Teaching Objectives:
The objectives of this unit are to:
- Revise software and its types, operating system
- Explain utility software with examples
- Explain data compression and its advantages
- Explain application software and its types
- Explain the types and layers of a network
- Explain the Internetworking devices

Learning Outcomes:
After completing the unit, students will be able to:
- List software and its types, operating system
- Explain utility software with examples
- Describe data compression and its advantages
- Explain application software and its types
- Describe the types and layers of a network
- Explain the Internetworking devices

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- **Starter activity (10 minutes)**
Ask students the following questions:
- Differentiate between hardware and software.
- Explain system software and its types.
- Differentiate between GUI and CLI.

Note: The above questions are related to 1.1, 1.2 which students already have studied in the previous class. This serves as a revision of the previous topics.
- **Reading and explanation (20 minutes)**
Discuss 1.3 in which utility software and its types; data compression and its benifits are explained. The students should be able to explain the purpose of utility programs and data compression.
- **Classroom activity (5 minutes)**
Attempt Q.1 pg/ 20
- **Homework/ assignment (5 minutes)**
Do Q.1 (a, b, c) pg/ 21

Period 2:
- **Starter activity (5 minutes)**
- **Reading and explanation (25 minutes)**

Discuss 1.4 in which the application software and its types are discussed. Also explain1.5 (computer network and protocol) in detail.
- **Classroom activity (5 minutes)**
Attempt Q.3 pg/ 21
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (d, e, f) pg/ 22

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (25 minutes)**
Discuss 1.6 and 1.7 in detail.
- **Classroom activity (5 minutes)**
Attempt Q.2 pg/ 21
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (g, h), Q.3 pg/ 22

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (25 minutes)**
Discuss 1.8, 1.9 in detail.
- **Classroom activity (5 minutes)**
Draw the three topologies.
- **Homework/ assignment (5 minutes)**
Attempt Q.2 and Q.4 pg/ 22

Note: The teachers can complete this chapter in more time than the time mentioned above because of the complexity of topics. They can cut the time short in later chapters or may arrange extra classes for the students.

Suggested Answers to Unit 1 questions
Formative Assessment (on pages 20-21)

1) **Write True or False:**

a.	T	b.	F	c.	T	d.	F
e.	T	f.	T	g.	T		

2) **Fill in the blanks:**

a.	device driver	b.	Single-user	c.	nodes	d.	Ring
e.	MAN	f.	utility				

3) **Write full forms of the following:**

a.	GUI	Graphical User Interface
b.	CLI	Command Line Interface
c.	TCP	Transmission Control Protocol
d.	HTTP	HyperText Transfer Protocol
e.	CMRT	Cellular Mobile Radio Telephone

Summative Assessment (on pages 21-22)

1) **Answer the following questions in short:**

a. **What is relationship between computer hardware and software?**

Ans. Computer components are called hardware while the computer programs are called software. They both are equally important to make the computer work.

b. **Why is utility software important in a computer system?**

Ans. Utility software is a small program that provides additional capabilities to the operating system. It helps to manage the computer hardware and software.

c. **What is the use of an antivirus program?**

Ans. Antivirus program is a utility program that is meant to identify, neutralize or eliminate computer virus.

d. **What is general purpose application software? Explain the different types.**

Ans. General purpose application software is meant to be used for specific task. Some of the commonly used ones are:

    i. Word processing software is meant to create documents.

    ii.Spreadsheet software is needed to create a worksheet and perform calculations.

    iii.Presentation software is needed to create visual presentations.

    iv.Database Management software allows to store, manipulate and retrieve vast amount of data.

e. **Write about computer generations. Which generation is based on IC?**

Ans.

First generation computers (1940-1952)	Mark 1
Second generation computers (1952-1964)	IBM series
Third generation computers (1964- 1971)	CDC 1700
Fourth generation computers (1971-till date)	HP 9845

    Third generation computers were based on ICs.

f. **Name the different types of computers in use today.**

Ans. The different types of computers used today are desktop, laptop, palmtop, etc.

g. **Where are desktop computers and super computers used?**

Ans. Desktop computers are mostly popular among home users. They are mostly

used in homes, schools, offices, etc. Super computerss are used in weather forecasting and other such places where precise calculations are needed.

h. **How is a mini computer different from a desktop PC?**
Ans. Mini computer is expensive and is connected to terminals to share data. It is used in banks and bigger companies while desktop PCs are smaller,less expensive and less powerful computers used mainly at home, offices, schools, etc.

2) **Write a short note on the following:**
Ans. **a.Language translators:** A computer program is written using any of the computer languages. It is not understood by the computer and need to be translated to machine code.This translation is performed by translators namely assembler, compiler and interpreter.

b. Data compression software: Data compression is a process of reduing the size of the file so that it can be sent over the network easily. The most popular data compression software are WinZip, PKZIP, etc.

c. Bridge: It is a device that connects two different types of LANs. Its usage to provide a level of intelligence to a network connection as it improves performance by reducing traffic.

3) **Write at least five benifits of using a network.**
Ans. i) Network is used to share the data.
ii)It is used to share the hardware resources.
iii)It is used to send and receive messages.
iv)The cost of having a separate hardware component like a CD drive or a printer is reduced as these devices can be shared.
v)Through a network, people in far-off places can be connected.

4) **Differntiate between the following:**
a. **CAN and MAN:**
CAN: CAN stands for Campus Area Network. It is a network made of an interconnection of two or more LANs in a limited area. It is larger than LAN but smaller than WAN.
MAN:MAN stands for Metropolitan Area Network. The computers are interconnected in the city. Some of MANs use coaxial cable for data transmission.

b. **Bus topology and Star topology.**
Bus topology is made up of a single cable with terminators on both ends.

Computers and other devices are connected to the linear cable for communication. **Star topology** is the most commonly used topology. All the workstations are connected to a central connection point called hub.

c. MPEG and QuickTime

MPEG stands for Moving Picture Experts Group. It is a popular file format for PCs. MPEG working group of authorities that was formed by ISO and IEC to set standards for audio and video compression and transmission.

QuickTime is an ISO standard for digital media. It was developed by Apple and brings audio, animation, video and interactive capabilities. It is more capable than MPEG.

Activity / Test sheet based on Unit 1

1) Answer the following:

a. Define (i) Single user (ii) Multitasking (iii) Single tasking [3]

(i) Single user means a system used by one user only.

(ii) Multitasking means performing more than one task at the same time.

(iii) Single tasking means performing only one task at a time.

b. Which language is understood by the computer? Define it. [1+2]

Ans. Computer understands machine language. It is also called binary code as it is based on two values 0 and 1. Machine language is different on different types of computers.

c. Which is the most commonly used data compression software? [1]

Ans. WinZip is the most commonly used data compression software.

d. Define protocol. [1]

Ans. Network protocol defines rules of communication between network devices.

e. Define IP, TCP and HTTP. [3]

Ans. **IP** stands for Internet Protocol and it is the protocol by which data is transmitted from one computer to another on Internet.

TCP stands for Transmission Control Protocol. It puts the packets back in the right order.

HTTP stands for HyperText Transfer Protocol. It is a protocol meant for transferring files (text, images, etc)on World Wide Web.

f. Define topology. Name the three basic topologies. [1+3]

Ans. Topology means arrangement of nodes in a particular manner. Nodes in a network can be arranged in the form of star, bus or ring.

Teaching Objectives:
The objectives of this unit are to:
*   Explain word processor
*   List the features of word processor
*   Explain components of document window
*   Explain the tabs and their functions

Learning Outcomes:
After completing the unit, students will be able to:
*   Define wood processor
*   List the features of word processor
*   Explain components of document window
*   List and explain the tabs and their functions

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
*   Which software will you use to type a letter or assignment?
*   How is that software different from the task done manually?
- Reading and explanation (25 minutes)
Discuss 2.1, 2.2 and 2.3 in which the definition and features of word processor are explained.
- Classroom activity (5 minutes)
Discuss features of a word processor.
- Homework/ assignment (5 minutes)
Do Q.1 (a) pg/ 47

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (25 minutes)
Discuss 2.4 and 2.5 in detail.
- Classroom activity (5 minutes)
Draw MS Word screen and label it.
- Homework/ assignment (5 minutes)
Attempt Q.1 pg/ 46

Period 3:
- Starter activity (5 minutes)

- **Reading and explanation (15 minutes)**
Discuss 2.6 in detail.
- **Classroom activity (15 minutes)**
Type a report and practise font, paragraph, borders and shading, bullets and numbering
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (b) pg/ 47

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 2.6 (Insert tab, Page Layout, References tab, Review tab) in detail.
- **Classroom activity (15 minutes)**
Do Q.2 pg/ 47
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (c) pg/ 47, Q.2 and 3 pg/ 46

Suggested Answers to Unit 2 questions
Formative Assessment (on page 46)

1) **Write True or False:**
a. F **b.** T **c.** T **d.** F **e.** T

2) **Fill in the blanks:**
a. Thesaurus **b.** Clipboard **c.** Paste Special
d. Find Next **e.** style

3) **Find out the function of the following commands:**
i) Print Layout **ii)** Full Screen Reading **iii)** Web
Layout **iv)** Outline **v)** Draft
Note: See pg/44 of book.

Summative Assessment (on page 47)

1) **Answer the following questions in short:**
a. **What is a word processor? What can it be used for?**
Ans. A word processor is a computer application that can be used to create, edit, format, store and print documents. It is used to process text and documents.

b. **Write the steps for jumping to a specific page of the document.**
Ans. Open Find and Replace dialogue box ⟶ Select Go To ⟶ Select the desired item (like Page) in Go to what: box ⟶ Type the page number Enter page number.

c. **What is a table? Why are tables required?**

Ans. Arrangement of data in rows and columns is called table. They are required to present the data in a more meaningful and readable manner.

2) **Write a report on your school's Sports Day or any other event:**
Ans. This task can be accomplished by first demonstrating all the options to be learnt and then asking the students to attempt in the lab.

Activity / Test sheet based on Unit 2

1) **Answer the following:**
a. **List five basic features of word processor.** [5]
Ans. The basic features of word processor are:
* It allows creating, editing, deleting or moving text.
* Spell checking and Thesaurus.
* Mail merge
* Word Wrap
* Apply text and paragraph formating
* Inserting Header and Footer
* Macro
* Arranging data in the form of columns
* Create a new e-mail message to be sent over the Inernet
* Inserting images and other objects
* Organizing data in the form of tables
Note: Students can write any five points.

b. **What is the function of Clipboard?** [1]
Ans. Clipboard is a temporary storage area of memory where text or graphical data that is cut or copied is placed. The text or graphics remains in the memory till the computer is on.

c. **How are spelling and grammatical errors shown?** [2]
Ans. Spelling errors are shown through red wavy underline while grammatical errors are shown through green wavy underline.

d. **What is the function of Zoom tool? What is its range?** [2]
Ans. The function of Zoom tool is to zoom in and out of the document. Its range is 10% to 500%.

2) **Ask the students to type at least two pages and insert header and footer in their document. They should insert page number in header and their name in footer and save it with their name.**
3) **The student should be asked to insert table where they will enter the school time table. Format text to make it presentable.**
4) **Create a file and insert symbols and special characters.**

Teaching Objectives:
The objectives of this unit are to:
- Define database and its structure, RDBMS
- Explain the process of creating a database and table, adding records, setting primary key and modifying data
- Explain how to create relationship between tables

Learning Outcomes:
After completing the unit, students will be able to:
- Define database and its structure, RDMS
- Explain the process of creating a database and table, adding records, setting primary key and modifying data
- Explain how to create relationship between tables

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- **Starter activity (5 minutes)**
Ask students the following questions:
- What does the school do to store details of students?
- How do teachers prepare result of the students?
- **Reading and explanation (25 minutes)**
Discuss 3.1, 3.2 and 3.3 in which the students will learn the definition of database, its functions, RDBMS and the primary key.
- **Classroom activity (5 minutes)**
Do Q.2 pg/59 (Formative Assessment)
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (a, b) pg/ 59

Period 2:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 3.4, 3.5 and 3.6 in detail.
- **Classroom activity (15 minutes)**
Create a database to store details of students and enter data in the table.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (c) pg/ 59

Period 3:
- **Starter activity (5 minutes)**

- **Reading and explanation (15 minutes)**
Discuss 3.7, 3.8 and 3.9 in detail.
- **Classroom activity (15 minutes)**
Create database and table using Design View and set the primary key.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 pg/ 58-59, Q.1 (d) pg/59

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 3.10 in detail.
- **Classroom activity (15 minutes)**
Practice creating relationship between tables.
- **Homework/ assignment (5 minutes)**
Attempt Q.3 pg. 59 (Formative Assessment), Q.2 pg/ 59

Suggested Answers to Unit 3 questions
Formative Assessment (on pages 58- 59)

1)   Fill in the blanks:
a.   Relational Database Management   **b.**   relational
c.   two   **d.**   Tab   **e.**   Design

2)   Write True or False:
a. T   **b.**   F   **c.**   F   **d.**   F
e. T

3)   Name the following icons.
a.   Table Design   **b.**   Datasheet View   **c.**   Design View

Summative Assessment (on page 59)

1)   Answer the following questions:
a.   **What is database?**
Ans. An organized collection of inter related data is called a database. Database is
created to facilitate the storage, retrieval, modification and deletion of data.

b.   **What is DBMS? List the important functions of a DBMS.**
Ans DBMS stands for DataBase Management System. It is a specialized software
package that exists to maintain database in a computer. Its important functions
include:

i) Retrieving data   ii) Maintaining data
iii) Reducing data redundancy   iv) Reducing data inconsistency   v) Sharing data
vi) Securing data

c.   **What is a primary key?**

Ans. A primary key is a field that uniquely identifies each record in a table. It means that no two records can have the same value for primary key.

d.   **What is the difference between creating table in Datasheet View and Design view?**

Ans. In Datasheet View, data is entered directly in the table.
In Design View, before we create the table, we plan its design.

2)   **Write short notes on:**

a.   **MS Access:** MS Access is a popular RDBMS package designed by Microsoft and is a part of MS Office. It is popular among small businesses, departments of large corporations and programmers to create customized systems for handling the creation and manipulation of data.

b.   **DBMS:** DBMS stands for DataBase Management System. It is a specialized software package that exists to maintain database in a computer. Its important functions include:
i) Retrieving data   ii) Maintaining data   iii)   Reducing data redundancy
iv) Reducing data inconsistency   v) Sharing data
vi) Securing data

Activity / Test sheet based on Unit 3

1)   Ask the students to create table of students containing fields (e.g. GR, Std_Name, Std_Add, Phone, Email, etc.). They will enter 20 records.

2)   Ask the students to create master table of students and a transaction table of fee. They will create relationship between the two tables.

3)   **Answer the following questions:**

a.   **Define RDBMS. Name any one popular RDBMS package.**   [2+1]

Ans. RDBMS stands for Relational DataBase Management System. It consists of data tables that store data in the form or rows and columns. These tables are linked together through a common field that helps in storing and searching data in the linked tables. The popular RDBMS is MS Access.

b.   **Define the following:**   [4]
i) Field   ii) Field Name   iii)   Record   iv) Table

Ans **i) Field:** Each column in the table is called field.
ii)Field Name: Each column heading in the table is called field name.
iii)Record: Each row in a table is called a record.
iv)Table: Combination of records creates a table.

c. **Draw to show relationship between field, record, table and database.** [3]
Ans. Database ⟶ Table ⟶ Record ⟶ Field

d. **What is a template?** [1]
Ans. A template is a ready-to-use database that contains tables, queries, forms and reports needed to perform a specific task.

e. **Explain data types with examples.** [6]
Ans. **i)Text:** A text field is used to store letters, numbers and symbols. The numbers in a text field are not used in calculations and are treated as text. Examples: Ali, Asad ABC School, etc.
ii) Numeric: A numeric field contains digits and is used for calculations. Examples: 234, 12.5, etc.
iii)Currency: A currency field contains currency symbols, decimals and comas wherever needed. Example: $ 100, Rs. 67, etc.
iv)Date/Time: It is used to store date and time. Calculations can be made on date/time field. Examples: 12/9/2014, 12:10 am, etc.
v) Memo: Memo field contains long text with all kinds of data.
vi) Yes / No: A logical field contains characters to represent 'Yes', 'No' , 'True', 'False'. Example: Y for Yes, N for No, T for True , F for False

Teaching Objectives:
The objectives of this unit are to:
- Explain the creation, opening, saving and modification of a document
- Apply Find and Replace options
- Demonstrate use of Drop Cap, line spacing, formatting paragraphs, column formatting
- Insert hyperlinks

Learning Outcomes:
After completing the unit, students will be able to:
- Create, open, save and modify a document
- Apply Find and Replace options
- Use Drop Cap, line spacing, formatting paragraphs, column formatting
- Insert hyperlinks

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students to perform the task in lab:
- Type a paragraph and format it
- Reading and explanation (15 minutes)
Discuss 4.1, 4.2, 4.3, 4.4 and 4.7 in which the students will learn how to format a document, find a word and replace it with another word, save a file by giving a password.
- Classroom activity (15 minutes)
Create a document and apply all the options explained.
- Homework/ assignment (5 minutes)
Attempt Q.1 (c), Q.3 pg/ 73

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (15 minutes)
Discuss 4.5, 4.6, 4.8, 4.9 and 4.10 in which opening an existing file, modifying a password, getting MS Word help and inserting hyperlinks are explained.
- Classroom activity (15 minutes)
Practise opening an existing file, modifying a password, getting MS Word help and inserting hyperlinks
- Homework/ assignment (5 minutes)
Attempt Q.1 pg/ 72 and Q.1 (b) pg/ 73

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 4.11, 4.12, 4.13 and 4.14 in which the formatting options (Drop Cap, column formatting, line and paragraph spacing) are explained.
- **Classroom activity (15 minutes)**
Practise formatting a document using Drop Cap, column formatting, line and paragraph spacing.
- **Homework/ assignment (5 minutes)**
Attempt Q.2 pg/ 73 (Summative Assessment)

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 4.15, 4.16 and 4.17 in which Page Setup and printing a document are explained.
- **Classroom activity (15 minutes)**
Practise how to change Page Setup and print a document
- **Homework/ assignment (5 minutes)**
Attempt Q.2 pg/ 72, Q.1 (a) pg/ 73

Suggested Answers to Unit 4 questions
Formative Assessment (on pages 72-73)

1)   Fill in the blanks.
a.   three, Ribbon   **b.**   new line   **c.**   15   **d.**   blank space
e.   normal working
2)   Tick the correct option.
a.   Ctrl + F   **b.**   paper size   **c.** Mail Merge
d.   View Ruler   **e.**   Line Spacing

3)   Write function of the following:
a.   Justify   **b.**   Left align   **c.**   Center
d.   Right align

Summative Assessment (on page 73)

1)   Answer the following questions:
a.   **What is page orientation?**
Ans. Page orientation means the layout position of the paper for printing. There
are two types of orientation, Portrait and Landscape.

b.   **Can you create a hyperlink on the picture? If yes, how?**

Ans. Yes, It is possible to create a hyperlink on the picture
Follow these steps to create a hyperlink.
Select a picture ⟶ click Insert⟶Hyperlink⟶ type the address in
Address box ⟶ click OK

c.   How do you replace the word 'GOOD' with 'Very Good' in MS Word?
Ans. Click Replace button in Home tab ⟶ type "GOOD" in Find what box⟶type
"Very Good" in Replace with: box⟶ Click Replace or Replace All.

2)   Write short notes on:
Ans. Editing text
Editing text means making changes in the text. In order to edit text, first
highlight it using keyboard or mouse.
* Position cursor at the beginning of text you want to highlight.
* Hold down left mouse button till the end of the text.
* Release mouse button.
* Make changes.

b.   Protecting a document
Ans. Document is protected against unauthorized users by giving a password.
Follow the given steps to set password on file.
* In the open file, click Office button ⟶click Save As command.
* Click Tools ⟶ General Options ⟶Password to open:
* Type the password for file.

c.   Paragraph spacing
Ans. Paragraph spacing means spacing before and after the paragraph. To apply
paragraph spacing follow the given steps:
Select paragraph ⟶ Click Page Layout tab in Ribbon⟶ Select Spacing
Before / Spacing After.

Activity / Test sheet based on Unit 4

1) Ask the students to type some text from any chapter of their Computer
Studies book.
They should apply formatting, line and paragraph spacing.
Save the file by giving password.
View the document using Print Preview.

2) The students should write an article on any topic. They should apply
Drop Cap and Column Formatting options.

3) Answer the following questions:

a. Name the three types of tabs present in Ribbon. [3]

Ans. The three tabs are standard, contexual and program.

b. When does contextual tab appear? [1]

Ans. Contextual tab appears only when needed based on the type of task.

c. Write shortcut keys to perform the following tasks. [7]

Ans. Opeining an existing document   Ctrl + O

Saving a file   Strl + S

Creating a new file   Ctrl + N

Bold   Ctrl + B

Italic   Ctrl + I

Underline   Ctrl + U

Printing a document   Ctrl + P

Teaching Objectives:
The objectives of this unit are to:
- Explain the different elements of MS Excel screen
- Explain the insertion and deletion of rows and columns, inserting and deleting cell contents
- Explain how to adjust row height and column width
- Explain how to format the data present in sheet

Learning Outcomes:
After completing the unit, students will be able to:
- Explain the different elements of MS Excel screen
- Insert and delete rows and columns, insert and delete cell contents
- Adjust row height and column width
- Format the data present in sheet

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (10 minutes)
Ask students to perform these options in lab:
Create a worksheet having two records and apply formatting as learnt in the previous class.
- Reading and explanation (15 minutes)
Discuss 5.1, 5.2, 5.3 and 5.4 in which the students will revise the terms row, column and cell. They will learn the screen elements of MS Excel 2007.
- Classroom activity (10 minutes)
Create a mark sheet and apply formulae to calculate obtained marks and percentage.
- Homework/ assignment (5 minutes)
Attempt Q.1 (a, c, d) pg/ 91

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (15 minutes)
Discuss 5.5 in detail.
- Classroom activity (15 minutes)
Students will practise insertion and deletion of rows and columns; deleting inserting and modifying cell contents; copying, cutting and pasting cell contents.
- Homework/ assignment (5 minutes)
Attempt Q.1 (b) pg/ 91

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 5.6 in detail
- **Classroom activity (15 minutes)**
Apply Auto Fill and create custom lists.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 pg/ 90

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 5.7 and 5.8 in detail.
Classroom activity (15 minutes)
Apply Borders and formatting numbers. Do Q.1 (e) pg/ 91
- **Homework/ assignment (5 minutes)**
Attempt Q.2 pg/ 90

Suggested Answers to Unit 5 questions
Formative Assessment (on page 90)

1) Fill in the blanks:

a.	Office	b.	spreadsheet	c.	active / selected /current
d.	part of workbook	e.	column heading	f.	Editing
g.	Cancel button / Esc key			h.	smallest

2) Tick the correct option.

a.	workbook	b.	Auto Fill	c.	Fill
d.	Formula	e.	Cut, Paste		

Summative Assessment (on page 91)

1) Answer the following questions:
a. **What is spreadsheet? Explain its uses.**
Ans. Spreadsheet is an application program that helps to manage data, create visually appealing charts and graphs. It can be used to enter data, apply formulae, sort data, search data meeting the particular criteria, create graphs, etc.

b. **How do you modify cell contents partially?**
Ans. The following steps can be used to partially modify the cell contents.
• Select the cell

- Click Formula bar or press F2 or double click on the cell
- Make changes and press Enter key

c.   How many rows and coulmns are there in Excel 2007 worksheet?
Ans. Ms Excel 2007 worksheet contains 16,384 columns and 1,048,576 rows.

d.   What is the default name of a workbook and a worksheet in MS Excel 2007?
Ans. The default name given by MS Excel 2007 to workbook is Book1 and worksheets are named Sheet1, Sheet2 and Sheet3.

e.   Create the following worksheet.
Ans. Students will create the worksheet in class.
  (i) Delete the cells under column D.
  Select column D using column header ⟶ Click Home tab ⟶ Click Delete from Cells group ⟶ Click Delete Column option
  (ii) Copy the contents of column B to column D.
  Select column B using column header ⟶ Click Home tab ⟶ Click Copy from Clipboard group ⟶ Select column D ⟶ Click Paste option from Clipboard group
  (iii) Move the contents of Column C after column D.
  Select column C using column header ⟶ Click Home tab ⟶ Click Cat from Clipboard group ⟶ Select column E ⟶ Click Paste option from Clipboard group

Activity / Test sheet based on Unit 5

1)   Ask students to create a worksheet. Enter data of 10 employees.
Format the sheet to make it presentable.
2)   Ask students to create a worksheet sorting their class timetable. Format the sheet to make it presentable.
3)   Create a custom list of the names of their class fellows.

4)   Answer the following questions.
a.   What is a cell?   [1]
Ans. The intersection of a row and a column is called a cell.

b.   Differentiate between overwriting and modifying.   [2]
Ans. When contents of a cell are overwritten, the previous data is lost while in modifying, changes are made in the cell contents and the previous data remains.

c.   What is the purpose of Auto Fill feature?   [1]

Ans. Auto Fill feature is used to enter a predefined series of data, both numeric and text, in a worksheet quickly.

d. **Write the steps needed to create a numbered list.** [4]

Ans. Enter the first two values in adjacent cells, e.g. (10, 12) and select both the cells. Click Fill handle, the box in lower right corner of the cell, and drag it to the desired area.

e. **Write keyboard shortcuts to perform the following tasks.** [3]

Ans. Selecting current row   Shift + Spacebar
Selecting current column   Ctrl + Spacebar
Selecting entire worksheet   Ctrl + A

Teaching Objectives:
The objectives of this unit are to:
*   Explain the screen elements of MS PowerPoint 2007
*   Explain the creation of a new presentation
*   Explain the insertion of pictures, SmartArt, adding Bullets and Numbering
*   Explain how to animate text and object, apply slide transition

Learning Outcomes:
After completing the unit, students will be able to:
*   Explain the screen elements of MS PowerPoint 2007
*   Create a new presentation
*   Insert pictures, SmartArt, add Bullets and Numbering
*   Animate text and object, apply slide transition

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
*   Which software is used to prepare a presentation?
*   What is a slide?
*   What is the difference between moving and still pictures?
- Reading and explanation (15 minutes)
Discuss 6.1, 6.2, 6.3 and 6.9 in which the students will learn the screen elements
of MS PowerPoint screen; creating and saving a new presentation in detail.
- Classroom activity (15 minutes)
Create a presentation and practise all options of 6.3.
- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 104

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (15 minutes)
Discuss 6.4 and 6.5 in detail.
- Classroom activity (15 minutes)
Insert picture and SmartArt object in slides. Practise the tasks explained in the
previous class.
- Homework/ assignment (5 minutes)
Attempt Q.1 (d) pg/ 104

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 6.6 and 6.7 in detail.
- **Classroom activity (15 minutes)**
Apply Bullet and Numbering, theme on the saved slides. Attempt Q.1 pg/ 103
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (b) pg/ 104

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (15 minutes)**
Discuss 6.8 in detail.
- **Classroom activity (15 minutes)**
Apply animation on the saved slides. Attempt Q.2 pg/ 104 (Formative Assessment)
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (c, e) Q.2 pg/ 104 (Summative Assessment)

<div align="center">

Suggested Answers to Unit 6 questions
Formative Assessment (on pages 103 - 104)

</div>

1)   Fill in the blanks:
a.   MS Office   **b.**   pictures   **c.**   text, graphics   **d.**   picture, sound, animation, movies

2)   Tick the correct option.
a.   Ctrl + M   **b.**   green   **c.**   Transition   **d.**   Custom Animation

<div align="center">

Summative Assessment (on page 104)

</div>

1)   Answer the following questions:
a.   Write about some new features of MS PowerPoint 2007.
Ans. The new features of MS PowerPoint 2007 are:
Inserting design themes, Live Preview and SmartArt, styles and text effects.

b.   What is a theme? Explain how to apply a theme to selected slides.
Ans. A theme is a set of colours, fonts and special effects. It provides attractive background to the slide. To apply a theme, follow the given steps:
Click Design tab ⟶ Click More button in Theme group ⟶ Select the desired theme.

c.   What is animation in PowerPoint?
Ans. Animation is the process of creating motion and shape change illusion by

means of the rapid display of a sequence of static images. In PowerPoint, it means how pictures, text and other objects move in a slide.

d.   Write the steps to add SmartArt in your slide.
Ans. Follow the steps given below to add SmartArt in your slide.
Click Insert tab ⟶ Click SmartArt from Illustrations group ⟶ Select Layout and type ⟶ Click OK.

e.   Explain how to apply custom animation to an object in a slide.
Ans. Select the object to animate ⟶ Click Animation tab ⟶ Click Custom Animation ⟶ Click Add Effect ⟶ Choose Entrance, Emphasis, Exit or Motion Paths ⟶ Select the desired effect.

2)   Make a list of five different installed templates, five transition effects and five custom animation effects available in MS PowerPoint 2007.
Ans. a. Installed Templates: Agendas, Books, Award Certificates, Brochures, Business Cards, Expense Reports, etc.
b. Transition Effects: Wipe, Push, Reveal, Split, Fade, Cut, etc.
c. Custom Animation Effects: Bounce, Grow & Turn, Swivel, Fly Out, Float Out, Wheel, Random Bars, etc.

Note:Students can answer any option available in the software.

Activity / Test sheet based on Unit 6

1)   Ask students to create a presentation on any topic from Science, Geography or History book. Apply formatting, transition and Custom Animation. Save the presentation.
2)   Answer the following questions:
a.   What are the three ways of creating a presentation?   [3]
Ans The three ways of creating a new presentation are:
Blank and Recent, Installed Templates and Installed Themes

b.   Define   (i) Clip   (ii) SmartArt   [2]
Ans **Clip:** A clip is a single media file, including picture, sound animation or movies.
SmartArt: It is a graphical way to represent text in different features and styles.

c.   What is Slide Transition?   [1]
Ans Slide Transition means to add animation effects to the slide during transition

d.   What is Custom Animation?   [1]
Ans. Custom Animation means to add a special visual or sound effect to text or object.

Teaching Objectives:
The objectives of this unit are to:
*   Explain wireless communication and its types
*   Explain the technologies used for short range networks
*   Explain the advantages and disadvantages of WiMax

Learning Outcomes:
After completing the unit, students will be able to:
*   Define wireless communication and its types
*   Explain the technologies used for short range networks
*   Explain the advantages and disadvantages of WiMax

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
*   If you want to talk to someone what can you do?
*   In how many ways can a computer communicate?
- Reading and explanation (25 minutes)
Discuss 7.1 and 7.2 in which the students will learn communication and its basic types i.e. wired and wireless. They will also learn the long range wireless networks.
- Classroom activity (5 minutes)
Ask the students to explain this topic to the class.
- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 111

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (25 minutes)
Discuss 7.3 in detail.
- Classroom activity (5 minutes)
Attempt Q.3 pg/ 111
- Homework/ assignment (5 minutes)
Attempt Q.1 (b) pg/ 111

Period 3:
- Starter activity (5 minutes)
- Reading and explanation (25 minutes)
Discuss 7.4 in detail.

- Classroom activity (5 minutes)
Do Q.1 (b) pg/ 110
- Homework/ assignment (5 minutes)
Attempt Q.1 (c), Q.2 pg/ 111 (Summative Assessment)

Period 4:
- Starter activity (5 minutes)
- Reading and explanation (10 minutes)
Discuss 7.5 in detail.
- Classroom activity (20 minutes)
Attempt Q.2 pg/ 111 (Formative Assessment)
- Homework/ assignment (5 minutes)
Attempt Q.1 (d) pg/ 111

Suggested Answers to Unit 7questions
Formative Assessment (on pages 110-111)

1) **Fill in the blanks:**
a. Satellite **b.** Radiowave, microwave
c. Voice over Internet Protocol **d.** personal area **e.** WiMax

2) **Write True or False.**
a. F **b.** F **c.** T
d. F **e.** T

3) **Wite full form of the following:**
a. AMPS Analog Mobile Phone System
b. CDMA Code Division Multiple Access
c. GSM Global System for Mobile communication
d. GPRS General Packet Radio Services
e. VoIP Voice over Internet Protocol

Summative Assessment (on page 111)

1) **Answer the following.**
a. **What do you understand by wireless communication? Why is it important?**
Ans. Wireless communication does not need wires or cables. Instead it uses
radio waves, microwaves, infrared light, laser, etc. to transmit data between
the sender and receiver. It is important as it is used to commnunicate
across large distances as in mobile phones or telephone.

b. **Distinguish between cellular phones and satellites phones.**

Ans Cellular phones or mobile phones are used for long-range communication through voice or SMS. They have a low powered transceiver that transmits voice or data to the nearest cell site, from where it is transmitted by a low powered transmitter.
Satellite phones or satphones communicate directly with orbiting communicating satellites. They have a large antenna and are used in places that do not have any mobile coverage. These are suitable during expeditions to remote areas or high altitudes.

c. **Give two typical uses each for Bluetooth, Wi-Fi and ZigBee.**
Ans **Bluetooth:** This technology is used in headsets and car kits for wireless hands-free cell phone use. It is used in peripheral devices and handling PDAs and laptops.
Wi-Fi: It is used for internet access, VoIP and gaming.
ZigBee: ZigBee has been designed for home automation, smoke and intruder warning, industrial automation, remote control solutions, etc.

d. **Make a list of cell phone service providers in your region and identify the technology used by each of them .**
Ans Students will have to research it themselves. They can work in groups to locate and identify the technology used by cell phone service providers in their region.

2) **Write short notes on:**
a. **WPAN:** WPAN stands for Wireless Personal Area Network. It is a network that connects digital devices in a small area and lets them share and transfer data. This type of network does not need to be planed and the devices should be able to sense the presence of WPAN and join automatically. It usually covers an area of ten metres, but can go up to hundred metres.

b. **Bluetooth:** Bluetooth is a specification of WPAN and uses radio waves capable of sending data at speeds of 720 Kbps within a range of ten metres. It works best when two or more devices are in close proximity. This technology is used in headsets and car kits for wireless hands-free cell phone use. It is used in peripheral devices and handling PDAs and laptops.

c. **Wi-Fi:** Wi-Fi is a communication technology for Wireless Local Area Network (WLAN). A Wi-Fi network has a computer that is connected to a wired network or to the Internet via modem, broadband cable or any other method. This computer is called access point. It is used for Internet access, VoIP and gaming.

Activity / Test sheet based on Unit 7

1) **Answer the following questions:**

a.   Briefly describe the first wireless transmitter.   [2]

Ans The first wireless trasnmitter went on air in the early 20ᵗʰ century using radio telegraphy (Morse code).

b.   What is WML?   [2]

Ans WML stand for Wireless Markup Language. It is similar to HTML and is designed for displaying web pages on mobile phones and PDAs.

c.   List three uses of short-range networks.   [3]

Ans Following are the uses of short-range networks.
- Help in transferring files from one medium to another e.g. from mobile phone to computer
- Eliminate use of cables
- Use peripheral devices
- Connect to a LAN and Internet
- For VoIP (Voice over Internet Protocol) meaning holding voice conversations over Internet
- Help in building security and automation

**d.   List two advantages and one disadvantage of wireless   [2+1]
communication.**

Ans Advantages of wireless communication are:
- Working professionals can work and access Internet anywhere and anytime
- Doctors, workers and other professionals working in remote areas can be in touch with medical centres
- Urgent situation can be alerted easily
- Wireless network are cheaper to install and maintain

Disdvantage of wireless communication is.
- The biggest problem with wireless communication is security threat as any hacker can hack into the system if it is not secured properly.

e.   What are the two categories of Wifi? Describe briefly.   [2+4]

Ans The two categories are closed and open. Closed networks are protected by passwords and only authorized users can access it. It is mostly used at homes and offices. Open network can be accessed by anyone within the range, called hotspot. It is usually available at airports, restaurants, hotels, parks, etc.

f.   Briefly describe WiMax.

Ans WiMax stands for WorldWide Interoperability for Microwave Access. It is a standard for high speed broadband Internet acces over a wireless connection and is higher than Wi-Fi in speed and range. It provides Internet access to a wider area i.e. cities.

Teaching Objectives:
The objectives of this unit are to:
* Explain the term tag
* Explain the use of headers, paragraphs and line breaks in creating a web page
* Explain the use of <FONT> tag to format text
* Explain how to insert an image in web page, creating lists and tables and linking web pages

Learning Outcomes:
After completing the unit, students will be able to:
* Define the the term tag
* Insert headers, paragraphs and line breaks in a web page
* Use <FONT> tag to format text
* Insert an image in web page, create lists and tables and link web pages

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
❖ What is a web page and a website?
❖ Which software do we use to view the web pages?
❖ What can be viewed in that software?
- Reading and explanation (15 minutes)
Discuss 8.1, 8.2, 8.3 and 8.4 in which the students will learn the definition of tag, use of <H1>--</H1> till <H6> for inserting headings. They will also learn the use of <P> and <BR> tags for inserting paragraphs and line breaks.
- Classroom activity (15 minutes)
Design a web page and apply all these tags. They may choose to write about their school, friends, etc.
- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 123

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (10 minutes)
Discuss 8.5 and 8.6 in detail
- Classroom activity (20 minutes)
Apply <FONT> tag with its attributes and <IMG> tag on the saved web page.

- **Homework/ assignment (5 minutes)**
Attempt Q.1 (e) pg/ 123

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (10 minutes)**
Discuss 8.7 in detail
- **Classroom activity (20 minutes)**
Apply <OL> and <UL> tags to create ordered and unordered lists.
- **Homework/ assignment (5 minutes)**
Attempt Q.1, 2 and 3 pgs/ 122-123 (Formative Assessment)

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (10 minutes)**
Discuss 8.8 and 8.9 in detail.
- **Classroom activity (20 minutes)**
Ask students to insert tables in web page. They will create two web pages and will link them by using <A> tag.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (b, c, d), Q.2 pg/ 123

Suggested Answers to Unit 8 questions
Formative Assessment (on pages 122-123)

1) Fill in the blanks:
a. HyperText Markup Language   b. tags   c. <HTML>
d. <HEAD>   e. italics

2) Write True or False.
a. T   b. F   c. T   d. T   e. T

3) Write purpose of the following:
<B>   To make the text bold.
<A>   To add hyperlink (used for creating a web site).
<HR>   To create a horizontal line. This is also called Horizontal Rule in HTML.
<OL>   To create an ordered list.
<IMG> To insert an image in web page.

   To begin a new line. No space is inserted between the lines.

Summative Assessment (on page 123)

1) Answer the following questions:

a. What are headers in a web page? Why are they used?

Ans. Headers are like chapter heading of a book. Six different headers can be inserted in HTML document. Header tag is written as <Hn> and ends with </Hn> where n denotes a number from 1 to 6.

b. Explain the use of anchor tag with example.

Ans. Anchor or <A> tag is used to link to another place in the same document or to go to another document. These links take the form of highlighted words or symbols. Users can click on them to move to other topics in same or another document.
e.g. Create two HTML files named FIRST. HTM and SECOND. HTM
FIRST.HTM contains the following line of code.
<A href="SECOND.HTM"> Move to second </A>
SECOND.HTM contains the following line of code.
<A href= "FIRST.HTM"> Move to First </A>
This will help in connecting the two web pages /documents/ files.

c. Would you prefer to include your e-mail address inside an <ADDRESS> tag or as a mail to link? Why?

Ans. The <address> tag defines the contact information for the author/ owner of a document or an article. If the <address> element is inside the <body> element, it represents contact information for the document.

d. How can you put your own picture as a background?

Ans. First save your picture in hard disk or any other medium. Use the following code to insert picture as a background.
<BODY background="path:/filename.ext">
Where path means the location of file, filename is the name of file while .ext is the extension of file.

e. What are the various attributes of <IMG> tag?

Ans. <IMG src="filename.ext" height=n width = n align = "position">
Where src is source of the picture file, height denotes the height of picture, width is used to set width of the picture and align helps in aligning picture at top, bottom, middle, left or right.

2) Write short notes on:

HTML: HTML stands for HyperText Markup Language. It is used to design web pages. It contains commands that are used to compose the page and

specify how the text, graphics. headings, etc. may appear in a web browser. It also has commands for linking the web pages.

TAGS: The instruction given in the form of text characters are called tags or markups. These tags instruct a browser to retrieve and display information or graphics. A set of < and > symbols, called angular brackets, enclose these tags.

HYPERTEXT: HyperText means the text that has links to another text in the same document or in another. These links take the form of highlighted words or symbols. Users can click and jump to the related topics.

Activity / Test sheet based on Unit 8

1) **Ask the students to design a web page and write two paragraphs on "Their aim in life". They will apply appropriate tags to perform the following tasks.**
   i) Insert appropriate heading
   ii) Insert appropriate title of the page
   iii)Apply formatting as per their choice

2) **Design a web page to display the list of days of week and months in a year. Use appropriate formatting options.**

3) **Design a web page to display their class time table. Insert any picture.**

4) **Design three web pages. Name them as "HOME.HTM", "FIRST.HTM" and "SECOND.HTM". "HOME.HTM" contains the following two links.**
   First
   Second
   When the user clicks on First, he is taken to FIRST.HTM and clicking on Second, takes him to SECOND.HTM. These two files should contain BACK to take them back to HOME.HTM.

Note: With practice, the students can work with files containing some information regarding any study related topic. They should be encouraged to design projects as a group activity.

Teaching Objectives:
The objectives of this unit are to:
- Explain the interface of Flash
- Create, save and open a Flash file
- Explain how to work on different tools, group objects
- Explain the steps needed for creating an animation

Learning Outcomes:
After completing the unit, students will be able to:
- Label the interface of Flash
- Create, save and open a Flash file
- Work on different tools, group objects
- Create an animation

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
- What is the difference between still and moving images?
- Which one is more appealing and why?
- Which software is used for creating pictures?

- Reading and explanation (25 minutes)
Discuss 9.1, 9.2, 9.3, 9.4, 9.5 and 9.7 in which the students will learn the purpose of Flash; how to start the software; main screen components; creating and saving an animation and exiting Flash.

- Classroom activity (5 minutes)
Ask the students to revise the components of Flash screen

- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 137

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (10 minutes)
Discuss 9.6 and 9.8 (Line, Pencil, Rectangle, Brush, Paint Bucket and Eraser tools) in detail with the help of computer and multimedia.

- Classroom activity (20 minutes)
Ask the students to draw picture using these tools.

- Homework/ assignment (5 minutes)
Practise these tools.

Period 3:
- **Starter activity (5 minutes)**
- **Reading and explanation (10 minutes)**
Discuss 9.8 (Text, Selection and Free Transform tools), 9.9 and 9.10 in detail
- **Classroom activity (20 minutes)**
Ask the students to open a new file and practise the tools by drawing shapes.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (b, c) Q.2 pg/ 137 (Summative Assessment)

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (10 minutes)**
Discuss 9.11 and 9.12 in detail.
- **Classroom activity (20 minutes)**
Attempt the examples given on pages/ 134-135.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (d, e), pg/ 137 (Summative Assessment), Q.1, 2 (Formative Assessment) pg/ 136 - 137
Note:The teacher may use more time for the practical work to enhance students' learning.

<div align="center">

Suggested Answers to Unit 9 questions
Formative Assessment (on pages 136-137)

</div>

1) **Tick the correct option:**
a. Property Inspector   **b.** Symbols   **c.** Shape Tween
d. Layers   **e.** Stroke

2) **Fill in the blanks:**
a. .FLA   **b.** real movies   **c.** Shape tweening   **d.** Animation

<div align="center">

Summative Assessment (on page 137)

</div>

1) **Answer the following questions:**
a. **What kind of software is Adobe Flash CS3 Professional?**
Ans Adobe Flash CS3 is software used to create animations, games, cartoons, text, graphics and other special effects. It also helps to design movies for the web and create animations without using programming skills.

b. **How do you group and ungroup objects?**
Ans To **group** objects follow these steps:
   1) Draw all shapes and select all of them using Selection tool.
   2) Click Modify menu ⟶ Click Group
   To **ungroup** objects follow these steps:
   Select an object ⟶ Click Modify menu⟶ Click Ungroup

c. **How do you insert a keyframe?**

Ans To **insert keyframe** follow these steps:
1) Click on the frame below the number where you want to insert a keyframe
2) Click Insert menu⟶Timeline
3) Select keyframe

d. **What is a symbol? Write the steps to create a symbol.**

Ans A symbol is an object created in Flash. There are three types of Symbols.
i) Graphic   ii) Button   iii) Movie clip
To **create Symbol** follow these steps:
1. Select the object
2. Click Modify menu ⟶ Convert to Symbol option
3. Type the name and choose Type: Movie clip, Button or Graphic
4. Click OK.

e. **What is the use of Timeline panel in Flash?**

Ans To design an animated movie, Timeline plays an important role. It controls file content over time. It is like compiling all details on the movie reel, sequencing the scenes to be played.

2) **Write short notes on:**
a. **Flash CS3:** Adobe Flash CS3 is software used to create animations, games, cartoons, text, graphics and other special effects. It also helps to design movies for the web and create animations without using programming skills.

b. **Frame:** Frame is an individual picture in a sequence of images. For example, a Flash movie on the Web may play 12 frames per second, creating the appearance of motion. Most videos are shot at 24 or 30 frames per second, or FPS.

c. **Layers:** A layer refers to different levels on which you can place your drawings and objects, stacked above or below each other. It is like a sheet of transparent paper arranged in a stack.

Activity / Test sheet based on Unit 9

1) **Ask the student to create the following animations:**
a. Draw a ball and bounce it horizontally / vertically.
b. Draw a rectangle (card) and bounce it horizontally.
c. Draw three shapes (Rectangle, circle and triangle) and show them in a sequence.
d. Draw 9 squares and a disc (circle). Move it horizontally / vertically.
Note: The teacher can design many exercises of similar nature. The above are sample examples.

2) **Draw Flash screen and label it.**

Unit 10 Malware

Teaching Objectives:
The objectives of this unit are to:
* Explain malware and its types
* Explain the sources of malware
* Explain presence of malware in wireless devices
* Explain the methods to prevent the computer against virus attack

Learning Outcomes:
After completing the unit, students will be able to:
* Define malware and its types
* List and explain the sources of malware
* Explain presence of malware in wireless devices
* List and explain the methods to prevent the computer against virus attack

Number of allocated periods:4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
❖ How is the computer affected?
❖ What should be done to protect the computer against virus attack?
- Reading and explanation (25 minutes)
Discuss 10.1, 10.2 (definition of malware and its types) in detail.
- Classroom activity (5 minutes)
Do Q.1 pgs/ 144-145 (Formative Assessment)
- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 145

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (25 minutes)
Discuss 10.3, 10.4 and 10.5 in detail.
- Classroom activity (5 minutes)
Do Q.2 pg 145 (Formative Assessment)
- Homework/ assignment (5 minutes)
Attempt Q.2 pg/ 145 (Summative Assessment)

Period 3:
- Starter activity (5 minutes)
- Reading and explanation (15 minutes)
Discuss 10.6 and 10.7 in detail.

- **Classroom activity (15 minutes)**
Practice the use of virus scanner.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (b, c) pg/ 145

Period 4:
- **Starter activity (5 minutes)**
- **Reading and explanation (25 minutes)**
Discuss 10.8 and 10.9 in detail.
- **Classroom activity (5 minutes)**
Students will use lab to revise practical work learnt earlier.
- **Homework/ assignment (5 minutes)**
Attempt Q.1 (d) pg/ 145

Suggested Answers to Unit 10 questions
Formative Assessment (on pages 144-145)

1)   Write True or False:
a.   F   b.   F   c.   T   d.   F   e.   T

2)   Complete the following statements:
a.   Three examples of malware are <u>Trojan horse, virus and worm.</u>
b.   Viruses can travel from one system to another by <u>making copies of itself and moving from one computer to another.</u>
c.   Virus can be detected by <u>installing and running antivurus program.</u>
d.   Keeping backups of our data is important because <u>if the malicious software deletes the data, it can be retrieved from backup.</u>
e.   Some people write virus programs because <u>they want to earn, as a prank, intentionally to harm or sabotge the company or as hobby.</u>

Summative Assessment (on page 145)

1)   Answer the following questions:
a.   **What is malicious software? Explain briefly with examples.**
Ans When handling a computer system, it is possible that the system may break down due to some external damage or misuse. These threats can be for the software as well which in some cases is intentional. Malicious software is written and planted to mainly damage the computer system but some are harmless but annoying.
The malicious software can be in the form of virus, worms or Trojan horse.
i) Virus: Virus is just like a human virus that attacks and affects the software and data in a computer. It attaches itself to other programs, makes

copies of itself and spreads to other files and computers.

ii) Worm: Worms are similar to viruses but unlike viruses they do not attach themselves to host program and exist on their own usually replacing some system file.

iii) Trojan Horse: This program claims to be useful but is malicious. It claims often seems to do something while actually doing something else.

b.   List the symptoms that may indicate that a virus is present in your system.

Ans The following symptoms indicate the presence of virus in the computer system.

- The system becomes slow and loading a program takes longer than usual.
- Hard disk space seems to be less than it should be.
- Folder and file sizes change inexplicably.
- Suspicious graphics appear without any user input.
- Files get extentions that you do not recognize.

c.   How can we safeguard against the spread of computer viruses?

Ans The following precautions must be taken to protect the computer system against virus attack.

- Do not use pirated software.
- Scan every disk that you borrow specially the game CDs.
- Check e-mails for viruses before opening any attachments.
- Delete spam immediately as soon as you receive it.
- Keep Bluetooth inactivated when not in use.
- Keep backups of your data.
- If connected to a network, do not login as administrator unnecessarily.
- User mode restricts the spreading of viruses.

d.   Why is it important to keep antivirus software up-to-date?

Ans New viruses keep on coming regularly. If antivirus is not updated regularly, there is a possibility that the new virus signature will not be understood and detected by the older antivirus version. This results in damage to your computer system.

2)   Explain Trojan horses, worm and viruses briefly.

a.   Trojan horses: There are programs that claim to be useful but are malicious. They often seem to do something while actually doing something else. For example, it may look as if it is installing screensaver but in reality, it is deleting files from the computer system.

b.   Worm: Worms are similar to viruses but unlike viruses they do not attach themselves to host program and exist on their own usually replacing some system file. They take advantage of security loopholes and transmit copies of themselves over the network. This results in occupying much memory and transmission bandwidth.

c. **Virus:** Virus is just like a human virus that attacks and affects the software and data in a computer. It attaches itself to other programs, makes copies of itself and spreads to other files and computers.

Activity / Test sheet based on Unit 10

3) **Answer the following questions:**
a. **Define malware.** [1]
Ans A malicious software is called malware.

b. **What is spyware? How does it affect the computer system?** [3]
Ans Spyware is a sneaky program that tracks and reports your activities without your consent. It can terribly affect the performance of your system by making modifications to the web browser, redirecting your search attempts or displaying the pop-ups.

c. **Who is using rootkit? What is its function?** [3]
Ans A rootkit is mostly used by hackers. Using rootkit, the hackers get the control of a computer system from a remote location. It is intended to infect other computers and enslave them as zombies, forcing them to attack other machines, distribute spam or steal passwords.

d. **List the ways through which virus may spread.** [5]
Ans Virus may spread by:
- Using infected CDs, USBs or floppies
- Using pirated software
- Opening e-mail attachments from unknown users
- Spams
- Bluetooth enabled devices
- Downloading an infected file from Internet

e. **Name four common mobile / Bluetooth viruses.** [4]
Ans Cabir, Duts, Skulls and Comwar are four common mobile / Bluetooth viruses.

Teaching Objectives:
The objectives of this unit are to:
- Explain the term DTP
- Explain the purpose of various bars present in MS Publisher
- List the steps needed to create a publication
- Learn how to format the publication and insert picture

Learning Outcomes:
After completing the unit, students will be able to:
- Explain the term DTP
- Explain the purpose of various bars in MS Publisher
- List the steps needed to create a publication
- Format the publication and insert picture

Number of allocated periods: 4

Period 1:
Sample lesson plan for a 40 minutes period
- Starter activity (5 minutes)
Ask students the following questions:
- What is the difference between normal text and banners, cards, etc.?
- Why is another software needed to create banners, cards, etc.?
- What do they understand by the term DTP? What is its advantage over word processor?
- Reading and explanation (15 minutes)
Discuss 11.1, 11.2, 11.4, 11.5 and 11.10 in which the students will learn how to start Publisher and the basic components of MS Publisher screen.
- Classroom activity (15 minutes)
Draw and label MS Publisher screen.
- Homework/ assignment (5 minutes)
Attempt Q.1 (a) pg/ 155

Period 2:
- Starter activity (5 minutes)
- Reading and explanation (20 minutes)
Discuss 11.13, 11.3, 11.6, 11.7, 11.11 and 11.14 in detail.
- Classroom activity (10 minutes)
The students will open the file saved earlier and will apply formatting on it.
- Homework/ assignment (5 minutes)
Attempt Q.1 (b, c)pg/ 155

Period 3:
- Starter activity (5 minutes)

Reading and explanation (15 minutes)
Discuss 11.8, 11.9, 11.12 and 11.13 in detail.
- Classroom activity (15 minutes)
The students will practice insertion of pictures.
- Homework/ assignment (5 minutes)
Attempt Q.1, 2 pg/ 154

Period 4:
- Starter activity (5 minutes)
- Reading and explanation (5 minutes)
The teacher may give them some exercise to create a new publication.
- Classroom activity (25 minutes)
Do Q.2 pg/ 155.
- Homework/ assignment (5 minutes)
Attempt Q.1 (d, e) pg/ 155

<div align="center">

Suggested Answers to Unit 11 questions
Formative Assessment (on pages 154)

</div>

1) **Tick the correct option.**
a. MS Office   **b.** Objects   **c.** Editing text

2) **Fill in the blanks**
a. exit   **b.** MS Publisher   **c.** Print Preview, Standard

<div align="center">

Summative Assessment (on page 155)

</div>

1) **Answer the following questions in short:**
a. **How do you create a publication in MS Publisher?**
Ans To create a publication, apply the following steps:
    1) Choose any type from Publication Type task pane. e.g. Business Cards
    2) Choose the type of design e.g. Brocade
    3) Click Create

b. **What does formatting a publication mean? Write the steps to change Font schemes.**
Ans Formatting a publication means changing the font and colour of publication. To change Font Schemes, follow the given steps:
    1) Click Font Schemes option from Format Publication task pane.
    2) Choose and click any font scheme.

c. **How do you exit MS Publisher?**

Ans To exit from MS Publisher, click Close button on the title bar.

d.   **What is the purpose of inserting Clip Art in your publication?**
Ans Clip Art contains pictures which can be inserted in the publication to make it more attractive.

e.   **Why do we use Color Schemes?**
Ans Color Schemes option is used to change the colour of your text and make it presentable.

2)   **Create a birthday greeting card in MS Publisher.**
Ans Ask students to follow all the steps they have learnt and apply.

Activity based on Unit 11

1)   **Ask the student to create publications for the following tasks:**
i) Create a banner for any school event (e.g. Voting for head boy/girl, Library day)
ii) Create an invitation card for any event (e.g. School mela, Prize distribution ceremony, etc.)

2)   **Answer the following questions:**
a.   **What kind of software is MS Publisher?**   [1]
Ans MS Publisher is a desktop publishing program (DTP).

b.   **What do we use MS Publisher?**   [1]
Ans MS Publisher is used to create brochures, newsletters, business cards, website, etc.

c.   **Define the following(i) Objects toolbar (ii) Task pane   (iii) Template** [3]
Ans **Object toolbar:** It contains all the tools needed to create and manipulate text and graphics in MS Publisher.
Task pane: It provides quick access to complicated functions and can include Help, Clip Art, Find and Replace, etc.
Template: It is a tool used in MS Publisher to help you create basic publications.

1) **Fill in the blanks:** (03 marks)

a. Windows **b.** binary **c.** node **d.** Text editor

e. field **f.** Drop Cap

2) **Write True or False:** (3 marks)

a. T **b.** F **c.** F **d.** F **e.** F **f.** F

3) **Expand the following:** (5 marks)

a. **AVI** :Audio Video Interleave

b. **ISO** :International Standard Oraganization

c. **WYSIWYG** :What You See Is What You Get

d. **OLE** :Object Linking and Embedding

e. **RDBMS** :Relational DataBase Management System

4) **Write short notes on the following:** (12 marks)

a. **Utility software:** Utility software is a small program that provides additional capabilities to the operating system. It helps to manage and run computer hardware, operating system and other application programs. Examples are data compression software, disk defragmenter, etc.

b. **Multimedia formats:** The term multimedia means human-computer interaction involving text, graphics, voice and video. Its formats are MPEG, QuickTime, Audio Video Interleave, etc.

c. **Mail merge:** It is a feature of word processor that allows a user to merge text from one document into another document. It is specially used in such applications where many documents are of same format but different set of data are needed. e.g. Mail merge can be used to send the same mail to a large number of students or employees.

d. **Clipboard:** Clipboard is a temprary storage area of memory where text or graphics remains in the memory till the computer is on.

5) **Differentiate between the following:**

a. **Single-tasking and multitasking:** Singletasking means performing one task at a time while multitasking means to perform more than one task at the same time like playing games, listening to music and printing a document.

b. **Bridge and router:** Bridge is a device that connects two similar or dissimilar LAN segments. It provides a level of intelligence to a network connection and improves performance by reducing network traffic. Router is advanced than bridge. It is used to interconnect network segments. It filters data packets and routes them to destination using the suitable path.

c. **Save and Save As opttion in MS-Word:** In MS Word, Save option is used

to save an already saved file while Save As option asks the user to enter a file name. It can be used to save the file with another name to another location.

d. **Modem and LAN card:** Modem stands for MOdulator DEModulator. It is a communication device used to convert digital signals from a computer to analog signals so that it can be transferred over the telephone wire and vice versa. LAN card, as the name implies, is used to connect two or more computers in a local area network to share data, resources or to send and receive messages.

6) **Answer the following question:** (15 marks)

a. **What are the benefits of data compression?**

Ans The benefits of data compression are:

i) **More disk space:** As files are compressed, so more files can be saved in the same space.

ii) **Faster Uploading and Downloading:** The files that are compressed can be sent over the Internet and received fast and easily. More files can be sent after compressing them.

iii) **More file storage options:** Compression allows more file storage options.

b. **Define macro. What is the advantage of using macros?**

Ans A macro is a series of commands that you can use to automate a repeated task, and can be run when you have to perform the task. Macro saves time by eliminating repetitive keying and formatting.

c. **Explain any three features of word processors.**

Ans i) **Text and paragraph formatting:** Allows text to be aligned left, right, centre or justified; change the size and style of writing;

ii)**Headers and Footers:** Allow some text to be inserted at the top or bottom of each page of the document.

iii)**Spell checker and Thesaurus:** Word processors have the feature to show spelling and grammatical errors which can be corrected. They also give synonyms of words through the feature of Thesaurus.

iv)**Word wrap:** In a word processor, once the line finishes, the cursor moves to the new line automatically. This is called word wrap.

v)**Mail merge:** It is a feature of word processor that allows a user to merge text from one document into another document. It is specially used in such applications where many documents of same format but different set of data are needed. e.g. Mail merge can be used to send the same mail to a large number of students or employees.

d. **Explain the purpose of Text and Numeric fields.**

A text field contains letter, numbers and symbols. The number in text field are treated as text and are not used in calculations. e.g. Name, address, phone number, etc.

Numeric field accepts digits only. It cannot accpet letters or symbols. e.g. marks, salary of an employee, etc.

e. **What is the essential difference between MS-Word 2007 and its earlier versions?**

Ans i)**MS Word 2007** has a friendly user interface in the form of Ribbon which is not available with earlier versions.

ii)It uses .DOCX file format while earlier versions use .DOC file format.

iii)It comprises 'Quick Parts' that allows users to keep the text plain or add formatting or graphics while earlier versions use 'AutoText' function.

iv)It has 'Quick Access Toolbar' while earlier versions have no such feature.

v)It has an improved Mail merge wizard.

(Units 5-7) on page 112

1) **Fill in the blanks:** (03marks)

a. Excel **b.** range **c.** theme

d. Mobile phones / Cellular phones **e.** 1,048,576 **f.** Ctrl + A

2) **Write True or False.** (03 marks)

a. F **b.** F **c.** T **d.** T **e.** F **f.** T

3. **Expand the following:**

a. **WPAN** : Wireless Personal Area Network

b. **WLAN** : Wireless Local Area Network

c. **WML** : Wireless Markup Language

d. **Wi-Fi** : Wireless Fidelity

e. **PDA** : Personal Digital Assistant

4) **Write short notes on the following:**

a. **Creating custom list in Excel:**

A list that is created to fulfil one's needs is called custom list. It can be created by following these steps:

◇ Click on Office button ⟶ Excel Options button

◇ Click Edit Custom Lists button

◇ Type the new list in List entries box ⟶ Click Add ⟶ Click OK

b. **Ways of creating a new presentation:**

There are three ways of creating a presentation

i) **Blank and Recent:** This creates a blank presentation.

ii)**Installed Templated:** These help to create a presentation by asking questions on the subject matter of the presentation.

iii) **Installed Themes:** These contain predefined slide, colour schemes and graphics elements.

c. **Piconet:** Bluetooth PAN can have up to eight devices. One device plays the role of master and it can connect to seven devices playing the role of 'slave' . A Bluetooth PAN is called piconet.

d. **Themes:** A theme is a set of colours, fonts and special effects which provide attractive background to the slides. The colour, fonts and background styles for the current theme can be changed as well.

5) Differentiate between the following: (12 Marks)

a. **Copying cell contents and moving cell contents:**
Copying cell contents create a duplicate and the original remains at its place. The action is perfomed using Copy and Paste options while moving cell contents means to remove cell contents from one location and paste it somewhere else. The action is performed using Cut and Paste options.

b. **SmartArt and Clip Art:**
A SmartArt graphic is a visual representaion of your information and ideas. You can create SmartArt graphics by choosing from among many different layouts to quickly, easily and effectively communicate your message. Clip Art contains pictures, sound or animation which can be inserted in a presentation, document or any other file. It improves the presentation of work.

c. **Closed and Open Wi-Fi networks:**
A closed Wi-Fi network has security control and only authorized users can join. Offices and homes usually have closed networks. Open Wi-Fi networks can be used by anyone who is within range, called hotspot. It is not secured through a passowrd. It is available at restaurants, hotels and airports.

d. **Inserting rows and deleting rows:**
To **insert a row,** follow these steps:
1) Select row above which you can want to insert a blank row
2) Click Home tab $\longrightarrow$ Click Insert from Cells group $\longrightarrow$ Click Insert Rows
To **delete a row,** follow these steps:
1) Select row you want to delete
2) Click Home tab $\longrightarrow$ Click Delete from Cells group $\longrightarrow$ Click Delete Rows

6. Answer the following questions: (15 marks)

a. **Write the names of any three spreadsheet software.**
Ans MS Excel, Lotus 1-2-3, Open Office Calc, VisiCalc.

b. **What are the basic faetures of Excel?**
Ans The basic features are:
- Perform calculations by using formulae
- Automatic recalculation
- Presenting data in the form of graphs and charts
- Sorting data in ascending or descending order

c. **When are smart phones mostly used?**
Ans Smart phones are the latest development to cell phone technology and are mostly

used to send messages, make telephone calls, play games, listening to music, listening to radio, use mobile apps or use Internet.

d.   What is VoIP? Which devices does it need?

Ans VoIP stands for Voice over Internet Protocol. It refers to holding voice conversations over the Internet. It is cheaper than fixed lines or mobile phones. It uses microphone, headphone or VoIP enabled devices.

e.   What is the basic principle of ZigBee?

Ans ZigBee is a communication protocol that uses small low powered digital radios. It has taken name from bees that use zigzag flight patterns as they fly from flower to flower. These dances are actually a method of communication by which bees tell each other about food sources. This is called ZigBee principle.

(Units 8-11) on page 156

1)   Fill in the blanks: (04 marks)

a.	Berners Lee	b.	<U>	c.	Adobe Flash	d.	scene
e.	malware	f.	Objects Toolbar	g.	Task pane	h.	Oval

2)   Write True or False :   (4 marks)

a.	T	b.	F	c.	T	d.	F	e.	F	f.	T
g.	F	h.	F								

3)   Write short notes on the following: (12 marks)

a.   <FONT> tag with attributes

<FONT> tag is used to change the appearance of text. Its attributes are:

<FONT SIZE=n COLOR = "colour name" FACE = "font name">

</FONT>

Here, size is used to change the size of text and n has value from 1-7. COLOR is used to change the colour of text with the specified colour.

FACE is used to change the font to the specified font.

b.   Types of computer virus

Viruses can be divided into the following:

i) Boot sector virus: A boot virus sector alters the boot sector-the first sector of a bootable disk or hard drive.

ii)E-mail virus: It uses e-mail messages as a mode of transport and usually get

Suggested Answers to
Model Paper for Summative Assesment

activated when attachments are downloaded and opened.

iii) Logic bomb and time bomb: A logic bomb lies quietly till some specific conditions are met, then it explodes onto action and causes a lot of damage.

c.   Spyware: Spyware is a sneaky program that tracks and reports your computing activity without consent. While it isn't designed to inflict damage, spyware can terribly affect the performance of your computer over time. Signs of spyware include sudden modifications to your web browser, redirecting your search attempts and the frequent display of pop-ups.

d.   **Hyperlinks in HTML:** A web page has highlighted text or symbols called hyperlinks. User can click on them which take him to another web page. The tag used for linking web pages is <A> or anchor tag.

4)   **Differentiate between the following:**   (12 marks)

a.   **Selection by Lasso tool and Selection by Pointer tool:** Lasso tool selects irregular shaped areas of drawing while Pointer tool selects rectangular shaped area.

b.   **Ordered and Unordered list:**   Ordered list means a numbered list. It starts with <OL> tag and each item of the list starts with <LI> tag.
Unordered list means a bulleted list. It starts with <UL> tag and each item of the list starts with <LI> tag.

c.   **Shape tween animation and Frame by frame animation:** Shape tween means an object that involves change of shape over the period of time. Frame by frame animation means creation of an object in each frame, so as to produce an animated sequence.

d.   **Paragraph and Line break:**   <P> tag is used to start and end a paragraph. There is a space between the paragraphs. HTML uses <BR> to enforce a line break. <P> is a container tag while <BR> is a stand-alone tag.

5)   **Answer the following questions:**

a.   **What is the relationship between website and web page?**   (18 marks)
Ans. Web page is a single page displaying information while a web site is a combination of web pages.

b.   **What is a tag? How is it written?**
Ans. The instruction in the form of text characters is called a tag. The tags are inserted in a browser to retrieve and display information and graphics in a page. It is written inside a set of less than (<) and greater than (>) symbols. These are called angular brackets.

c.   **What do we mean by grouping objects? Why is it needed?**
Ans. Grouping mean to combine the basic shapes together as one. For example, to design a car, we use various shapes. These objects need to be grouped as one for the complete car to be designed.

Suggested Answers to
Model Paper for Summative Assesment

d.   **Which precautionary measure must be taken to protect computer against virus attack?**
Ans. The following precautions must be taken against virus attack:
  ❖   Do not use pirated software
  ❖   Scan every disk that you borrow from friends specially the CDs
  ❖   Check e-mails for viruses before you open any attachments.
  ❖   Do not encourage spam. If you receive spam, delete it immediately.
  ❖   Keep Bluetooth inactivated, when not in use.
  ❖   Keep backup of your data.

e.   **Why do people create virus?**
Ans. People who write computer virus are doing it for monetary gain, as a prank with serious intent to harm or sabotage companies, or as a hobby.

f.   **What is the purpose of anti-virus software? Write names of any two anti-virus programs.**
Ans. Anti-virus program is designed to delete computer virus. Names of any two anti-viruses are NOD32, McAfee, AVG, Symantec, etc.