

TRACKPAD

IT 402 LibreOffice (Ver. 1.0)

10

TEACHER'S MANUAL

Extended Support for Teachers



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DEVELOPMENT MILESTONES IN A CHILD

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher identify and understand how children differ in different age groups.



Age
5 - 8 Years

Physical

- First permanent tooth erupts
- Shows mature throwing and catching patterns
- Writing is now smaller and more readable
- Drawings are now more detailed, organised and have a sense of depth

Cognitive

- Attention continues to improve, becomes more selective and adaptable
- Recall, scripted memory, and auto-biographical memory improves
- Counts on and counts down, engaging in simple addition and subtraction
- Thoughts are now more logical

Language

- Vocabulary reaches about 10,000 words
- Vocabulary increases rapidly throughout middle childhood

Emotional/ Social

- Ability to predict and interpret emotional reactions of others enhances
- Relies more on language to express empathy
- Self-conscious emotions of pride and guilt are governed by personal responsibility
- Attends to facial and situational cues in interpreting another's feelings
- Peer interaction is now more prosocial, and physical aggression declines

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

Age
9 - 11 Years

Physical

- Motor skills develop resulting in enhanced reflexes

Cognitive

- Applies several memory strategies at once
- Cognitive self-regulation is now improved

Language

- Ability to use complex grammatical constructions enhances
- Conversational strategies are now more refined

Emotional/ Social

- Self-esteem tends to rise
- Peer groups emerge

Age
11 - 20 Years

Physical

- If a girl, reaches peak of growth spurt
- If a girl, motor performance gradually increases and then levels off
- If a boy, reaches peak and then completes growth spurt
- If a boy, motor performance increases dramatically

Cognitive

- Is now more self-conscious and self-focused
- Becomes a better everyday planner and decision maker

Emotional/ Social

- May show increased gender stereotyping of attitudes and behaviour
- May have a conventional moral orientation

Managing the children's learning needs according to their developmental milestones is the key to a successful teaching-learning transaction in the classroom.

“Family is the most important thing in the world.”

TEACHING PEDAGOGIES



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

Lesson Plans

A lesson plan is the instructor's road map which specifies what students need to learn and how it can be done effectively during the class time. A lesson plan helps teachers in the classroom by providing a detailed outline to follow in each class.

A lesson plan addresses and integrates three key components:

- Learning objectives
- Learning activities
- Assessment to check the student's understanding

A lesson plan provides an outline of the teaching goals:

Before the class

1. Identify the learning objectives.
2. Plan the lesson in an engaging and meaningful manner.
3. Plan to assess student's understanding.
4. Plan for a lesson closure.

During the class

Present the lesson plan.

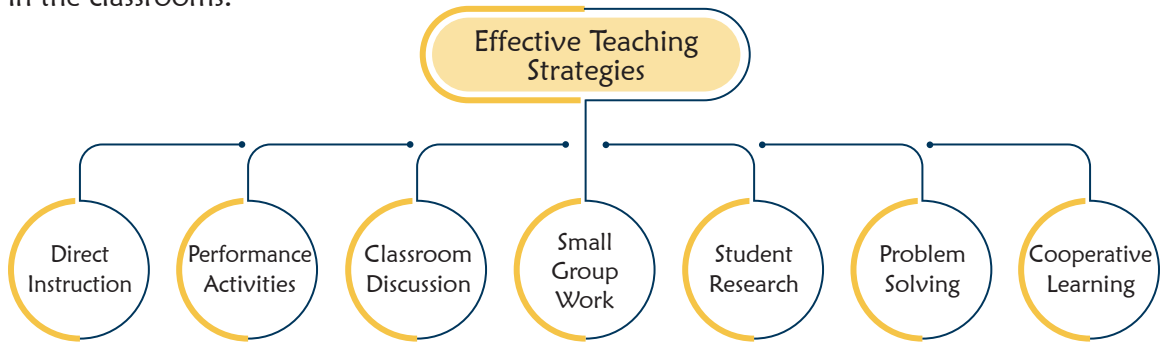
After the class

Reflect on what worked well and why. If needed, revise the lesson plan.

“Knowing yourself is the beginning of all wisdom.”

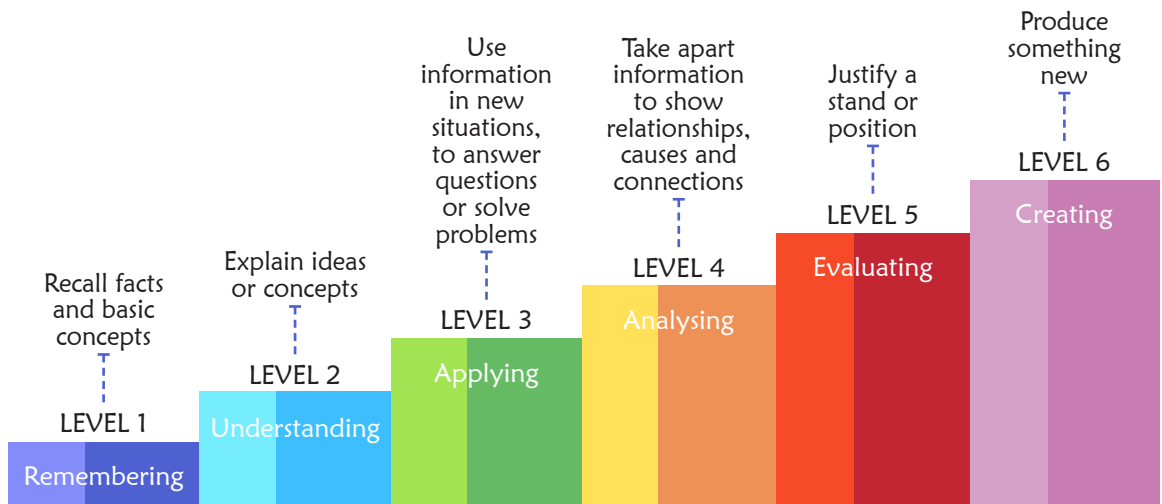
Teaching Strategies

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



Bloom's Taxonomy

Bloom's Taxonomy was created by Dr Benjamin Bloom and several of his colleagues, to promote higher forms of thinking in education instead of rote learning. There are three domains of learning: cognitive (mental), affective (emotional), and psychomotor (physical). However, when we refer to Bloom's Taxonomy we speak of the cognitive domain. Bloom's Taxonomy is a list of cognitive skills that is used by teachers to determine the level of thinking their students have achieved. As a teacher, one should attempt to move students up the taxonomy as they progress in their knowledge.



Teachers should focus on helping students 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. ”

Part-A: Employability Skills

1

Communication Skills-II

Teaching Objectives

By the end of this unit, students will be able to:

- ✦ Define communication and explain its purpose and components.
- ✦ Understand and describe the Communication Cycle.
- ✦ Identify and differentiate between verbal, non-verbal, and visual methods of communication.
- ✦ Recognise the 7 Cs of Effective Communication and apply them.
- ✦ Understand and overcome barriers to communication.
- ✦ Develop basic writing skills, including sentence formation, paragraph writing, and correct use of grammar and punctuation.
- ✦ Apply body language techniques for better interpersonal interaction.
- ✦ Interpret and provide constructive feedback effectively.

Teaching Plan

Number of Periods	
Theory	Practical
5	3

Introduction (Engagement)

Warm-up Discussion:

- Ask students:
 - Why do we need to communicate?
 - What happens when there is miscommunication?
 - How do we communicate without words?

Quick Activity:

- Show a short clip (mute it) and ask students to guess the context based on body language and visuals alone.
- Use the responses to introduce the importance of **non-verbal and visual communication**.

Lesson Delivery (Explanation & Demonstration)

1. Understanding Communication

Explanation:

- Define communication and its types (verbal, non-verbal, visual).
- Discuss the **importance of communication** in personal and professional life.

Demonstration:

- Real-life examples (teacher-student talk, email exchange, posters, traffic signals).

Activity:

- Group work: List down the ways they've communicated today (verbal/non-verbal/visual).

2. The Communication Cycle

Explanation:

- Introduce the **elements**: Sender, Message, Encoding, Channel, Receiver, Decoding, Feedback.
- Use visual diagrams to explain the flow.

Example:

- Teacher explaining a science concept (Sender) → Students listening (Receiver) → Clarification (Feedback).

Activity:

- Role-play: Students enact each part of the communication cycle.

3. Methods of Communication

Types Covered:

- Verbal (oral and written), Non-verbal, and Visual

Discussion:

- Situational examples for each type.

Activity:

- Split class in teams. Each team is given a scenario to present it in one form of communication (poster, speech, body language skit, etc.).

4. Verbal Communication and Interpersonal Skills

Explanation:

- Oral vs Written
- Interpersonal, Group, Public communication

Activity:

- Prepare a mini speech or dialogue between a student and teacher/parent/friend.
- Peer review for clarity and body language.

5. Non-Verbal and Visual Communication

Explanation:

- Importance of facial expressions, posture, gestures, eye contact, paralanguage, appearance, personal space, haptics.

Demonstration:

- Act out good vs poor body language while communicating.

Activity:

- Charades: Communicate phrases only using gestures and facial expressions.

6. Effective Communication: The 7 Cs**Explanation:**

- Clarity, Conciseness, Concreteness, Correctness, Coherence, Completeness, Courtesy

Activity:

- Improve a poorly written email or paragraph using the 7 Cs.

7. Barriers to Communication**Explanation:**

- Physical, Linguistic, Interpersonal, Organisational, Cultural barriers.

Activity:

- Case study analysis: Identify barriers and suggest ways to overcome them.

8. Feedback**Explanation:**

- Types: Positive, Negative, Specific, Non-specific, No feedback

Activity:

- Group game: "Chinese Whisper" followed by feedback discussion on message distortion.

9. Basic Writing Skills**Coverage:**

- Sentence formation, types of sentences, active/passive voice, parts of speech, use of articles, punctuation, paragraph writing.

Activity:

- Complete fill-in-the-blanks and sentence correction exercises.
- Write a short paragraph based on a given theme.

Extension**Discussion Questions:**

- What is the impact of body language in job interviews?
- Why are the 7 Cs important in business writing?
- How can we ensure that our feedback is effective?

Creative Task:

- Students will design a **poster** and a **speech script** on a school event (e.g., "Say No to Plastic").

Evaluation

- **Written Quiz:** Define communication, name and explain the 7 Cs, types of communication, identify barriers.

- **Practical Assessment:**
 - Role-play on feedback and body language.
 - Create a written paragraph following correct sentence structure and grammar rules.
- **Peer Review:** Students review each other's written communication and give feedback using the 7 Cs.

Suggested Activity

“Design Your School Campaign” Project:

- Students work in groups to design an awareness campaign (e.g., “Keep the Campus Clean”).
- They will prepare:
 - Visual Communication (poster/flyer)
 - Verbal Communication (speech script)
 - Non-verbal Communication (gesture-based skit)
 - Use the Communication Cycle in planning

2

Self Management Skills-II

Teaching Objectives

By the end of this unit, students will be able to:

- ✦ Understand what stress is and identify its symptoms.
- ✦ Learn and apply effective stress management techniques.
- ✦ Develop and demonstrate working independently.
- ✦ Enhance emotional intelligence and self-awareness.
- ✦ Set SMART goals and apply time management techniques.
- ✦ Reflect on self-motivation and regulation as essential life skills.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

1. Understanding Stress and Its Management

Key Points:

- Define stress and its types (Eustress and Distress).
- Discuss common signs of stress: headaches, restlessness, mood swings.
- Identify stress-causing agents: mental, physical, social, and financial.
- Introduce the ABC model of stress management (Adversity, Belief, Consequence).

Activity: Ask students to create a stress diary — write about one stressful situation, what caused it, how they reacted, and how they could have handled it better.

2. Stress Management Techniques

Techniques to Discuss:

- Time Management
- Physical Exercise and Fresh Air
- Meditation and Yoga
- Healthy Diet and Good Sleep
- Positivity and Nature Walks
- Holidays with Friends and Family

Group Activity: Divide students into teams. Assign each team a technique to present (e.g., a 2-minute skit or poster). Encourage the use of real-life student scenarios.

3. Working Independently

Explain:

- Importance of ownership and self-monitoring.
- Advantages: increased focus, flexible working, better job satisfaction.

Activity: Provide a small project or research topic to students individually. Encourage them to plan, execute, and submit without external help. Reflect on the experience.

4. Self-Awareness & Emotional Intelligence

Topics Covered:

- Knowing your strengths and weaknesses.
- Differences between interests and abilities.
- Understanding emotions and managing them.
- Practising self-reflection and calm thinking.

Interactive Task: Ask students to list their top 3 strengths and one weakness. Share anonymously, and the class will suggest ways to turn weaknesses into strengths.

5. Self-Motivation and Self-Regulation

Concepts:

- Intrinsic vs. Extrinsic Motivation.
- Qualities of self-motivated individuals.
- Self-regulation and behavioural control.
- Staying loyal to personal goals.

Case Study: Shruti's story – Analyse how self-motivation played a role in her discipline. Ask students to relate with someone they admire and how motivation drives them.

6. SMART Goals and Time Management

Explain SMART Goals:

- Specific, Measurable, Achievable, Realistic, Time-bound

Demonstrate Time Management Techniques:

- Organise, Prioritise, Control, Track



Activity: Have students write down one short-term SMART goal and a long-term SMART goal related to academics. Discuss strategies to stay on track.

Extension

Discussion Questions:

- Can stress ever be helpful? How?
- What motivates you to work hard?
- What are your distractions while managing time? How can you overcome them?
- How does being emotionally intelligent help you in school?

Creative Task: Create a “Self-Management Toolkit” — a mini-poster or folder with tips, goals, motivational quotes, and action plans.

Evaluation

- **Quiz** on key terms and concepts (e.g., types of stress, SMART goals, self-regulation).
- Scenario-based questions to analyse stress and motivation responses.
- **Reflection Journal:** Weekly reflection entries on how they managed stress and goals.
- **Role Play:** Enact situations that require independent work and emotional intelligence.

Suggested Activity

“My Self-Management Map”:

- Each student creates a map or infographic that includes:
 - A personal stressor and how they manage it.
 - Their SMART goals.
 - A list of their strengths and motivational quotes.
 - A weekly time management plan.

3

Information and Communication Technology Skills-II

Teaching Objectives

By the end of this unit, students will be able to:

- ✦ Identify the basic components of a computer system.
- ✦ Distinguish between different types of software: system, application, and utility.
- ✦ Understand the functions and types of Operating Systems.
- ✦ Operate basic Windows 11 interface elements.
- ✦ Perform basic file and folder operations.
- ✦ Demonstrate proper shutdown, login, and logout procedures.

- ✦ Apply keyboard and mouse functions efficiently.
- ✦ Follow best practices for computer care, maintenance, and security.
- ✦ Understand the importance of backups, virus protection, and data privacy.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduction (Engagement)

Question-Based Discussion:

- What are the basic parts of a computer?
- How do you use your computer or smartphone in daily life?
- Why do we need software on a computer?
- Can you operate a computer without an operating system?

Demonstration: Use real or projected desktop view of Windows 11 to introduce the concept of GUI, desktop, icons, and taskbar.

Lesson Delivery (Explanation & Demonstration)

1. Understanding the Computer System

Topics Covered:

- What is ICT?
- Hardware vs Software
- Mobile devices as computer systems

Activity: Show physical components (keyboard, mouse, monitor) and ask students to classify them as hardware or software.

2. Types of Software

Topics Covered:

- System Software
- Application Software
- Utility Software

Activity: Present a scenario (e.g., using Word to write a letter) and ask students to identify what type of software is being used.

3. Operating System

Topics Covered:

- Role and importance of OS
- Types of OS (Windows, Linux, Ubuntu, Mobile OS)
- Features and functions of OS

Visual Aid: Diagram showing interaction between hardware, OS, and user.

Activity: Ask students to name the OS on their personal computers or phones and share their experiences.



4. Windows 11 Basics

Topics Covered:

- Desktop environment
- Taskbar components (Start button, notification area)
- Icons and their purpose

Hands-On Task: Navigate a Windows 11 desktop, identify and explain function of taskbar, start menu, and icons.

5. Starting and Shutting Down the Computer

Topics Covered:

- Booting process
- Login and logout procedures
- Proper shutdown methods

Activity: Demonstrate the startup and shutdown process on a live system or simulation.

6. Keyboard and Mouse Operations

Topics Covered:

- Keyboard keys and functions (Navigation, Function, Command keys)
- Mouse functions (Click, Right-click, Double-click, Drag-and-drop, Hovering)

Activity: Interactive matching game to pair keyboard keys with their functions.

7. File and Folder Operations

Topics Covered:

- What is a file and folder?
- Creating, renaming, deleting, copying, moving files/folders

Activity: Practical lab: Create a folder named "My Work", add a text file in it, rename it, copy to another folder.

8. Computer Care and Maintenance

Topics Covered:

- Cleaning hardware
- Software updates and disk clean-up
- Preparing a maintenance schedule

Activity: Group project: Create a weekly maintenance checklist for a school lab.

9. Computer Security and Privacy

Topics Covered:

- Threats (virus, scam, theft)
- Data protection measures
- Importance of antivirus and firewalls
- Temporary files and cleaning them

Activity: Case Study Discussion: "A virus deleted all files on my friend's computer. What could have prevented this?"

Extension

Discussion Questions:

- What would happen if we never shut down our computer properly?
- How does antivirus software help us?
- Why is it important to back up our data?

Creative Task: Students create a poster on "Tips to Keep Your Computer Safe and Clean".

Evaluation

Quiz: Short MCQs on types of software, parts of computer, Windows features.

Practical Test: Perform basic file operations and demonstrate use of mouse and keyboard functions.

Assignment: Prepare a short write-up on "How I Keep My Computer Safe and Organised".

Suggested Activity

ICT in Action: Students will act as "Computer Doctors" and conduct a diagnosis of a slow computer (role play). They will suggest actions like disk cleanup, file organisation, and scanning for viruses.

4

Entrepreneurial Skills-II

Teaching Objectives

By the end of this unit, students will be able to:

- ✦ Understand what entrepreneurship is and how it impacts society.
- ✦ Identify the differences between wage employment and self-employment.
- ✦ Describe the functions and roles of an entrepreneur.
- ✦ List the key qualities of successful entrepreneurs.
- ✦ Explain how entrepreneurs fulfil customer needs, wants, and demands.
- ✦ Assess the advantages and disadvantages of entrepreneurship.
- ✦ Understand myths related to entrepreneurship.
- ✦ Explore entrepreneurship as a career option.

Teaching Plan

Question-Based Discussion:

- Have you ever had an idea for a business?
- What do you think are the risks of starting your own business?

Number of Periods	
Theory	Practical
4	2

- Do you know any entrepreneurs in your family or neighbourhood?
- What makes someone a good entrepreneur?

Relatable Analogy:

Use the lemonade stand example:

- If you were to sell lemonade during summer, what would you need?
- This can lead to discussions on needs, investment, creativity, marketing, risk, etc.

Lesson Delivery (Explanation & Demonstration)

1. Understanding Entrepreneurship and Society

Explanation:

- Define entrepreneurship and distinguish it from wage employment.
- Explore how entrepreneurs contribute to the economy and society.

Activity: Case Study Comparison: Compare a salaried employee with a self-employed entrepreneur. List benefits and challenges of both.

2. Customers' Needs, Wants, and Demands

Explanation:

- Define and differentiate needs, wants, and demands.
- Explain through Maya's snack bar example from the book.

Activity: Group brainstorming: Imagine you want to start a small business. Identify what customer needs, wants, and demands your product or service would fulfil.

3. Work Done by an Entrepreneur

Explanation:

- Discuss the real work of entrepreneurs: innovation, operations, social contribution, job creation, economic development.

Activity: Create a flowchart: "What Entrepreneurs Do" – from idea to social impact.

4. Qualities of a Successful Entrepreneur

Explanation:

- Discuss key qualities such as creativity, perseverance, patience, confidence, optimism, etc.

Activity: "Match the Quality" Game: Match famous entrepreneurs with traits that helped them succeed (e.g., Elon Musk – innovation).

5. Functions of an Entrepreneur

Explanation:

- Explain decision-making, business management, income distribution, risk-taking, and innovation.

Activity: Situational Role Play: Students act as entrepreneurs making critical decisions (e.g., product launch, hiring, pricing).

6. Role of an Entrepreneur in Society

Explanation:

- Roles include innovator, agent of change, risk bearer, capital builder, and job creator.

Activity: Poster Creation: "Entrepreneur – A Builder of Society" with roles explained visually.

7. Importance, Advantages, and Disadvantages of Entrepreneurship**Explanation:**

- Highlight the contribution to the economy and society.
- Discuss the flexibility and freedom vs. risks and stress of entrepreneurship.

Activity: Class Debate: "Entrepreneurship offers more freedom than a job" – divide class into teams.

8. Myths and Misconceptions about Entrepreneurship**Explanation:**

- Debunk myths such as "entrepreneurs are born," "need big money," "only new ideas count," etc.

Activity: Identify the myth: Given scenarios (e.g., Aman thought he needed lots of money), students identify the misconception.

9. Entrepreneurship as a Career Option**Explanation:**

- Explain entrepreneurship as a life-long career process: Enter, Survive, Grow.
- List different entrepreneurial career options.

Activity:

- Personal Reflection Worksheet:
- Why do I want to be an entrepreneur?
- What would my business be?
- What would be the challenges?

Extension**Discussion Questions:**

- What role do entrepreneurs play in solving societal problems?
- Can entrepreneurship be taught or is it an inborn skill?
- Should entrepreneurship be introduced at the school level?

Creative Task:

- Create a Business Card: Students design their own business card with their business name, product/service, and role.

Evaluation

- **Quiz:** Key terms (entrepreneurship, self-employment, qualities, functions).
- **Worksheet:** Match qualities and roles with the correct examples.



- **Project Work:** Design a mini-business plan based on a local need (e.g., tuition, food delivery, eco-products).
- **Group Presentation:** Pitch your business idea to the class.

Suggested Activity

“Start-Up Challenge” Group Task:

Students form teams and:

- Develop a business idea (product or service).
- Identify customer needs, define the product, and pitch it.
- Explain what qualities of an entrepreneur they used in planning.
- Present ideas through posters, skits, or PowerPoint presentations.

5

Green Skills-II

Teaching Objectives

By the end of this lesson, students will be able to:

- ✦ Understand the concept and significance of Sustainable Development.
- ✦ Identify the problems and challenges associated with sustainable development.
- ✦ Recognise the importance of Green Skills in achieving sustainable development goals.
- ✦ Understand the 17 Sustainable Development Goals (SDGs) and their relevance to global well-being.
- ✦ Appreciate the role of individuals and nations in achieving sustainability.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduction (Engagement)

Warm-Up Discussion:

- Ask students:
 - Why do we need to take care of our environment?
 - Have you ever reused or recycled anything at home or school? How did it help?
 - What does “sustainability” mean to you?

Quote to Reflect:

“We do not inherit the Earth from our ancestors; we borrow it from our children.” — Chief Seattle

Context Setting: Show a short video or infographic about current environmental challenges (e.g., pollution, deforestation, global warming).

Lesson Delivery (Explanation & Demonstration)

1. Understanding Sustainable Development

Key Concepts:

- **Definition:** Development that meets current needs without compromising future generations.

Importance:

- Promotes responsible use of resources.
- Ensures economic growth without environmental harm.
- Encourages social equity and better living standards.

Activity: Group brainstorming: "What would a sustainable future look like?"

2. Problems Related to Sustainable Development

Discussion Areas:

- **Food Scarcity:** Decreasing agricultural land and soil fertility.
- **Water Shortage:** Pollution and overuse of freshwater resources.
- **Fuel Depletion:** Overuse of forests and fossil fuels.

Activity: Think-Pair-Share: Identify one problem and suggest a green solution (e.g., solar energy instead of wood fuel).

3. Challenges to Sustainable Development

Major Challenges:

- Lack of awareness and education.
- Climate change and biodiversity loss.
- Profit-first mindset of industries.
- Lack of global cooperation.

Case Discussion:

- Why is it difficult for countries to cooperate on environmental issues?

4. Introduction to Green Skills

Definition:

- Skills that support environmental sustainability and promote a green economy.

Example:

- Using renewable energy, waste management, tree planting, etc.

Government Initiative:

- Green Skills Development Programme (GSDP) launched in 2017.

Activity:

- Poster Making: "A Green Skill I Can Learn to Help the Planet"

5. Sustainable Development Goals (SDGs)

Overview:

- 17 goals adopted by the UN in 2015 to be achieved by 2030.
- Cover issues like poverty, education, clean energy, climate action, and more.



Focus on Key Goals:

- No Poverty
- Zero Hunger
- Good Health & Well-being
- Quality Education
- Gender Equality
- Climate Action
- Life Below Water & Life on Land

Activity: SDG Relay: Each group presents one goal and explains how it can be achieved.

Extension**Discussion Questions:**

- What can you do at home to support sustainable development?
- Can technology help us live greener lives? How?

Creative Task:

Create a "Green Diary" for a week. Record your eco-friendly actions each day (e.g., saving electricity, using cloth bags).

Evaluation**Quiz:**

- MCQs from the textbook (e.g., number of SDGs, definition of sustainable development).

Short Answer Questions:

1. What are the three major problems in sustainable development?
2. List any two Green Skills.
3. Why is sustainable development important?

Practical Assessment:

- Presentations on SDGs.
- Peer review of Green Diaries or posters.

Suggested Activity**"Sustainability in Action" – Group Project:**

- Choose a local problem (like waste, water use, tree cover).
- Plan and present a sustainable solution using green practices.

Part B-Subject Specific Skills

1

Digital Documentation (Advanced) using LibreOffice Writer

Teaching Objectives

By the end of this lesson, students will be able to:

- ✦ Understand the importance of professionally styled digital documents.
- ✦ Define and apply various Styles in LibreOffice Writer (Paragraph, Character, Frame, Page, List, Table).
- ✦ Use the Style Pane and Fill Format Mode effectively.
- ✦ Create, modify, and update styles.
- ✦ Insert and manipulate Images using various methods.
- ✦ Use image editing tools: Crop, Rotate, Resize, and apply Image Filters.
- ✦ Work with the Drawing Toolbar to create diagrams and illustrations.
- ✦ Understand and apply Positioning of Graphics (Anchoring, Arrangement, Alignment, Text Wrapping).
- ✦ Create and maintain a Table of Contents.
- ✦ Create, edit, import, and manage Templates in documents.

Teaching Plan

Number of Periods	
Theory	Practical
4	2

Introduction (Engagement)

- **Interactive Discussion:**

- Why is formatting important in a professional document?
- Have you ever faced issues in maintaining uniform formatting in a long document?
- How do images improve the readability of a document?
- What is the benefit of using templates?

- **Relatable Analogy:**

- Compare a well-formatted document to a professional presentation in an event – everything must be in order: headings, visuals, flow, and consistency!

Lesson Delivery (Explanation & Demonstration)

1. Introduction to Styles

- Explain Styles as pre-defined formats for maintaining consistency.

Types of Styles:

- Paragraph Styles
- Character Styles
- Frame Styles
- Page Styles
- List Styles
 - Table Styles

Activity: Create a “Say No To Single Use Plastic” project using various styles.

Demonstration:

- Show the difference between manual formatting and styles.
- Explain the use of Style Pane and Fill Format Mode.

2. Creating and Modifying Styles

Methods to Create Styles:

- From selection
- Drag and drop

Modifying Styles:

- Update from selection
- Load or copy from another document

Activity:

- Create a new style for a document heading.
- Modify an existing style to change font colour and size.

3. Inserting and Editing Images

Methods of inserting images:

- Insert menu
- Drag and drop
- Copy and paste
- Using scanner
- Linking images
- LibreOffice Gallery

Image Editing Tools:

- Crop, Resize, Rotate, Flip, Transparency, Colour adjustments, Filters, and Image modes (Grayscale, Watermark).

Activity:

- Insert images using at least 3 different methods.

- Apply the Mosaic filter to an image.
- Change image mode to Watermark.

4. Using the Drawing Toolbar

- Tools in the Drawing Toolbar:
 - Lines, Shapes, Text boxes, Flowcharts, Callouts, Fontwork, etc.

Activity:

- Create a simple flowchart using shapes and arrows.
- Group multiple objects and move them as one.

5. Positioning of Graphics

- **Anchoring:** To Page, To Paragraph, To Character, As Character, To Frame
- **Arrangement:** Bring to Front, Send to Back, Forward/Backward
- **Alignment:** Top, Middle, Bottom, Left, Centre, Right
- **Text Wrapping:** None, Before, After, Parallel, Through, Optimal

Activity:

- Practice repositioning images and graphics in a document.
- Wrap text around an image using different wrapping styles.

6. Creating and Maintaining a Table of Contents

- Define hierarchy of headings
- Create a TOC using built-in styles
- Update and customise TOC
- Add background colour or image to TOC

Activity:

- Insert a Table of Contents in an existing document.
- Customise it with background colour.

7. Working with Templates

Creating Templates:

- From an existing document
- Using a wizard

Using Templates:

- Apply, import, export, edit, move, set as default.

Activity:

- Create a new template for a meeting agenda.
- Import a template and apply it to a blank document.

Extension

• Discussion Questions:

- How do templates improve efficiency in office work?
- Can styles be shared across documents?
- What are some professional uses of customised TOCs?



- **Creative Task:**
 - Design a professional newsletter layout using styles, images, drawings, and templates.
 - Prepare a presentation: **“Importance of Consistency in Document Design”**.

Evaluation

- **Quiz:**
 - Identify types of styles, tools for image editing, methods of inserting images.
- **Practical Task:**
 - Create a document with:
 - * At least 3 styles applied.
 - * Insert and modify images.
 - * Use drawing tools for diagramming.
 - * Add and customise a Table of Contents.
 - * Save as template.
- **Peer Review:**
 - Students exchange their documents and give feedback on formatting consistency.

Suggested Activity

Document Design Challenge:

Students will work in teams to design a professional document (project report, newsletter, brochure).

They will:

- Use styles for text formatting.
- Insert and modify images.
- Use drawing tools for visual impact.
- Add a Table of Contents.
- Apply a customised template.
- Present their final document to the class.

2

Electronic Spreadsheet (Advanced) Using LibreOffice Calc

Teaching Objectives

By the end of this lesson, students will be able to:

- ✦ Understand the significance of data analysis in decision-making.
- ✦ Perform advanced data consolidation in LibreOffice Calc.
- ✦ Apply Groups and Subtotals to organise large datasets.
- ✦ Use What-If Scenarios and What-If Analysis (One and Two Input Variables).

- ✦ Employ Goal Seek for target-oriented data manipulation.
- ✦ Solve problems using the Solver tool.
- ✦ Record, run, and organise Macros to automate tasks.
- ✦ Link data within and across spreadsheets effectively.
- ✦ Create and manage hyperlinks within Calc.
- ✦ Share, track, compare, and merge spreadsheets collaboratively.
- ✦ Add and manage comments in spreadsheets for collaboration.

Number of Periods	
Theory	Practical
4	3

Teaching Plan

Introduction (Engagement)

Question-Based Discussion:

- Have you ever used a spreadsheet to track expenses or marks?
- How can automating repetitive tasks in spreadsheets save time?
- Why is data analysis important for businesses today?
- What could happen if important data is mismanaged or shared wrongly?

Relatable Analogy:

- Use the example of **managing a small bakery**: inventory management, sales tracking, cost analysis, and projections can all be done using spreadsheets.

Visual Aid:

- Show a quick demo of a complex sheet transforming into a neat, consolidated report with functions and macros.

Lesson Delivery (Explanation & Demonstration)

1. Data Analysis in LibreOffice Calc

- Importance of data in decision-making, problem-solving, efficiency.
- Introduction to LibreOffice Calc and its advanced tools for analysis.

Activity: Case study: Analyse sales trends of a local shop using sample data in Calc.

2. Data Consolidation

- Combine data from multiple sheets into one.
- Use functions like SUM, MAX, MIN, AVERAGE.

Activity: Practical: Consolidate marks of Unit Test, Term 1, and Term 2 from three sheets into a Final Result sheet.

3. Groups and Subtotals

- Group data rows/columns for better organisation.
- Apply Subtotals for summary statistics.

Activity: Group student data class-wise and apply subtotals to count sections and sum strengths.

4. What-If Scenarios

- Create multiple scenarios to forecast outcomes.

Activity: Create scenarios for students with different sets of marks and compare totals.

5. What-If Analysis (One-Input & Two-Input)

- **One-Input:** Analyse impact of sales quantity on profit.
- **Two-Input:** Analyse impact of sales quantity and cost price.

Activity: Café scenario: Analyse how sandwich sales affect profits using One & Two Input analyses.

6. Goal Seek

- Backward calculation to meet a target.

Activity: Bakery example: Use Goal Seek to find the number of pastries to sell to achieve a target profit.

7. Solver Tool

- Advanced form of Goal Seek for multiple variables.

Activity: Student Marks scenario: Use Solver to adjust marks to reach a desired percentage.

8. Macros

- Record, run, and organise macros for automation.

Activity:

- Record a macro to format a list of cities and automate it.
- Create and run a macro to sort city names.

9. Linking Data and Sheets

- Internal and external linking for data reference.

Activity:

- Link sales data across sheets for automatic updates.
- Cross-file linking for consolidated reports.

10. Hyperlinks

- Insert hyperlinks to web pages, emails, documents, and new files.

Activity: Add hyperlinks in Calc for quick navigation to online resources or other files.

11. Sharing & Collaborative Tools

- Share spreadsheets for multi-user access.
- Track changes, add comments, and resolve conflicts.
- Merge and compare documents.

Activity:

- Share a sheet with classmates, make edits, and resolve changes together.
- Compare two versions of a sales report and merge changes.

Extension

Discussion Questions:

- How does collaboration in spreadsheets improve productivity?
- Why is tracking changes important in shared documents?
- Can macros be misused? Discuss ethical considerations.

Creative Task:

- Design an automated attendance system using LibreOffice Calc macros and linking.

Evaluation

- **Quiz:** Functions of Consolidation, What-If Analysis, Solver, and Macros.
- **Practical Exercise:** Create a linked spreadsheet showing quarterly sales.
- **Worksheet:** Solve a scenario using Goal Seek.
- **Lab Activity:** Create and run a macro to automate data formatting.
- **Project:** Share a spreadsheet and track changes by different users.
- **Homework:** Reflective writing: "How can advanced spreadsheet tools help in business decision-making?"

Suggested Activity

Spreadsheet Automation Project

- Students will work in groups to create a comprehensive business analysis spreadsheet for a hypothetical company:
 - Use data consolidation for reports.
 - Apply What-If Analysis to forecast profits.
 - Automate repetitive tasks with macros.
 - Link multiple sheets and external data.
 - Use comments, share the document, and track changes.
- **Present findings and discuss challenges faced.**

3

Database Management System using LibreOffice Base

Teaching Objectives

By the end of this lesson, students will be able to:

- ✦ Understand the concept of data, information, and databases.
- ✦ Explain the features and advantages of databases and Database Management Systems (DBMS).
- ✦ Understand data models: Hierarchical, Network, and Relational.
- ✦ Comprehend the concept of Relational Database Management System (RDBMS) and its terminologies.
- ✦ Recognise different types of keys: Primary, Candidate, Alternate, Composite, and Foreign keys.
- ✦ Create, modify, and manage databases using LibreOffice Base.

- ★ Understand relationships and referential integrity between tables.
- ★ Create queries using Design View and Wizards in LibreOffice Base.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduction (Engagement)

Question-Based Discussion:

- Where do you think data is stored in large organisations, like banks or schools?
- How do online shopping platforms manage thousands of product details?
- Have you ever filled out an online form? Where do you think that data is stored?

Relatable Analogy:

Explain with a simple example:

- Imagine a school register book where every student's information is written manually. What if we want to find a student quickly? Databases are like digital registers but much more powerful — they store, organise, and retrieve data instantly.

Lesson Delivery (Explanation & Demonstration)

1. Understanding Data, Information, and Database

- **Data:** Raw facts (e.g., names, numbers, dates).
- **Information:** Processed data providing meaning (e.g., library book status).

Activity: Ask students to list examples of data and how it can turn into meaningful information.

2. Introduction to Database and DBMS

- Definition and types: Flat File & Relational File.
- Use of databases in schools, shops, companies, etc.
- Examples of database software: Oracle, MySQL, LibreOffice Base, etc.

Activity: Quick class survey on where students think databases are used around them.

3. Features and Advantages of Databases

- Multiple tables, simultaneous access, data protection, backup & recovery.
- **Advantages:**
 - Organised Storage
 - Data Analysis
 - Data Security
 - Reducing Redundancy
 - Increasing Efficiency & Accuracy

Discussion: Why is avoiding data duplication important? Discuss real-life scenarios.

4. Data Models Explained

- **Hierarchical Data Model:** Tree structure (e.g., File folders).
- **Network Data Model:** Flexible with multiple relationships.
- **Relational Data Model:** Most commonly used, based on tables.

Visual Activity: Draw data model diagrams on the board to explain relationships.

5. Understanding RDBMS Concepts

- Definition and importance.
- Explanation of:
 - Entity, Tables, Records, Fields, Keys.
 - **Keys:** Primary Key, Candidate Key, Alternate Key, Composite Key, Foreign Key.
 - **Relationships:** One-to-One, One-to-Many, Many-to-Many.

Activity: Analyse sample tables (from textbook) to identify different keys and relationships.

6. Introduction to LibreOffice Base

- LibreOffice Base as an open-source RDBMS.
- Interface overview:
 - Title Bar, Menu Bar, Database Pane, Task Pane, etc.

Demonstration: Live demo of LibreOffice Base interface.

7. Creating a Database in LibreOffice Base

- **Step-by-step creation using:**
 - Database Wizard
 - Table creation (Design View & Wizard)
- **Hands-on Activity:** Students create a database named “School” with tables: Student, Marks, Library.

8. Editing and Managing Tables

- Edit table structure in Design View.
- Inserting, modifying, and deleting records.
- Navigating records using the navigation pane.
- Sorting data.

Activity: Practice creating and editing records in the Student table.

9. Understanding Relationships and Referential Integrity

- Types of relationships (One-to-One, One-to-Many, Many-to-Many).
- Importance of Referential Integrity.

Case Study: Design a library database with books, issued books, and members. Create relationships.

Activity: Students create relationships between tables and explain referential integrity.

10. Queries in LibreOffice Base

- What is a query? Types of queries.
- Creating queries using:
 - Design View
 - Wizard

Practical Task: Create a query to display students scoring above 80% in Term 1.



Extension

Discussion Questions:

- How does a database prevent data loss?
- Can you give examples of relationships in real life similar to database relationships?
- Why do we need referential integrity in databases?

Creative Task: Design a database for a local business (shop, clinic, or library). Define:

- Tables
- Fields & Data types
- Keys
- Relationships

Evaluation

- **Quiz:** Basic database concepts, keys, relationships, and queries.
- Practical Test:
 - Create a database using LibreOffice Base.
 - Create tables with primary and foreign keys.
 - Build queries to extract data based on conditions.
- **Review Task:**
 - Identify different keys from a sample table.
 - Describe the steps to create and delete a relationship.

Suggested Activity

Database Project: Students will work in pairs or small groups to:

- Design a **Library Database** with the following tables:
 - Books in Stock
 - Books Issued
 - Damaged/Lost Books
- Define keys, data types, and relationships.
- Demonstrate referential integrity.
- Present their database structure and relationships to the class.

4

Maintain Healthy, Safe and Secure Working Environment

Teaching Objectives

By the end of this lesson, students will be able to:

- ★ Understand the importance of maintaining health, safety, and security in the workplace.

- ✦ Identify common workplace hazards: physical, chemical, biological, ergonomic, electrical, fire, and health hazards.
- ✦ Learn and apply workplace safety guidelines and quality measures.
- ✦ Recognise ergonomic principles to maintain proper posture and reduce strain.
- ✦ Understand policies and procedures for handling emergencies and accidents.
- ✦ Demonstrate responsible actions in preventing accidents, managing emergencies, and ensuring workplace hygiene.
- ✦ Explain the importance of air and water quality monitoring processes in workplaces.

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Introduction (Engagement)

Question-Based Discussion:

- Why is health and safety important at your workplace or school?
- Can you think of hazards you've seen in your environment?
- What actions would you take if there was a fire in your building?
- How does a clean and safe environment help increase productivity?

Relatable Analogy:

- Compare maintaining workplace safety to maintaining your home. Just as we ensure cleanliness, proper lighting, and safe wiring at home, the same care is needed at the workplace.
- Use the "ABC of First Aid" (Airway, Breathing, Circulation) to engage learners on emergency response basics.

Lesson Delivery (Explanation & Demonstration)

1. Introduction to Health, Safety, and Security

- Explain the three pillars: **Health, Safety, and Security**
 - Physical, mental, and social well-being of employees.
 - Safe environment with minimal risks.
 - Protection from physical harm, computer safety, electrical and equipment security.

Activity: Students brainstorm daily habits that contribute to workplace safety (e.g., washing hands, reporting spills).

2. Policies and Procedures for Health, Safety, and Security

- Understand organisational responsibility under laws.
- Elements and objectives of health and safety programs.
- Importance of committees and compliance with OH&S laws.

Activity: Role-play exercise — students act as the safety committee and draft a simple health and safety pledge for their class.



3. Types of Workplace Hazards

- **Physical Hazards:** Uneven floors, slippery surfaces.
- **Biological Hazards:** Bacteria, viruses.
- **Chemical Hazards:** Harmful chemicals.
- **Ergonomic Hazards:** Poor posture, repetitive motions.
- **Electrical Hazards:** Faulty wiring, overloaded circuits.
- **Fire Hazards:** Poor housekeeping, improper handling of flammable materials.

Activity: Divide students into groups. Assign each group a hazard type. Let them create posters on hazard identification and prevention.

4. Safety Guidelines Checklist

- Storing chemicals safely.
- Daily waste disposal.
- Proper lighting and appropriate clothing.
- Using protective gear.
- Machine shutdown procedures and electrical safety.
- Reporting unsafe conditions.

Activity: Classroom inspection exercise — students identify potential hazards in their environment.

5. Ergonomics and Office Setup

- Importance of correct posture, screen positioning, chair adjustment.
- Risks of repetitive strain injury and how to prevent it.
- Tips for healthy computer use: posture, lighting, breaks (20-20-20 rule).

Activity: Demonstration: Adjust a workstation to follow ergonomic guidelines. Students practice correct posture.

6. Workplace Quality Measures

- Cleanliness and maintenance.
- Air and water quality monitoring.
- Preventing pollution, maintaining comfortable temperatures and noise levels.

Activity: Students design a “Healthy Workplace Poster” focusing on air, water, and noise control.

7. Accident and Emergency Prevention & Procedures

- Differentiating accidents and emergencies.
- General evacuation procedures and first aid basics.
- Specific emergencies: electrical, fire, medical.
- Importance of prompt reporting and following authority instructions.

Activity: Mock drill: Practice evacuation procedures and locate emergency exits, first aid kit, and fire extinguishers.

Extension

Discussion Questions:

- Why is ergonomic design important in the workplace?

- What role does personal responsibility play in maintaining a safe work environment?
- How does proper air and water quality impact employee health?

Creative Task:

- Students prepare a presentation on “How to Design a Safe and Healthy Workplace”, covering hazard control, quality measures, and emergency preparedness.

Evaluation

- **Quiz:** On hazard identification, emergency procedures, ergonomics, and health safety policies.
- **Practical Task:** Ergonomic workstation setup.
- **Assignment:** Students list five hazards in their environment and suggest controls.
- **Lab Exercise:** Air and water quality analysis (theoretical demonstration).

Suggested Activity

Workplace Safety Campaign:

- Students work in teams to design a safety awareness campaign for their school.
- Campaign includes:
 - Posters
 - Safety checklist handouts
 - Presentation of common hazards and preventive measures.

