



TOUCHPAD[®]

Information Technology
(MS Office)

Teacher's Manual

Extended Support for Teachers



www.orangeeducation.in
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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 to identify and understand how children differ in different age groups.

Age 5 - 8 Years	
Physical	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Vocabulary reaches about 10,000 words• Vocabulary increases rapidly throughout middle childhood
Emotional/Social	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • Motor skills develop resulting enhanced reflexes
Cognitive	<ul style="list-style-type: none"> • Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	<ul style="list-style-type: none"> • Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/Social	<ul style="list-style-type: none"> • Self-esteem tends to rise • Peer groups emerge

Age 11 - 20 Years	
Physical	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Is now more self-conscious and self-focused • Becomes a better everyday planner and decision maker
Emotional/Social	<ul style="list-style-type: none"> • 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."

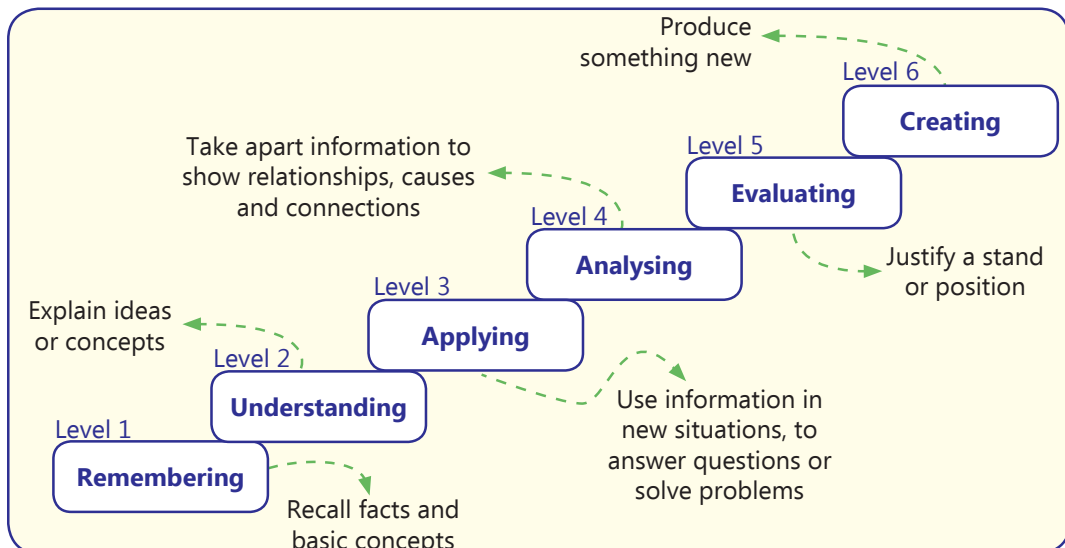
Teaching Strategies

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

Students will learn about

- ☞ Introduction to Communication
- ☞ Verbal Communication
- ☞ Visual Communication
- ☞ Importance of feedback
- ☞ Types of Barrier
- ☞ Principles of Effective Communication
- ☞ Sentence and its Kind
- ☞ Parts of Sentence
- ☞ Articles
- ☞ IMethods of Communication
- ☞ Non-Verbal Communication
- ☞ Communication Cycle
- ☞ Barriers in Effective Communication
- ☞ Measures to Overcome Barriers
- ☞ 7C's of Communication
- ☞ Phrase
- ☞ Parts of Speech
- ☞ Construction of a Paragraph

Teaching Plan

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

Show the students the Methods and Types of Communication along with its advantages and disadvantages:

- Verbal Communication
- Non-Verbal Communication
- Public Speaking
- Visual Communication

Explain the communication cycle to the students and the phases it involves:

- Sender
- Encoding
- Channel
- Decoding
- Receiver
- Feedback

Tell the students about the importance of feedback and barriers in effective communication.

Define the types of barriers and measures to overcome barriers to the students in easy language for better understanding where:

Number of Periods

Theory
10

Types of barriers are:

- Physical
- Psychological
- Linguistic
- Cultural
- Mechanical

Measure to overcome barriers are:

- Eliminating Differences in Perception
- Use of Simple Language
- Reduction and Elimination of Noise Level
- Active Listening
- Proper Media Selection

Show the students the principles of effective communication and also explain the 7Cs of communication with their aspects like:

- Concise
- Concrete
- Correct
- Clarity
- Coherent
- Complete
- Courteous

Explain the following to the students with their proper purpose in detail:

- Sentence and its Kind
- Phrase
- Parts of Sentence
- Parts of Speech
- Articles
- Construction of a Paragraph

Extension

Ask the students some oral questions based on this chapter.

- Q. What is Communication?
- Q. What are the method of communication?
- Q. Explain communication cycle.
- Q. Write about the importance of feedback.
- Q. Explain the barriers in effective communication.
- Q. Explain the 7Cs of communication.
- Q. Define:

- | | |
|--------------------------|--------------------------------|
| a. Sentence and its Kind | b. Phrase |
| c. Parts of Sentence | d. Parts of Speech |
| e. Articles | f. Construction of a Paragraph |

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 28 to 33 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.



2. Self-Management-II

Teaching Objectives

Students will learn about

- ☞ Introduction to Self-Management
- ☞ How to Manage Stress?
- ☞ Self-Awareness
- ☞ Self-Regulation
- ☞ Stress
- ☞ Working Independently
- ☞ Self-Motivation

Teaching Plan

While teaching this chapter, tell the students that self-management is the modus of applying and using one's self characteristics in a righteous and responsible way.

Number of Periods

Theory

10

Introduce the students to Stress and also explain them how to manage stress & work independently.

Tell the students what measure are to be followed to reduce stress:

- Physical Exercise
- Meditation
- Vacation
- Yoga
- Enjoyment
- Nature Walks

Share the information about self-awareness to the students which are further divided into external and internal.

Tell the students about self-motivation and how to get motivated while using real life examples.

Explain the meaning of self-regulation to the students.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is self-management?
- Q. What is stress?
- Q. What measure can be taken to reduce stress?
- Q. What is self-awareness?
- Q. What is self-motivation?
- Q. What is self-regulation?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 42 to 45 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

3. Information & Communication Technology-II

Teaching Objectives

Students will learn about

- ☞ Operating System
- ☞ Functions of Operating System
- ☞ Solaris
- ☞ GNU-Linux
- ☞ Desktop
- ☞ Panel/Taskbar
- ☞ Clock
- ☞ Running an Application
- ☞ Device Driver
- ☞ To Check File System of Hard Disk
- ☞ To Create a New Folder/File
- ☞ To Copy a Folder/File
- ☞ To Delete a Folder/File
- ☞ To View the Properties of a File
- ☞ Cleaning the Computer Components
- ☞ Preparing Maintenance Schedule
- ☞ Ways to Prevent a Virus
- ☞ Removing Temporary Files
- ☞ Classification of Operating System
- ☞ Unix
- ☞ Microsoft Windows
- ☞ Mobile Operating Systems
- ☞ Icons
- ☞ System tray
- ☞ Main menu/Start button
- ☞ Basic Components of Interface Screen
- ☞ File System
- ☞ File Management
- ☞ To Move a Folder/File
- ☞ To Rename a Folder/Fil
- ☞ To Restore a Folder/File
- ☞ Caring Computer
- ☞ Clean the Hardware Parts of Computer
- ☞ Malware
- ☞ Update the Antivirus

Teaching Plan

While teaching this chapter, tell the students that an operating system refers to the set of program that provides an interface to use the resources of computer system effectively and efficiently.

Define the meaning, importance and role of an operating system to the students.

Explain the classification of operating system to the students:

- On the basis of interface
- On the basis of number of users
- On the basis of programming
- Other classifications

Tell the students about the functions of operating system in detail.

Explain the following to the students in detail:

- UNIX
- Solaris
- Microsoft Windows

Number of Periods

Theory

10



- GNU-Linux
- Mobile Operating System (Android, Symbian)

Share the common terms and their definition with the students:

- Desktop
- Icons
- Panel/Taskbar
- System Tray
- Clock
- Main Menu/ Start Button

Show the students how to run an application in an operating system and define the basic components of interface screen.

Demonstrate the meaning of file drivers and their purpose in an operating system.

Share the steps involved in performing the following function to the students:

- File management
- Creating a new file/folder
- Moving a file/folder
- Copying a file/folder
- Renaming a file/folder
- Deleting a file/folder
- Restoring a file/folder
- View properties of a file
- Caring of computer

Explain what is a malware to the students and define the it type:

- Virus
- Worms
- Trojan horse
- Spyware
- Boot sector virus
- Program file virus
- Spam

Also, share the ways to prevent the computer from a virus and removing a temporary file.

Extension

Ask the students some oral questions based on this chapter.

- Q. How does operating system act as a messenger between hardware and application program?
- Q. Differentiate between CUI and GUI.
- Q. What is Time Sharing OS?
- Q. Write any four functions of OS.
- Q. List the name of any five operating systems.
- Q. List the name of five Linux distributions.
- Q. What are icons? List some common icons present on the desktop of Linux and Windows.
- Q. What is a file system? List different categories of file system.
- Q. Write any four points to be kept in mind while cleaning the computer.
- Q. List the ways to prevent virus infection in a computer.

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 70 to 75 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

4. Entrepreneurship-II

Teaching Objectives

Students will learn about

- ☞ Introduction to Entrepreneurship
- ☞ Function of Entrepreneur
- ☞ Myth about Entrepreneurship
- ☞ Qualities of Entrepreneurs
- ☞ Importance of an Entrepreneur
- ☞ Entrepreneurship as a Career Option

Teaching Plan

While teaching this chapter, tell the students that entrepreneurship is not only about self-employability but it plays a crucial part in completion of life cycle of society.

Explain the qualities of entrepreneurs and functions of entrepreneurs to the students.

Show the importance of an entrepreneur to the students and the myth about entrepreneurship.

Define the entrepreneurship as a career option to students in detail.

Number of Periods

Theory

15

Extension

Ask the students some oral questions based on this chapter.

- Q. Explain myth about entrepreneurship.
- Q. Define entrepreneurship as career option.
- Q. When is entrepreneurship successful?
- Q. How does entrepreneurship play an important role in the life cycle of society?
- Q. List the qualities of an entrepreneur.
- Q. Write the function of entrepreneur.

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 81 to 85 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

5. Green Skills-II

Teaching Objectives

Students will learn about

- ☞ Introduction to Environment
- ☞ Sustainable Development
- ☞ Importance of Sustainable Development
- ☞ Problems related to Sustainable Development



Teaching Plan

While teaching this chapter, tell the students that environment can be classified as natural and artificial. Natural environment consists of all the living and non-living things. It encompasses the interaction of all living beings, climate and natural resources.

Number of Periods

Theory

5

Define sustainable development to the students and importance of sustainable development.

Explain the problems related to sustainable development to the students.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is environment?
- Q. Differentiate between:
 - a. Renewable resources
 - b. Non-Renewable resources
- Q. What is sustainable development?
- Q. Write the importance of sustainable development.
- Q. Write problems related to sustainable development.

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 91 to 94 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

Part-B: Subject Specific Skills

1. Advance Features of Word Processor

Teaching Objectives

Students will learn about

- ☞ Introduction to Advanced Digital Documentation
- ☞ Styles - Styles and Formatting Window, Applying Styles in the Document, Fill Format Mode, Creating New styles from Selections, Updating Styles from Selections, To create a New Style by Drag-and-Drop
- ☞ Image – Inserting an Image from a File, Inserting a Scanned Image, Inserting Graphics from the Gallery with Drag-and-Drop, Inserting Graphics from OpenOffice Draw or Impress, Inserting a Calc Chart into a Text Document, Resize Images, Crop Image, Delete Image, Positioning Image (Anchors, Arranging Images, Aligning Images)
- ☞ Template
- ☞ Modifying Default Template - Using the Template, Updating a Document Template, Resetting Default Templates
- ☞ Defining a Hierarchy of Headings
- ☞ Table of Contents - Create a Table of Contents, Update Table of Contents, Customize a Table of Contents, Applying Character Styles
- ☞ Mail Merge - Printing Address Label

Teaching Plan

While teaching this chapter, tell the students word processing package helps in creating, editing, formatting, modifying, printing and storing the contents of a document.

Tell the students about **Styles** while demonstrating the steps involved in the following:

- Styles and Formatting Window
- Fill Format Mode
- Creating New Styles from Selections
- Updating Styles from Selections
- To create a New Style by Drag-and-Drop

Number of Periods

Theory

12

Practical

18

Tell the students about **Image** while demonstrating the steps involved in the following:

- Inserting an image from a file
- Inserting a Scanned Image
- Inserting Graphics from the gallery with Drag-And-Drop
- Inserting Graphics from OpenOffice Draw or Impress
- Inserting a Calc Chart into a Text Document
- Resize image
- Crop image
- Delete image
- Positioning image
- Arranging images

Tell the students about **Template** with the students along with the steps involved in creating a new template.

Explain to the students about **Modifying Default Template** and demonstrate the steps involved in the following:

- Using the template
- Updating a template
- Resetting default templates

Explain to the students about Table of Contents and demonstrate the steps involved in:

- Creating a table of contents
- Updating a table of contents
- Customizing a table of contents
- Applying character styles

Demonstrate what is Mail Merge to students and explain the components of Mail Merge like:

- Main Document
- Data Source
- Printing Address Labels

Extension

Ask the students some oral questions based on this chapter.

- Q. What is style?
- Q. What actions can you perform on a style?
- Q. How can you insert an image in Writer?
- Q. Explain template.
- Q. How can you modify a default template?
- Q. What is mail merge?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 122 to 127 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

2. Advance Features of Spreadsheet

Teaching Objectives

Students will learn about

- ☞ Consolidating Data
- ☞ What-If Analysis - Scenario, Multiple Operations
- ☞ Goal Seek + Solver
- ☞ Link Data and Spreadsheets - Setting Up Multiple Worksheets, Insert New Worksheets, Renaming Worksheets
- ☞ Cell Reference – Create Cell Referencing to Other Worksheets, Cell Referencing using Mouse, To Reference a Cell in another Workbook
- ☞ Hyperlink - Relative and Absolute Hyperlink, Working with Hyperlink, To Link Registered Data Source/Website
- ☞ Sharing a Document - Setting up Spreadsheet for Sharing, Opening a Shared Spreadsheet, Saving a Shared Spreadsheet

Teaching Plan

While teaching this chapter, tell the students that Data is one of the most important source for analyzing or getting proper information.

Explain the **Consolidating Data** to the students and the steps involved in combining cell contents with labelled screenshots.

Discuss with the students about the use of **Subtotal**. Also, share the steps involved in using the creating the same.

Share with the students the purpose of **What If Analysis** and the steps involved in using the tools like:

- Scenario
- Multiple Operations

Demonstrate to the students about the purpose of using **Goal Seek** and the various components:

- Formula Cell
- Variable Cell
- Target Value
- Shrink/ Maximize

Explain the objective of Solver in detail to the students and demonstrate the steps involved in its use.

Demonstrate to the students about the purpose of Link Data and Spreadsheets and steps involved in:

- Setting up Multiple Worksheets
- Inserting New Worksheets
- Renaming Worksheets

Discuss with the students the use of Cell Reference and the steps involved in:

- Creating cell reference to other worksheets
- Cell referencing using mouse
- To reference a cell in another workbook

Share with the students the purpose of using Hyperlink and also explain what is:

- Relative Hyperlink
- Absolute Hyperlink

Also share the working with hyperlink with the students.

Number of Periods	
Theory	Practical
8	10



Demonstrate to the students how **Sharing a Document** can be done and the functions that can be performed on the same like:

- Setting up a Spreadsheet for sharing
- Opening a shared Spreadsheet
- Saving a shared Spreadsheet

Extension

Ask the students some oral questions based on this chapter.

- Q. What is the meaning of consolidating the data?
- Q. What is the use of subtotal?
- Q. What is the purpose of What If analysis?
- Q. What is Goal Seek and Solver?
- Q. What is Cell Reference used for?
- Q. What is a Hyperlink?
- Q. How to open/save/set up a shared spreadsheet?
- Q. What is the purpose of Find & Replace?
- Q. What is the purpose of Spelling and Grammar?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 162 to 168 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

3. More about Spreadsheets

Teaching Objectives

Students will learn about

- ☞ Recording Changes
- ☞ Add, Edit & Format Comment (To Add a Comment, Editing Comments, Formatting Comments, To Change the Size of a Comment, To Delete a Comment, To Set Print Comment)
- ☞ Reviewing Changes (Comparing Versions of a Document, Merging Versions)
- ☞ Macro (Using the Macro Recorder, Create Own Macro Function, Passing Arguments to a macro, Arguments Passed as Values, Macros act like Built-in Functions, Accessing Cells Directly, Sorting)

Teaching Plan

While teaching this chapter, tell the students record changes feature is used to track every edited cell by highlighting with a coloured border.

Explain the steps involved in the following to the students:

- Recording changes
- Add a comment

Number of Periods

Theory

7

Practical

13

- Edit comments
- Change the size of the comment
- Set print comment
- Comparing versions of a document
- Formatting comments
- Delete a comment
- Review changes
- Merging versions

Define the meaning of Macro to the students and usage of the macro recorder to the students. Also, share the steps involved in following:

- Creating a macro function
- Argument passed as values
- Accessing cells directly
- Passing arguments to a macro
- Macro act like built-in functions

Demonstrate the meaning of sorting and the steps involved in applying so in data to the students.

Extension

Ask the students some oral questions based on this chapter.

Q. What are recording changes?

Q. Write the steps to:

- | | |
|------------------------|-----------------------------------|
| a. Add a comment | b. Edit comments |
| c. Formatting comments | d. Change the size of the comment |
| e. Delete a comment | f. Set print comment |

Q. What is Macro?

Q. What is sorting?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 183 to 187 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

4. Database Management

Teaching Objectives

Students will learn about

- | | |
|-------------------------------|--|
| ☞ Database Management System | ☞ Benefits of Database Management System |
| ☞ Elements of a Database | ☞ Relational Database Management System |
| ☞ To begin Database Package | ☞ Basic elements of 'Base' Table |
| ☞ Creating a Table | ☞ Create Table by using Wizard |
| ☞ Create Table by Create View | ☞ Entering data into a Table |
| ☞ Forms | ☞ Reports |
| ☞ Manipulating Data | ☞ Create and Manage Queries |



Teaching Plan

While teaching this chapter, tell the students that information is a collection of ordered and related data which is processed in a meaningful way.

Explain the meaning of database management system with the help of case studies and examples to the students.

Share the benefits of database management system with the students like:

- Reduction in data redundancy
- Reduction in data inconsistency
- Sharing of data
- Enforcement of data standards
- Ensure data security
- Data integrity
- Interactive interface

Explain the elements of a database to the students with proper function of each.

Share the meaning and importance of the following to the students:

- Relational DBMS
- Components of database package (tables, queries, forms, reports)
- Basic elements of 'Base' table (field name, field type, field properties, key field, primary key, foreign key)

Tell the steps involved while performing the following actions in DBMS to the students:

- Create a new database
- Opening an existing database
- Creating a table (in design view, using wizard, create view)
- Deleting columns/fields
- Modifying columns/fields
- Entering data into a table
- Editing data in a table
- Hiding/unhiding columns
- Sorting

Explain what is data validation and field level validation to the students using real life examples.

Show the meaning of relationship, query, forms and reports to the students in database using all the steps involved and examples of database.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is database management system?
- Q. What are the benefits of DBMS?
- Q. What are the elements of database?
- Q. What is relational DBMS?
- Q. Write the components of database?
- Q. What is data validation?
- Q. What is relationship?
- Q. What is query?
- Q. What is report?
- Q. What is a form?

Number of Periods

Theory

10

Practical

17

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 229 to 233 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

5. More on Database

Teaching Objectives

Students will learn about

- ☞ DDL
- ☞ DCL
- ☞ Database and Operators (Data Type)
- ☞ SQL Operators (Arithmetic Operators, Comparison Operators, Logical Operators)
- ☞ Create Table
- ☞ Insert, Update and Delete statement
- ☞ DML
- ☞ TCL
- ☞ Managing Query (Select)

Teaching Plan

While teaching this chapter, tell the students that in a database, structure of data can be defined & manipulated by using different commands.

Explain the meaning and importance of the following in a database to the students:

- Data Definition Language
- Data Control Language
- Data Manipulation Language
- Transaction Control Language

Define data types and operators along with their description to the students.

Show the steps involved in doing these action to the students:

- SQL create table
- Managing query (SELECT)
- Insert, update and delete records and statements

Extension

Ask the students some oral questions based on this chapter.

Q. Define:

- a. DDL
- b. DML
- c. DCL
- d. TCL

Q. Define data types and operator used in database.

Q. What is the purpose of SELECT query?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 244 to 248 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

Number of Periods	
Theory	Practical
8	10



6. Web Application

Teaching Objectives

Students will learn about

- ☞ Various types of Impairment
- ☞ Networking Fundamentals (Benefits of Networking, LAN, MAN, WAN)
- ☞ Network Topology
- ☞ WWW
- ☞ Internet Terminology (HTML, Webpage, Web Browser, Web Address, DNS, Web Servers, URL, ISP, Modem, IP Address, Web Portal, Switch, Hub, Bridge, Router, Gateway, Hyperlink, Bandwidth)
- ☞ Internet Connectivity Options (Wired and Wireless Internet Connection)
- ☞ Internet Access through Wi-Fi
- ☞ Instant Messaging (Google Talk, Creating an IM Account)
- ☞ Blog
- ☞ Online Transaction
- ☞ e-Commerce
- ☞ Commonly Used Online Application (e-Learning, e-Governance, e-Banking, UPI, Online Exam, e-Reservation)
- ☞ Importance of Secure Password
- ☞ Ease of Access Center in Windows
- ☞ Internet
- ☞ Features of WWW
- ☞ Data Transfer on Internet
- ☞ Offline Blog Editor
- ☞ Illustration of Online Shopping

Teaching Plan

While teaching this chapter, tell the students that technology plays a major role in overcoming the challenges faced by specially physically challenged people.

Explain the various types of impairment to the students along with the ease of access center in Windows/Accessibility box.

Tell the students about the networking fundamentals like benefits of networking.

Share the information about the different types of networks to the students:

- LAN
- MAN
- WAN

Tell the students about network topology in detail:

- Linear Topology
- Ring Topology
- Bus Topology
- Tree Topology
- Star Topology
- Mesh Topology

Explain the terms to the students like:

- Internet
- Website
- Web address
- URL
- IP Address
- WWW
- Web page
- Domain name system
- ISP
- Web Portal
- HTML
- Web browser
- Web servers
- Modem
- Switch

Number of Periods

Theory

8

Practical

11

- Hub
- Gateway
- Bridge
- Hyperlink
- Router
- Bandwidth

Show the students the internet connectivity options with examples:

- Wired
- Wireless
- Wi-Fi

Introduce the data transfer on internet including TCP/IP protocol to the students in easier language.

Explain instant messaging, blog, offline blog editor, online transaction and e-commerce to the students in detail with using the correct examples.

Share the information about commonly used online applications with the students:

- e-Learning
- UPI
- e-Governance
- Online Exam
- e-Banking
- e-Reservation

Also, share the importance of secure password with the students for their own data safety concern.

Extension

Ask the students some oral questions based on this chapter.

- Q. Write about any four benefits of network.
- Q. Write any three features of WWW.
- Q. How data transfer takes place on the Internet?
- Q. Explain about e-Commerce.
- Q. List the name of any four blogs.
- Q. List the name of Toggle keys.
- Q. What is P2P architecture?
- Q. Explain any two wired and wireless internet connectivity option.
- Q. What is protocol? Explain TCP/IP and HTTPS protocols.
- Q. Write any five features of Online transaction.
- Q. Write any five characteristics of strong password.

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 294 to 300 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

7. Web Security & Workplace Safety

Teaching Objectives

Students will learn about

- 🔍 Introduction to Web/Internet Security
- 🔍 Need of Internet Security
- 🔍 Cyber Threat (Malware, DoS Attack, Man in the Middle Attack, Spoofing, Phishing)



- 👉 Best Practices for Web Security
- 👉 Fire (Fire Safety Measures)
- 👉 Falls and Slips (Safety Measures to avoid Falls and Slips)
- 👉 Electrical Shocks and its Effects (To Counter Electric Current, Measures to Prevent Electrical accidents)
- 👉 First Aid (First Aid Kit, Design of Kits)
- 👉 Case Study on Hazard (Lockdown Emergency: Hazards of COVID-19 Epidemic)
- 👉 Accident (Types, Precautions & Safety Measures, Handling Accident)
- 👉 Emergency (Types of Emergencies, Workplace Evacuation)
- 👉 Hazard, Health & Safety

Teaching Plan

While teaching this chapter, tell the students that with the advent of technology, usage of Internet and its applications have also increased by many folds.

Number of Periods	
Theory	Practical
7	11

Tell the students about the need of internet security by giving some examples.

Explain the Cyber threat (malware, virus, DoS Attack, Man in the Middle Attack, Spoofing, Phishing) to the students for better understanding of the topics.

Share the best practices for web security to the students along with examples:

- Identity protection
- Protect username and password
- Do not share personal information
- Secure online transaction
- Avoid using unsecured Wi-Fi
- Don't accept unknown invitation
- Use antivirus
- Install firewall
- Password safe
- Use multi-factor authorization

Explain the importance of health & safety at workplace to the students along with the fire safety measures.

Share the meaning, measure, prevention and the related factors of the following to the students:

- Falls & Slips
- Electrical Shocks
- Covid-19
- Accident
- Emergency
- Hazard

Tell the students how to take care of their health and be safe.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is the need of Internet security?
- Q. List any five cyber threats.
- Q. What is spyware? How you can prevent the attack of spyware?

- Q. What are the symptoms and effect of a malware?
- Q. Write few tips for having a strong password.
- Q. What are the measures to prevent an electrical shock?
- Q. What are the common reasons of an accident?
- Q. What do you understand by emergency?
- Q. Explain best practices of Web Security.
- Q. List a few fire safety measures.
- Q. Explain about Falls and Slips.
- Q. What is a 'First Aid Kit'?
- Q. What is a Hazard?
- Q. Explain standard evacuation plan to be followed in an organisation.
- Q. How to identify that Website is secure or not?
- Q. List the steps to handle accidents.
- Q. What is a 'Firewall'?
- Q. What is a Password?
- Q. What is a Spam?
- Q. Explain about Trojan Horse.

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 327 to 323 in the main course book under Solved Exercise, Unsolved Exercise and Previous Years' Questions.

