnected nodes (neurons) in layers. It's used in deep learning. **Deep Learning (DL)** is a sub field of ML using deep neural networks with many layers. The "deep" refers to these layers, enabling complex processing and learning intricate patterns from data.

Semester - 2

(Based on chapters 5, 6, 7 and 8)

A Fill in the blanks

1. Worksheet
2. Pseudocode
3. Ctrl+D, Ctrl+Q or type quit()
4. AI
5. Compiler

B Write T for True and F for False

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

C Multiple choice questions

1. AlphaGo
2. AutoSum
3. Mystery Animal
4. Both a and b
5. symbols

D Match the following

1. Pictorial representation
2. Sigma Sign
3. Deep Learning
4. Python
5. Cells group
6. Bold

E Answer the following

1. Python is a high level, general purpose programming language created by Guido Van Rossum. It was publicly released in 1991.
2. Oval - Start/ Stop box is used to represent starting and ending of a flowchart.
Parallelogram- Input/ Output box is used to read and print any data.
Rectangle- Processing box is used for calculation.
3. Cell orientation option is used to rotate the text within a cell. It helps you to align data in different orientation according to the user's choice.
4. AutoFill is used to enter a series of numbers or characters in a specified range.
5. AI ethics is the moral principles governing the behaviour or actions of humans as they design, make, use and treat AI systems. It is the part of technology ethics specific to AI systems.
6. Privacy, Bias and Access.
7. Python is easy to learn Large standard libraries to solve common tasks
Python is an interpreted language
Python portable/ platform independent etc.