Class 7

LESSON PLAN

Touchpad MODULAR Ver 2.0

1. Types of Software

Teaching Objectives

Students will learn about

- ☞ Software
- ☞ Application Software
- ☞ System Software

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that a computer system is made up of a number of electronic devices which are connected together.

Teach them that Software is a set of instructions that makes the computer perform tasks.

Make them understand the different types of software as System Software (comprising of Operating System, Programming Software and Utility Software) and Application Software (comprising of General Purpose Software and Customised Software).

Tell the students about different types of General Purpose Software like word processors, spreadsheets, presentation software, DBMS, DTP software, and multimedia Software (refer Suggested Activity also).

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

Ask the students to read the **Clickipedia** given on page 9.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a computer system?

Q. What is software?

Q. What are the different types of software?

Q. How is system software different from application software?

Q. What is the benefit of using customized software?

Q. Define the terms:

- Utility software
- Word processor
- Operating system
- Spreadsheets

- Presentation Graphics software
- DTP software
- DBMS

Encourage the students to walk through the chapter and ask them to explain any one topic from the chapter.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 12 and 13 of the main course book as **Exercise**.

Take the students to the computer lab and let them practice the activity given in **In the Lab** section on Page 13 in the main course book. This will enhance the abilities of the students and serve as a subject enrichment activity.

Suggested Activity

Ask the students to collect pictures of interfaces of various types of application software and paste them on a chart paper in a hierarchical chart as shown on Page 9 of the course book.

2. Advanced Features of Windows 10

Teaching Objectives

Students will learn about

- ☞ Understanding File Explorer
- ☞ Searching of Files or Folders
- ☞ Different Views of Files and Folders
- ☞ Control Panel

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that all the data in a computer can be arranged in the form of files and folders.

Introduce file explorer as a file manager of Windows operating system

Introduce to the students the File Explorer as a file manager that organizes and manages files and folders.

Demonstrate to the students the steps to open File Explorer.

Tell the students about the different views of files and folders.

Demonstrate the following views to the students:

- Extra Large Icons View
- Large Icons View
- Medium Icons View
- Small Icons View
- List View
- Details View
- Tiles View
- Content View

Teach them how to search the files or folders using File Explorer and Wildcard Characters.

Explain the students that the Control Panel is used to control and modify many features of Windows 10 on your computer.

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

Ask the students to read the **Tech Funda** given on page 14.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a file / folder / subfolder?

Q. Define a computer icon.

Q. What is Windows Explorer?

Q. Name the default folders of Windows 7 for organizing data.

Q. Which key is used to select multiple files?

Q. Which key is pressed to invert the selection?

Q. What is the difference between copying a file and moving a file?

Encourage the students to walk through the chapter and ask them to explain any one topic from the chapter. Also, ask them to solve Worksheet 1 given on page no. 22.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 20 and 21 of the main course book as **Exercise**.

Take the students to the computer lab and let them practice the activity given in **In the Lab** section on Page 21 in the main course book. This will enhance the abilities of the students and serve as a subject enrichment activity.

Suggested Activity

Ask the students to collect information about some more features of Windows 7 other than those discussed in the chapter.

3. Introduction to Excel 2016

Teaching Objectives

Students will learn about

- Starting Excel 2016 Window
- Creating a New Workbook
- Saving a Workbook
- Components of Excel 2016
- Entering Data in a Worksheet
- Data Types in Excel 2016

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that Excel 2016 is an application software that is used to store and analyse data.

Demonstrate to the students the steps to start Excel 2016 .

Familiarize the students with the various components of Excel 2016 window covering Title Bar, File Tab, Quick Access Toolbar, Ribbon, Formula Bar, Name Box, Worksheet Window, Worksheet, Status Bar, Row, Column, Row and Column Heading Buttons, Cell, Active Cell, Mouse Pointer, Worksheet Tab, Worksheet Tab Scrolling buttons, Workbook and Cell Range.

Demonstrate to the students the steps to:

- Create a new workbook
- Enter data in a worksheet
- Save a workbook

Tell the students that Excel 2016 has three data types to be entered in a spreadsheet which are Labels, Values or Numbers and Formula.

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

Ask the students to read the **Clickipedia** given on page 23

Extension

Ask the students some oral questions based on this chapter.

Q. What is Excel 2016?

Q. What are the features of Excel 2016?

Q. Name any five components of Excel 2016.

Q. Define the terms:

- Formula Bar
- Name Box
- Row
- Column
- Cell
- Active Cell

Q. State the situation when Number / Text / Date and Time data type used for.

Q. State the shortcut key to save an Excel worksheet.

Encourage the students to walk through the chapter and ask them to explain any one topic from the chapter.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 26 and 27 of the main course book as **Exercise**.

Take the students to the computer lab and let them practice the activity given in **In the Lab** section on Page 27 in the main course book. This will enhance the abilities of the students and serve as a subject enrichment activity.

Suggested Activity

Ask the students to prepare a table in this format for their family members.

S.No.	Name	Relation with Me	Date of Birth	Age

4. Editing in Excel 2016

Teaching Objectives

Students will learn about

- ☞ Selecting Cells in a Worksheet
- ☞ Using Undo and Redo Features
- ☞ Inserting Rows/Columns
- ☞ Autofil
- ☞ Copying/Moving Data
- ☞ Column Width and Row Height
- ☞ Merging Cells
- ☞ Customise Worksheet Tab

Number of Periods	
Theory	Practical
◯	◯

Teaching Plan

While teaching this chapter, tell the students that MS Excel is an application software that helps us to store and analyse data.

Demonstrate the steps to start MS Excel 2016.

Show an active window of MS Excel 2016 and explain the meaning and use of the various components of MS Excel 2016 covering title bar, file tab, quick access toolbar, ribbon, formula bar, name box, worksheet window, status bar, row, column, cell, row and column headings, active cell, mouse pointer, worksheet tab and workbook.

Show to the students how to create a new workbook in Excel.

Tell the students that to enter data in a cell, simply click on the cell and enter data.

Tell the students the methods of modifying data by cut, copy and paste.

Explain to the students the steps involved in changing row height and column width – both manually and automatically.

Tell the students that Excel allows inserting blank rows and columns at the required place in the worksheet.

Demonstrate to the students how two or more cells can be merged into one and also how a cell can be split up into two or more cells (refer Suggested Activity also).

Explain some worksheet formatting features of Excel like

- Word wrap – displaying multiple lines of text in a cell
- Format numbers – applying various data types to the cells
- Cell borders – boundary around a cell or a series of cells
- Cell styles – Pre-defined cell border, colour and formatting
- Cell fills – adding colours or shades in the cells

Show to the students the steps involved in applying all of these formatting features on a worksheet.

Explain to the students that worksheet tab can be customized by changing its default name and colour.

Introduce to the students AutoFill feature of Excel as automatically filling a series of data in the worksheet and the steps involved in the same.

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 the use of MS Excel software?
Q. Name any five components of an Excel window.
Q. What is the difference between Cut and Copy options?
Q. What does it mean when data in a cell is displayed as #####?
Q. Define merging of cells.
Q. Define splitting of cells.
Q. What is wrap text feature of Excel?
Q. Name any three number formats available in Excel.
Q. What is meant by border of a cell?
Q. What is the use of AutoFill feature?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 33 and 34 of the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 34 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 design their class time-table in MS Excel 2016.

5. Formulas and Functions

Teaching Objectives

Students will learn about

- ☞ Using Formulas to Perform Calculation
- ☞ Different Ways to Enter Formulas
- ☞ Cell Referencing in Formulas and Its Types
- ☞ Order of Operation
- ☞ Understanding Cell Range
- ☞ Functions

Number of Periods	
Theory	Practical
◯	◯

Teaching Plan

While teaching this chapter, tell the students that MS Excel has some built-in formulas called functions.

Share with the students the basic elements and rules of writing a formula in Excel.

Show to them the different methods of copying and pasting a formula.

Tell them the order of operation followed in Excel.

Introduce cell referencing as use of cell address while writing a formula.

Make them understand the different types of cell referencing and the difference between the three – Absolute, Relative and Mixed.

Tell the students about rules for using Functions and different categories of Functions in Excel.

Demonstrate the use of mathematical functions – SUM, PRODUCT, MOD, SQRT, INT, POWER and COUNT.

Demonstrate the use of text functions – CONCATENATE, LEFT, RIGHT, LEN, UPPER and LOWER.

Demonstrate the use of logical functions – MAX, MIN and AVERAGE.

Demonstrate the use of date functions – TODAY, MONTH, YEAR and DAY (Refer Suggested Activity 1 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. What are Functions in Excel?

Q. Name the different elements of a formula in Excel.

Q. What is the order of operation followed in Excel?

Q. Define cell referencing.

Q. Name some important categories of Functions.

Q. State the purpose of SUM / SQRT / MOD / COUNT / LEN / RIGHT / TODAY / MAX Function.

Q. What is the syntax of PRODUCT / INT / POWER / CONCATENATE / LEFT / UPPER / LOWER / MIN / AVERAGE function?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 45 and 46 of the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 46 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

1. Ask the students to enter their last mark sheet in Excel and calculate total marks scored, average marks scored, maximum and minimum marks amongst all the marks and the number of subjects using various Functions used in Excel.

2. From the previous mark sheets of Grade 1 to 6, collect data about your attendance in various Grades. Plot a Line Chart in Excel from the data.

6. Excel as Database

Teaching Objectives

Students will learn about

- ☞ Form in Excel
- ☞ Sorting Data
- ☞ Conditional Formatting
- ☞ Using Subtotal Command
- ☞ Using Form in Excel
- ☞ Filtering Data
- ☞ Using Data Validation
- ☞ Using Pivot Table

Number of Periods	
Theory	Practical
◯	◯

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 58 and 59 of the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 59 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested 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.

7. Charts in Excel

Teaching Objectives

Students will learn about

- ☞ Creating a Chart
- ☞ Types of Charts in MS Excel
- ☞ Components of a Chart
- ☞ Formatting a Chart

Number of Periods	
Theory	Practical
◯	◯

Teaching Plan

While teaching this chapter, tell the students that Excel 2016 has chart is an effective way to display data in pictorial form.

Show the different components of an Excel chart.

Familiarize the students with the different types of chart options available.

Explain each chart type to the students with examples:

- Line chart
- Pie chart
- Bar chart
- Area chart
- Scatter chart

Demonstrate the steps of:

- Creating a chart.
- Modifying a chart by changing its type, layout and design.

Extension

Ask the students some oral questions based on this chapter.

Q. Define charts in Excel.

Q. What is a legend?

Q. What are gridlines in a chart?

Q. When is a Line / Column / Pie / Bar / Area chart used?

Q. In Excel, can we change the type of an existing chart?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 65 and 66 of the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 67 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

From the previous mark sheets of Grade 1 to 6, collect data about your attendance in various Grades. Plot a Line Chart in Excel from the data.

8. Services on Internet

Teaching Objectives

Students will learn about

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

Number of Periods	
Theory	Practical
◯	◯

Teaching Plan

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 76 and 77 of the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 77 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.

9. Conditional Statements in Python

Teaching Objectives

Students will learn about

- ☞ Decision Making Statements
- ☞ The if...else Statement
- ☞ The if...elif...else Ladder
- ☞ The if Statement
- ☞ Nested if Statement

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students about Python has some decision making statements.

Explain to the students about the Decision Making Statements and the options available in Python.

Demonstrate to the students the steps involved in using these statements using programs and syntax are:

- if statement
- Nested if statement
- if...else statement
- if...elif...else ladder

Ask the student to solve the exercise Let's Catch Up given on page number 116.

Extension

Ask the students some oral questions based on this chapter.

Q. Write the names of decision making statements.

Q. What is the function of if statement?

Q. What is the function of if...else statement?

Q. What is the function of nested if statement?

Q. What is the function of if...elif...else statement?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 86 and 87 in the main course book as **Exercise**.

In Creative Assignment, activities like **In The Lab** given on Page 88 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 a program in Python to create a food menu using looping decision making statements