**8**

# TOUCHPAD®

## PLAY Ver 1.0

# Teacher's Manual

*Extended Support for Teachers*

**ORANGE** ™

# Teacher's Time Table

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

# DEVELOPMENT MILESTONES IN A CHILD

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

| Age 5 - 8 Years | |
|---|---|
| **Physical** | • First permanent tooth erupts<br>• Shows mature throwing and catching patterns<br>• Writing is now smaller and more readable<br>• Drawings are now more detailed, organised and have a sense of depth |
| **Cognitive** | • Attention continues to improve, becomes more selective and adaptable<br>• Recall, scripted memory, and auto-biographical memory improves<br>• Counts on and counts down, engaging in simple addition and subtraction<br>• Thoughts are now more logical |
| **Language** | • Vocabulary reaches about 10,000 words<br>• Vocabulary increases rapidly throughout middle childhood |
| **Emotional/Social** | • Ability to predict and interpret emotional reactions of others enhances<br>• Relies more on language to express empathy<br>• Self-conscious emotions of pride and guilt are governed by personal responsibility<br>• Attends to facial and situational cues in interpreting another's feelings<br>• 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<br>• Cognitive self-regulation is now improved |
| **Language** | • Ability to use complex grammatical constructions enhances<br>• Conversational strategies are now more refined |
| **Emotional/Social** | • Self-esteem tends to rise<br>• Peer groups emerge |

| Age 11 - 20 Years | |
| --- | --- |
| **Physical** | • If a girl, reaches peak of growth spurt<br>• If a girl, motor performance gradually increases and then levels off<br>• If a boy, reaches peak and then completes growth spurt<br>• If a boy, motor performance increases dramatically |
| **Cognitive** | • Is now more self-conscious and self-focused<br>• Becomes a better everyday planner and decision maker |
| **Emotional/Social** | • May show increased gender stereotyping of attitudes and behaviour<br>• 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 needs 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.
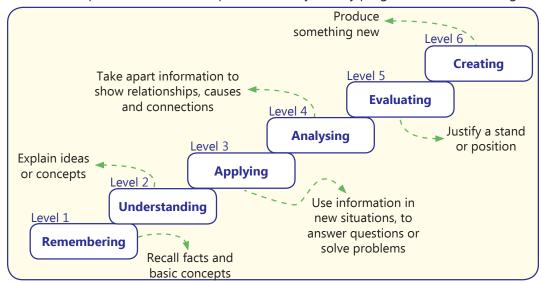
"Knowing yourself is the beginning of all wisdom."

# Teaching Strategies

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

```
                    Direct
                  Instruction
    Performance                    Classroom
    Activities                     Discussion
                  Effective
    Student       Teaching          Small
    Research      Strategies      Group Work

         Problem              Cooperative
         Solving               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**

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

Level 1 — **Remembering**

Recall facts and basic concepts

Teachers should focus on helping students to remember information before expecting them to understand it, helping them understand it before expecting them to apply it to a new situation, and so on.

> "If you have no confidence in self, you are twice defeated in the race of life."

# LESSON PLAN

## Touchpad PLAY Ver 1.0
## Class-8

## 1. Computer Networking

### Teaching Objectives

Students will learn about

- ☞ Computer Network
- ☞ Advantages of Computer Network
- ☞ Components required for a Network
- ☞ Topology
- ☞ Wireless Networking Technology

- ☞ Need for Computer Network
- ☞ Network Terminology
- ☞ Types of Network
- ☞ Network Architecture
- ☞ Protocol

### Teaching Plan
**Number of periods:** 4

While teaching this chapter, tell the students that the process of connecting computers and peripheral devices with each other to exchange data is called computer networking.

Tell the students about the meaning and basics of computer network.

Share with the students the need for computer network – for resource sharing and for communication.

Discuss with the students the advantages of a computer network.

Introduce network terms like Server (host computer) and Client (dependent on server).

Explain the different types of servers to the students covering dedicated server, print server, database server, network server and web server.

Tell the students about the components required for a network covering NIC, hub/switch, router, modem and networking cable.

Share with the students that on the basis of geographical area covered, the networks can be classified into LAN (Local Area Network), MAN (Metropolitan Area Network), WAN (Wide Area Network), PAN (Personal Area Network) and CAN (Campus Area Network).

Introduce Topology as geometric arrangement of computers or nodes in a network.

Explain the difference between different types of topologies covering bus topology, ring topology, star topology, tree topology and mesh topology (Refer Suggested Activity also).

Tell the students that the network architecture defines the overall design of the computer network.

Share with the students the two types of network architectures as Peer-to-Peer network and Client-Server network.

Share with the students about the wireless networking technologies detailing about Wi-Fi and Bluetooth.

Introduce Protocol as a set of rules that govern the communication between the computers on a network.

Discuss briefly about the different types of protocols explaining about HTTP, HTTPS, FTP, TC/IP, POP3, IMAP and SMTP.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

### Extension

Ask the students some oral questions based on this chapter.

Q.  Define computer network.

Q.  What is the need for a computer network?

Q.  What are the advantages of a computer network?

Q.  Define server / client.

Q.  What are the different types of computer servers?

Q.  What are the components required for a network?

Q.  Define LAN / MAN / WAN / PAN / CAN.

Q.  Define Topology.

Q.  Name different types of topologies.

Q.  What is meant by protocol?

### Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 13 and 14 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 14 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

### Suggested Activity

Ask the students to make models of different types of topologies using marbles and used wire pieces / straws.

# 2. Advanced Features of Excel

### Teaching Objectives

Students will learn about

☞ Sorting Data

☞ Filtering Data

☞ Conditional Formatting

☞ Printing a Worksheet

## Teaching Plan

While teaching this chapter, tell the students that MS Excel provides easy options for sorting data and highlighting the required information in a worksheet.

Introduce sorting as arranging the data in ascending or descending order.

Demonstrate to the students the various steps involved in sorting of data in an Excel worksheet.

Share with the concept and use of Custom Sort feature (Refer Suggested Activity 1 also).

Introduce filtering as hiding unwanted data from a set of data.

Show to the students the various steps involved in applying Filters in a worksheet.

Share with the students that Filters once applied can be easily removed and tell them the method of removing filters.

Introduce Conditional Formatting as highlighting the required information.

Tell the students about basic difference between Filtering (unwanted information gets hidden) and Conditional Formatting (required information gets highlighted).

Explain the various criteria detailed under Conditional Formatting.

Demonstrate the steps involved in applying conditional formatting on a worksheet (Refer Suggested Activity 2 also).

Make the students recall that a printout is a hard copy of the information we see on the monitor.

Show to the students the steps involved in the printing of a worksheet.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q. Define sorting.

Q. What is the difference between sort and custom sort features?

Q. What are filters?

Q. How can filters be removed in a worksheet?

Q. What do you understand by conditional formatting feature?

Q. How is conditional formatting different from filtering data?

Q. When is the conditional formatting criteria Highlight Cell Rules / Data Bars / Icon Sets used?

Q. What is a printout?

Q. What are the steps to print a worksheet?

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 19 and 20 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 20 will enhance the ability of the students and serve as Subject Enrichment activity.

1. Ask the students to enter their height and weight along with similar information for their nine friends. Sort the data with primary criteria as heights in ascending order and secondary criteria as weights in descending order.

2. Highlight the cells where the heights are less than the height of the student or weight is more than the weight of the student preparing the worksheet.

# 3. Introduction to MS Access 2010

## Teaching Objectives

Students will learn about

☞  Concept of a Database                    ☞  Types of Databases

☞  Advantages of a Database System         ☞  Structure of a Database

☞  MS Access 2010                          ☞  Components of MS Access 2010

☞  Creating a Database                     ☞  Opening an Existing Database

☞  Data Types in MS Access 2010            ☞  Types of Views in Ms Access

☞  Rules for Writing a Field Name in MS Access

☞  Creating a Table

## Teaching Plan                                    **Number of periods:** 5

While teaching this chapter, tell the students that the computerized database system was introduced in 1960s.

**Introduce:**

● Database as organizing data in a manner which helps to store and retrieve a large amount of data efficiently.

● Database Management System as a collection of programs required to store and retrieve data from a database.

Explain to the students the meaning of the two types of databases – Flat File Database and Relational Database.

Share with the students the advantages of a database system.

Draw on board and explain the structure of a database to the students explaining about table, fields, records, primary key, query, report and form.

Introduce MS Access 2010 as a powerful and easy to use Relational Database Management System and is a part of MS Office Suite.

Demonstrate the steps to start MS Access 2010.

Familiarize the students with the various components of MS Access 2010 window covering Quick Access Toolbar, Title Bar, Ribbon, Navigation Pane, Navigation Buttons, Work Area and Objects Tabs.

Demonstrate to the students the two ways of creating a database as:

● Creating a blank database                ● Creating a database using Templates

Show the students the method to open an existing database and close a database.

Explain different data types used in MS Access 2010 covering Text, Memo, Number, Auto Number, Date/Time, Yes/No, OLE, Hyperlink and Lookup Wizard.

Discuss with the students the use of the different types of views in MS Access 2010 as Datasheet view and Design view.

Share with the students the rules for defining field names in MS Access 2010.

Tell the students that Tables can be created in three ways.

Demonstrate to the students the steps to create a Table:

● In Design view                    ● In Datasheet view
● By using Templates

Show to the students the method to exit MS Access 2010.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q. Define database.

Q. What is Database Management System?

Q. Expand DBMS.

Q. Name the different types of databases.

Q. What type of database is MS Access 2010?

Q. Give any two advantages of Database System.

Q. Define Table / Query / Report / Form.

Q. Name any three data types used in MS Access 2010.

Q. What does OLE stands for?

Q. What are the rules for writing field names?

Q. What is the use of Field Name / Description in the Table design window?

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 31 and 32 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 32 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Ask the students to create a table storing information about details of their ten friends and sort the records in the table in alphabetical order.

# 4. Queries, Forms and Reports in MS Access

## Teaching Objectives

Students will learn about

☞   Forms in MS Access                                      ☞   Queries in MS Access

☞   Reports in MS Access

## Teaching Plan                                                                 **Number of periods:** 3

While teaching this chapter, tell the students that MS Access is used to create tables and maintain records in a database along with preparing Forms, Queries and Reports.

Introduce Forms as objects used to add, edit and display data from tables in a user friendly manner.

Share with the students that a Form can be displayed in three views – Form View, Design View and Layout View.

Demonstrate to the students the steps to create a Form.

Explain different types of Forms covering Multiple Items, Datasheet, Split Form and Modal Dialog.

Familiarize the students with the Navigation Bar of the Form window to view and navigate between records in a Table.

Tell the students that the appearance of the Form can be formatted using Design and Format tabs.

Introduce Query as the object that can give information which the user might not be able to find by looking at the Table directly.

Explain the different types of Queries as: Select Query, Parameter Query, Action Query, Crosstab Query and SQL.

Tell the students about the relationship between the Primary Key and the Foreign Key.

Show to the students the steps to define relationships between tables.

Demonstrate the steps to create a query.

Introduce Report as an object used to organize and present data in a user friendly format for printing purpose.

Demonstrate the steps to:

●   Create a Report                                     ●   Print a Report

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q.   Define Form / Query / Report.

Q.   Name the different views in which a Form can be displayed.

Q.   Name the different types of Forms in MS Access.

Q.   Where is Navigation Bar located?

Q.   Name the different types of Queries.

Q.   Define Primary Key / Foreign key.

Q.   Name any four parameters of Query window.

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 40 and 41 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 41 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Using the Table created in the previous chapter create a query to display names of friends whose name starts with A or D.

# 5. Introduction to HTML

## Teaching Objectives

Students will learn about

- ☞ What is HTML?
- ☞ Rules for Writing HTML Codes
- ☞ Creating and Saving HTML Document
- ☞ Designing a Web Page
- ☞ HTML Tags and Attributes
- ☞ HTML Document Structure
- ☞ Basic HTML Tags
- ☞ Editing an Exiting HTML

## Teaching Plan                                          **Number of periods:** 5

While teaching this chapter, tell the students that websites consist of millions of pages called web pages which contain text, graphics, audios, videos and links to other pages.

Introduce Hypertext Markup Language (HTML) as language that describes the structure of a web page.

Make the students understand the meaning of the terms like hypertext and markup language.

Tell the students about the tools needed for working with HTML.

Make the students aware about the different types of HTML editors – WYSIWYG editor and Text editor.

Familiarise the students with basic HTML terms like tags, container tags, empty tags, block level tags, text level tags and attributes.

Tell the students about the concept of nesting of tags.

Share with the students the general rules followed for writing HTML codes.

Show to the students a HTML document and make them understand and identify the various sections and structure of the HTML document.

Demonstrate to the students the steps involved in:

- Creating a HTML document
- Previewing a web page.
- Saving a HTML document

Tell the students about the meaning and use of basic HTML tags covering <HTML>, <HEAD>, <TITLE> and <BODY> tags alone with their attributes.

Tell the students about some more HTML tags like Heading, Paragraph, Line Break, Horizontal Ruler (and its attributes), Bold, Italic, Underline, Superscript and Subscript tags.

Share with the students about the use of <FONT> tag and its attributes.

Demonstrate to the students the steps involved in designing a web page using the various HTML tags discussed.

Show the students the method of editing an existing HTML document.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q.   What is HTML?
Q.   Define hypertext and Markup language.
Q.   Name the different types of HTML editors.
Q.   What are tags and attributes?
Q.   State the rules followed while writing HTML codes.
Q.   Name the text editor most commonly used to write HTML codes.
Q.   State the use of <HTML> / <HEAD> / <BODY> / <TITLE> tags.
Q.   What is the difference between container tags and empty tags?
Q.   What attributes can be taken by the <FONT> tag?

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 54 and 55 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 55 will enhance the ability of the students and serve as Subject Enrichment activity.

## Suggested Activity

Ask the students to develop a similar web page in HTML.

### Basics of writing chemical formulas

The valency is used to write chemical formulas. The valency is written at the top write corner of the chemical symbol of the element. For example, valency of Sodium is 1 and is denoted as:

$$Na^{1+}$$

A chemical reaction is denoted as:

$$C + O_2 \text{-----> } CO_2$$

$$H_2O + SO_2 \text{-----> } H_2SO_4$$

# 6. Lists and Tables in HTML

## Teaching Objectives

Students will learn about

☞ Creating Lists

☞ Creating Tables

## Teaching Plan

**Number of periods:** 2

While teaching this chapter, tell the students that HTML tags are used to create a web page.

Introduce list as collection of related items.

Tell the students that there are three types of lists – Ordered List (Numbered List), Unordered List (Bulleted List) and Definition List (Description List).

Explain the use of <OL> tag to create ordered lists, <UL> tag to create unordered lists and <DL> tag to create definition lists. (See Suggested Activity 1 also).

Explain the use of <TABLE> tag and its child tags covering <TR>, <TD>, <TH> and <Caption>.

Explain the use of different attributes of <TABLE> tag covering BORDER, BORDERCOLOR, FRAMES, BGCOLOR, BACKGROUND, HEIGHT, WIDTH, CELLSPACING and CELLPADDING.

Discuss the use of different attributes of <TD> tag explaining about ALIGN, BGCOLOR, WIDTH, ROWSPAN, COLSPAN and VALIGN attributes.

Tell the students that all the attributes except ROWSPAN and COLSPAN are taken up by <TR> tag also.

Demonstrate the code to create a table and its data in HTML. (See Suggested Activity 2 also).

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q. Define List / Table.

Q. How many types of Lists can be created in HTML?

Q. Name the different types of Lists that can be created in HTML.

Q. What is an Ordered / Unordered / Definition List?

Q. Name the attributes of <OL> tag.

Q. Name the tags used to create Definition List.

Q. Name the tags that can used to create different kinds of tables.

Q. What are the attributes of <TABLE> / <TD> tag?

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 63 and 64 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 64 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Ask the students to create:

- List of favourite games of 10 friends.
- Table of car names and their models.

# 7. More on HTML

## Teaching Objectives

Students will learn about

- ☞ Inserting Images
- ☞ Linking Web Pages
- ☞ Creating Marquee
- ☞ Frames

## Teaching Plan                                          **Number of periods:** 4

While teaching this chapter, tell the students that HTML allows inserting images and frames on web pages as well as interlinking them.

Tell the students that HTML supports JPEG, GIF and PNG image formats.

Tell the students that <IMG> tag is used to insert images and it takes the attributes as SRC, WIDTH, HEIGHT, ALIGN, BORDER and ALT.

Demonstrate to the students the use of <IMG> tag and its attributes.

Introduce Marquee as the moving objects on a web page to get special attention of the users.

Explain the use of <MARQUEE> tag and its attributes as BEHAVIOUR, DIRECTION and SCROLLAMOUNT.

Make the students understand that a hyperlink is an underlined text or an image which when clicked takes the user to some other location.

Share with the students that <A> is used to create links and the attributes that this tag can take are – LINK, ALINK and VLINK.

Demonstrate the use of <A> tag and its attributes to hyperlink web pages (See Suggested Activity also).

Introduce Frames as a feature to display more than one web page on a single screen of the web browser.

Explain the use of <FRAMESET> tag and <FRAME> tag to create and define frames on a web page.

Tell the students that the <FRAME> tag can take FRAMEBORDER, NORESIZE and SRC as attributes.

Demonstrate the use of <FRAMESET> and <FRAME> tags to create frames on a web page.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q. Which tag is used to insert images on a web page?

Q. State the use of SRC / WIDTH / ALIGN /ALT attribute of IMG tag.

Q. Which image formats are supported by HTML?

Q. What is the use of MARQUEE tag?

Q. Which tag is used to link web pages?

Q. Name the attributes that can be taken by FRAME tag.

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 76, 77 and 78 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 78 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Ask the students to create an e-shopping web site listing categories of items on home page and details of items on separate category pages.

# 8. Introduction to Python

## Teaching Objectives

Students will learn about

☞ Features of Python

☞ Variables in Python

☞ Keywords

☞ Operators

☞ The Input( ) Statement

☞ Creating Simple Python Programs

☞ How to Use Python IDLE

☞ Character Set

☞ Data Types

☞ Comments in Python

☞ The Print( ) Statement

## Teaching Plan

**Number of periods:** 4

While teaching this chapter, tell the students about Python as a high level programming language and its uses.

Share with the students the important features of Python.

Demonstrate the steps to start Python IDLE.

Familiarize the students with the interface of Python IDLE.

Tell the students the basic commands of IDLE like creating a new file, saving a file, opening an existing file, executing a programming file, closing a file and exiting IDLE.

Introduce variables as memory location used to store data.

Share with the students the rules of naming variable in Python.

Tell the students about important terms like character set, keywords and data types (covering number, string, list, tuple, dictionary and none).

Explain the operators used in Python stating the common arithmetic operators (+, -, *, /, //, %, **), relational operators (= =, !=, >, <, >=, <=) and logical operators (&, |).

Demonstrate to the students the use of these operators and commands in simple Python programs.

Explain the use and importance of comments in Python.

Tell the students the purpose and syntax of:

- The input() statement
- The print() statement

Encourage the students to write simple programs in Python.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

### Extension

Ask the students some oral questions based on this chapter.

Q.   What is Python?

Q.   Expand IDLE.

Q.   What is the use of arithmetic / logical / relational operators?

Q.   Define keywords / variables / data types.

Q.   What is the use of input() / print() statement?

### Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 88 and 89 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 89 will enhance the ability of the students and serve as a Subject Enrichment activity.

### Suggested Activity

Ask the students to develop programs in Python to calculate:

- Volume of cube
- Volume of cuboid
- Radius of circle when the area of the circle is given

# 9. Conditional and looping statements in Python

### Teaching Objectives

Students will learn about

☞   The input() and the print() Functions

☞   Conditional Statements

☞   Looping Statements

☞   Jump Statements

## Teaching Plan

**Number of periods:** 4

While teaching this chapter, tell the students that Python is an object-oriented programming language.

Recall with the students the use of:

- The input() function
- The print() function

Demonstrate to the students the use of these functions.

Introduce conditional statements as the statements used to change the default flow of a program.

Explain that Python offers three decision making statements:

- if statement
- if...else statement
- if...elif...else statement

Explain the situation when these statements are used and demonstrate the use of each statement.

Introduce looping statement as the statement that allows repeating a set of instructions a given number of times.

Share with the students the use and syntax of the 'for' loop.

Tell the students that jump statements are used to transfer the control of the program outside the loop even if all the values of the sequence have not been taken.

Share with the students that the jump statements offered by Python are:

- The break statement (used to terminate the loop).
- The continue statement (used to force the next iteration of the loop and skip the current iteration).

Demonstrate the use of the jump statements in Python.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q. What is Python?
Q. What is the use of the input() / print() function?
Q. What is the use of conditional statements?
Q. Name the conditional statements used in Python.
Q. What are looping statements used for?
Q. What is the use of Jump statements in Python?
Q. Name the jump statements used in Python.

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 96 and 97 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 97 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Write a program in Python to:

- Input 5 numbers and check which of these numbers are prime or composite.
- Input age of a person and check whether he or she is a senior citizen or not.
- Calculate the average marks of three students in four subjects each and arrange the averages in ascending order.

# 10. Services on Internet

## Teaching Objectives

Students will learn about

- ☞ Internet Services
- ☞ Cyber Crime
- ☞ Cyber Security
- ☞ Hacking and Cracking

## Teaching Plan                                      **Number of periods:** 3

While teaching this chapter, tell the students that internet is used for a wide variety of services including communication, shopping and banking.

Tell the students that internet services allow us to perform different types of operations over the internet.

Explain how internet plays an important role in communication through e-mails, video conferences, voice-over-internet protocol, chat, social network, newsgroup and blogs.

Demonstrate the steps to use:

- VoIP services
- Blogging

Share with the students how internet is used to:

- Send greetings in the form of e-greetings
- Send and receive money through e-banking
- Store data and information through cloud storage

Introduce Cyber Security as the process of protecting computer resources such as networks, devices, programs and data from unauthorized access, damage or attack.

Share with the students the reasons for increase in cyber-crimes.

Introduce cyber-crime as a criminal activity in which computers are used to do crimes.

Explain the different types of cyber-crimes covering data diddling, phreaking, cloning and carding.

Make the students understand the difference between hacking (practice of modifying computer hardware and software for legal purposes) and cracking (practice of modifying computer hardware and software for illegal purposes).

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

## Extension

Ask the students some oral questions based on this chapter.

Q.    Name some internet services.

Q.    Define Video Conferencing / VoIP.

Q.    What are the advantages and disadvantages of VoIP?

Q.    Define chatting / social networking / blogging.

Q.    What is meant by cloud storage?

Q.    Name some cloud storage services.

Q.    Define Cyber Security / Cyber Crime.

Q.    What are the different types of cyber-crimes?

Q.    Differentiate between hackers and crackers.

## Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 105 and 106 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 106 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

## Suggested Activity

Ask the students to collect information about different types of major cyber-crimes committed in last one year.