TOUCHPAD

10

Teacher's Manual

Extended Support for Teachers

ORANGE

Teacher's Time Table

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

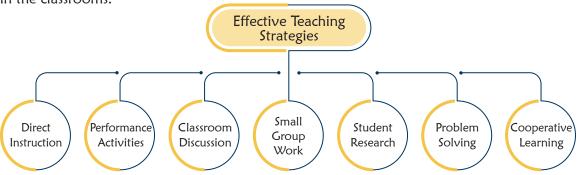Reflect on what worked well and why. If needed, revise the lesson plan.
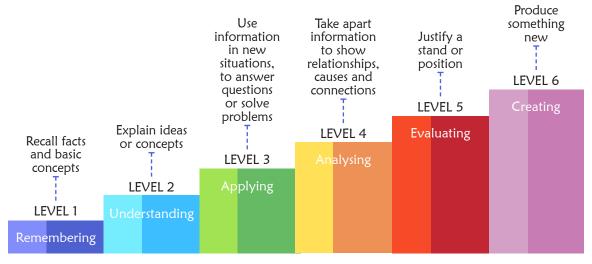
" Knowing yourself is the beginning of all wisdom. "

Numerous strategies have evolved over the years to facilitate the teaching-learning process in the classrooms.

Effective Teaching Strategies

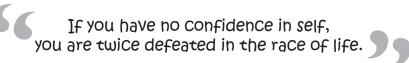| Direct Instruction | Performance Activities | Classroom Discussion | Small Group Work | Student Research | Problem Solving | Cooperative Learning |

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.

Recall facts and basic concepts

LEVEL 1
Remembering

Explain ideas or concepts

LEVEL 2
Understanding

Use information in new situations, to answer questions or solve problems

LEVEL 3
Applying

Take apart information to show relationships, causes and connections

LEVEL 4
Analysing

Justify a stand or position

LEVEL 5
Evaluating

Produce something new

LEVEL 6
Creating

Teachers should focus on helping students to 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.

LESSON PLAN

CLASS 10

Part-A: Employability Skills

1 Communication Skills-II

Teaching Objectives

Students will learn about

✦ Communication as a Process

✦ Different Methods of Communication

✦ Different Types/Categories of Communication

SESSION 1: Methods of Communication

Number of Periods	
Theory	Practical
5	3

Teaching Plan

In order to make students understand the process of communication, exemplify the way, a teacher teaches. A teacher transmits the message(lesson) to the students, students listen to the message, and the students' feedback helps the teacher to further explain if needed.

Discuss with the students about various methods of communication using examples from the book and your own improvised examples.

Introduce students Verbal Communication, Non-Verbal and Visual Communication with suitable examples.

Try the activity on page 21 for students to understand the concept of communication practically.

Extension

Ask the students some oral questions based on this session.

Q. Explain communication in simple terms.

Q. Give few examples of communication related to daily life.

Q. Name the methods of communication.

Q. Give 4 examples of Verbal, Non-Verbal and Visual communication.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercises given on the page 22.

SESSION 2: Verbal Communication

Teaching Objectives

Students will learn about

✦ Types of Verbal Communication

✦ Advantages and Disadvantages of Verbal Communication

✦ How one can become a Master of Verbal Communication

Teaching Plan

In order to explain this session, elaborate the meaning of Verbal communication, that it involves the usage of words and grammar.

Discuss with the students the various types of Verbal communication, like Interpersonal, written, group discussion and public communication.

Explain the pros and cons of using verbal communication in real as well as professional life.

Make the students try out some tips and tricks that will help them master Verbal communication.

Extension

Ask the students some oral questions based on this session.

Q. Define Verbal Communication.

Q. Name the types of verbal communication.

Q. What are the benefits of using verbal communication?

Q. What are the drawbacks of using verbal communication?

Q. How can one become a master of Verbal communication?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 25.

SESSION 3: Non-Verbal Communication

Teaching Objectives

Students will learn about

✦ Importance of Non-Verbal Communication

✦ Impacts of Non-Verbal Communication

✦ Types of Non-Verbal Communication

✦   Visual communication as a special case of Non-Verbal Communication

Teaching Plan

Begin the explanation of a session with a definition of non-verbal communication using examples like gestures, facial expressions etc.

Tell the students about the importance and the impact of Non-Verbal communication based on facts and figures given.

Make the class interesting by giving them practical examples of different types of Verbal communication and create a better understanding by relating it to the actions of students as well.

Try out activity on page 28.

Discuss the importance of visual communication and exemplify its usage.

Extension

Ask the students some oral questions based on this session.

Q. Define Non-Verbal Communication.

Q. What is the importance of Non-Verbal Communication?

Q. What are the impacts of Non-Verbal Communication in informal setting?

Q. What are the impacts of Non-Verbal Communication in a formal environment?

Q. What are the types of Non-Verbal Communication? Name any five.

Q. Exemplify the use Eye Contact and Paralanguage in real life.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 29 and 30.

SESSION 4: Communication Cycle and Importance of Feedback

Teaching Objectives

Students will learn about

✦   Elements of Communication Cycle

✦   Categories of Feedback

✦   How to identify a Good feedback

✦   Importance of Feedback

Teaching Plan

Teacher must begin with a concise definition of communication cycle, explain all the elements of the communication cycle

Tell the students why feedback is important as each category of feedback brings a totality to the

conversation and it builds mutual understanding between sender and receiver.

Inform the students about the parameters that make up a good feedback for a conversation.

Extension

Ask the students some oral questions based on this session.

Q. Define communication.

Q. Name all the elements of a communication cycle.

Q. How does channel effect the quality of communication?

Q. Differentiate between encoding and decoding?

Q. What are the various categories of Feedback?

Q. What is a good feedback?

Q. Why feedback is important?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 33.

SESSION 5: Barriers to Effective Communication

Teaching Objectives

Students will learn about

✦ Principles of Effective Communication

✦ Barriers in Effective Communication

✦ Measures to overcome barriers to effective communication

Teaching Plan

You can begin by asking the students, what quality do they appreciate when someone is communicating with them. Then tell them about the 7 C's i.e. 7 principles of communication.

Then students must be enquired about the obstacles or disturbances that stops the free flow of communication. After that inform the multiple types of barriers that has been identified during communication of ideas. Discuss with them the possible ways to overcome these communication barriers.

Extension

Ask the students some oral questions based on this session.

Q. What are the 7 C's of communication? Which one do you find the most important for delivery of a message?

Q. What is barrier in communication?

Q. Name any 4 barriers faced in effective communication? Explain with example.

Q. How can we overcome barriers in effective communication?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 37.

SESSION 6: Writing Skills – Parts of Speech

Teaching Objectives

Students will learn about

✦   Use of Capitals and Punctuation in a Sentence

✦   Basic Parts of Speech

✦   Supporting Parts of Speech

Teaching Plan

Introduce the chapter by telling the importance of correct grammar while communicating with others, then use MINTS to tell the places where capital letters are used.

Discuss the role of punctuation and its types, the students will understand better if you use a sentence for showing the placement of punctuation marks.

Refresh the basic grammar by describing the basic parts of speech (noun, adjective etc.) and supporting parts of speech (prepositions, conjunctions etc).

Inform the students about the proper use of articles.

Extension

Ask the students some oral questions based on this session.

Q. What is MINTS rule of grammar?

Q. Which punctuation marks is used for lists?

Q. What is the use of apostrophe?

Q. Name all the basic and supporting parts of speech.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 41.

SESSION 7: Writing Skills – Sentences

Teaching Objectives

Students will learn about

- ✦ Parts of Sentence
- ✦ Types of Sentences
- ✦ Types of Phrases
- ✦ Paragraph and their Elements

Teaching Plan

Tell the students about the importance of sentence framing, while communicating ideas.

Discuss with students about subject, verb and object in a sentence using few examples, also tell about direct and indirect objects.

Make students understand the concept of active voice and passive voice, then give a quick overview of types of sentences like declarative, imperative, interrogative and exclamatory.

Explain that the group of words is a phrase and also tell about the various types of phrases. Tell the students about a paragraph that it is a collection of sentences organised around a central topic. Elaborate the elements of paragraph that makes a paragraph a relevant one.

Work upon the activity on page 45 with students.

Extension

Ask the students some oral questions based on this session.

Q. Name the three basic parts of a sentence.

Q. Differentiate between direct and indirect objects.

Q. Differentiate between active and passive voice.

Q. What are the different types of sentences based on the purpose of the sentence?

Q. Give example of each type of phrase.

Q. Name and elaborate the elements of a paragraph.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 47.

2 Self Management Skills – II

Teaching Objectives

Students will learn about

- ✦ Basics of Self-Management
- ✦ Stress and Stress Management

✦ Working Independently

✦ Emotional Intelligence

SESSION 1: Stress Management

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduce self-management and its importance. Tell the most necessary skills one must master to succeed in life.

Educate the students about the types of stress in today's world. Tell them about the stress causing agents and Symptoms of Stress. Teach them the ABC of stress management.

Discuss with the students about the various techniques to manage stress.

Explain the students about working independently, the skills needed for it and how one can enhance their independent work capability.

Lastly discuss the topic of Emotional Intelligence, how emotions can be harnessed and how one can enhance their emotional intelligence.

Extension

Ask the students some oral questions based on this session.

Q. What are the five necessary skills of self-management?

Q. What is the stress causing agents and symptoms of stress?

Q. What is ABC of stress management?

Q. Tell any three measures to improve stress management skills.

Q. What are the important skills one must have in order to work independently?

Q. How can one enhance the ability to work independently?

Q. What are the effective steps to enhance your emotional intelligence?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 56 and 57.

SESSION 2: Self-awareness – Strength and Weakness Analysis

Teaching Objectives

Students will learn about

✦ Self-awareness

✦ Techniques for Identifying your Strengths and Weaknesses

✦ Difference between Interests and Abilities

Teaching Plan

Introduce self-awareness using its two types name internal and external self-awareness. Tell the students that knowing yourself will bring forward your strengths and weaknesses.

Discuss the methods to identify your strengths and weaknesses. Thus, help students build an understanding of difference between Interests and Abilities.

Extension

Ask the students some oral questions based on this session.

Q. Differentiate between Internal and External self-awareness.

Q. Give 2 examples of strength and weakness in humans.

Q. Discuss any two techniques for identifying strengths and weaknesses?

Q. How interests differ from abilities?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 61.

SESSION 3: Self-motivation

Teaching Objectives

Students will learn about

✦ How to get Motivated

✦ Types of Motivation

✦ Qualities of Self-motivated People

✦ Building self-motivation

Teaching Plan

Explain to the students what is self-motivation, discuss ways of motivating yourself with them.

Tell the students about the two types of motivation i.e. internal and external motivation.

Let the students evaluate themselves when they know, what are the qualities of a self-motivated person. Explain them the ways to build self-motivation.

Extension

Ask the students some oral questions based on this session.

Q. How can you get motivated?

Q. Differentiate between Internal and External motivation?

Q. What are the qualities of self-motivated people?

Q. Write down the steps for building self-motivation?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 64 and 65.

SESSION 4: Self-regulation – Goal Setting

Teaching Objectives

Students will learn about

✦   Self-Regulation

✦   How to set Goals

✦   SMART Method of Setting Goals

Teaching Plan

In order to train a student for goal setting, you must tell them the importance of emotional control, wise introspection and sustained focus.

Let the students know the difference between simple goal setting and SMART goal setting.

Clarify them what is a goal in general with a discussion of few examples in the class.

Extension

Ask the students some oral questions based on this session.

Q. What is Goal setting?

Q. What is a SMART Goal?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 67 and 68.

SESSION 5: Self-regulation – Time Management

Teaching Objectives

Students will learn about

✦   Importance of Time Management

✦   Effective Time Management and the Steps to Achieve it

✦   Practising Effective Time Management

Teaching Plan

In order to explain students about Time Management, explain them the importance of Time management by examples where time-management is used and another example where time management is not used. Discuss with them the importance of Time-management in completing school's task.

Teachers must discuss ways to manage time efficiently and must avoid situations which may lead to substandard work.

Lastly a quick discussion of steps and tips for Effective Time Management must be done.

Extension

Ask the students some oral questions based on this session.

Q. How time management is a part of self-regulation?

Q. Why is time-management important?

Q. How can one achieve school-work deadlines?

Q. How to manage time efficiently?

Q. What are the results of poor time management?

Q. Give few steps for Effective time management?

Q. How can you optimize productivity and achieve goals efficiently?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 71.

3   ICT Skills-II

Teaching Objectives

Students will learn about

✦ Different Types of Operating Systems

✦ Functions of an Operating System

✦ Features of Windows as an Operating System

✦ Starting a Computer

✦ Using key and Mouse

✦ Shutting Down a Computer

✦ Common Terms of Operating System

✦ Basic components of Interface Screen

SESSION 1: Basic Computer Operations

Number of Periods	
Theory	Practical
5	3

Teaching Plan

Introduce the chapters with basic understanding of operating system in a computer system. Then discuss different types of operating system.

Clear out with students why Windows is a much-preferred operating system for everyone.

Tell the students how to start and shut down a computer. Introduce commonly used peripheral devices and common terms associated with an operating systems.

Describe them basic components of Interface screen in GUI operating systems.

Extension

Ask the students some oral questions based on this session.

Q. Why do we call Operating System as the brain of a computer?

Q. How do we classify operating systems on the basis of Interface?

Q. Name few popular operating systems?

Q. Tell the functions of an operating system.

Q. Why Windows is popular as and operating system?

Q. What is the difference between function key and a control key?

Q. Explain the difference between roll over or hover and Drag and Drop?

Q. What is System Tray?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 71.

SESSION 2: Performing Basic File Operations

Teaching Objectives

Students will learn about

✦   File Management

✦   All the Operations Performed on Folders and Files

Teaching Plan

Introduce the File System as 'The basic structure and concise format to arrange the set of information with their names'.

Them make the students learn through practical how they can see and understand the file arrangements in their computer system. Then make them understand how to create a new folder/file, move a file/folder, copy a file/folder, delete a file/folder and restoring a file/folder.

Extension

Ask the students some oral questions based on this session.

Q. What is file and a folder in a computer system?

Q. Which do you click to perform copy, move and rename a file/folder?

Q. How do you restore a file and folder?

Q. Tell the steps to view the properties of a file.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 90 and 91.

SESSION 3: Computer Care and Maintenance

Teaching Objectives

Students will learn about

✦ Importance of care and maintenance of computers

✦ How to clean hardware parts of a computer

✦ How to schedule your maintenance

✦ How to back up your data in computer

✦ How to scan and clean virus in your computer

✦ How can you increase computer performance and remove spam from your computer

Teaching Plan

As you start, let the students understand the importance of care and maintenance of computers and the general precautions that must be taken care while placing the computer at any place.

Instruct them how to clean the hardware parts of a computer and maintain a proper schedule for maintenance.

Discuss the importance of backing up data, scanning and cleaning viruses, increasing computer performance and removing spam from your computer.

Extension

Ask the students some oral questions based on this session.

Q. Give some general precautions to set up your system at any place.

Q. How must you clean your keyboard?

Q. What should be your weekly steps to maintain your computer?

Q. How can you stay protected from spam?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 95 and 96.

SESSION 4: Computer Security and Privacy

Teaching Objectives

Students will learn about

✦ Computer Security

✦ Threats

✦ Malware and its Categories

✦ Ways to Prevent a Virus

✦ Removing Temporary Files

Teaching Plan

Begin with a short description of how information can be lost or cleaned. Discuss the possible threats and malwares that affect the computer system.

Make the students understand the different types of computer virus and ways to prevent it. Teach the regular ways to protect the data.

Practically explain the students how they can remove the temporary files.

Extension

Ask the students some oral questions based on this session.

Q. What are the various threats to our computer?

Q. Name different types of virus?

Q. What are the symptoms of Computer Virus?

Q. What is the difference between trojan horse and worm?

Q. What causes infection in a computer system?

Q. What are the ways to prevent a virus from entering in the system?

Q. How can you protect data from theft and viruses?

Q. What are cookies and why should be they removed from the computer system?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 104 and 105.

4 Entrepreneurial Skills-II

Teaching Objectives

Students will learn about

✦ Entrepreneurship

✦ Understanding Needs and Demands of Customers

✦ Entrepreneurship and Society - Responsibilities and Impact

SESSION 1: Basic Computer Operations

Number of Periods	
Theory	Practical
4	2

Teaching Plan

Introduce the term Entrepreneurship and its key features. Discuss the difference between needs, wants and demands of customers, even though used interchangeably, how they are different.

Tell the students why entrepreneurship plays an important role in the society and how their tasks produce a profound impact on the society and economy as a whole.

Extension

Ask the students some oral questions based on this session.

Q. What is an entrepreneur?

Q. What is the difference between needs, wants and demands of customers?

Q. What are the positive impacts that entrepreneurship has on society?

Q. Tell few tasks performed by Entrepreneurs?

Q. What major impacts does entrepreneurs produce on society?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 115.

SESSION 2: Qualities and Functions of an Entrepreneur

Teaching Objectives

Students will learn about

✦   What all features in Person makes a Successful Entrepreneur

✦   Important Functions of Entrepreneur

✦   Role that an Entrepreneur Plays in the Growth of an Economy

Teaching Plan

Introduce different qualities that an entrepreneur possesses. Discuss with the students which of the qualities they find the easiest to acquire and which one is the most difficult?

Ask the students about the functions of an entrepreneur and then tell the functions that students were not able to think of. Discuss the following functions with an example of each.

1. Making Decisions
2. Managing Business
3. Dividing Income
4. Taking risks
5. Creating New Methods, Ideas, or Products
6. Innovation
7. Organisation Building
8. Management
9. Exploring Market Opportunities

Discuss with the students about the role and importance of an entrepreneur that contributes to the development of the society.

Extension

Ask the students some oral questions based on this session.

Q. What are the qualities of an entrepreneur?

Q. What function do an entrepreneur performs?

Q. Why entrepreneurs are important for the society?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 119 and 120.

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SESSION 3: Myths about Entrepreneurship

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Teaching Objectives

Students will learn about

- ✦ Common Myths about entrepreneurship
- ✦ Business Vs Entrepreneurship

Teaching Plan

Before beginning ask the students about their beliefs about an entrepreneur and their work life. Then elaborate the tabular comparison between a businessman and an entrepreneur.

Extension

Ask the students some oral questions based on this session.

Q. What are the myths about being an entrepreneur?

Q. How a businessman is different from an entrepreneur?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 123 and 124.

SESSION 4: Entrepreneurship as a Career Option

Teaching Objectives

Students will learn about

- ✦ Entrepreneurship as a career
- ✦ Entrepreneurship Process
- ✦ Careers in Entrepreneurship

Teaching Plan

As you begin the chapter tell your students about how entrepreneurship can be a career option. Discuss with the students how entrepreneurship is a process which when followed, creates an entrepreneur.

Inform the students about the pros and cons of becoming an entrepreneur.

Extension

Ask the students some oral questions based on this session.

Q. What is a career?

Q. Differentiate between Self-Employment and Wage-Employment.

Q. What are the steps in Entrepreneurship process?

Q. How is career in Entrepreneurship both challenging and rewarding?

Q. Give some advantages and disadvantages of Entrepreneurship as a career.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 127 and 128.

5 Green Skills–II

Teaching Objectives

Students will learn about

✦ Sustainable Development and its Importance

✦ Problems related to sustainable development

✦ Sustainable Development Goals

✦ Problems related to Sustainable Development Goal

SESSION 1: Sustainable Development

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Discuss with the students about the importance of environment in our life, tell them about the ecosystem and its components that are affecting our lives.

Tell them about the sustainable development and its principles. Explain the importance of sustainable development under following heads.

1. Reduces Waste

2. Promotes Healthy Food

3. Manages Climate Change

4. Ensures Resource Abundance

5. Preserve Biodiversity

Discuss with the students what are the problems related to the Sustainable Development, like food, water, fuel etc. are dwindling resources and they need to be conserved for sustainable development.

It should be followed by a crisp and short discussion of sustainable development goals that the countries aim to achieve, then giving a glimpse of problems related to sustainable development goals.

Extension

Ask the students some oral questions based on this session.

Q. What is an ecosystem?

Q. Define sustainable development.

Q. What are the principles of 4R's and 1U?

Q. Why sustainable development is important?

Q. What are the problems related to sustainable development?

Q. Name any five SDGs?

Q. Tell few problems related to sustainable development goal?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 137 and 138.

SESSION 2: Our Role in Sustainable Development

Teaching Objectives

Students will learn about

✦ Our role in Sustainable Development

✦ Government Initiatives for Sustainable Development

✦ Sustainable Process

Teaching Plan

Introduce to the students how we are responsible for the development or degradation of the planet. Let them know how our actions are going to affect the achievement of Sustainable development goals.

Tell the students about the following sustainable development initiatives by the government.

1. Pradhan Mantri Jan Dhan Yojana

2. Mid-Day Meal Scheme

3. Ayushman Bharat

4. Samagra Shiksha Abhiyan

5. Beti Bachao Beti Padhao

6. Namami Gange Programme

7. Ujjwala Yojana

8. Make in India

9. Atal Innovation Mission

10. Pradhan Mantri Mudra Yojana

11. Pradhan Mantri Awas Yojana

12. Swachh Bharat Mission

13. Green India Mission

14. Integrated Coastal Zone Management

15. National Afforestation Programme

16. National Mission for Justice Delivery and Legal Reforms

17. International Solar Alliance

Explain to the students about the sustainable processes that will help in the longevity of resources.

Extension

Ask the students some oral questions based on this session.

Q. How can we play an important role in sustainable development? Give few examples.

Q. What are the sustainable development initiatives by the government? Tell 5 initiatives.

Q. Tell few examples of Sustainable processes.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 146.

LESSON PLAN

Part-B: Subject Specific Skills

Unit 1: Digital Documentation (Advanced) Using Libreoffice Writer

1 Introduction to Styles

Teaching Objectives

Students will learn about

✦ Styles and its categories

✦ Accessing Styles Deck

✦ Applying Styles

✦ Fill Format mode

✦ Creating New Styles from Selections

✦ Updating a Style

✦ Creating a New Style by Drag and Drop

✦ Load Style (From a Template)

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduce the chapter by telling that Styles in LibreOffice helps a professional, format a document, in a short span of time. Then describe the students what are Styles and take doubts in case there are any.

After this tell one by one about all the Style categories that LibreOffice Writer provides

• Paragraph Styles

• Character Styles

• Frame Styles

• Page Styles

• List Styles

• Table Styles

Practically show different style on a LibreOffice Writer Document, then practically show how to access and apply them. Explain the usage of Fill Format Mode thereafter.

Execute the steps for the students to learn.

1. Creating New Styles from selections
2. Updating a Style (Pre-defined/User Defined)
3. Creating a New Style by Drag and Drop
4. Load style (From a Template or Document)

Make the students complete the activity on page 156.

Extension

Ask the students some oral questions based on this session.

Q. What do you understand by styles?

Q. Name different types of styles provided by LibreOffice Writer?

Q. What is Fill format mode?

Q. What is difference between Creating and updating a style?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the page 160 and 161.

2   Working with Images

Teaching Objectives

Students will learn about

✦   Inserting an Image in a document

✦   Modifying an image – Using Image Toolbar

✦   Resizing an Image

✦   Crop Image

✦   Deleting an Image

✦   Drawing Objects – Using Drawing Tools

✦   Changing Properties of Drawing Objects

✦   Resizing Drawing Objects

✦   Grouping Drawing Objects

✦   Positioning Image in a Text

Teaching Plan

Tell the students about the different ways of inserting the images in a Writer document and practically execute the steps for the following ways:

1. From a file
2. Using Drag and Drop option
3. Using Copy and Paste Method
4. By Linking

Discuss and show the implementation of how images are modified, resized, cropped and deleted from a Writer Document.

Explain how objects are drawn in a document and then how its properties are changed, how they are resized or grouped

Discuss the following techniques for positioning the image around the text as follows.

1. Anchoring
2. Arrangement
3. Aligning Images
4. Text Wrapping

Make the students complete the activity on page 185.

Extension

Ask the students some oral questions based on this session.

Q. Tell few ways to insert an image in a document.

Q. What is the function of Solarization and Posterize Filter?

Q. Name the different Anchoring options available in LibreOffice Writer.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 188 and 189.

3 Advanced Features of Writer

Teaching Objectives

Students will learn about

✦   Hierarchy of Headings

- ✦ Table of Contents- Create, Update, Customise and Delete
- ✦ Templates - Checking, Using Predefined/Existing Templates, Creation, Modification, Online, Importing, Moving, Exporting and Applying a Template.
- ✦ Track Changes – Prepare a Document, Record Changes, Accepting and Rejecting Changes.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduce the Hierarchy of headings to the students and discuss how automatic outline numbering can be put or removed.

Give practical explanation to the students, how to create, update, customize and delete Table of Contents.

Discuss about LibreOffice Writer Templates and practically show how to do the following with Templates.

1. Creating a New Template
2. Modifying Default Template
3. Editing/Updating a Document Template
4. Using Online Templates
5. Importing a Template
6. Moving a Template
7. Exporting a Template
8. Applying Templates to Blank Document

Tell your students the importance of track changes feature when multiple people are reviewing your book. Discuss the options in its toolbar. Describe the practical steps to

1. Prepare a Document for Review
2. Record Changes
3. Accepting and Rejecting Changes
4. Accept and reject a change
5. Compare changed document with an original one

Make students complete the activity on page 217.

Extension

Ask the students some oral questions based on this session.

Q. What is hierarchy of headings?

Q. What is Table of Contents? What all can we customize in TOC?

Q. How do Templates help?

Q. What is the difference between Online Templates and Default Templates?

Q. What is the use of Merge Track Changed Document?

Q. What is the use of Adding Comments for reviewer?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 219 and 220.

Unit 2: Electronic Spreadsheet (Advanced) Using Libreoffice Calc

4 Analyse Data Using Scenarios and Goal Seek

Teaching Objectives

Students will learn about

✦ Consolidating Data

✦ Organise data using group and outline

✦ Subtotals

✦ What-IF scenarios

✦ What-IF analysis

✦ Goal Seek

✦ Solver

✦ Difference between Goal Seek and Solver

Number of Periods	
Theory	Practical
2	3

Teaching Plan

Discuss data consolidation as integrating data from multiple spreadsheets into a single spreadsheet. Discuss with students each step of, how to achieve it. Tell the students each step of Grouping and Outlining, then finding subtotals. Explain the What-IF scenarios and What-IF analysis step by step.

Explain to the students the appropriate usage of Goal Seek and Solver practically.

Make your students complete Activity on page 237.

Extension

Ask the students some oral questions based on this session.

Q. What do you understand by Data consolidation?

Q. When do we use What-IF scenarios?

Q. Explain the difference between Goal Seek and Solver.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 240 and 241.

5 Using Macros in Spreadsheet

Teaching Objectives

Students will learn about

✦ Advantages of Macro

✦ Rules for naming a Macro

✦ Using the Macro Recorder

✦ Recording Macros

✦ Running a Macro

✦ Organising a Macro

✦ Comparison of Predefined Functions

✦ Passing Arguments to a Macro

✦ Arguments passed as Values

✦ Macros Act Like Built-In Functions

✦ Accessing Cell Directly

✦ Sorting Columns using Macro

Number of Periods	
Theory	Practical
2	3

Teaching Plan

Introduce a Macro to the students, followed by its advantages and the rules to name it. Then practically show how to record a Macro and thereby how is it used.

The students must then be practically taught to create a macro using a function, followed by making macro work as a function.

Then compare predefined functions and Macros in Spreadsheet Applications. Show to the students how arguments are passed to the Macros and how cells are accessed.

Finalise the chapter with a practical execution of how Columns are sorted using Macros. Make students try out the activity on page 259.

Extension

Ask the students some oral questions based on this session.

Q. What is a Macro?

Q. What are the Advantages of a Macro?

Q. What are the four key points while organising a Macro?

Q. Compare Pre-defined functions and Macros?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 261, 262 and 263.

6 Linking Spreadsheet Data

Teaching Objectives

Students will learn about

✦ Linking Data and Spreadsheets

✦ Cell Reference and ways for creating a Cell Reference

✦ Hyperlinks and its types

✦ Working with hyperlinks

✦ Linking to registered Data Source/Website

Number of Periods	
Theory	Practical
2	3

Teaching Plan

As you start explaining the chapter, go on to show the practical execution of the following:

1. Set up multiple sheets

2. Inserting New Sheets

3. Renaming Sheets

Introduce cell reference to students then show how to do the following:

1. Creating Cell Reference to other Sheets by different ways

2. Referencing Cell in Another Spreadsheet

Make students try out the activity on page 272.

Explain hyperlinks and discuss the difference between Relative and Absolute Hyperlink, then show the execution of the following

1. Working with Hyperlinks

2. Linking to External Data

3. Linking to Registered Data Source/Website

Make the students perform the activity on page 281.

Extension

Ask the students some oral questions based on this session.

Q. What is linking and cell reference?

Q. What are the ways to create cell reference?

Q. Differentiate between Relative and absolute hyperlink.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 283 and 284.

7 Share and Review a Spreadsheet

Teaching Objectives

Students will learn about

✦ Sharing a Spreadsheet

✦ Recording Changes

✦ Add, Edit and Format Comment

✦ Reviewing Changes

✦ Comparing Versions of a document

✦ Merging Versions

Number of Periods	
Theory	Practical
3	4

Teaching Plan

Introduce sharing of a spreadsheet and practically show how the following can be done:

1. Specifying the details of the contributor

2. Setting Up a Spreadsheet for Sharing

3. Opening a shared Spreadsheet

4. Saving a Shared Spreadsheet

Explain the importance of recording changes and the steps that needs to be followed for the same.

Tell how to add edit and format comments with a practical execution. Then finally discuss how to

review the changes and compare different versions of a document. Finally explain the students how to merge different versions of a document.

Extension

Ask the students some oral questions based on this session.

Q. Why is user data needed before sharing a document?

Q. Using what settings can we control changes that appear on the screen?

Q. What is the purpose of comments in a shared spreadsheet?

Q. What is reviewing changes?

Q. How is comparing versions of a document advantageous?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 302 and 303.

8 Introduction to Database Management System

Teaching Objectives

Students will learn about

✦   Database, its features and its advantages

✦   Database Management System

✦   Different types of Data Models

✦   Elements of Database

✦   Relational Database Management System

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduce to the students what is database. Discuss its following advantage:

1. Organised Storage

2. Data Analysis

3. Data Sharing

4. Minimal Data Redundancy

5. Data Consistency

6. Increases Efficiency

7. Increases Accuracy

8. Increases Validity

9. Security

Explain to the students the most important features of Database, then tell them about the database management system. Discuss the Hierarchical, Network and Relational Database Model and tell about the common elements of Database.

Discuss the importance of RDBMS with its basic terminology. Give a quick overview of Key Fields and data objects.

Extension

Ask the students some oral questions based on this session.

Q. Why do we need a Database Management System?

Q. Name the different types of data models.

Q. Name few elements of database.

Q. What are basic terminologies of RDBMS?

Q. What are the key fields?

Q. What are database objects?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 317 and 318.

9   Starting with LibreOffice Base

Teaching Objectives

Students will learn about

✦   Different types of Data Types

✦   Starting and closing LibreOffice Base

✦   Creating a Table

✦   Inserting, Editing and Sorting Data in a Table

Teaching Plan

Introduce the following data types in a database

1. Text Data type
2. Numeric Data Type
3. Date Data Type
4. Currency Data Type
5. Boolean
6. Binary Types

Teach how to start LibreOffice Base and create a new database with a practical explanation. Discuss various components of LibreOffice base Interface. Tell the students how to close the database and quit from Libreoffice base.

Then practically explain how to create a table using Design View. Try out the Lab Activity on page 328.

Give practical explanation of creating table using Wizard, then enter and edit the data in the table, then try out the activity on page 334. Finally teach the students, how to sort data, practically.

Extension

Ask the students some oral questions based on this session.

Q. Name few data types used in a Database.

Q. Name 5 components of LibreOffice base Interface.

Q. What are the filed properties in a database?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 339 and 340.

10 Working with Multiple Tables

Teaching Objectives

Students will learn about

✦ Editing and deleting Tables
✦ Relationships
✦ Referential Integrity
✦ Creating and Editing relationships between tables

Teaching Plan

1. Adding/Deleting/Modifying Columns/Fields
2. Renaming/Deleting a Table

Discuss with the students different types of relationships among the columns of table and how is it advantageous. Tell them about the referential integrity and how tables are integrated

Try the lab activity on the page 350.

Extension

Ask the students some oral questions based on this session.

Q. Explain one-to-one and one-to-many relationships.

Q. What are the advantages of relating tables in a database?

Q. Explain referential integrity.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 352 and 353.

11 Queries in Base

Teaching Objectives

Students will learn about

✦ Query and All the Ways to Manage it

✦ SQL Commands

| Number of Periods ||
Theory	Practical
2	**3**

Teaching Plan

As you begin explaining the chapter, tell the students, the following, with practical examples:

1. Create Query in Design View
2. Creating a Query using Query Wizard
3. Editing a Query
4. Setting Multiple Fields Criteria
5. Using Wildcards
6. Performing Calculations in Queries

7. Grouping Data in Queries

Explain Basic SQL commands theoretically as well as practically.

Extension

Ask the students some oral questions based on this session.

Q. What are the design query parameters that you can specify?

Q. What is the use of WHERE and ORDERBY clause?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 373 and 374.

12 Forms and Reports

Teaching Objectives

Students will learn about

✦ Students will learn about

✦ All about creating and modifying a form

✦ Handling Records using forms

✦ Creating Reports and inserting controls in it

Number of Periods	
Theory	Practical
2	3

Teaching Plan

As begin with the chapter explain to the students about creating a form in design view. Then make the students try out the lab activity on page 379. Then practically show how to create a form using wizard and modify it. Tell the students how to add calendar in the form.

Practically teach the students about entering/Deleting/Searching Records using Form.

Tell the students how step by step a Report is created using Wizard and how some other controls are added in it.

Extension

Ask the students some oral questions based on this session.

Q. Why forms are important?

Q. Describe any 5 buttons available on the Form Navigation toolbar

Q. What are forms controls toolbar?

Q. How reports are helpful?

Q.   Name few controls used in the LibreOffice Base report.

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 404 and 405.

13 Health Safety and Security at Workplace

Teaching Objectives

Students will learn about

✦   Health, safety and Security at Workplace

✦   Policies and Procedures for Health, safety and Security

✦   Workplace Safety Hazard and its potential Sources, Control and Safety Guidelines

✦   Case Study of Accident due to Avoidable situations

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Discuss with the students about the health, safety and security at the workplace with few examples of how to maintain it and what happens if it is ignored, then continue with the policies for health, safety and security at a workplace and why is it necessary.

Tell the students what are the possible safety hazards and their sources in an organization. How Hazards can be possible controlled and what are the safety Guidelines Checklist for the same.

Discuss with the students, the given case studies and how the accidents that occurred could possibly be avoided in those circumstances.

Extension

Ask the students some oral questions based on this session.

Q.   What are the reasons for safety policies in workplace?

Q.   Tell few common hazards at the workplace.

Q.   Write 2 potential sources of hazards in workplace.

Q.   What possible measures organisation can follow for hazard control?

Q.   What are the safety guidelines for an organization?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 415 and 416.

14 Workplace Quality and Measures

Teaching Objectives

Students will learn about

✦ Air and Water quality monitoring process

✦ Office Ergonomics

✦ Occupational Overuse Syndrome

✦ Health and Safety Requirements for Computer Workplace.

✦ Cautions while Working on the Computer

| Number of Periods ||
Theory	Practical
2	1

Teaching Plan

Introduce the students, the air and water quality monitoring process and the guideline that are followed for the same. Discuss why cleanliness is important at workplace.

Explain the students how they should work on a computer, taking care of how your body gets affected by the wrong postures, discuss the strains and problems that are caused with overuse of laptop or Computer system.

List out using a conversation with the students to find out what health and safety measures are to be followed while working in an office and on a computer.

Extension

Ask the students some oral questions based on this session.

Q. What are the guidelines for clean air and water?

Q. Why is cleanliness important at a workplace?

Q. What are the possible causes for muscle strain and wrist pain in office and how they can be avoided?

Q. What are the Good suggestion to keep your musculoskeletal problems at bay if you are working in an office?

Q. How to watch out for perfect cords and wires while working in an office?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 428 and 429.

15 Prevent Accident and Emergencies

Teaching Objectives

Students will learn about

✦ Accidents and Emergencies-Introduction
✦ Types of Accidents and Emergencies
✦ Handling Accidents and Emergencies
✦ First Aid
✦ Electrical Safety and Evacuation
✦ Fire Hazards, Safety measure and Fire Extinguisher
✦ Electrical shocks and its effects
✦ Healthy Living

Number of Periods	
Theory	Practical
3	1

Teaching Plan

This chapter contains many heads for discussion but most topics are general so discuss with the students about the guidelines for identifying and reporting an accident or emergency, then go on discussing the following heads one by one:

1. Types of Accidents
2. Types of Emergencies-like natural, work related etc
3. Handling Accidents-like Immediate Response, First Aid
4. How Electrical emergencies should be handled
5. Fire hazard and fireplace safety measures- like following safety rules, identifying ignition sources.
6. Fire extinguisher and how it is used
7. Electrical shocks and its effects and how to prevent such accidents.

Finally give students an overview of healthy living, what all they should do for a healthy lifestyle overall.

Extension

Ask the students some oral questions based on this session.

Q. Name the types of emergencies with example.
Q. How to quickly handle accidents?
Q. What is the general evacuation procedure in case of an emergency?
Q. What are the fire safety measures?
Q. What are the different types of ignition sources?

Evaluation

After finishing this session, ask the students to complete the Unsolved Exercise given on the pages 445 and 446.