9

TOUCHPAD

Information Technology
(Open Office)

Teacher's Manual

Extended Support for Teachers

ORANGE

Teacher's Time Table

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

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During the class:
Present the lesson plan.

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

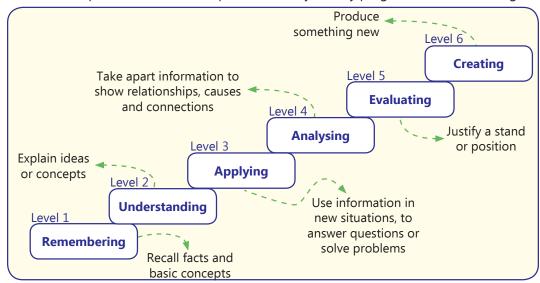"Knowing yourself is the beginning of all wisdom."

Teaching Strategies

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

Direct Instruction

Performance Activities

Classroom Discussion

Effective Teaching Strategies

Student Research

Small Group Work

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.

Produce something new

Level 6

Creating

Take apart information to show relationships, causes and connections

Level 5

Evaluating

Level 4

Analysing

Justify a stand or position

Explain ideas or concepts

Level 3

Applying

Level 2

Understanding

Level 1

Remembering

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

Recall facts and basic concepts

Teachers should focus on helping students 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

Teaching Objectives

Students will learn about

☞ Importance of Communication

☞ Methods of Communication

☞ Writing Skills

☞ Elements of Communication Cycle

☞ Perspectives in Communication

Number of Hours
Theory
10

Teaching Plan

While teaching this chapter, tell the students that the word 'Communication' comes from the Latin word 'Communicare', which means 'to share'.

Explain to the students the following in detail:

● Importance of Communication

● Elements of Communication Cycle

Make the students aware of the Methods and Types of Communication along with their advantages and disadvantages:

● Verbal Communication

● Non-Verbal Communication

● Visual Communication

Demonstrate the students about the Perspectives in Communication along with the factors affecting perspective in Communication.

Show the students the importance of writing skills and their aspects like:

● Phrases

● Kinds of Sentences

● Types of Objects

● Construction of Paragraph

● Active & Passive Voice

● Parts of Sentences

● Parts of Speech

Extension

Ask the students some oral questions based on this chapter.

Q. What is communication?

Q. Write of importance of communication.

Q. Define elements of communication cycle.

Q. What are the methods of communication?

Q. What are the types of communication?

Q. Define the perspective in communication.

Q. What is the importance of writing skills in communication?

Evaluation

After explaining the chapter, let the students do the exercises given on page 30 to 35 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 33 and 35 to imbibe elements like life skills & values in them.

2. Self-Management

Teaching Objectives

Students will learn about

☞ Positive Results of Self-Management   ☞ Strength and Weakness Analysis

☞ Self-Confidence

Number of Hours
Theory
10

Teaching Plan

While teaching this chapter, tell the students that self-management is the modus of using the traits of one's personality in a righteous & authoritative way which leads to perfection.

Explain the meaning and purpose of self-management to the students with examples for better understanding.

Tell the students about the positive results of self-management with keys of self-management like:

- Self-Awareness
- Self-Confidence
- Self-Motivation
- Positive Thinking
- Stress Management
- Team work

- Self-Control
- Problem Solving
- Personal Hygiene & Grooming
- Time Management
- Self-Discipline
- Goal setting

Let the students know about the self-confidence and how to build it. Also share the factors that plays a vital role in building it like:

- Social factors
- Cultural factors
- Physical factors

Make the students aware of qualities of self-confident people.

Tell the students some self-confidence building tips in detail.

Extension

Ask the students some oral questions based on this chapter.

Q. What is self-management?

Q. Define:

a.	Self-Awareness	b.	Self-Control
c.	Self-Confidence	d.	Problem Solving
e.	Self-Motivation	f.	Personal Hygiene & Grooming
g.	Positive Thinking	h.	Time Management
i.	Stress Management	j.	Self-Discipline

Q. Define strength and weakness.

Q. Differentiate between interest and ability.

Q. Define self confidence.

Q. Define the factors that play vital role in building self-confidence.

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

Q. Discuss self-confidence building tips briefly.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 41 to 46 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 44 and 46 to imbibe elements like life skills & values in them.

3. Information & Communication Technology

Teaching Objectives

Students will learn about

- ☞ Role and Importance of ICT
- ☞ ICT Tools
- ☞ What is a Mobile App?
- ☞ Internet and its Application
- ☞ Social Media
- ☞ Computer
- ☞ Components of CPU Box
- ☞ Expansion Card

☞ Ports	☞ Software
☞ Types of OS	☞ Working with Windows Operating System
☞ Working with Boss Linux	☞ Using a computer
☞ Operating on a Computer	☞ Internet

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Number of Hours
Theory
7

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Teaching Plan

While teaching this chapter, tell the students that information refers to the processed data or output that is generated by computing devices and communication refers to the transfer of knowledge and information.

Explain the meaning, role and importance of ICT to the students along with its role in following areas:

- In education
- In healthcare
- In governance

Tell the students about the ICT tools and their uses:

- Mobile phone
- Tablet
- Radio
- Television
- E-mail

Define the meaning of mobile app and their usage to the students.

Explain the meaning of Internet and its application along with the popular applications to the students:

- Search engine
- Hobbies
- Research
- Education
- Communication
- Job search
- Shopping
- Travel
- Video conferencing
- E-commerce
- Social Networking

Define the meaning of Social media to the students and tell them about some of the well-known:

- Twitter
- Facebook
- YouTube
- WhatsApp

Explain the meaning, function and purpose of the following to the students with examples:

- Computer
- CPU and its functions
- Components of a Computer system (Keyboard, Mouse, Joystick, Scanner, OMR, MICR, Light Pen, Barcode Reader, Microphone, Digital Camera, Web Camera)
- Components of CPU Box
- Memory & Storage Devices (Primary Memory, Units of Storage, Secondary Memory), Motherboard, SMPS, Processor, Ports, Cards
- Expansion Card
- Ports (Video ports, USB, RJ-45, RJ-11, FireWire)
- Software (Application, System Utility System)

- Types of OS (DOS, UNIX, Solaris, Microsoft Windows, GNU-Linus, Macintosh Operating System, Mobile Operating System)

Show the students about the working with Windows OS along with BOSS LINUX.

Tell the students about how use a computer and also define the following:

- POST
- Boot
- Shut down
- Restart

Explain the students in details about the Operations of a Computer.

Demonstrate the meaning and use Internet along with:

- Web page
- Website
- Web browser
- Web address
- Web server
- WWW
- Protocol
- URL

Extension

Ask the students some oral questions based on this chapter.

Q. What is ICT?

Q. Explain:
   - a. Mobile phone
   - b. Tablet
   - c. Radio
   - d. Television
   - e. E-mail

Q. What is mobile app?

Q. Define:
   - a. Search engine
   - b. Hobbies
   - c. Research
   - d. Education
   - e. Communication
   - f. Job search
   - g. Shopping
   - h. Travel
   - i. Video conferencing
   - j. E-commerce
   - k. Social Networking

Q. What is the purpose of the following?
   - a. Twitter
   - b. Facebook
   - c. YouTube
   - d. WhatsApp

Q. Explain:
   - a. POST
   - b. Boot
   - c. Shut down
   - d. Restart

Q. Define the following:
   - a. HTML
   - b. Web page
   - c. Website
   - d. Web browser
   - e. Web address
   - f. Web server
   - g. WWW
   - h. Protocol
   - i. URL
   - j. HTTP

Evaluation

After explaining the chapter, let the students do the exercises given on pages 87 to 92 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 90 and 92 to imbibe elements like life skills & values in them

Ask the students to perform the **Lab Assignment Activit**y given on page 82 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment Activity.

4. e-Mail

Teaching Objectives

Students will learn about

☞ e-Mail Services
☞ Compose and send e-Mail Message
☞ Reading an e-Mail
☞ Forwarding an e-Mail

☞ Create an e-Mail Id
☞ Managing Folder
☞ Replying to an e-Mail

Number of Hours
Theory
3

Teaching Plan

While teaching this chapter, tell the students that Electronic Mail (e-Mail) is an online mailing service provided on the Internet by which one can send messages to any person around the world through computing devices.

Tell the meaning, and advantage of e-mail to the students.

Explain the similarity between the e-mail and postal letters to the students for better understanding.

Tell the Limitations of e-Mail to the students.

Tell the students about the E-mail services like these are either webmail or email applications based.

Show the labelled steps and demo to the students about how to create an e-mail ID.

Tell the students about these following function and the steps involved in:

● Composing an e-mail
● Sending an e-mail
● Scheduling send
● Attaching a file to an e-mail
● Managing folder (Inbox, Sent, Draft, Junk/Spam, Trash, Starred)
● Reading an e-mail
● Receiving an e-mail
● Replying to an e-mail
● Forwarding an e-mail
● Deleting an e-mail

Extension

Ask the students some oral questions based on this chapter.

Q.   What is an e-mail?

Q.   What are advantages of an e-mail?

Q.   What are disadvantages of an e-mail?

Q.   Define the following:

a.   Webmail   b.   E-mail Applications

c.   Schedule send   d.   Trash

Evaluation

After explaining the chapter, let the students do the exercises given on pages 107 to 111 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 110 and 111 to imbibe elements like life skills & values in them

Ask the students to perform the **Lab Assignment Activity** given on page 106 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment Activity.

5.   Entrepreneurship

Teaching Objectives

Students will learn about

☞   Types of Businesses   ☞   Types of Business Found in our community

☞   Characteristics of Entrepreneurs   ☞   Importance of Entrepreneurship

☞   Role and Rewards of Entrepreneurship   ☞   Limitations of Entrepreneur

Number of Hours
Theory
15

Teaching Plan

While teaching this chapter, tell the students that the process of transforming business

concept into a bigger business enterprise, by planning and management skills is said to be 'Entrepreneurship'.

Explain the meaning of the following to the students and define their purpose:

● Self-employment   ● Enterprise   ● Entrepreneurship

Tell the students the types of businesses which are classified as:

● Service business   ● Manufacturing business   ● Hybrid business

Explain the types of business found in our community in detail:

● Sole Proprietorship   ● Partnership   ● LLP

● Co-operative Business   ● Limited Company

Define the characteristics of Entrepreneurs to the students like:

- Self-starter
- Hard working
- Courageous
- Foresightedness
- Creative
- Innovative
- Networking
- Communication skills
- Updated
- Discipline & Commitment
- Adaptability
- Passionate

Explain the importance, role, rewards and limitations of entrepreneurship to the students in detail for better understanding.

Extension

Ask the students some oral questions based on this chapter.

Q.   What is Self-employment?

Q.   What is Enterprise?

Q.   What is Entrepreneurship?

Q.   Define the types of businesses.

Q.   Define the following:

a. Sole Proprietorship	b. Partnership	c. LLP
d. Co-operative Business	e. Limited Company	

Q.   Define the meaning of:

a. Self-starter	b. Hard working	c. Courageous
d. Foresightedness	e. Creative	f. Innovative
g. Networking	h. Communication skills	i. Updated
j. Discipline & Commitment	k. Adaptability	l. Passionate

Q.   What are advantages of entrepreneurship?

Q.   What are limitations of entrepreneurship?

Q.   What are rewards of entrepreneurship?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 118 to 122 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 120 and 122 to imbibe elements like life skills & values in them

6. Green Skills

Teaching Objectives

Students will learn about

☞   Natural Resources   ☞   Green Economy

Teaching Plan

While teaching this chapter, tell the students that the word environment is derived from the French word "environ" which means "surrounding".

Explain the meaning of environment to the students and the factors causing the imbalance in it, like:

- Population
- Pollution
- Deforestation
- Industrialization
- Mining

Tell the students about the relationship between society and environment.

Explain to the meaning of Ecosystem to the students with proper examples and pictures.

Define the Natural Resources to the students along with their types:

- Renewable resources
- Non-Renewable resources

Tell the students about the Natural Resource Conservation and detailed steps for doing the same.

Explain the purpose and meaning of Green Economy to the students along with its aspects like:

- Green Consumer
- Importance of Green Economy

Extension

Ask the students some oral questions based on this chapter.

Q. What is environment?

Q. What are the factors causing imbalance to environment?

Q. Explain the relationship between society and environment.

Q. What is ecosystem?

Q. What are natural resources?

Q. Differentiate between:

Renewable and Non-Renewable resources

Q. What is biodegradable substance?

Q. What is non-biodegradable substance?

Q. What is green economy?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 130 to 134 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 133 and 134 to imbibe elements like life skills & values in them

Part-B: Subject Specific Skills

1. Introduction to IT & ITeS

Teaching Objectives

Students will learn about

☞ BPO

☞ Applications of IT

☞ Business Process Management

Number of Hours	
Theory	Practical
2	**4**

Teaching Plan

While teaching this chapter, tell the students that Information Technology has led to the establishment of a global network which has brought people from different corners of the world together.

Explain to the students about the opportunities of:

● Software Development ● IT Application ● ITeS

Introduce the students with the meaning of IT and ITeS using real life examples.

Explain to the following terms with their use and functions:

● BPO along with the types of BPO Services

● BPM along with the structure of the IT-BPM Industry

Define the applications of IT in different fields like:

● Communication
● Education
● Defense
● Entertainment
● Engineering and Manufacturing
● Medical Science

● News and Broadcasting
● Banking
● Criminal Identification and Law Enforcement
● Business
● Museum and Library

● Social Networking
● Research

● Printing and Publication
● Sports
● Railways & Aviation

Extension

Ask the students some oral questions based on this chapter.

Q.   What is IT?

Q.   What is ITeS?

Q.   What is the meaning of BPO?

Q.   What is the meaning of BPM?

Q.   Discuss the structure of IT-BPM industry in brief.

Q.   Define the applications of IT in different fields.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 147 to 151 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 150 and 151 to imbibe elements like life skills & values in them.

2.   Data Entry & Keyboard Skills

Teaching Objectives

Students will learn about

☞   Keyboard

☞   Touch Typing Technique

☞   Begin Lessons

☞   Result Interpretation

☞   Lesson Editor

☞   Mouse

☞   Rules of Touch Typing

☞   Background and Text Colour

☞   Student Statistics

☞   Working with Lesson

Number of Hours	
Theory	Practical
4	10

Teaching Plan

While teaching this chapter, tell the students that **Touch Typing** is a method of typing without looking at the keyboard. Also tell them that a touch typist possesses a great sense of understanding when to use which finger and how much to move each finger in order to tap the required keys.

Explain about **Keyboard** to the students and the types of keys in detail.

Tell the students about different types of keys while showing the picture of a labelled standard keyboard:

•   Alphabet keys

•   Function keys

•   Enter key

•   Number keys

•   Arrow keys

•   Escape (Esc) key

- Spacebar key
- Ctrl key
- Backspace key
- Numeric keypad

- Shift key
- Caps Lock key
- Delete key
- Guide keys

Tell the students about **Mouse** while showing the labelled picture of it. Also show the position of fingers on a mouse along with how to use a mouse.

Share the common terms related to mouse and try to demonstrate them live to the students for better understanding.

Define the proper Touch Typing Technique and the defined stages:

- Stage I
- Stage II
- Stage III

Let the students know about the rules of touch typing.

Share the **Tips for learning Touch Typing** with the students along with the steps involved:

- To practise typing
- To learn typing

Show the **Components of the RapidTyping** in detail and their proper use to the students.

Explain to the students about the following and demonstrate the steps involved in them:

- Begin Lessons
- Background and Text colour

Tell the students about steps involved in **Result Interpretation**.

Make the students aware of the following:

- Next Step
- Detailed Statistics
- Errors Overview

Explain to the students about **Student Statistics** and demonstrate the steps involved in how to add new students.

Demonstrate how to use **Lesson Editor** to the students and the steps to begin with courses.

Explain the topic **Working with Lesson** to the students along with the steps involved in following:

- To add new lesson
- Split the lesson

Extension

Ask the students some oral questions based on this chapter.

Q. What is touch typing?

Q. Explain keyboard and keys of keyboard.

Q. Explain the working of a mouse.

Q. What is RapidTyping?

Q. What are components of RapidTyping?

Q.   Define Result Interpretation.

Q.   Describe Statistics panel in brief.

Q.   What is Lesson Editor?

Q.   Discuss the steps to add a new lesson.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 171 to 175 in the main course book under Exercise.

Ask the students to try Application-based questions given on pages 173 and 175 to imbibe elements like life skills & values in them.

Ask the students to perform the **Lab Assignment Activity** given on page 161 and 169 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment Activity.