PGJMC (S2)-04

New Media and Computer Applications

SEMESTER - 2

JOURNALISM AND MASS COMMUNICATION

BLOCK - 2



KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

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JOURNALISM AND MASS COMMUNICATION
NEW MEDIA & COMPUTER APPLICATIONS
BLOCK - 2

DETAILED SYLLABUS

UNIT – 7: USING COMPUTERS: ESSENTIAL CONCEPTS **Page 113 – 132**

Concept of computers, organisation of a computer, different types of computers, classification of computer, port, file management, application of computer, advantages and disadvantages of computer.

UNIT – 8 : SOFTWARE AND MULTIMEDIA APPLICATION **Page 133 – 148**

Computer software basics, system software, application software, integrated software, multimedia confronting, legal restriction on software.

UNIT – 9 : MS WORD **Page 149 – 209**

Starting MS-Word, Basic Units of MS-Word, Entering & Saving text in a document, closing the MS-Word document and closing MS-Word program, opening of an existing document, copy and cut (move), formatting the document, finding a particular pattern, insertion, implementing formula on table contents, header and footer, page setup, indents, tabs, columns, change case.

UNIT – 10 : MS POWERPOINT **Page 210 – 238**

Starting of MS PowerPoint, parts of MS PowerPoint, creation of MS PowerPoint presentation, to include chart in the slide, to impart a data sheet, formatting options, slide transitions, different views of the presentations.

UNIT – 11 : DESKTOP PUBLISHING **Page 239 – 257**

Concept pf DTP, PageMaker, Photoshop.

UNIT – 12 : BASICS OF PRINTING AND TYPOGRAPHY **Page 258 – 280**

Concept of printing technology, printing machines, concept of offset printing and CTP, Fonts, type families, concept of good typography, concept of layout – manual and computer based.

BLOCK INTRODUCTION

'Computer Application' is the second block of the course on New Media and Computer Application. In this block you will get a basic idea of computer application. Here you will learn about the basic concepts of computer, its history and application. You will also learn about system softwares. Apart from that we will also discuss about two very important application softwares — MS Word and MS Powerpoint. The block has six units.

Unit–7 : Using Computers: Essential Concepts

Unit–8 : Software and Multimedia Applications

Unit–9 : MS Word

Unit–10 : MS PowerPoint

Unit–11 : Desktop Publishing

Unit–12 : Basics of Printing and Typography

UNIT-7: USING COMPUTERS : ESSENTIAL CONCEPTS

UNIT STRUCTURE

7.1 Learning Objectives

7.2 Introduction

7.3 Concept of Computers

7.4 Generation of a Computers

7.5 Organisation of a Computer

7.6 Different Type of Computers

7.7 Port

7.8 File Management

7.9 Application of Computers

7.10 Advantages and Disadvantages of Computers

7.11 Let Us Sum up

7.12 Further Reading

7.13 Answers To Check Your Progress

7.14 Possible Questions

7.1 LEARNING OBJECTIVES

After going through this unit you will be able to :

- explain what is a computer
- discuss about the generation of computers
- describe the organisation of a computer
- elaborate on the different types of computers
- explain what is a port
- Discuss the concept of file management
- Identify the areas of application of computers
- discuss the advantages and disadvantages of computer.

7.2 INTRODUCTION

Computer is the most powerful tool man has ever created. Computers have made a great impact on our everyday life. Today, computer

technology has permeated every sphere of existence of modern human being. With the growing information needs computer has become one of the vital components for the survival of all organizations. Their presence is felt in almost every working place from the bus and railway ticket reservation counter to satellite launching, from retail stores to medical diagnosis and from home use to research and design organization - everywhere, we witness the elegance, sophistication and efficiency which is possible only with the help of computers.

In this unit, we will introduce you to the computer fundamentals including its various components and functionality. In this unit, we shall discuss the characteristics of computers including its evolution and generations. We will also discuss the categories of computers along with its application in the various fields of the modern world.

7.3 CONCEPT OF COMPUTER

In ancient times people used fingers and pebbles for computing purposes. With the development of civilization, the computing needs also grew and the need to perform lengthy calculations led to the invention of some mechanisms and devices, first a calculator and then a computer.

The term ***computer*** is derived from the word ***compute***, which means ***to calculate.*** In the simplest form a computer can be defined as a ***programmable machine***. In a more formal way it can be defined as an ***Electronic machine*** capable of performing calculations and other manipulations of various types of data, under the control of a stored set of instructions. The machine itself is the **hardware**; the instructions are the program or **software**.

We can also define ***computer*** as an electronic device that operates under the control of a set of instructions that is stored in its memory unit. A computer accepts data from an input device and processes it into useful information which it displays on its output devices. Actually, a computer is a collection of hardware and software components that help you accomplish many different tasks. ***Hardware*** consists of the computer itself, and any

equipment connected to it. ***Software*** is the set of instructions that the computer follows in performing a task.

Most of today's computer designs are based on the concepts developed by John Von Neumann refered to as the *"Von Neumann architecture"*. Von Neumann proposed that there should be a unit performing arithmetic and logical operations on the data. This unit is termed as *Arithmetic Logic Unit (ALU)*. A control unit directs the ALU to perform specific arithmetic and logical functions on the data. Therefore, in such a system, by changing the control signal, the desired operation can be performed on data.

The Arithmetic Logic Unit(ALU) and Control Unit(CU) together are termed as the Central Processing Unit(CPU). The CPU is the most important component of a computer's hardware. The ALU performs the arithmetic operations such as addition, subtraction,multiplication and division, and the logical operations such as, >, <, >=. <= etc. The control unit interprets instructions and produces the respective control signals.

Computers are becoming a part of our daily life because of the following reasons:

1. A computer offers unmatched speed, performing computations faster than humans.
2. Computers undertake boring and difficult tasks.
3. Computers perform tasks repeatedly without errors, thereby avoiding fatigue that affects humans.
4. Computers can do critical and dangerous tasks that may be hazardous to humans.
5. Computers provide information which can be used in decision – making.
6. Computers offer services in medicine and science that previously did not exist.
7. Computers are an exciting entertainment medium, as well as educational tool.
8. Computers allow society to undertake activities in many fields and to functions more efficiently.

9. Computers can work in engineering fields where humans find difficulty and risk to life in performing certain activities .e.g. painting, robotics, welding robotics can be used in areas where human access is impossible (to perform in certain intricate places).

In short, computers allow people to become more productive whether used at the office or in homes. They offer features that just ten years ago were unheard of it. Computer technology developed in America has spread through out the world. Leaders in government and industry must master this technology to make sure the organizations are equipped to operate with the computers. Computer system today offer reliability, considering the stressful conditions in which they are used.

7.4 GENERATIONS OF COMPUTERS

We have already discussed about the evolution of computers in the previous block of this course. Now, evolution of modern computer is commonly considered in terms of generation of computers also. So let us discuss about the generation of computers.

First Generation (1940-1956): Vacuum Tubes

The computers of this generation were made of vacuum tubes for circuitry and magnetic drums for memory. This made computers bulky and heavy. Punched cards were used to feed the information. Magnetic tapes were used as external storage devices. They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat and occupied a large amount of space. These machines used machine and assembly level language.

The UNIVAC (Universal Automatic Computer) and ENIAC computers are examples of first generation computing devices.

In 1951,the UNIVAC (Universal Automatic Computer) was introduced and became the first commercially available computer, with vacuum tubes, which was big and bulky, generated much heat and required air-conditioned rooms.

Second Generation (1956-1963): Transistors

The computers of this generation were made up of transistors replacing vacuum tubes. They were small in size so the machines occupied a less amount of space. The use of transistors made the computers work faster. The transistor was far superior to the vacuum tube, allowing computers to become smaller, faster, cheaper, and more energy-efficient and is more reliable than their first generation predecessors. Though the transistors still generated a great deal of heat that subjected the computers to damage, it was a vast improvement over the vacuum tube. Transistors are made from materials called semi-conductors principally silicon (sand and rock) and germanium.

Second generation computers still relied on punched cards for input and printouts for output. The development of high-level languages like FORTRAN, COBOL and BASIC was possible.

Third Generation (1965-1971): Integrated Circuits

In the mid 1960's, the third generation of computers arrived and made the computer a major business tool. These were made up of IC (Integrated Circuits). Integrated circuit means incorporation of hundreds of transistors on a single silicon chip. The ICs had greater input-output capabilities and vast internal storage and operated in a billionth of a second. The third generation computers were still smaller than the computers of second generation. Heat generated was also less and occupied less space.

Instead of punched cards and printouts, users interacted with third generation computers through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different application at one time with a central program that monitored the memory. Computers for the first time became accessible to mass audiences because they wee smaller and cheaper than their predecessors.

Fourth Generation (1971 onwards): Microprocessors

The computers of this generation saw the advent of Large Scale Integration (LSI) and Very Large Scale Integration(VLSI), which incorporated several thousand transistor in a single chip.

ICs with the equivalent of more than 100 components are called LSI and those with more than 1000 components are called VLSI. The main characteristics of the fourth generation computers is the evolution of the use of Microprocessors. Microprocessors had thousands of integrated circuits which were built into a single silicon chip. The computers using these chips are called microcomputers which are known as "Personal Computer" (PCs).

The Intel 4004 chip, developed in 1971, located all the components of the computer, from the central processing unit and memory to input/ output controls-on a single chip.

Fifth Generation Computers

At present we are in fourth generation. The fifth generation computers are in developmental stage.



CHECK YOUR PROGRESS-A

Q.1: What do you mean by computer?

Q.2: State True or false:

a) A computer offers unmatched speed, performing computations faster than humans. (True/False)

b) A computer system includes hardware, peripheral devices and software. (True/ False)

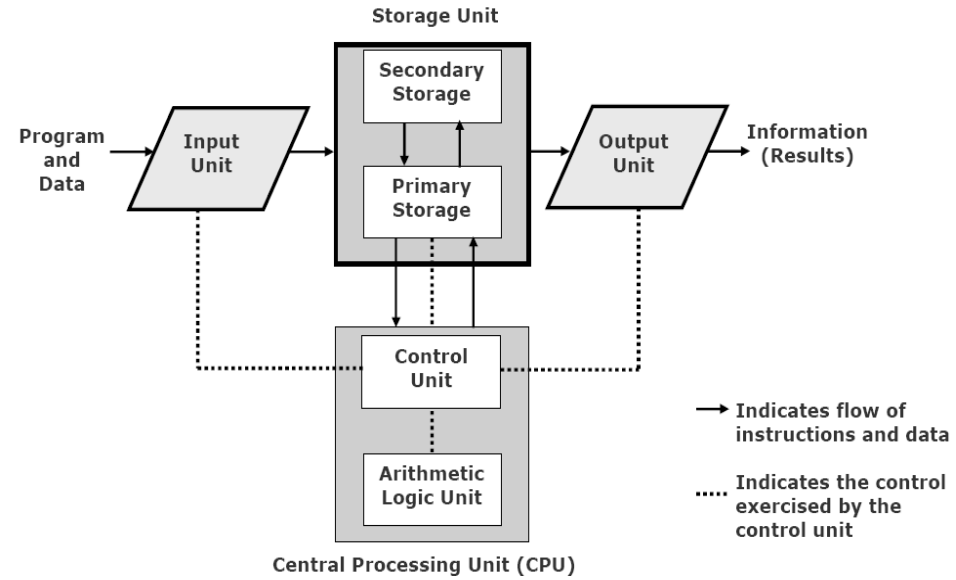
c) Output device is a peripheral device that displays, prints or transfers the results of processing from the computer memory. (True/False)

d) The word computer is derived from the word 'compute', which means to calculate. (True/False)

Q.3: What are the different generations of computer?

7.5 ORGANISATION OF A COMPUTER

A computer is a fast and accurate device, which can accept data, store data, process them and give desired results as output. The computer is organized into four units as shown in the following diagram:



A) Input Unit

The input to the human brain is through devices like the eyes, ears and /or nose. Similarly, input to the computer is through certain devices like a Keyboard, light pen and mouse. These devices which aid in the input of data and instructions into the computer are called input devices.

Function of Input Devices:

The input device helps us to communicate with the electronic computer by converting the human understandable signals and numbers into appropriate electronic /electric signals.

Examples of Input Devices:

Keyboard, Mouse, Lightpen, Touch Screen, Joystick, Scanners, Optical Character Readers (OCR), Magnetic Ink Character Reader (MICR), Mark sense Reader (MSR), Optical Mark Reader (OMR), Bar Code Reader.

B) Output Unit

Human beings communicate with each other by talking, writing or making actions. The computer communicates through devices like monitor (VDU-Visual Display unit) and Printers. These devices which aid in the communication of data and information from machine to man are called output devices.

Function of Output Devices

The output devices help the computer to communicate with us by converting the electric signals to human understandable signals.

Examples of Output Devices

Visual Display Unit (VDU), Printers and Plotters

The output on the VDU is called Soft copy. Output on paper, which is produced by printers and plotters, is referred to as hard copy output.

C) Central Processing Unit

The Central Processing Unit (CPU) is the heart of the computer combined with the processing system of a computer. The CPU of a modern computer is fully electronic i.e. it does not contain any moving parts. It is made up of millions of electronic components attached on to a number of silicon chips. These chips are all assembled on a Printed Circuit Board called the Mother Board.

The CPU carries out actions with help of Arithmetic-Logic Unit (ALU). This is done following a detailed set of instructions written in the main memory. It also uses the main memory for temporary storage of information. The CPU instructs various parts called device controllers to transfer data between secondary memory and the main memory. The CPU accepts the data from the input unit, process it and gives the result output to the output device. The data/result can be stored for the use by storing it in the secondary memory. The total operations of the computer are synchronized and combined by the CPU.

The processing capacity of a computer is measured in terms of the amount of data processed by the CPU in one operation .The CPU has three important sub-units.

1. Arithmetic-Logic Unit (ALU):

The ALU is an electronic circuit used to carry out the arithmetic operations like addition, substraction, multiplication and division. This unit carries out logical operation like greater than, less than, equal to etc. It performs the operation on the data provided by the input devices .A comparison operation allows a program to make decision based on its data input and results of the previous calculations. Logical operations can be used to determine whether a particular statement is TRUE or FALSE.

The ALU operates on data available in the main memory and sends them back after processing again to main memory.

2. Control unit:

The control unit coordinates the activities of all the other units in the system. Its main functions are to control the transfer of data and information between various units and to initiate appropriate actions by the Arithmetic-Logic unit. Conceptually, the control unit fetches instructions from the memory, decodes them to various units to perform the specified task.

3. Memory Unit:

The main memory is also called primary memory. It is used to store data temporarily. Although, the CPU is the brain behind all the operations in the computer, it needs to be supplied with the data to be processed and the instructions to tell it what to do. Once the CPU has carried out an instruction, it needs the result to be stored. This storage space is provided by the computer's memory. Data provided by the input device, and the result of that processed data is also stored in the memory unit. This main memory is like a scratch pad. The storage capacity of the memory is generally measured in megabytes.

8 bits	=	1 byte
1024 bytes	=	1 Kilobyte (KB)
1024 Kilobytes	=	1 Megabyte (MB)
1024 Megabytes	=	1 Gigabyte (GB)

Different kinds of primary memory are Random Access Memory (RAM) and Read Only Memory (ROM). We can read and write data in RAM

but the data is volatile or temporary, that is whenever the power is switched off, the contents of RAM are lost, so it is required to store the data in the secondary memory if the data is required for the future use. We can only read the data from ROM and we cannot write anything into it and the data is permanent.

D) Secondary Memory

The computer is provided with secondary storage devices. This is the permanent memory. The data, instructions and information stored in it are permanent. But we can delete them if we want to. There are different kinds of secondary storage devices available.

Examples:

Floppy disks : 1) to store files and retrieve files
2) Generally floppy disk is 3.5 inch floppy disk, which has the capacity of 1.44 MB

Hard disk: 1) to store files and retrieve files
2) These have the capacities in 40 Giga Bytes (GB), 80 GB etc.

Optical disks : 1) popularly known as compact disk (CD)
2) Different capacities are available; they are 650 MB, 700 MB etc. different forms of CDs are available. They are basically:

CD–ROM: Compact Disk Read Only Memory. On these the data is already recorded and we can view its contents when opened on the computer. But the contents cannot be erased or altered and no new content can be added to it.

CD-R: Compact Disk Recordable, in this the data can be written only once.

CD-RW: Compact Disk Rewritable. In this new data can be added several times. Also data can be erased from this disk.

DVD: Typically may contain at least 4.4 GB of data, nearly 7 times the amount of a CD-ROM. DVD capacities are given in decimal units. A “4.7 GB” DVD has a nominal capacity of about 4.38 GiB.

USB Flash Drive/Pen Drive :

1) A USB flash drive is a memory data storage device integrated with a USB (Universal Serial Bus) inter face. USB flash drives are typically removable and rewritable, much smaller than a floppy disk, and most weigh less than an ounce (30 g).
2) Storage capacities can range from 64 MB to 256 GB with steady improvements in size and price per capacity. Some allow 1 million write or erase cycles and have 10-year data retention.

7.6 DIFFERENT TYPES OF COMPUTERS

Computers can be classified in many different ways. Some of them are as follows.

BASED ON PURPOSE AND USE

1) **General Purpose Computers:** General purpose computers can store large amounts of data and the programs necessary to process them. Digital computers work in highly specialized fields and perform complex mathematical formulae. Most business use them as they are versatile.
2) **Special-Purpose Computers:** A computer that is designed to perform a specialized task. The instructions to perform this task are permanently stored in the computer, e.g., cash register, STD billing machines etc.

   Special purpose computers have many features of general purpose computers, but perform highly specialized data processing tasks.

BASED ON TECHNOLOGY/ DESIGN

1) **Analog Computers:** A computer which measures continuously changing conditions, such as temperature and pressure, and converts them into quantities. These computers are used in scientific and engineering fields.
2) **Digital Computers;** A computer which measures digital data and performs arithmetic and logical operations on such data. These are most popularly used computers.

3) **Hybrid Computers:** They combine the best features of analog and digital and have the speed of both. They are used for special problems in which the input data, a form of measurement is converted into digits and processed by computers e.g. central national defense and passenger flight use hybrid computers. In Computer Assisted Manufacturing (CAM), etc., the hybrid computers can control robots on the production line.

BASED ON MEMORY (PHYSICAL SIZE)

1) **Personal Computers (Microcomputers):** A computer is the smallest general purpose processing system. Functionally it is similar to any other large system. Microcomputers are self-contained units and usually designed for use by one person at a time.
2) **Minicomputers:** A minicomputer is medium sized computer that is more powerful than a micro computer. An important distinction between a microcomputer and a minicomputer is that a minicomputer is usually used to serve multiple users simultaneously.
3) **Mainframe Computer:** Computers with large storage capacities and very high speed of processing are known as mainframes. They support a large number of terminals for simultaneous uses by a number of users.
4) **Super computers:** These have extremely large storage area and computing speeds, which are many times faster than earlier discussed machines. While the speed of earlier discussed computers are measured in terms of million instructions per second, in super computers speed is measured as tens of millions of operation per second, an operation is made of many instructions. These have more than one processor in it and the processing is carried out in applications which include large scale numerical problems in scientific and engineering disciplines like weather forecasting, atomic research, space research etc.
5) **Laptop/Note Book Computer:** These are the computers, which are small in size and weight few Kgs. These computers can be carried from one place to another easily. The people who are always on the

move mostly use this. This has all the capabilities of a personal Computer. It has a LCD screen and has rechargeable batteries. Now we can even get computers which can be placed on our palm hence the name “Palm Top Computer”.

7.7 PORT

A **port** is a connector (or socket) which is used to connect the processor to the peripheral device. Any part of the computer’s circuitry that the processor needs to talk to, is given a port number, and the processor uses that number like a telephone number to call up the required part. Two types of ports are:

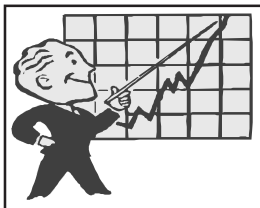
a) Parallel port and b) Serial port.

Data can be sent either one bit at a time or several bits at a time. When data is transferred one bit at a time using one data line, the data transfer is said to be **serial**. When data is transferred several bits at a time ,using many data lines(usually 9), the data transfer is said to be **parallel.**

Serial data transmission is usually chosen for long distance data communication and microcomputers will have at least one serial port based on the standard connector, RS-232C. A serial port is used to connect to either a telephone line (through a modem) or to a printer or the mouse.

Parallel data transmission is faster, as many data lines are used, many characters can be transfer at a time. Most microcomputer will have at least one parallel port. A parallel port is designed specially to work with a printer.

The parallel port is specialized for controlling but a serial port is more generalized and it can be used for a variety of purposes (the mouse and telephone being the most common things to be connected to it).



CHECK YOUR PROGRESS

Q.4: Computers are organized in four units, they are:

a) _____

b) _____

c) _____

d) _____

Q.5: What are the different types of computer?

Q.6: What do you mean by Port.

7.8 FILE MANAGEMENT

A **filename** is a unique set of letters and numbers that identifies a file and usually describes the file contents. Files are stored in clusters. A cluster is a group of sectors and is the smallest storage unit the computer can access. The number of sectors that form a cluster depends on the type of computer. IBM- compatible computers form a cluster from two sectors. Each cluster is numbered and the operating system maintains a list of which sectors correspond to each cluster.

A file is defined as a named collection of program instructions or data that exists on a storage medium such as a hard disk, a floppy disk, or a CD-ROM. There are several kinds of files. For example, data file, and program file which includes executable files, source files and batch file.

Data file: A data file contains words, numbers and pictures that we view, edit, save and print. Typically we create data files when we use application software. For example, we create a data file when we store a document we have written using word processing software or when we store a picture we have drawn using graphic software.

We probably won't create all the data files we use: we might receive data files as part of a software package we purchase. For example, word processing software often includes a dictionary data file that contains a list of words the software uses to check spellings.

Executable Files: An executable file contains the instruction that tells the computer how to perform a specific task. For example, the word processing program that tells our computer how to display and print text, is stored on the disk as an executable file. Other executable files on our computer system include the operating system, utilities and programs for application software.

The programs we run are one type of executable file. Our computer also has executable files that are executed at the request of a computer program, not the user. For example, a word processing program might request that the computer use an executable file called GRAMMAR.DLL to check the grammar in a document.

Source Files: A source file contains instructions that a computer user can understand and that must be translated before a computer can execute them. A computer user can request that a specific source file be run. The computer does the translation, so it seems as if the source program is being executed just like an executable file. But this is not the case; behind the scenes, a translator program is busy converting the source program into commands the computer can execute.

A valid file-name is created by following specific rules. The rules for creating a valid filename are referred to as file naming conventions. Each operating system has a unique set of file naming conventions. A filename usually has two parts: the fileneme itself and the file name extension. The extension is separated from the file name with a period, called a dot.

7.9 APPLICATION OF COMPUTERS

Computers have a very big impact on our day-to-day life. They can be used for a number of application like Business, Education, Research, Office, Accounting, Military, space, Entertainment, Medical etc. We can use it for any of the applications. Computers are becoming an integral part of our life, which enhances our efficiency and productivity. In this competitive world the usage of computer to carry out day-to-day work will give us an edge over the others.

Following are the broad application areas where computers are used extensively:

1. **Entertainment**: It can be used to make cartoon movies, animation and special effects in movies, games etc.
2. **Day-to-day life**: It can be used in institutions like colleges, Hospitals, Railways and Airline Booking System, Shops, Banks etc. to carry out day-to-day work. For example train ticket bookings can be done with the help of computers. If we want to book a ticket to a particular destination instead of a human being searching for the availability of the tickets in books or by calling a respective station, the computer can do that job as computers of different stations are connected in a network.

   Most of the jobs which human beings do using paper, are done by the computer without the use of computer. For example, when a sale bill is made in shop the entry is made in the computerised Ledger, cash/ Bank book, stock etc automatically.
3. **Communication:** Now-a-days internet is becoming an integral part of life to gather information about different topics or to send and receive e-mails etc.
4. **Science:** It can be used for research purpose, space programs, nuclear programs etc.

7.10 ADVANTAGES AND DIS-ADVANTAGES OF COMPUTERS

Advantages of computer: The following are some of the advantages of computer:

1. **Speed:** Computers carry out the jobs in microseconds or even lesser time. The human beings cannot think of doing the jobs with such speed. Few lakh calculations can be done in a second.
2. **Accuracy:** While doing a job human being may commit mistakes whereas if the data given to the computer is correct then the computer does the job without any mistakes.

3. **Efficiency:** Unlike human beings efficiency is very high in computers. As it is a machine it does not get tired or bored of doing a job. It can do the same job repeatedly any number of times without any mistakes and with the same amount of time. Each time the job is repeated with same kind of result. For example if letters to parents of all the students are to be printed then it will do the job monotonously.
4. **Storage:** A computer has a memory in which the data can be stored for future use. For example, the details of the students, customers, suppliers etc. can be stored in the computers to be used whenever it is required. A letter can be stored so that the same letter can be used in the later date. Retyping of that letter need not be done unlike in the case of type writer. Any number of copies of that letter can also be produced.

Disadvantages of Computer: The following are the disadvantages of computer:

1. Computers cannot think by themselves and they require human direction to perform specific task.
2. If the data given is wrong then it gives the wrong result. For example if we want to add two numbers 400 and 300 say, (here 400 and 300 are data) instead of typing 400 and 300 if we give the data as 400 and 350 then the result what we get will be wrong.
3. Instructions given also should be correct, that is instead of addition if we ask it to multiply it will multiply.
4. It will not work without electricity.
5. Investment and maintenance in this equipment is also required.



CHECK YOUR PROGRESS-3

Q.7: What do you mean by file?

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2. What are the different kinds of files?

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3. What are the application areas where computers are used extensively?



7.11 LET US SUM UP

1. Computer is an electronic device that is used to perform diverse operations with the help of instructions to process the data in order to produce desired results.
2. Speed ,accuracy, reliability, versatility, diligence, lack of intelligence are the characteristics of computers.
3. Computer development is divided into five generations.
4. The first generation of computers used **vacuum tubes** for circuitry and **magnetic drums** for memory, and were often enormous, taking up entire rooms.
5. In the second generation of computers, **transistors** replaced vacuum tubes.
6. The **integrated circuits** were used in the third generation of computers.
7. The fourth generation of computers are based on **microprocessors.**
8. Fifth generation computers are based on ***artificial intelligence.***
9. A file name is a unique set of letters and numbers that identifies a file and usually describes the file contents. File management implies the combination of file-naming conventions and storage of files.
10. Computers have application in all walks of life that is in Business, Education, Research, Science, Entertainment etc.



7.12 FURTHER READING

1. Computer Application in Management, Sanjay Saxena & P. Chopra
2. Computer Applications in Business, R. Parameswaram
3. Computer Fundamentals, V. Rajaraman



7.13 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Computer are defined as an electronic machine that is designed to accept data and instructions, store the data and instructions, process the data according to the instruction to produce desired results.

Ans. to Q.No.2:

a) True b) True c) True d) True

Ans. to Q.No.3:

a) First Generation (1940-1956): Vacuum Tubes

b) Second Generation (1956-963): Transistors

c) Third Generation (1965-1971): Integrated Circuits

d) Fourth Generation (1971 onwards): Microprocessors

e) Fifth Generation Computers

Ans. to Q.No.4:

a) Input Unit

b) Output Unit

c) Central Processing Unit

d) Secondary Memory

Ans. to Q.No.5:

a) Analog Computers

b) Digital Computers

c) Hybrid Computers

d) Special Purpose Computers

e) General purpose Computers

Ans. to Q.No.6: A port is a connector (or socket) which is used to connect the processor to the peripheral device.

Ans. to Q.No.7: A file is defined as named collection of program instructions or data that exists on a storage medium such as a hard disk, a floppy disk, or a CD-ROM.

Ans. to Q.No.8:

a) Data file

b) Executable Files

c) Source Files

Ans. to Q.No.9:

a) Entertainment

b) Day-to-day life

c) Scientist

d) Communication



7.14 POSSIBLE QUESTIONS

Q.1: What is a computer? What is difference between a computer and a computer system?

Q.2: Explain different generations of computers

Q.3: Explain the organization of the computers with a block diagram.

Q.4: Discuss the application areas of computers

Q.5: Discuss the advantages and disadvantages of computers.

*****

UNIT-8 : SOFTWARE AND MULTIMEDIA APPLICATIONS

UNIT STRUCTURE

8.1 Learning Objectives

8.2 Introduction

8.3 Computer Software Basics

8.4 System Software

- 8.4.1 Operating System
- 8.4.2 Utilities Software
- 8.4.3 Device Drive Software
- 8.4.4 Programming Language

8.5 Application Software

- 8.5.1 Productivity Software
- 8.5.2 Education Software
- 8.5.3 Entertainment Software
- 8.5.4 Business Software

8.6 Integrated Software

8.7 Multimedia Computing

8.8 Legal Restriction On Software

8.9 Let Us Sum Up

8.10 Further Reading

8.11 Answers To Check Your Progress

8.12 Possible Questions

8.1 LEARNING OBJECTIVES

After going through this unit you will be able to:

- discuss computer software
- define system software and application software
- differentiate between system software and application aoftware
- explain different types of system software and application software
- define Multimedia Computing
- outline Software licenses and copyright agreements

8.2 INTRODUCTION

In this unit we are going to discuss about computer software and its appli-cations.The computer is the most successful and versatile machine in history. A computer's versatility is possible because of software. The software is an interpreter which translates the user's command into the understandable machine language codes which can be executed by the central processing unit. There are two major categories of software. They are system software and application software. **System Software** helps the computer to carryout its basic operating tasks. **Application Software** helps the human user to carryout a task. System software and application software are further divided into sub categories. We will discuss how a computer uses software and the difference between system software and application software.

The term multimedia isn't really anything new. It refers to the integrated use of multiple media, such as slides, video tapes, audio tapes, records, CD-ROMs, and photos. Computer technology is replacing or controlling many of the technologies and media that were previously used for multimedia presentations. Advances in computer technology have made it possible to combine text, photo images, speech, music, animated sequences, and video into a single interactive computer presentation. To display realistic graphic and video, your computer system must have a high resolution monitor and a CD-ROM drive.

8.3 COMPUTER SOFTWARE BASICS

Computer software determines what a computer can do; and in a sense, it transforms a computer from one kind of machine to another, from a drafting station to a type setting machine, from a flight simulator to a calculator, from a filing system to a music radio and so on.The distinction between software, programs, and data is important.

COMPUTER PROGRAM

A computer program is a set of detailed, step by step instructions that tell a computer how to solve a problem or carryout a task. The steps in a computer

program are written in a language that a computer can interpret or understand. At one time, computer users had to invest the time and expense of writing many of their own programs. Today, people rarely write programs for their personal computers, preferring to select from thousands of commercially written programs.

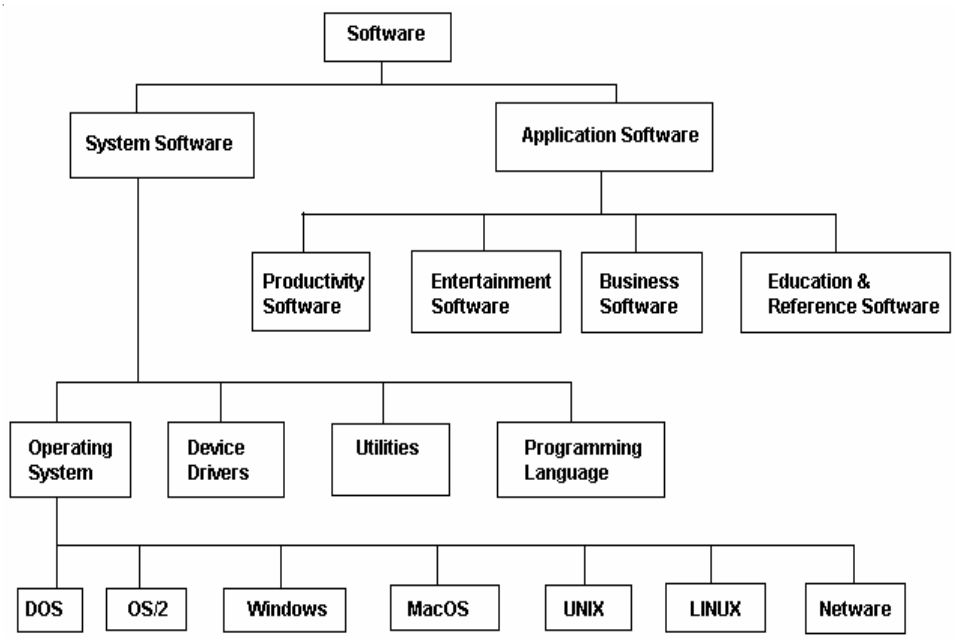
DATA

Data are the words, numbers and graphics that describe people, events, things, and ideas. Data can be included in the software, like the data for a dictionary in a word processing program, and you can create data such as numbers you provide for a graph.

SOFTWARE

We define Software as instructions and associated data, stored in electronic format, that direct the computer to accomplish a task. Under this definition, computer software may include more than one computer program, if these programs work together to carryout a task. Also under this definition, software can include data, but data alone is not a software. For example, word processing software might include the data for a dictionary, but the data you create using a word processor is not referred to as software.

Two major categories of software : System Software and Application Software with their strategies are displayed in the following figure :



8.4 SYSTEM SOFTWARE

These are software designed for the satisfactory operation of the system. The major categories of system software are :

(1) Operating System;

(2) Utilities Software;

(3) Device Drive Software;

(4) Programming Language.

8.4.1 OPERATING SYSTEM

An Operating System (OS) is the software that controls the computer's use of its hardware resources such as memory and disk storage space. An operating system works like an air traffic controller to coordinate the activities within the computer. Just as an airport cannot function without air traffic controllers, a computer cannot function without an operating system.

The operating system works as a liaison between the computer hardware and application software. An operation system helps you start an application, then it works "behind the Scene" while the application software is running to perform tasks essential to the efficient functioning of the computer system.

FUNCTIONS OF OPERATING SYSTEM

The functions of the Operating System are as follows :

- To control input/output operations i.e. use of keyboard, display screen and printer so that people can easily enter data and receive output.
- To control movement of data in the primary storage.
- To locate and load programs from secondary storage.
- To manage a large task in a smaller primary memory by using the technique of virtual memory.
- Management of Input/Output devices.
- Management of CPU time in (1) Multitasking (2) Multiprogramming and (3) Multiprocessing.

- Management of memory.

SOME POPULAR OPERATING SYSTEM

The names of the most popular micro computer operating system are DOS, Microsoft Windows, OS/2, MacOS, UNIX, VMS and MVS. Operating systems for micro, mini and mainframe computers perform many similar tasks. Many microcomputer users can recognize an operating system by looking at the first screen that appears when they turn the computer on or by recognising the operating system prompt.

DOS : DOS which stands for Disk Operating System, is marketed under the trade names PC-DOS and MS-DOS. Both PC-DOS and MS-DOS were developed primarily by Microsoft Corporation and are essentially the same operating system. Microsoft corporation stopped upgradation of DOS in 2001.

Windows : Microsoft took a more graphical approach to operating systems when it designed windows. Different versions of windows such as Windows 3.1, Windows 95, Window 98, etc. are developed. But most sophisticated and develop one is Windows XP and Windows Vista which is the latest version of Microsoft Corporation. MS-Windows provide icons that you can directly manipulate on the screen using a positive device, and menus you can use to issue commands. The application you use with Windows all have a consistent look, so it is easy to learn how to use new software. Windows also lets you run more than one program at a time in separate Windows on the screen and lets you easily transfer data between them. In addition to programs designed especially for Windows, the operating system also runs softwares designed for Windows and DOS.

Windows NT : The network version of the Windows operating system is Windows NT. With Windows NT you can connect your computer to other computers to share software programs and data.

OS/2 : OS/2 was designed jointly by Microsoft and IBM. If your computer uses OS/2, you can use most DOS and Windows

software, as well as software designed specifically for OS/2.

UNIX : UNIX is an operating system that was developed by AT & T's Bell Laboratories in 1969 and is now used as one the foundation technologies on the information superhighway. UNIX was originally designated for minicomputers, but is now available for microcomputer and mainframe. Many versions of UNIX exist, such as AIX from IBM, XENIX from Microsoft, and ULTRIX from Digital Equipment Corporation.

8.4.2 UTILITIES SOFTWARE

Utilities are system software designed to augment the basic capabilities of your computer's operating system. Utilities provide computers with a way to control two allocations and use of hardware resources. Some utilities that are included with the operating system pertain to tasks such as preparing disks to hold data, providing information about the files on a disk, and copying data from one disk to another. Additional utilities can be purchased separately from software publishers and vendors. For example, Norton Utilities, published by Symantec; is a very popular collection of utilities software. Norton Utilities can retrieve data from damaged disks, make your data more secure by exempting it and help troubleshoot problems with your computer's disk drives.

8.4.3 DEVICE DRIVERS

Device Drivers are system software that helps the computer control a peripheral device. When you purchase a new peripheral device, the installation instruction that come with the device usually tell you how to install both the device (hardware) and necessary device drivers (software). In order for your computer to use a device driver, you must install it according to the instructions. Once the device driver is installed correctly, the computer uses it to communicate with the device.

8.4.4 PROGRAMMING LANGUAGE

Programming language is a system of communication in the software technology. As such all the types of programming languages such as machine language, assembly language and procedure and object oriented language – high level languages are considered to be system software.



CHECK YOUR PROGRESS

Q.1: Fill in the blanks with appropriate words:

(i) _____ system is the software that controls the computer's hardware functions.

(ii) Computer based satelite control is an example of _____ software.

(iii) _____ is a communication facility within a city.

(iv) the network version of the windows operating system is _____.

(v) _____ is an operating system developed by AT &T's Bell Laboratories.

8.5 APPLICATION SOFTWARE

These are customer oriented software suitable for specific area of application. Application software helps you produce documents, perform calculations, manage financial resources, create graphics, compose music, play games, maintain files of information and so on. We can classify the application software using the following categories :

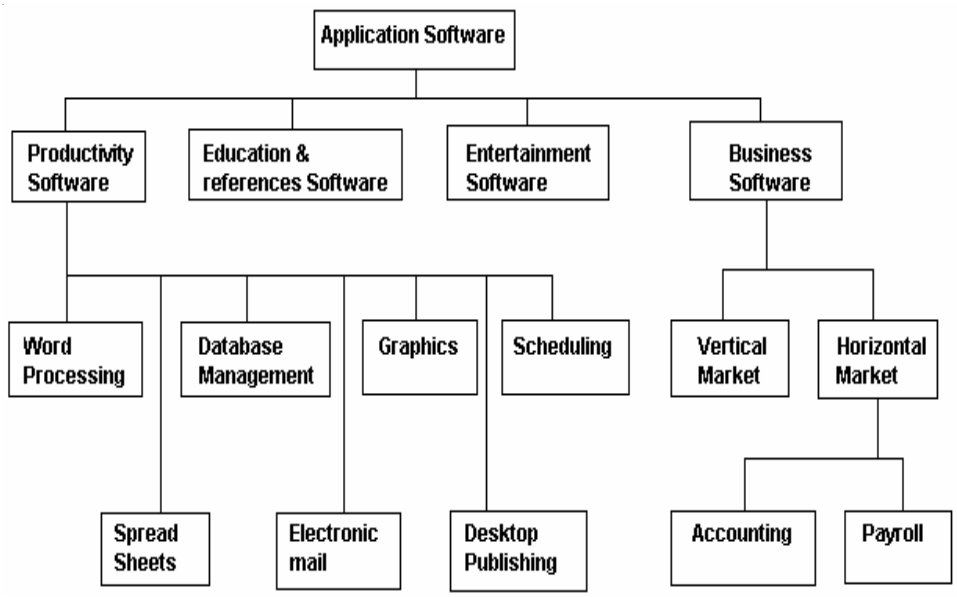
(1) Productivity Software.

(2) Education and Reference Software.

(3) Entertainment Software.

(4) Business Software.

The following figure shows you an expanded view of the application software branch of the software hierarchy chart.



8.5.1 PRODUCTIVITY SOFTWARE

Productivity software helps you work more effectively. The classification of this software are : (a) Word Processing, (b) Spread sheets, (c) Database Management, (d) Electronic Mail, (e) Graphics, (f) Desktop Publishing and (g) Scheduling.

(a) Word Processing Software helps you to produce documents such as reports, letters, papers and manuscripts. To use word processing software you type in the text of a document. As you type, you can easily edit your work and make corrections. You can also move text to improve the logical flow of ideas in your document. Word processing is the most popular type of application software.

(b) Spreadsheet Software helps you work with numbers. The software displays a grid of rows and columns on the screen. Each box formed by this grid is called a cell. Each cell shows an address that indicates its row and column position. For example, cell address B3 means a cell in column B, row 3. You enter number and formulas in the grid and the computer automatically performs the calculations. Spreadsheets are frequently used by financial analysis to examine investment opportunities, by managers to create budgets, by entrepreneurs to create business plans, and even by the educators

to keep track of student grades.

(c) Database Management Software helps you work with facts and figures, such as the customer names and addresses you might store on file cards or in a Rolodex. Database management software helps hospitals and doctors to keep track of patient records; the IRS to keep track of tax payments, the phone company to keep track of names, addresses, and phone numbers; and the record clubs and book clubs to keep track of members and sales.

(d) Electronic Mail Software provides you with a computerized mail box that collects documents or "mail" you receive electronically from other computers users. You can send electronic mail messages, you can read you electronic mail on your computer screen, you can save or throw away your electronic mail after you read it or you can compose electronic reply's to the mail you receive.

(e) Graphics Software helps you draw pictures, 3-D images and animations. If you have limited artistic ability, you can use graphics software to retrieve pre-drawn images called clip art, which you can use as it is or modify. Presentation graphics software helps you represent information using screen-based slide shows of bulleted lists, graphics and charts.

(f) Desktop Publishing Software provides you with computerized tools for page payout and design that combine text and graphics. Although many desktop publishing features are available in today's sophisticated word processing software, desktop publishing software provide additional features to help you produce professional looking, quality output for newspaper, newsletters, and brochures.

(g) Scheduling Software helps you keep track of appointments, due dates, and special dates such as birthdays and holidays. You can use the scheduling software to print a daily, weekly or monthly calendar.

8.5.2 EDUCATION AND REFERENCE SOFTWARE

Education Software is designed to help you learn more about a particular topic. One sub category of education software is called CAI or tutorial software. CAI stands for "Computer Aided Instruction". Other terms used to describe tutorial software include ""Computer-based instruction", "Computer-based learning" and "Computer-mediated learning", CAI software can help you learn how to do things – how to type, fix your car, use your word processor, speak French, or prepare for the GMAT/GRC exam.

Reference Software, such as electronic encyclopedia, helps you look up facts on any topic. Other reference software includes collections of classic literary works, electronic dictionaries, the phone directories, a trip planner with maps of a country, and medical reference guides.

8.5.3 ENTERTAINMENT SOFTWARE

It is no surprise that entertainment software is designed to entertain you. With entertainment software, you can play different types of games, battle monsters or explore new worlds. For example, the "Paper Planes" software is entertaining while showing you how to construct several types of paper airplanes.

8.5.4 BUSINESS SOFTWARE

Business Software is divided into two categories : horizontal market software and vertical market software.

(a) Horizontal Market software

A "horizontal market" is a group of different types of business that, despite their difference, have some of the same software needs. Horizontal market software refers to generic software packages that can be used for many different kinds of business. Productivity software, such as word processing, spreadsheet, or database management applications, can be considered horizontal market software because they can be used in virtually any business.

Accounting and payroll applications are also good examples of horizontal market software. Accounting Software is designed to computerise the bookkeeping and financial reporting tasks typically required in most business. Payroll software keeps track of employee houses and produces the reports required by the government or any organization for income tax reporting.

(b) Vertical Market Software

A "vertical market" is a group of a similar business – travel agencies, for example – that need specialised software. Vertical market software is designed for specialized tasks in a specific market or business.

8.6 INTEGRATED SOFTWARE

A software publisher sometimes combines several productivity software into a single package called integrated software. Typically integrated software include word processing, spreadsheet, database, and presentation graphics applications. Electronic mail is also included in some integrated software. Integrated software is often called a suite, office or works. Some popular integrated software package include Microsoft works, Claris works, Lotus SmartSuite, Novell Perfect Office, and Microsoft Office. Integrated software makes it easy to cut and paste data between applications.

8.7 MULTIMEDIA COMPUTING

Multimedia Computing refers to the integrated use of multiple media, such as slides, video tapes, audio tapes, records, CD-ROMs and photos. Computer technology is replacing or controlling many of technologies and media that were previously used for multi-media presentations. Advances in computer technology have made it possible to combine text, photo image, speech, music, animated sequences, and vide into a single interactive computer presentation. To display realistic graphic and video, your computer system must have a high resolution monitor and a CD-ROM drive.

Multimedia is defined as an integrated collection of computer-based text, graphics, sound, animation, photo images and video.

Multimedia applications : One example of a multimedia application is a multimedia encyclopedia. It contains articles and pictures on a wide range of topics like a traditional encyclopedia, but a multimedia encyclopedia has more. A multimedia encyclopedia provides you with a rich selection of text, graphics, sound, animation, and video.

Hypertext is a key element of many multimedia products, and has been used effectively in non-multimedia products as well. You are likely to use hypertext with many computer application. The term hypertext was coined by Ted Nelson in 1965 to describe the idea of documents that could be linked to each other. Linked documents make it possible for a reader to jump to a passage in another document.

Hypermedia : The links in today's applications often involve graphics, sound and video, as well as text. This type of multimedia hypertext is referred to as hypermedia. Hypertext and hypermedia are important computer-based tools because they help you easily follow a path that makes sense to you through a large selection of text, graphical, audio and video information.

8.8 LEGAL RESTRICTIONS ON SOFTWARE

Like books and movies, most computer software is protected by a copyright. In addition to copyright protection, computer software is often protected by the terms of a software license. Some of the major aspects for legal restrictions on software are as follows —

(a) Copyright Material : A copyright is a form of legal protection that grants certain exclusive rights to the author of a program or the owner of the copyright. The owner of the copyright has the exclusive right to copy the software, to distribute or sell the software and to modify the software. If you are not the owner of the copyright, it is illegal to copy, distribute, or sell the software unless you obtain permission from the copyright owner.

(b) Copyright Act : The copyright act states under what circumstances you can and cannot legally copy copyright software. When you purchase copyrighted software, you do not become the owner of the copyright. Instead, you own only a copy of the software. Your purchase allows you to use the software on your computer, but you cannot make additional copies to give

away or sell the restrictions. Copyright Act applies only to the programs and data included as part of the original software. The data you enter, the documents, files, and graphics you create can be copied without restrictions.

(c) Copyright Symbol : Copyrighted materials, such as software, display a copyright notice that contains the word "Copyright" (or the (c) symbol), the year of publication, and the name of the copyright holder. When you start a computer program the copyright notice usually appears on the first screen; it is also usually printed in the reference manual.

(d) Licensed Software : A software license is a legal contract that defines the ways in which you may use a computer program. For micro-computer software, you will find license on the outside of the package, on a separate card inside the package, or in the reference manual. Mainframe software licenses are usually separate legal documents, negotiated between the software publisher and a corporate buyer. It is important to distinguish the concept of licensing from that of purchasing a copy of software. When you pay for licensed software, you do not buy and then own a copy of the software. Instead, you are buying permission to use the software. You can think of it as renting software, rather than buying it.

(e) Public Domain Software is owned by the public rather than by the author. The program is available to everyone for use without restriction. Public domain software may be freely copied, distributed, and even sold. The primary restriction on public domain software is that you are not allowed to apply for a copyright on it. Public domain software is fairly rare.

(f) Shareware is copyright software marketed under a "try before you buy" policy. Shareware usually includes a license that allows you to use the software for a trial period. If you went to continue to use it, you must become a registered user by sending a registration fee. When you send the fee to become a registered shareware user, you are grated a license to use the software beyond the trial period. You might also receive a free copy of the latest version of the software or printed documentation for the program. A typical share policy allows you to make copies of the software and distributes them to other.



CHECK YOUR PROGRESS

Q.2: Write true or false for the following statements:

(i) Word processing software helps you to work with numbers.

(ii) Business software is devided into two categories as horizontal and vertical market software.

(iii) Graphics software helps you to produce documents.

(iv) Multimedia is defined as an integreted collection of computer based text, graphics, sound, animation, photo images and video.

(v) Shareware is copyright software marketed under a "try before you buy" policy.



8.9 LET US SUM UP

In this unit, we have defined computer software as instructions and associated data, stored in electronic format, that directs the computer to accomplish a task. There are two types of software.

(1) System Software

(2) Application Software

System software helps the computer to carry out its basic operating tasks. System software is also divided into subcategories such as Operating system, device drivers, utilities etc.

Operating System acts as an interface between the user and computer. There are different types of operating system like batch processing, multiprogramming, time-shared programming, multiprocessing etc. Examples are DOS, UNIX, WINDOWS etc. Utilities software and device driver software are both system software.

Application software helps the human user to carry out a task. Application software are further divided into sub categories such as productivity software, entertainment software, business software, education and reference software etc.

Application software is utilized with different categories to accomplish different specific tasks using the computer. Different categories are developed for different purposes.

Multimedia means being able to communicate in more than one way for better communication. The executive of text, sound graphics and ani mation simultaneously is called as Multimedia. To have multimedia in a computer they must have a sound card, proper graphics adapter and speakers to have the sound heard all around. A microphone can also be used to record something. Multimedia technology has a lot of potential and can be used in a variety of sectors : Education, Entertainment, Commerce etc.

Computer software is protected by a copyright which is a form of legal protection that grants legal rights to the author of a program or the owner of the copyright. Computer software is also protected by the terms and conditions laid down in the software license.



8.10 FURTHER READING

1. Computer Application in Management – *Sanjay Saxena & P. Chopra*
2. Computer Applications in Business – *R. Parameswaram*
3. Computer Fundamentals – *V. Rajaraman*



8.11 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1:

(i) Operating, (ii) Real time processing, (iii) Metropolitan Area Network, (iv) Windows NT, (v) UNIX.

Ans. to Q.No.2:

(i) False, (ii) true, (iii) False, (iv)True, (v) True.



8.12 POSSIBLE QUESTIONS

Q.1: What is a Software ? Discuss the importance of software in a computer system.

Q.2: Discuss different types of operating systems.

Q.3: What is application software ? Explain why application software is so important to the computer user.

Q.4: What is multimedia ? Discuss the application of Multimedia with examples.

Q.5: Discuss the legal restrictions on software.

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UNIT-9 : MS WORD

UNIT STRUCTURE

9.1 Learning Objectives

9.2 Introduction

9.3 Starting MS-WORD

9.4 Basic Components of MS Word

9.5 Entering and Saving Text in a Document

9.6 Closing the MS-Word document and Closing MS-Word

9.7 Opening of an existing Document

9.8 Copy and Cut (Move)

9.9 Formatting the document

9.10 Find a particular pattern

9.11 Insertion

9.12 Implementing Formula on table contents

9.13 Header and Footer

9.14 Page Setup

9.15 Indents

9.16 Tabs

9.17 Columns

9.18 Change Case

9.19 Let us sum up

9.20 Further Reading

9.21 Answers To Check Your Progress

9.21 Possible questions

9.1 LEARNING OBJECTIVE

After going through this unit, you will be able to:

- explain steps to start Microsoft Word
- discuss basic units of Microsoft Word
- discuss the creation of a document and saving of the document
- explain opening of an existing document and formatting of a document

- describe how to edit a document
- insert symbols, pictures in the document
- explain how to print a document.

9.2 INTRODUCTION

In the earlier units, we discussed on the basic concepts in computer, about data storage technology, the software and multimedia applications and about **Windows XP**. Now in this unit we will discuss **MS-Word**, which is very important to any meida professional.

In a media organization lot of documents are to be prepared, for example letters are to be written to different organizations and people, reports and news stories have to be written. Even as a media student you will have to write assignments and project reports. Computer typed work always looks more neat and professional. A lot of time is saved in typing and the efficiency is increased. So, Microsoft Word is such a software which can be used to create, format, store, retrieve, edit and print the document.

Microsoft Corporation developed this software. It is a full-featured word processing program that allows us to create attractive and professional-looking documents easily and quickly. This software is also used to edit, layout, save, print, mail-merge etc. a document.

9.3 STARTING MS-WORD

Following steps are undertaken to start **Microsoft Word**

1. Make sure the Windows desktop is open. Move the mouse points over the **Start** button present on the extreme left of the task bar and then click the left mouse button. A push up menu appears.
2. Place the mouse pointer over the program option inside the pushup menu. A second menu gets displayed immediately.
3. Move the mouse pointer over **Microsoft Word** option and click the left mouse button as shown in **Fig. 9.1**.

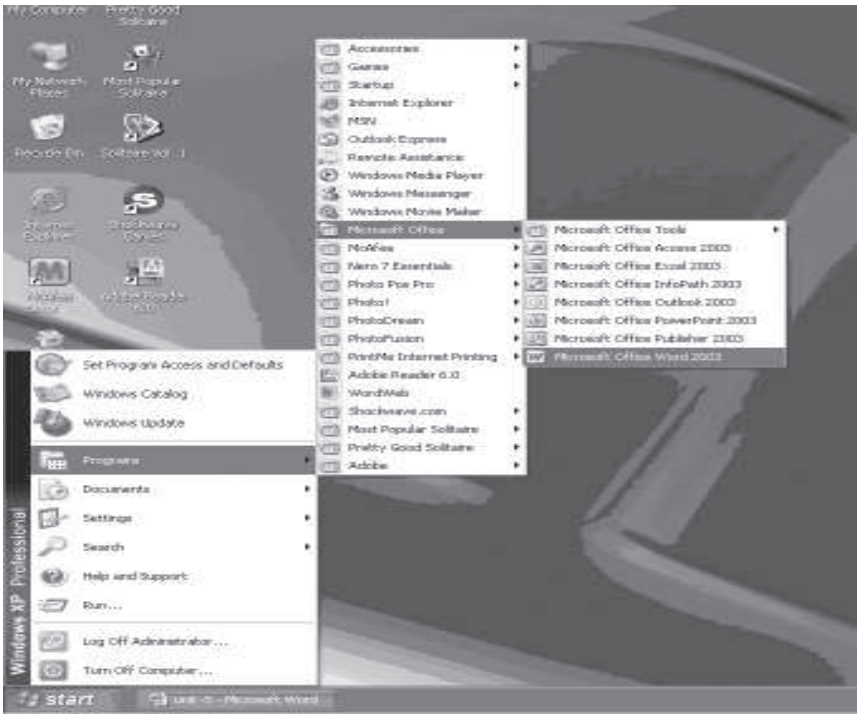


Fig. 9.1

A blank document file named **Documents** gets displayed on the screen instantly as shown in **Fig. 9.2**.

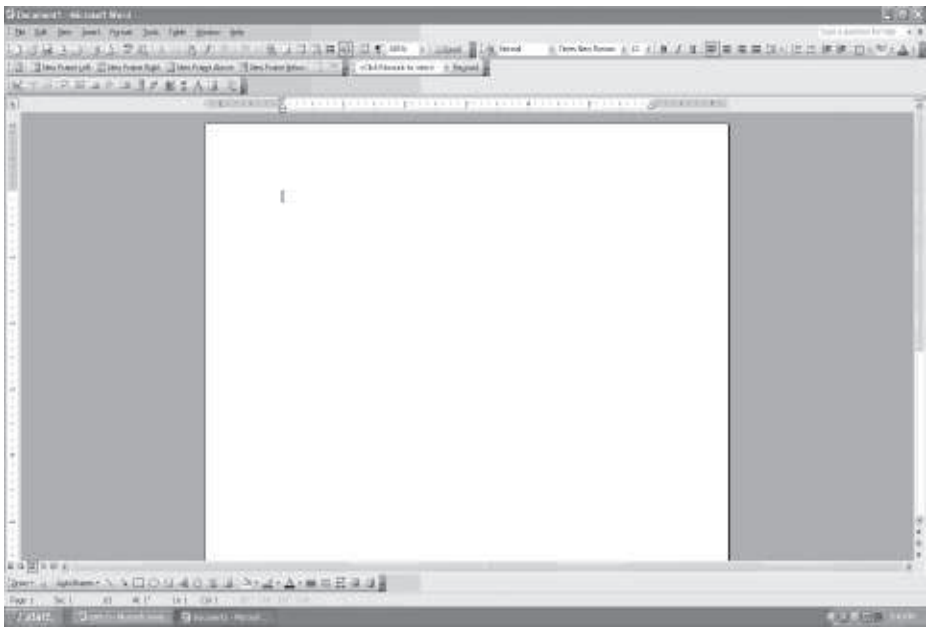


Fig. 9.2

9.4 BASIC COMPONENTS OF MS-WORD

1. Title Bar : It displays the name of the program and the document. Until we save the document and give it a name, the temporary name is Document 1.



Fig. 9.3

Title Bar also displays various window controls like minimize button, maximize button and close button.

a. **Minimize button:** This is used for changing a window/document into a button.
b. **Maximize button:** This is used for enlarging window/document after it has been minimized or restored. When a document is maximized then, to bring it back to the original size, we use Restore button.
c. **Close button:** This is used to close a document/window.

2. Menu Bar: The menu bar lists the name of the menus. Clicking a menu name on the menu bar displays a list of commands from which we can choose. For instance when you click on the 'file' menu a list of commands like 'open new file', 'save', 'print', 'page-setup' etc. will appear on a drop down menu.

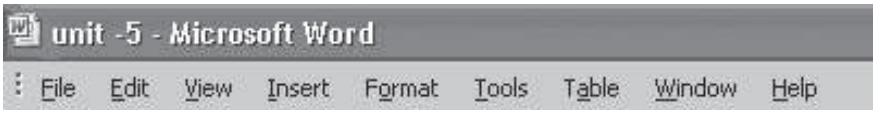


Fig. 9.4

a. **File :** This helps in creating new file; opening an existing file; saving a file; printing a file; print preview of a file; setting up of print area; page-setup; sending the page to MS-Power Point, closing the document; exiting **MS-WORD** etc.
b. **Edit:** This helps in copying, cutting, deleting a range of text, pasting a text, which has been copied or cut from some other location, clearing the content at a particular location, finding the particular text and replacing it with a new text in the Document etc.

c. **View:** This helps in enabling and disabling certain tools in the word window. This is also used to add **Header and Footer** to the document.

d. **Insert:** This can be used to insert page numbers, page breaks, pictures etc.

e. **Format:** This helps in changing the font of the text.

f. **Tools:** This helps with the spell checker, protection of documents by providing the pass-word. The document can be customized according to one's specification etc.

g. **Table:** This is used to insert, delete, select and draw table.

h. **Window:** This is used to hide/unhide the document window. To create new window, to split the frame etc are performed.

i. **Help:** This can be used to get any help about **MS Word**.

3. Standard Toolbar: The Standard toolbar contains buttons for the most frequently used commands, such as the commands for opening, saving and printing documents. This toolbar is one of the two default toolbars. Clicking buttons on a toolbar is often faster than using a menu bar.

Whenever we bring the points of the mouse to the buttons each button indicates the command for which it stands.



Fig. 9.5

4. Formatting toolbar: The formatting toolbar allows the user to give commands related to formatting text/data like Bold, Underline, Font Style, Font size, Font color etc.



Fig. 9.6

5. Editing area: Here we can type and edit the text.

6. Scroll Bars: Used to scroll through different parts of current document.

7. Drawing Tool Bar: This is used to draw different shapes, arrows etc.

8. Status Bar: The status bar displays the current page and section numbers, the total no. of pages and the position of the insertion point.

9.5 ENTERING AND SAVING TEXT IN A DOCUMENT

When we launch Word, the program opens a document window in which we can create a new document. We can begin by simply typing text at the insertion point. When we reach the end of a line as we type, word automation passes the insertion point to the next line. This feature is called **word-wrap**. To insert a new line or start a new paragraph simply press [**Enter**]. It is also a good idea to save our work shortly after writing our first paragraph and every **10** or **15** minutes and before printing.

Three methods are there to open a new document.

1. Use of **"New Blank Button"** on standard toolbar **:** Click the "**new**" button that is there on the Standard Toolbar and we will get a new document.
2. Use of "**File**" option button on Menu Bar **:**
   (a) Click on the "**File**" option button of Menu Bar.
   (b) Select "**New**" from drop down menu.
   (c) We will get a screen as shown in **Fig. 9.7**
   (d) Click "**OK**"



Fig. 9.7

3. Press **Ctrl** and **N** key simultaneously we will get a blank document automatically generated.

After the completion of typing a document we need to save it. We can create any number of blank documents but recently created document is shown on the screen. All other documents are minimized and they are displayed on the Status Bar at the button of the screen and we can select any of them by clicking on the required document.

SAVING THE DOCUMENT

Three methods are there to save a new document

1. Use of "**Save**" button on Standard Toolbar : Click the same button which is there on the Standard Toolbar and we will get the figure shown below. Here select the drive, folder and give the file name and then click on "**Save**" button.
2. Use of "**File**" option button of Menu Bar :

   (a) Click on the "**File**" option button of Menu Bar.

   (b) Select "**Save**" from drop-down menu.

   (c) We will get a screen as shown in **Fig. 9.8.**

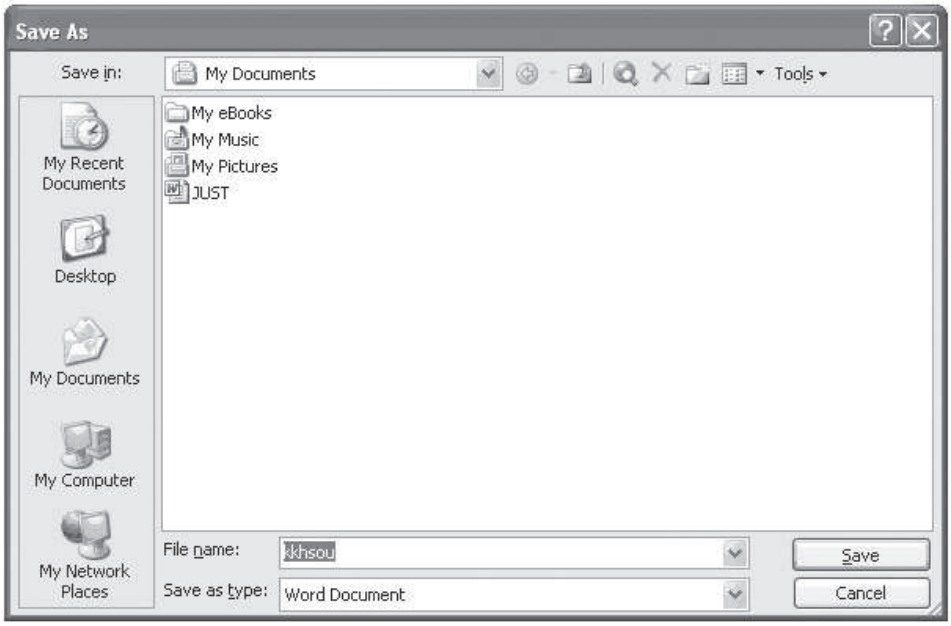


Fig. 9.8

Here select the drive, folder and give the file name and then click on "**Save**" button, as explained earlier.

3. Press **Ctrl** and **S** key simultaneously we will get a screen as shown in **Fig 5.8**. Now follow the Step (C).

Note: If we want to cancel the saving process, we can click on the "**Cancel**" button.

Once we have saved a document, next time if we want to save we can use any of three methods discussed above but we need not give the name of the file as it is already given when it was saved for the first time.

9.6 CLOSING THE MS-WORD DOCUMENT AND MS-WORD PROGRAM

A. CLOSING MS-WORD DOCUMENT :

There are two ways in closing the Document

1. Closing the document without saving it.
2. Closing the document after saving it.

1. Closing the document without saving it

In this method, the latest updates are not saved. So to do this follow the steps mentioned below:

(i) Move the mouse pointer over the "**File**" option on Menu Bar and click the left mouse button. A pull down menu gets displayed immediately.

(ii) Inside the pull down menu, move the mouse pointer to the "**Close**" option and click the left mouse button. A message box gets displayed immediately asking us whether we want to save this sheet with the options **Yes, No** and **Cancel.**

Move the mouse pointer over "**No**" and click the left mouse button this will close the document without saving it.

If we want to save the sheet we can select "**Yes**" option by moving the mouse pointer over it and clicking the left button. A menu appears, here select the drive and folder in which we want to save. Then give the file name and select "**Save**" option.

If we do not want to save or close the document select "**Cancel**" option. This will take us back to the document.

2. Closing the document after saving it:

In this method the latest updates are saved. To close the document follow the steps mentioned below.

(i) Move the mouse pointer over the "**File**" option on Menu Bar and click the left mouse button. A pull-down menu gets displayed immediately.

(ii) Inside this pull-down menu move the mouse pointer to the "**Save**" option and click the left mouse button. A menu appears, here select the drive and folder in which we want to save. Then give this file a name and select "**Save**" option.

We can even use the "**Close**" button, which is at the right hand corner of the Standard toolbar and follow the steps as explained above depending on our choice.

B. CLOSING MS WORD PROGRAM

We can use two methods to close the MS Word Program

(1) Using the "**Close**" button on the title bar :

- Move the mouse pointer over the "**X**" button which is at the right hand corner of the Title bar.
- Click the left button on the mouse.

(2) Using the "**Exit**" option :

- Move the mouse pointer over the "**File**" option on Menu bar and click the left mouse button. A pull-down menu gets displayed immediately.
- Click on to the "**Exit**" option in that menu.



CHECK YOUR PROGRESS

Q.1: What do you mean by Microsoft Word?

Q.2: What are the basic units of MS-Word?

Q.3: What are the three methods to open a new work book?

Q.4: What are the two methods to close MS-Word Program?

9.7 OPENING OF AN EXISTING DOCUMENT

Three methods are there to open an existing *Document*.

1. Use of "**File**" *option button* on *Menu Bar*:
   (a) *Click* on the "**File**" *option button Menu Bar*.
   (b) *Select* "**Open**" from *drop down menu*.
   (c) We will get a screen as shown in **Fig. 9.9**

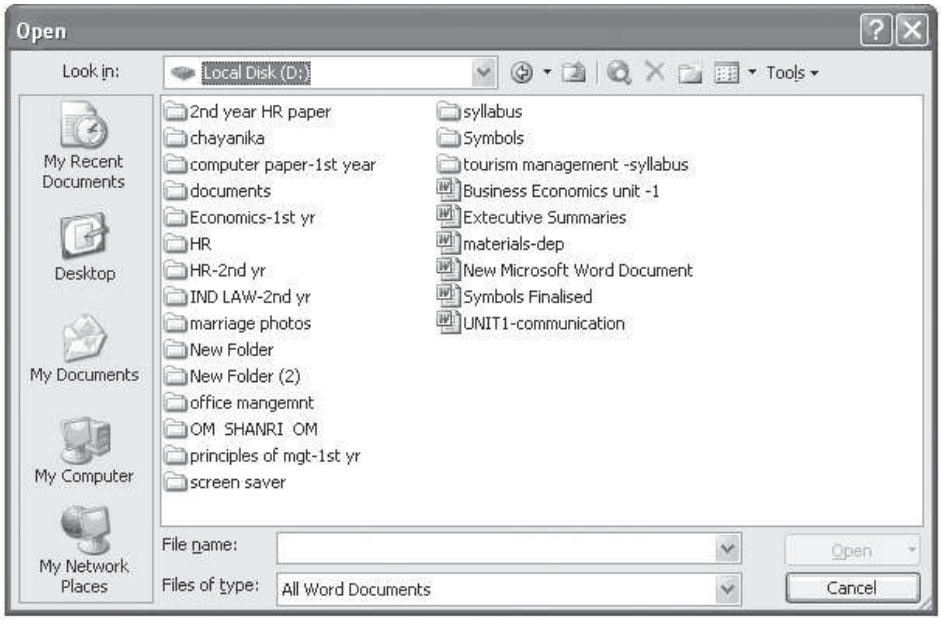


Fig. 9.9

   (d) Select the drive and folder in which we have the file.
   (e) Type the name of the file we want to open in the "**File name**" box.
   (f) Click "**Open**".

2. Use of "**Open**" button on Standard toolbar :

   Click the "**Open**" button that is there on the Standard Toolbar we will get the screen as shown in **Fig. 9.9** then follow the steps **(d)**, **(e)**, and **(f)** as mentioned above.

3. Press **Ctrl** and **O** key simultaneously we will get "**Open**" dialog box.

9.8 COPY AND CUT (MOVE)

A. COPY

To copy a part of the document to some other place, follow the steps given below:

1) Make the block of document that we want to copy. Holding the left mouse button down and dragging the mouse pointer over that document of which we want to make the block. **Fig. 9.10** shows the selection of block.

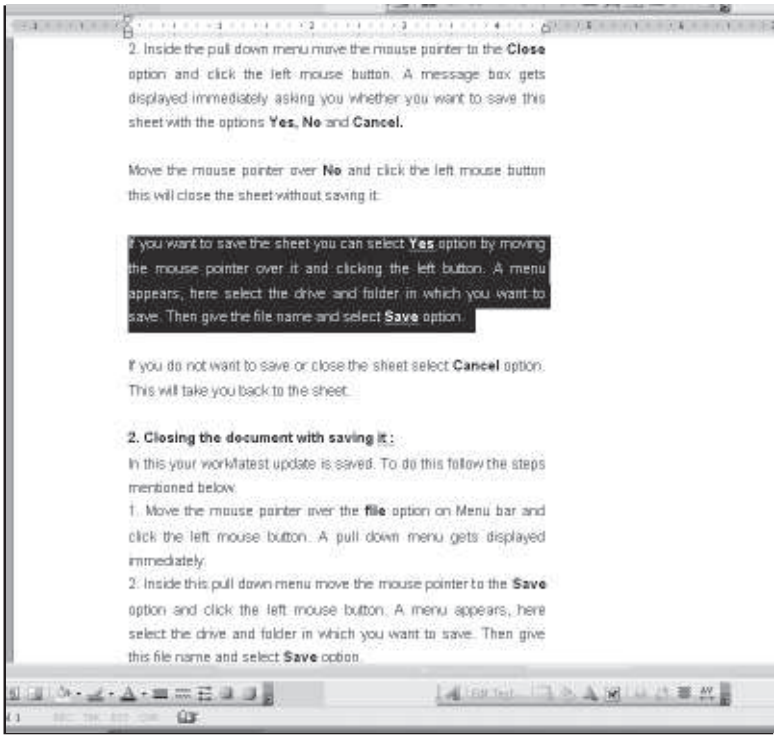


Fig. 9.10

2) Click the right mouse button on the selected block we will get a pop up menu as shown in **Fig. 9.11**.

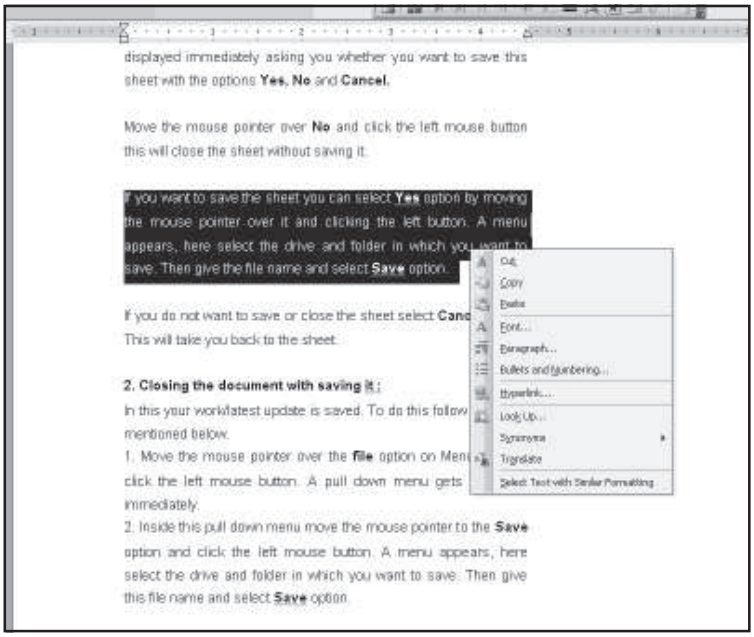


Fig. 9.11

Now click on "**Copy**" option, this block is copied on to clipboard (a temporary location), or Click on to "**Edit**" option of menu bar from the drop down menu, click on to "**Copy**" button as shown in **Fig 9.12**. Now the selected block is copied on to the clipboard.

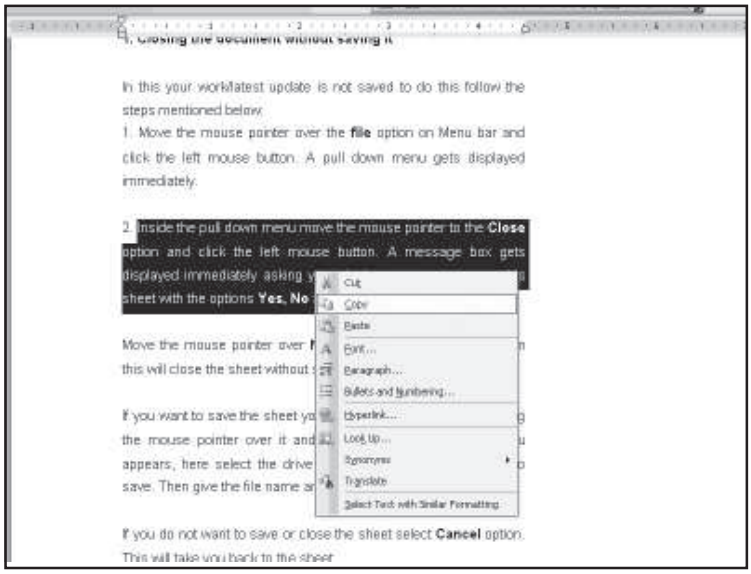


Fig. 9.12

Or click on to the "**Copy**" icon that is on the Standard Toolbar. This icon is activated when the block is created. Now the selected block is copied on to the clipboard.

3) Move the mouse pointer to the place where we want to copy this block and click the right mouse button. From the pop-up menu, select "**Paste**" option as shown in **Fig. 9.13**. The earlier selected block is copied to the new place shown in **Fig. 9.15**.

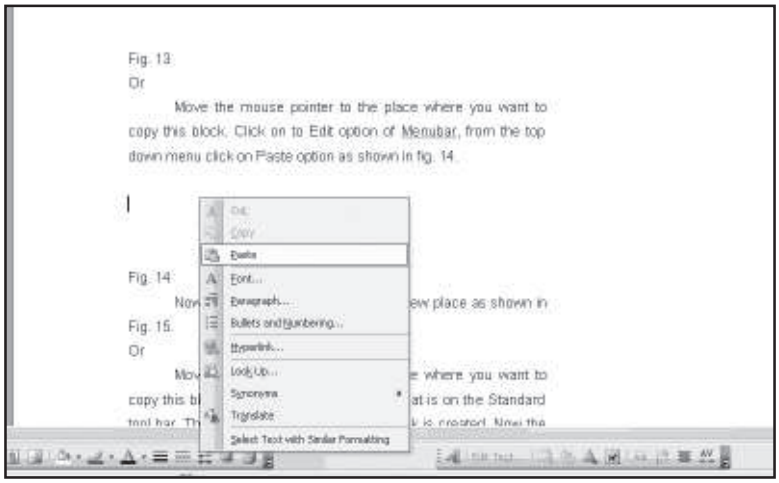


Fig. 9.13

Or move the mouse pointer to the place where we want to copy this block. Click on "'**Edit**" option of Menu bar, from the drop-down menu, click on "**Paste**" option as shown in **Fig. 9.14**.

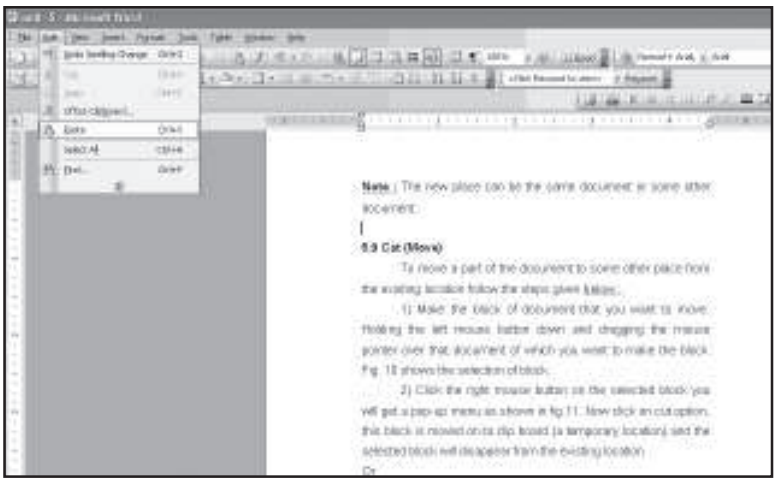


Fig. 9.14

Now the selected block is copied at the new place. Or move the mouse pointer to the place where we want to copy this block. Click on to the "**Paste**" icon that is on the Standard toolbar. This icon is activated when the block is created. Now the selected block is copied at the new place.

Note: The new place can be the same document or some other document.

B. CUT (MOVE)

To move a part of the document to some other place from the existing location, follow the steps given below:

1) Select the block of document that we want to move.
2) Click the right mouse button on the selected block we will get a pop-up menu as shown in **Fig 9.11**. Now click on "**Cut**" option, this block is moved on to clipboard and the selected block will disappear from the existing location.

   Or Click on to "**Edit**" option of Menu bar, from the drop-down menu, click on "**Cut**" option as shown in **Fig 9.12**. Now the selected block is moved on to clipboard and selected block will disappear from the existing location. Or click on the "**Cut**" icon that is on the Standard Toolbar. This icon is activated when the block is created. Now the selected block is moved on to the clipboard and the selected block will disappear from the existing location.
3) Move the mouse pointer to the place where we want to move this block and click the right mouse button. From the pop-up menu, select "**Paste**" option shown in **Fig. 9.13**. The earlier selected block is moved to the new place as shown in **Fig 9.15**.

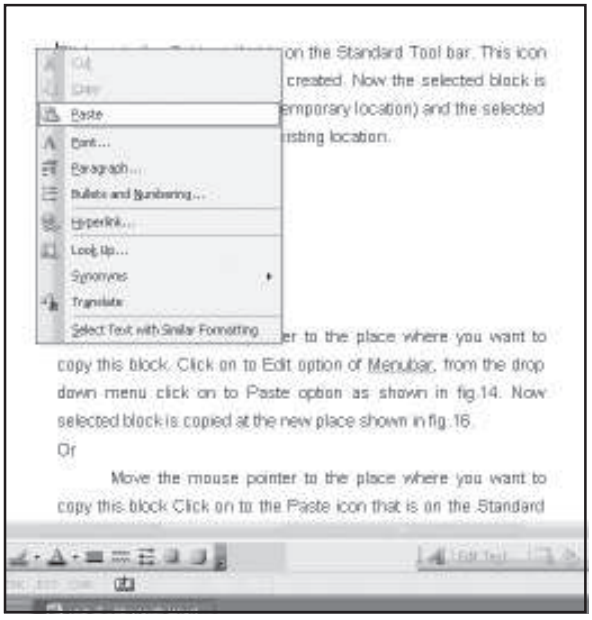


Fig. 9.15

Or move the mouse pointer to the place where you want to copy this block. Click on "**Edit**" option of Menu bar, from the drop-down menu, click on "**Paste**" option as shown in **Fig. 9.14**. Now the selected block is copied at the new place. Or move the mouse pointer to the place where we want to copy this block. Click on the "**Paste**" icon that is on the Standard Toolbar. This icon is activated when the block is created. Now the selected block is copied at the new place.

Note: We can observe that the selected block disappeares from the original place.

9.9 FORMATING THE DOCUMENT

a) Font: The style of the contents typed in the document can be changed. To do this follow the steps given below:

1. Select the block of the contents of which we want to change the Font.
2. Select the font from the list available as shown in **Fig. 9.16**.

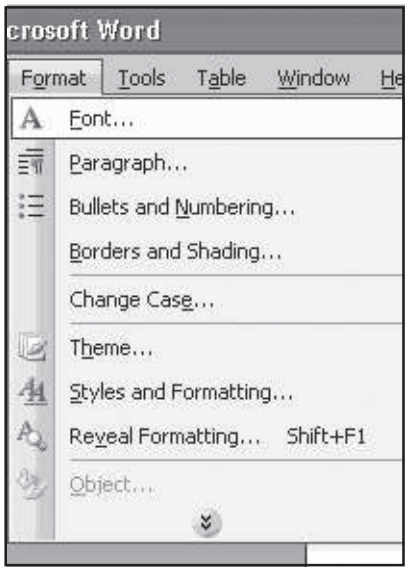


Fig. 9.16

b) Font size: The size of the font in the selected block can be changed. Follow the steps given below to do this:

1. Select the block of the contents of which we want to change the font size.

2. Select the font size from the list available as shown in **Fig. 9.17**.

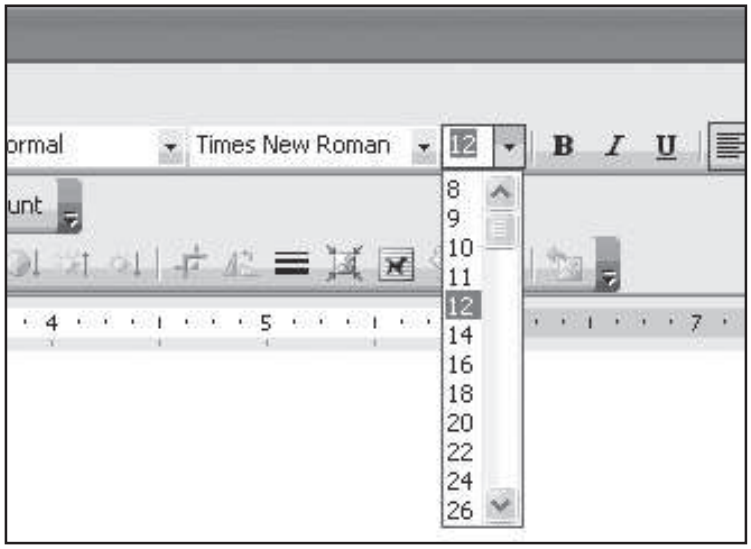


Fig. 9.17

For example select "**20**". **Fig 9.18** shows the changed font size in the selected block.

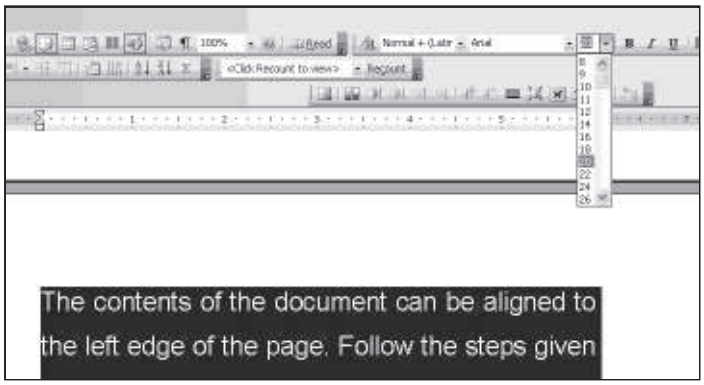


Fig. 9.18

c) Bold: To make the contents of the document look bold, follow the steps given below:

1. Select the block, which you want to make Bold.
2. Click on "**Bold**" icon that is on the Standard Toolbar. The result is shown in **Fig. 9.19**.

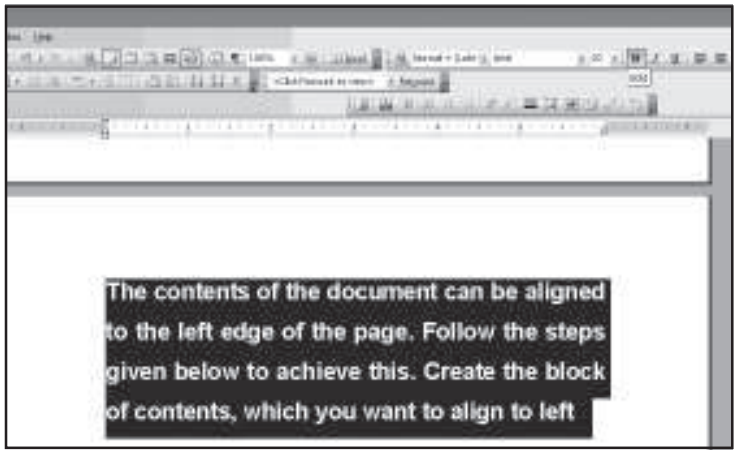


Fig. 9.19

Note: To remove the Bold; select the block of which we want to remove the Bold and click on to the "**Bold**" icon.

d) Italic: To make the contents of the document look slanted, follow the steps given below:

1. Select the block which we want to make italic.
2. Click on to "**Italic**" icon that is on the Standard Toolbar. The result is shown in **Fig. 9.20**.

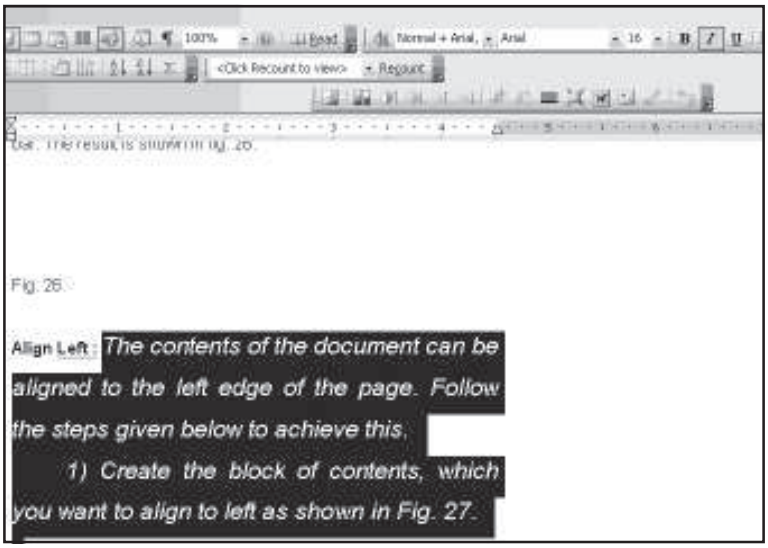


Fig. 9.20

e) Underline: To have underline to the contents of the document, follow the steps given below.

1) Select the block of contents, which you want underlined.
2) Click on to "**Underline**" icon that is on the Standard tool bar. The result is shown in **Fig. 9.21**.

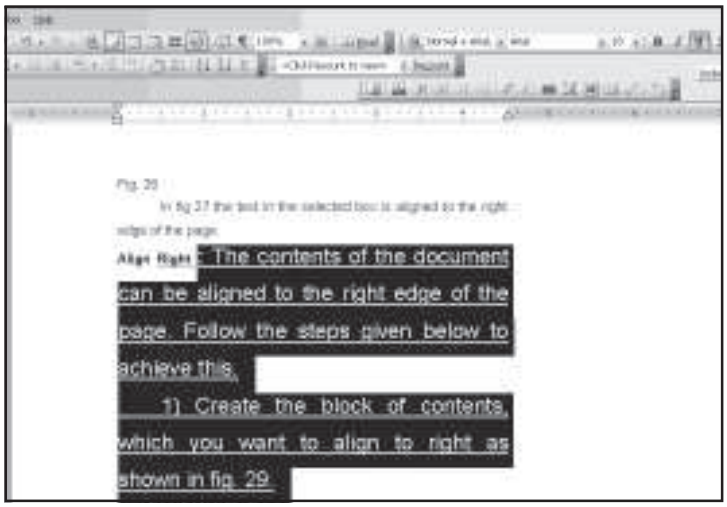


Fig. 9.21

f) Align Left: The contents of the document can be aligned to the left edge of the page. Follow the steps given below to achieve this:

1) Select the block of contents, which we want to align to left
2) Click on to "**Align left**" icon that is on the Standard toolbar. We will get the aligned contents as shown in **Fig. 9.22**.

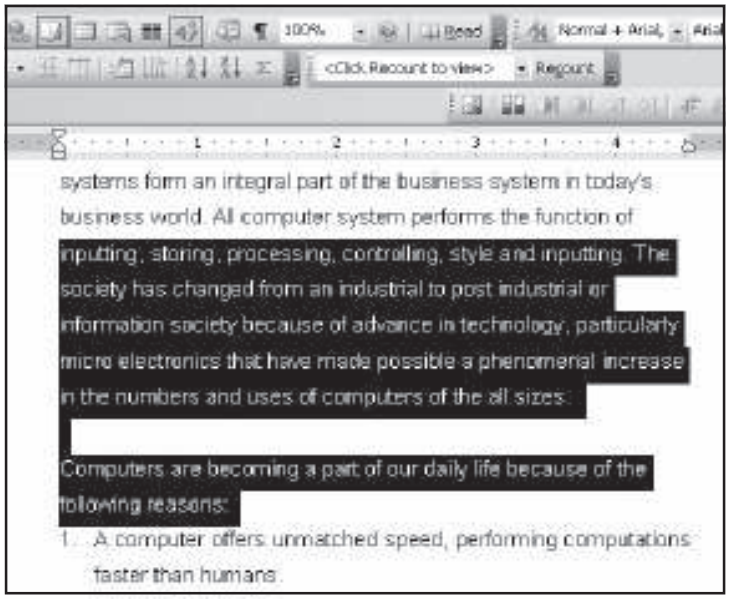


Fig. 9.22

g) Align Right: The contents of the document can be aligned to the right edge of the page. Follow the steps given below to achieve this:

1) Select the block of contents, which you want to align to right.
2) Click on to "**Align Right**" icon that is on the Standard toolbar. We will get the aligned contents as shown in **Fig. 9.23**.

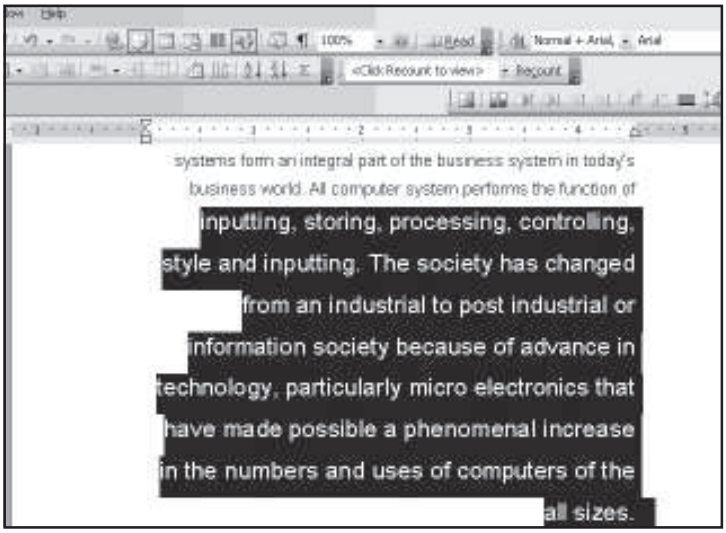


Fig. 9.23

h) Center: The contents of the document can be aligned to the center of the page. Follow the steps given below to achieve this:

1) Select the block of contents, which you want to align to the center.
2) Click on to "**Center**" icon that is on the Standard toolbar. We will get the aligned contents as shown in **Fig. 9.24**

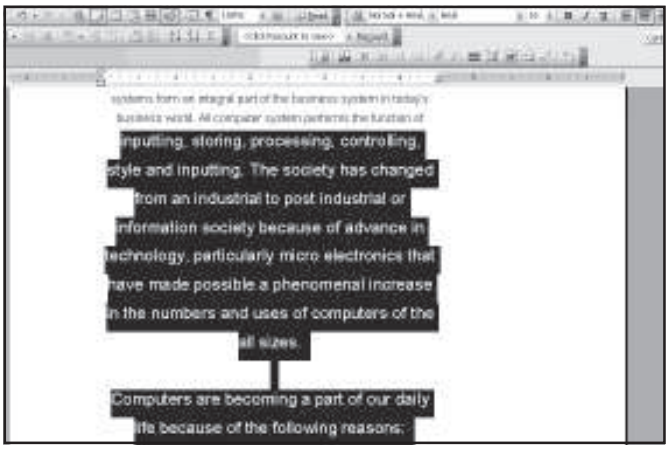


Fig. 9.24

i) Justify: The contents of the document can be aligned from the left edge to the right edge of the page. Follow the steps given below to achieve this:

1) Select the block of contents, which you want to make justified.
2) Click to "**Justify**" icon that is on the Standard toolbar which is shown in **Fig. 9.25**.



Fig. 9.25

j) Numbering: Automatic numbering can be generated when we want number certain points that we are typing. For example we want to type **MS-Word** line by line and if we want to number them as **1**, **2**, **3**, **4** then we need not type the numbers manually. To generate the numbers automatically follow the steps given below:

1) Click on to "**Numbering**" icon available on Standard toolbar. First number is generated **Fig. 9.26**.

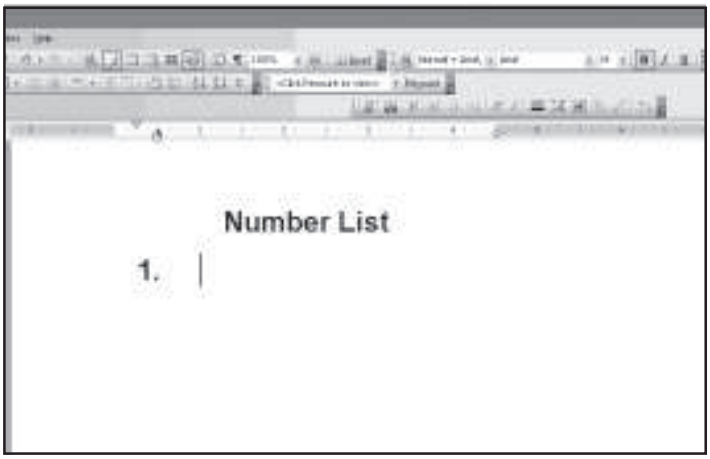


Fig. 9.26

2)Type the first line then press "**Enter**" key the second number is generated as shown in **Fig. 9.27**.

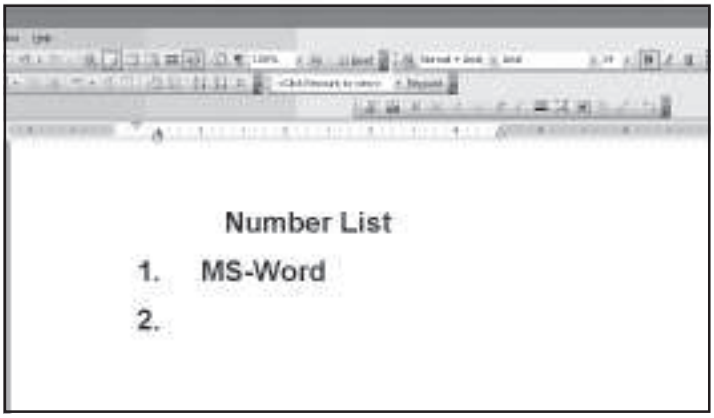


Fig. 9.27

3) Thus we can type as many points as required.

Note: Once we finish typing, to deactivate the automatic number generation feature, click on "**Numbering**" icon again.

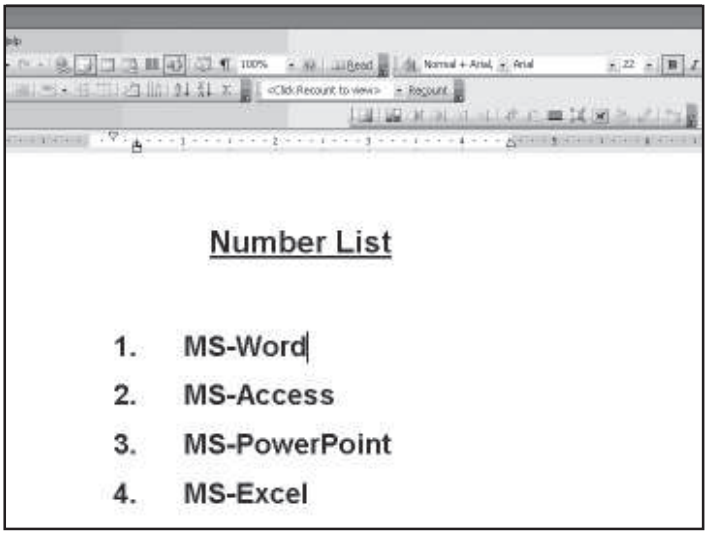


Fig. 9.28

CHANGING THE FORMAT OF NUMBER GENERATION

We can select different formats for the number generation. We can achieve this by following the steps given below:

Click on to "**Format**" option of menu bar. From the drop-down menu, click on the "**Bullets and Numbering**" option **Fig. 9.29**.

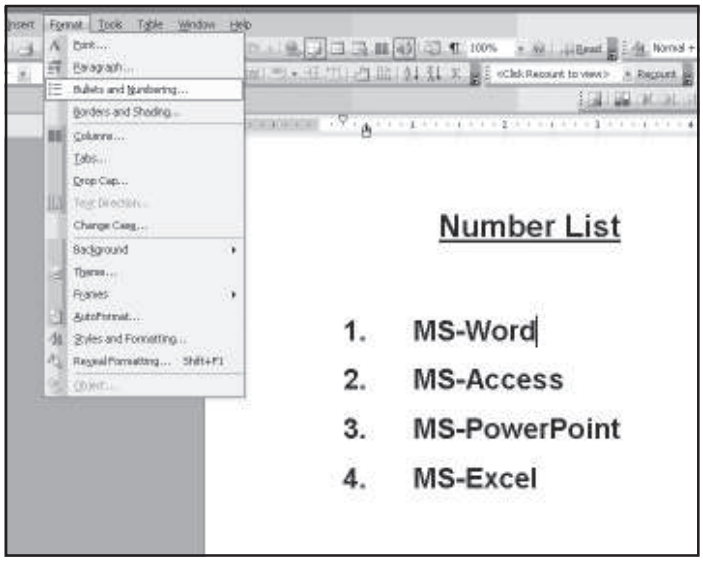


Fig. 9.29

We will get a menu as shown in **Fig. 9.30**. From the menu, we can select the required style.

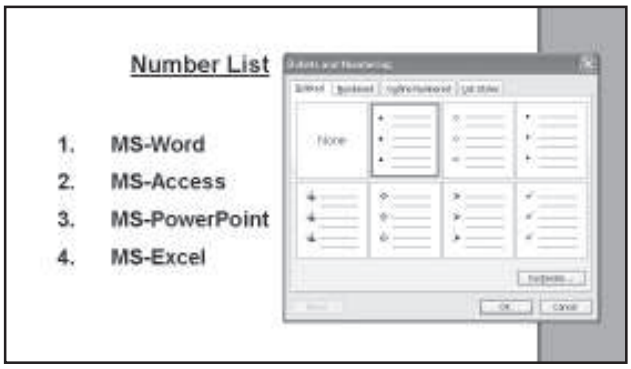


Fig. 9.30

Now we can select radio button "**Restart numbering**" or "**Continue previous list**". If we select "**Restart numbering**", then whenever the numbering feature is selected in a document then the list start from the first number of the list as shown in **Fig. 9.31**.

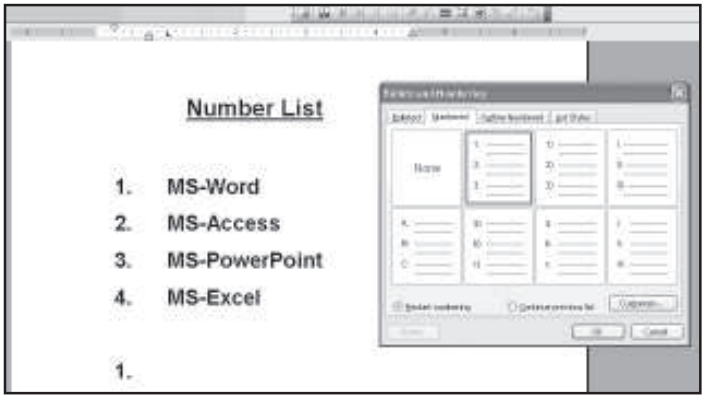


Fig. 9.31

If we select the radio button "**Continue from previous list**", whenever the numbering feature is selected then the numbering continues from previous list as shown in **Fig. 9.32**.

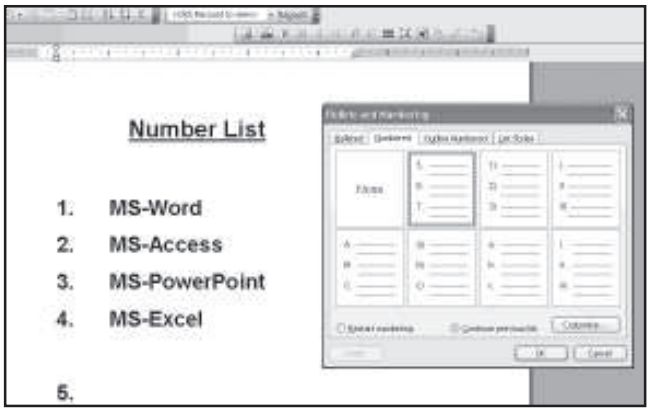


Fig. 9.32

We can also customize the Number format, Font, Number style, starting of the number list, place of the number list etc. by selecting the "**Customize**" option of the "**Bullets and Numbering**" menu (**Fig. 9.30**), we will get a menu as shown in **Fig. 9.33**.



Fig. 9.33

k) Bullets: Automatic bullets can be generated when we want to give bullets to certain points that we are typing. For example, if we want to type **MS-Word** line by line and if we want to have bullets in front of these, then we need not type the bullets manually. To generate the bullets automatically follow the steps given below:

1) Click on the "**Bullets**" icon available on Standard toolbar. First, bullet will be generated.
2) Type the first line then press "**Enter**" key, the second bullet will be generated (**Fig. 9.34)**.

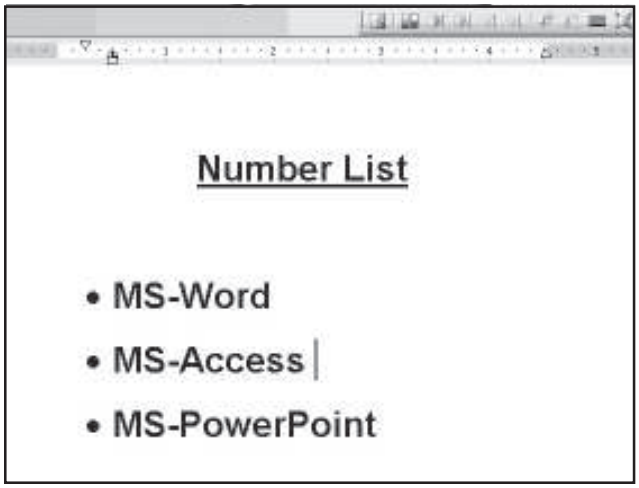


Fig. 9.34

3) Thus we can type as many points as required.

Note: Once we finish typing, to deactivate the automatic bullet generation feature, click on to "**Bullets**" icon again.

CHANGING THE FORMAT TO BULLET GENERATION

The bullets can be formatted to suit our needs by following the steps given below:

1) Click on to "**Format**" option of Menu bar. From the drop-down menu, click on the "**Bullets and Numbering**" option (**Fig. 9.32).**
2) From the menu, select the kind of bullets, we want and click on to "**OK**" button (**Fig. 9.35**).

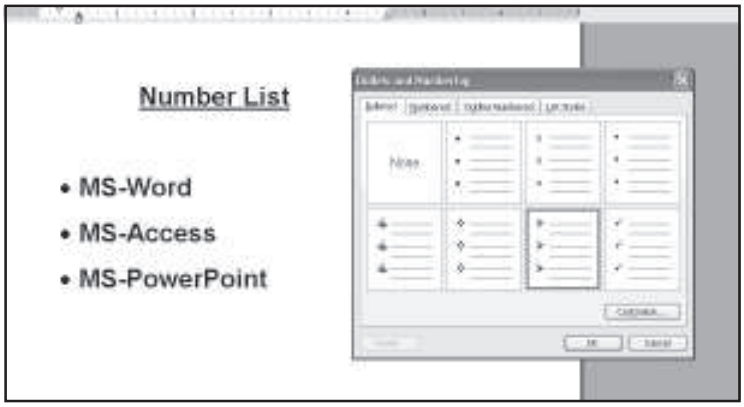


Fig. 9.35

We can select the required picture also as our bullet by clicking on to the "**Pictures**" option of menu. We will get a menu as shown in **Fig. 9.36**.



Fig. 9.36

We can customize our bullet, selecting the "**Customize**" option shown in **Fig 9.35**. We will get the menu as shown in **Fig. 9.37**.



Fig. 9.37

l) Font Color: The color of the font can be changed to the required color by using "**Font Color**" icon available on Formatting Toolbar. To change the colors of the font to the required color follows the steps given below:

1) Select the text of which we want to change the color as shown in **Fig. 9.38**.

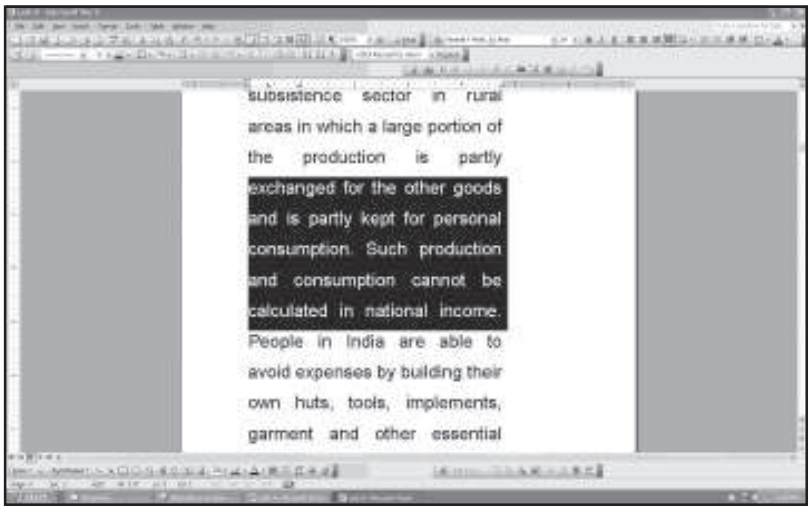


Fig. 9.38

2) Click on to the first arrow available on "**Font Color**" icon and select the required color as shown in **Fig. 9.39**.

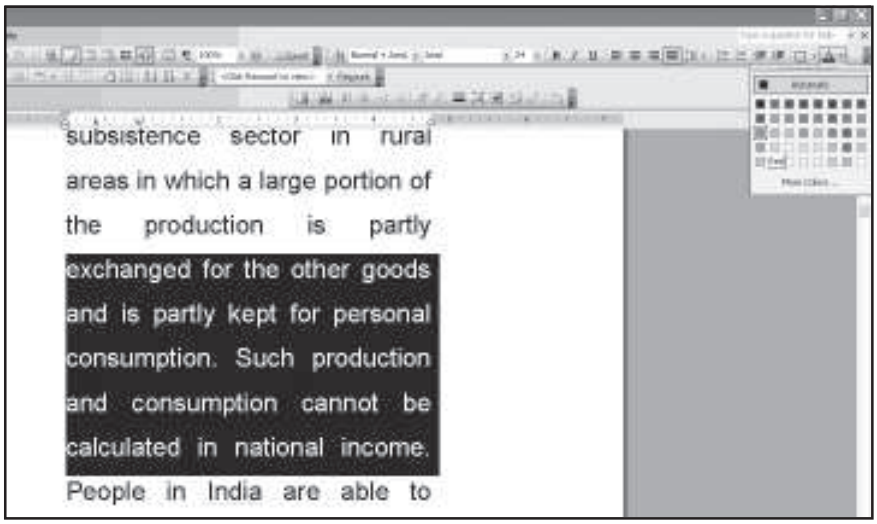


Fig. 9.39

3) Click on to the required color and the color of the blocked text will change.

If we want to have better shade than the available one we can click on to "**More Colors...**" option available and we will get a menu as shown in **Fig. 9.40** and we can select the required shade from the menu.

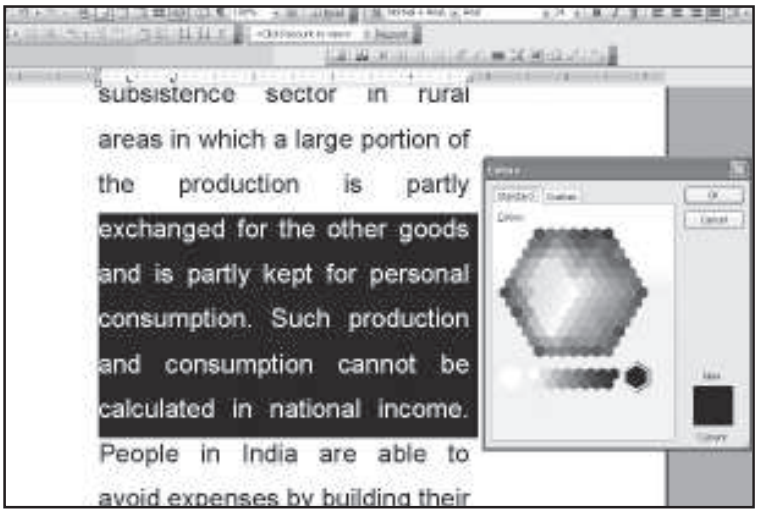


Fig. 9.40

m) Highlight : If we want to highlight a particular portion of the document by using the "**Highlight**" icon available on the Formatting toolbar. Follow the steps given below to achieve this.

1) Click on to the arrow available at the "**Highlight**" icon and select the color for highlighting.
2) Drag the cursor on to the text and the text will be highlighted. Font color will not be changed **Fig. 9.41**.

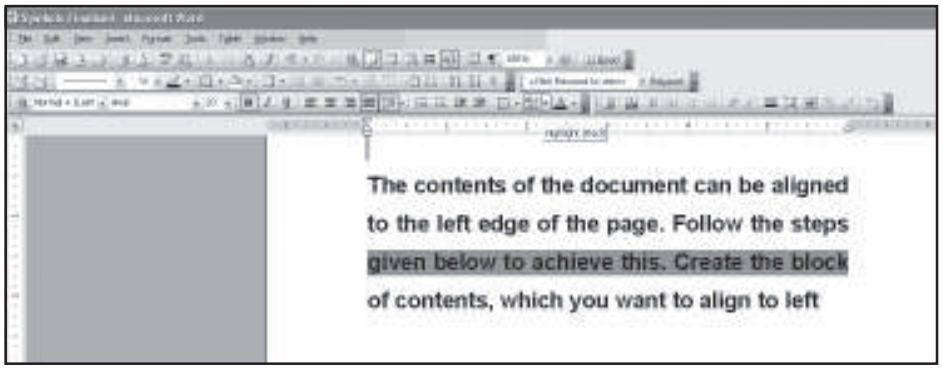


Fig. 9.41

9.10 FIND A PARTICULAR PATTERN

The "**Find**" icon can be used to find a particular pattern in the document. This can also be used to find a pattern and replace that pattern with the required pattern. "**Find**" icon is available on Standard Toolbar. Follow the steps given below to use the "**Find**" icon:

1. Position the cursor to the required position.
2. Click on "**Find**" icon, we will get a menu and type the pattern we want to search in the space provided as shown in **Fig. 9.42**.

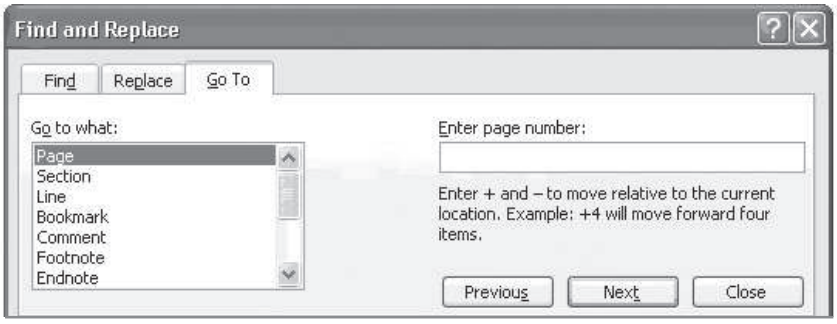


Fig. 9.42

If we want to use the more search options, we can click on to "**More command**" button available in the menu and we will get the enhanced menu as shown in **Fig. 9.43**.

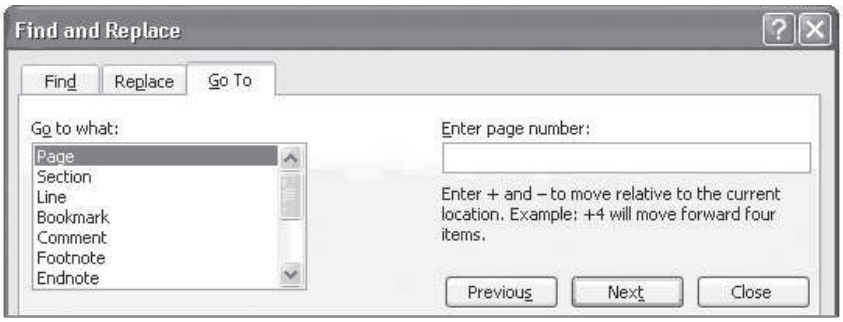


Fig. 9.43

We can select the required search options by selecting the check box against each of it.

For example, "**Match case**" option distinguishes between uppercase and lowercase characters. When "**Match case**" is selected, **Word** finds only those instances in which the capitalization matches the text we typed in the "**Find what**" box. When the ''**Wildcards**'' option is selected, the ''**Match case**'' and ''**Find what**'' options appear dimmed.

To replace the pattern found with the required pattern, click on "**Replace**" tab, we will get an enhanced menu where we have a text box (**Replace with**) to type in the pattern we want to replace with (when is the replace pattern typed in) as shown in **Fig. 9.44**.

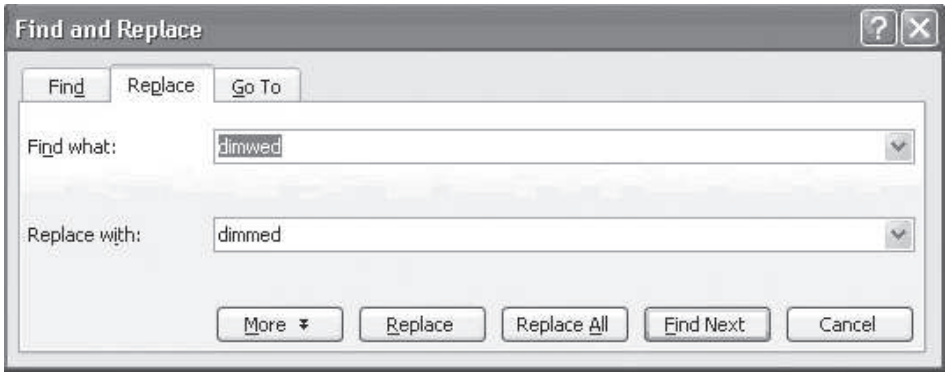


Fig. 9.44

We have different option tabs available in this menu and the explanations of each of are given below:

Replace : Replaces the selected instance of the search criteria, finds the next occurrence, and then stops.

Replace All : Replaces all occurrences of the search criteria in our document.

Find next : Finds and selects the next occurrence of the text or formatting specified in the "**Find what**" box.

Go to : This is used to select the location where we want to search. Follow the steps given below to use this option. Click the type of location we want to move to. Then enter the item number in the "**Enter**" box and click "**Go To**" (**Fig. 9.45**).

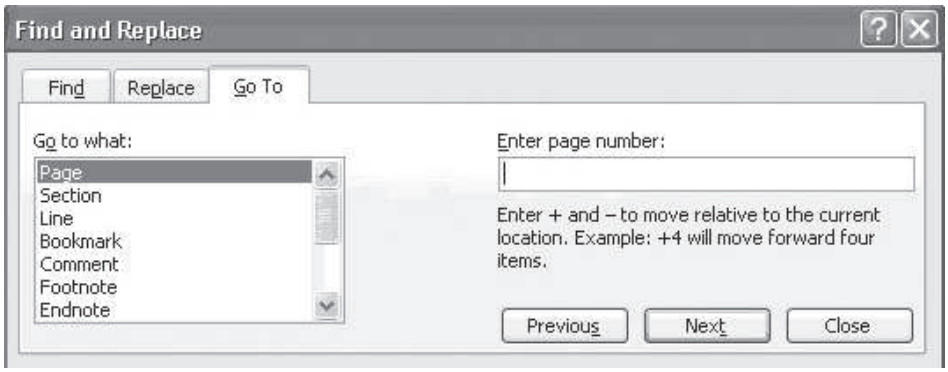


Fig. 9.45

For example, if we want to find a pattern in page number say **21** then enter the page number in the available. "**Enter page number**" box as shown in **Fig. 9.46**.

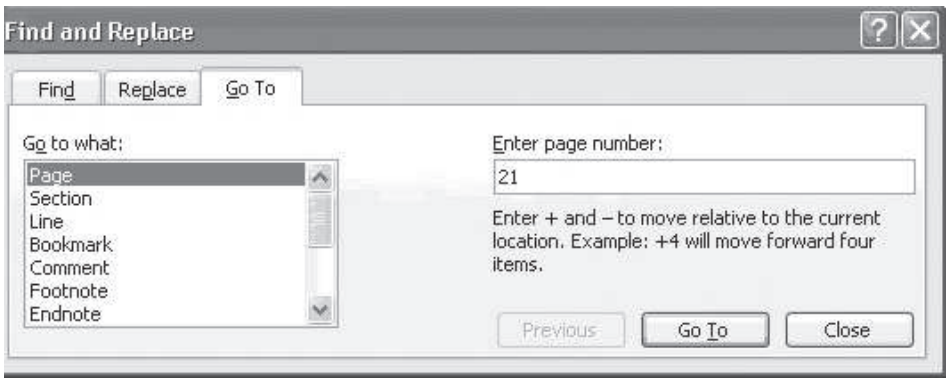


Fig. 9.46

How do we find the grammatical and/or spelling mistakes in the text? When we get a green line below the text that means that there is some grammatical error and if there is red line below the text it means it is the spelling mistake. We can correct these mistakes by right clicking on the text which has either green or red underlining and opting for the correct text, which is suggested by the application.

Consider the following example:

Point the *cursor* on the word "**Appliction**" and *right click* on it and a suggestion for correct words is obtained as shown in **Fig. 9.47**, *select* the proper required word.

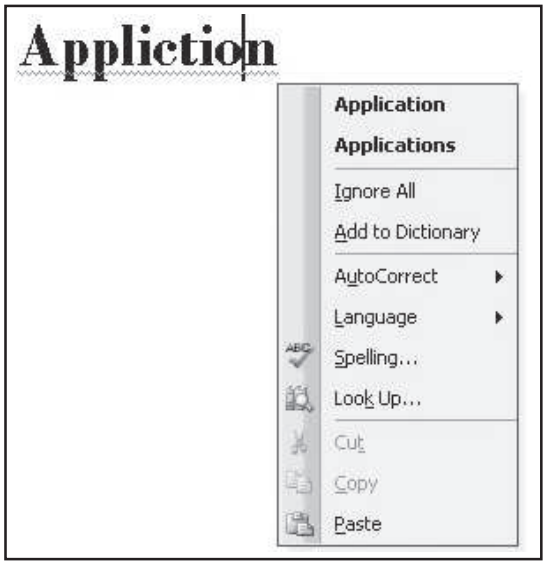


Fig. 9.47

9.11 INSERTION

In some cases, we may require to have some mathematical symbols, special symbols or pictures to be present in our document. But we may not have keys for those symbols and pictures in the keyboard. In this kind of situation, the special symbols or pictures can be inserted without typing it or drawing it respectively.

Inserting symbols:

To insert the special symbols follow the steps given below:

1. Point the cursor to the location where we want to insert the symbol and then click on "**Insert**" option available in the Menu bar, we will get a drop-down menu as shown in **Fig. 9.48**.

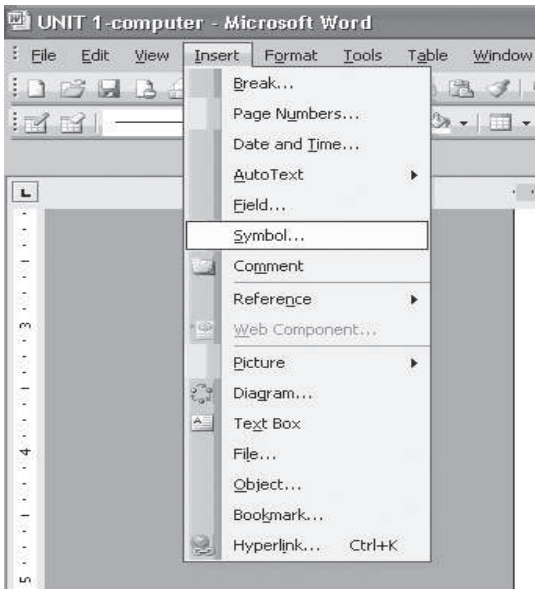


Fig. 9.48

2. Now click on "**Symbol**" option available and we will get a menu as shown in **Fig. 9.49**.

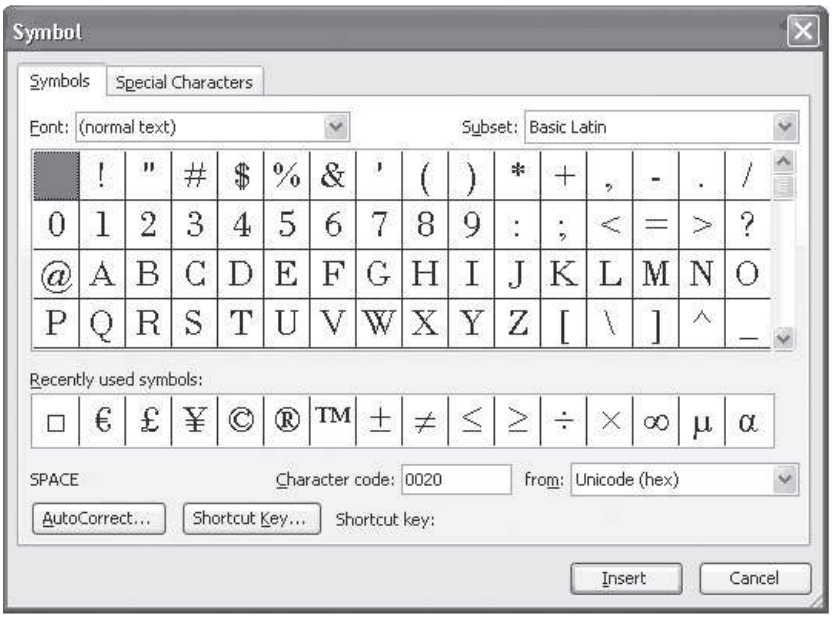


Fig. 9.49

3. We can select the required font and can also select the different subset of symbols.
4. Once we select the required symbol in subset (**Fig. 9.50**), click on "**Insert**".

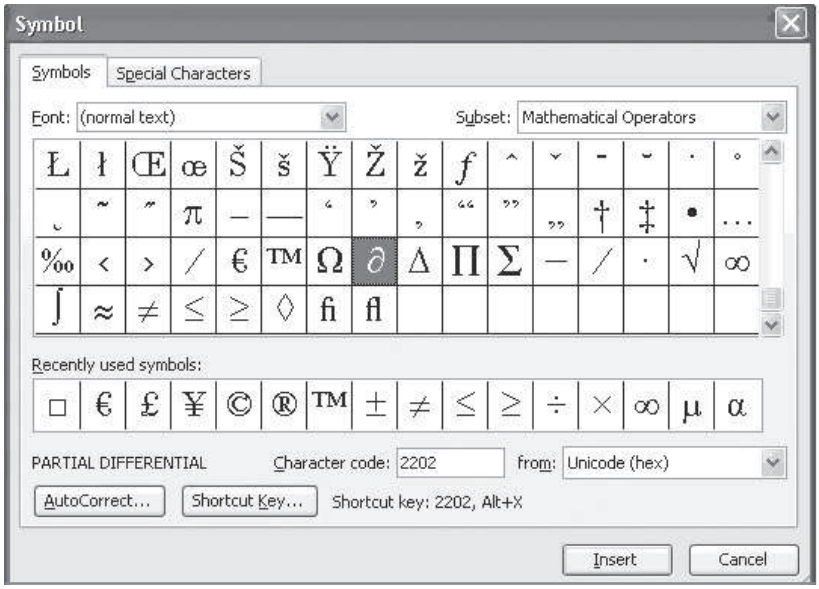


Fig. 9.50

Inserting Picture:

To insert a picture follow the steps given below:

1. Point the cursor to the location where you want to insert the pictures and then click on "**Insert**" option available in the menu bar, you will get a drop-down menu as shown in **Fig. 9.51**.

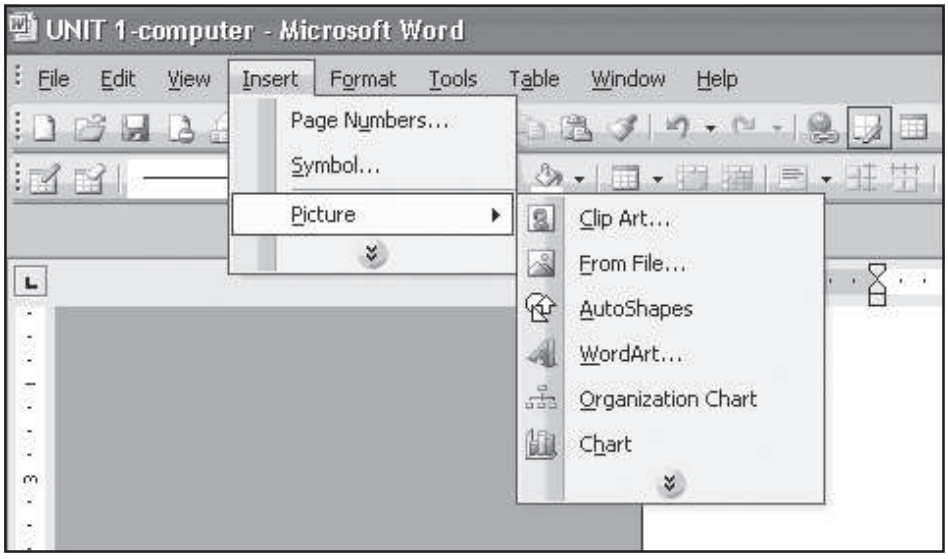


Fig. 9.51

Now you can insert a picture from the existing **MS-Word** repository or from a file where the users have stored pictures.

Inserting Clip Art: Click on "**Clip Art**", you will get a menu as shown in **Fig. 9.52**, which shows different categories of available pictures. Click on to required category, you will get another menu and here select the required pictures and insert it into location in your document.

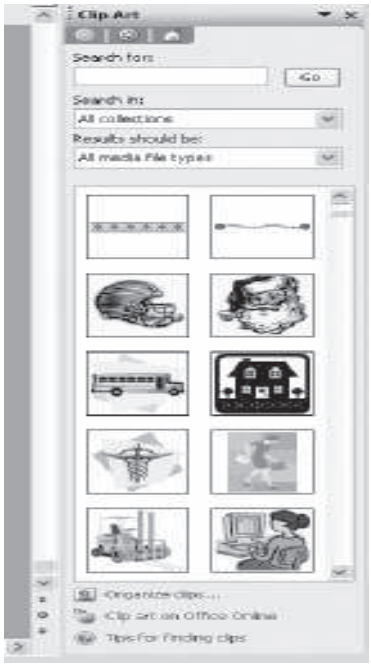


Fig. 9.52

Inserting Picture from a file:

1. Point the cursor to the location where you want to insert the picture and then click on to "**Insert**" option available in the menu bar, you will get a drop-down menu as shown in **Fig. 9.51**.
2. Now click on to "**Picture**" option, you will get a sub-menu as shown in **Fig. 9.51**
3. Click on "**From File**", give the path of the picture file, where the picture, you want to insert, is stored.

Insert Word Art:

This option will allow us to insert our text in the style, which we have selected.

1. Point the cursor to the location where we want to insert the picture and then click on "**Insert**" option available in the Menu bar, we will get a drop-down menu as shown in **Fig. 9.51**.
2. Now click on "**Word Art**" we will get a menu as shown in **Fig. 9.53**.

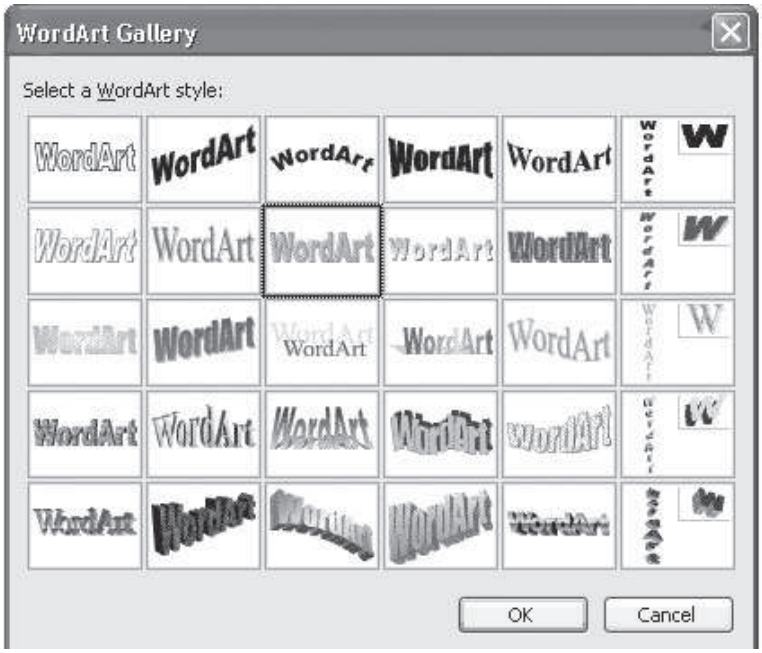


Fig. 9.53

3.Select the style we want and then click "**OK**", we will get a menu, which will allow us to type our required message. After typing our message, click "**OK**", we will get our typed text displayed in our document.



Fig. 9.54



Fig. 9.55

Inserting Charts: Even the charts can be inserted in the **Word** document and the chart's properties can be modified.

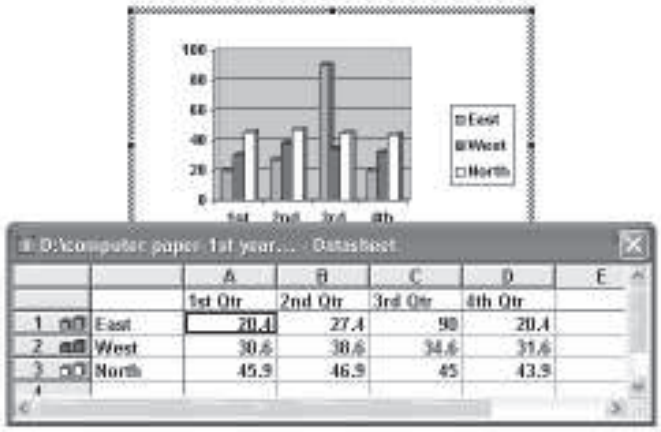


Fig. 9.56

To get the property sheet of the chart, right click on chart area and we will get a menu as shown in **Fig. 9.57**.

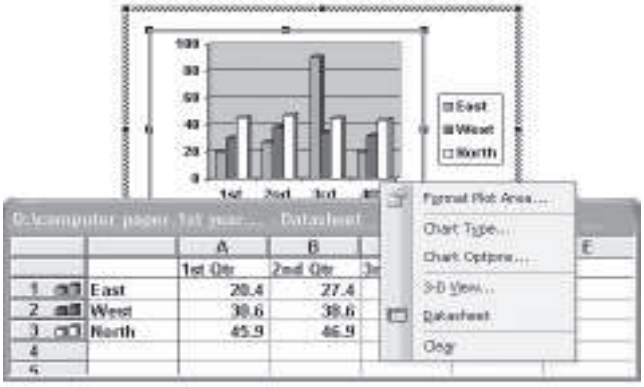


Fig. 9.57



ACTIVITY-1

Type ‘COMPUTER” using Word Art and save the file.

Inserting Tables: Table can be inserted in the document by following the steps given below:

1. Move the cursor at the location, where we want to insert the table and then click on “**Table**” menu and we will get a menu as shown in **Fig. 9.58**.

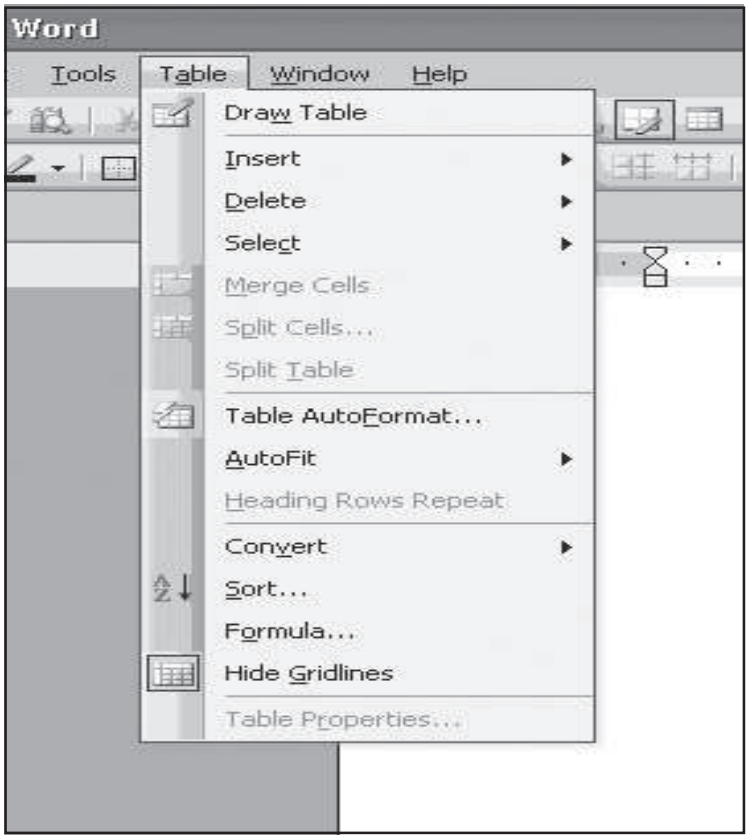


Fig. 9.58

2. Move the cursor on the "**Insert**", we will get another menu where we have "**Table**" option and we will get a menu as shown in **Fig. 9.59**.

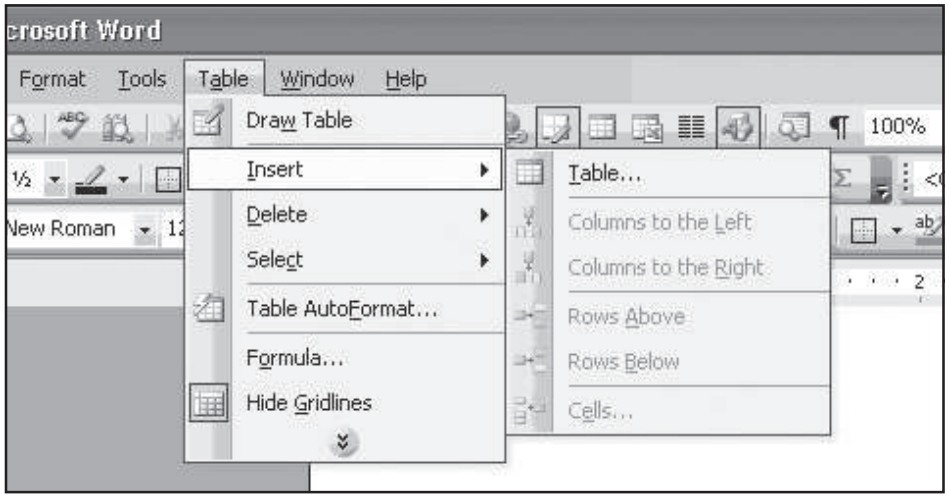


Fig. 9.59

Fig. 9.60

3. Select the number of Rows and Columns we want in the table and click on "**OK**". The table will be inserted at the location where we have pointed the cursor earlier.

Modifying the table properties:

The property of the table can be modified that is inserting/deleting the rows and columns, merging the cells, changing the shade of the border etc. To modify the property of the table, select the table by dragging the mouse on the table area and then click on "**Table**" menu available in the Menu bar. We will get a drop-down menu as shown in **Fig. 9.61**.

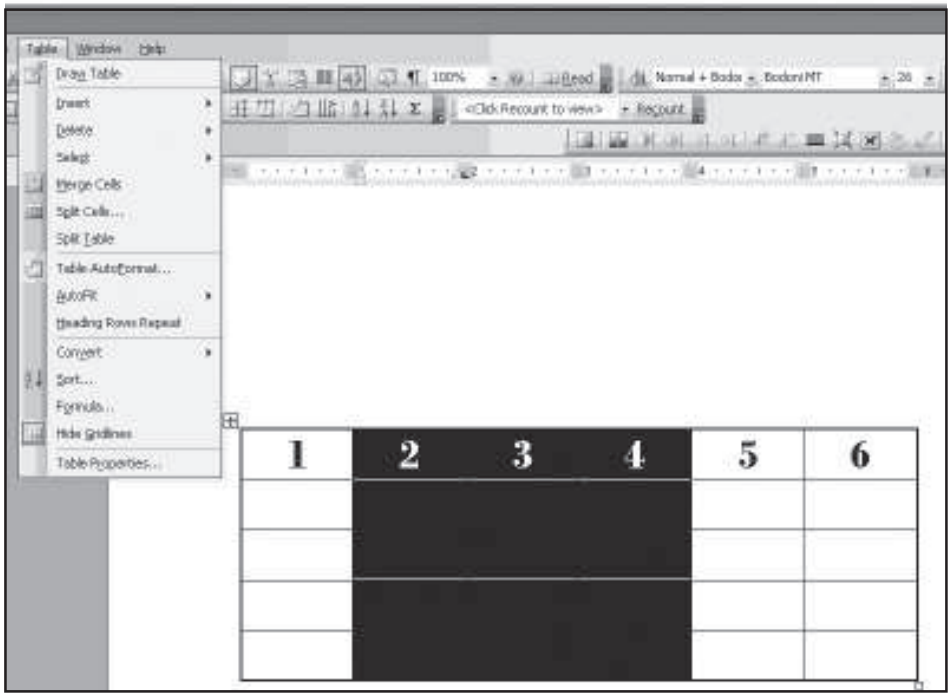


Fig. 9.61

Note: Black patches in **Fig. 9.61** shows the selection of columns in the table, which we want to modify. Different options available are:

Table: By clicking on to "**Table**" option, a table inside the present table will be added with default number of Rows and Columns.

Columns to the Left: This option will add the column to the left of the selected column. Column selection made in **Fig. 9.61**. Column added **Fig. 9.62**.

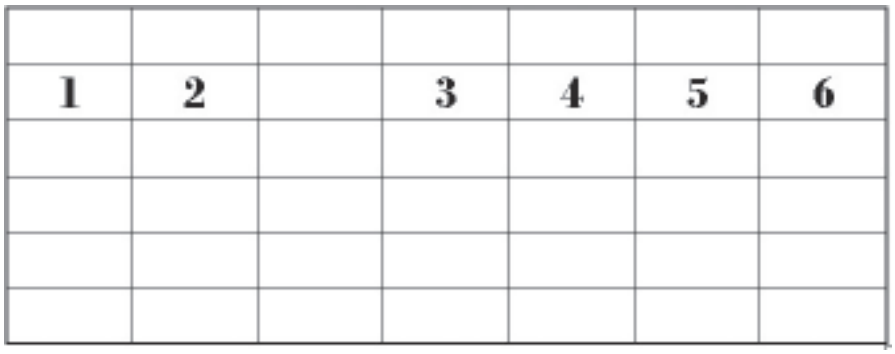


Fig. 9.62

Columns to the right: This option will add the column to the right of the selected column. Column selection made in **Fig. 9.61**. Column added **Fig. 9.63**.

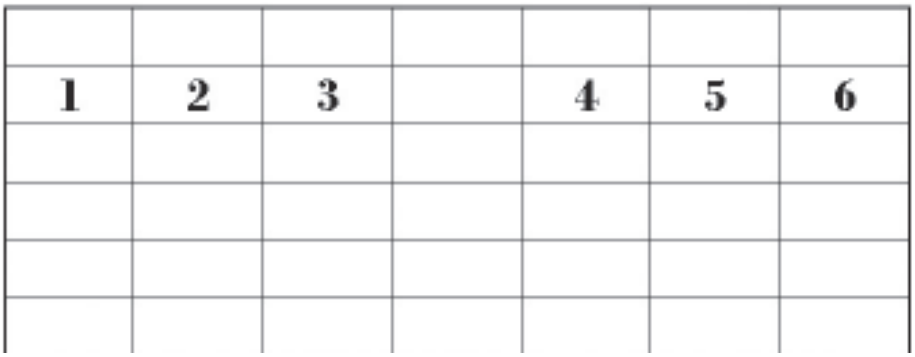


Fig. 9.63

Rows Above: This will add rows to the above the selection. **Fig. 9.64** shows the selection of the row and **Fig. 9.65** shows the insertion of the row.

1	2	3	4	5	6

Fig. 9.64

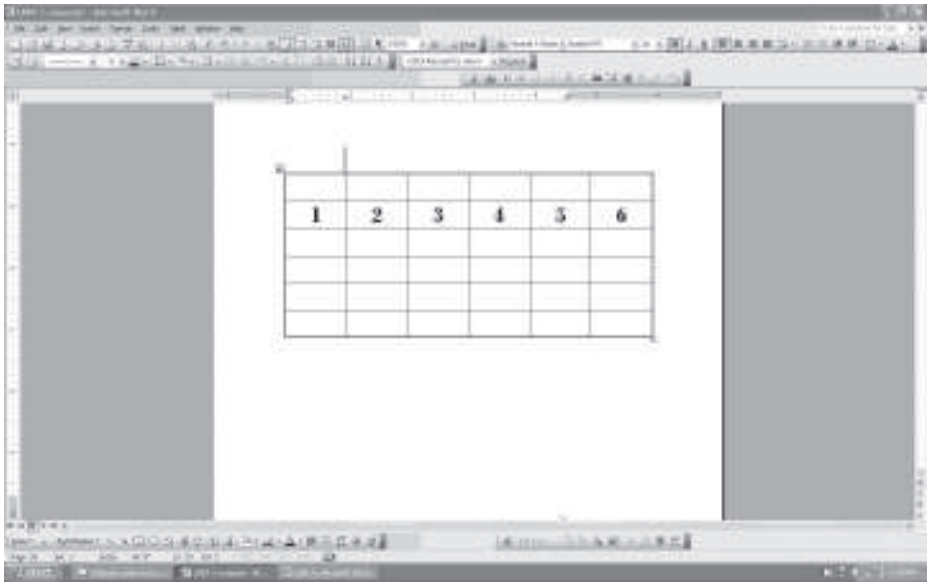


Fig. 9.65

Rows below: This will add the rows below the selection. **Fig. 9.66** shows selection of the row and **Fig. 9.67** shows the insertion of the row below the selection.

1	2	3	4	5	6

Fig. 9.66

1	2	3	4	5	6

Fig. 9.67

Cells: After we make the selection of insertion by selecting a cell, this option will display a menu as shown in **Fig. 9.68**. Select the required option and click "**OK**". The explanations for all the options are given below:

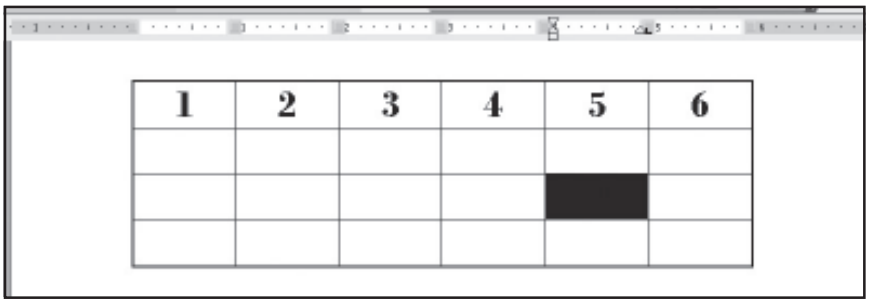


Fig. 9.68

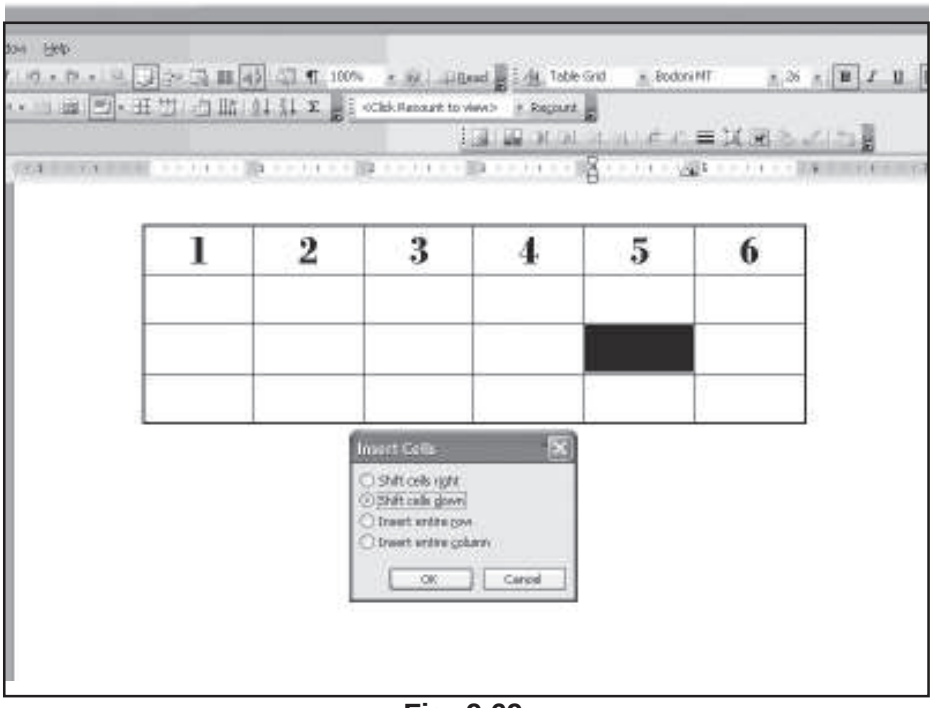


Fig. 9.69

Shift Cells Down: Inserts new cells above the selected cells.

Shift Cell Right: Inserts new cells to the left of the selected cells.

Insert entire row: Inserts an entire row above the row that contains the selection.

Insert entire column: Inserts an entire column to the left of the column that contains the selection.

Merge Cells: This option will merge the selected Table, Rows, Columns and Cells. **Fig. 9.70** shows the selection. **Fig. 9.71** shows the Delete menu and **Fig. 9.72** shows the merged cells.

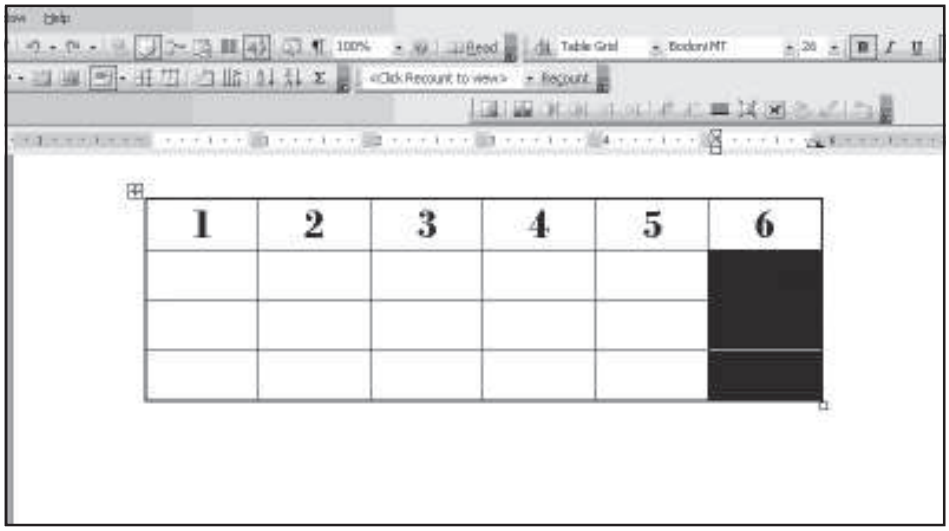


Fig. 9.70

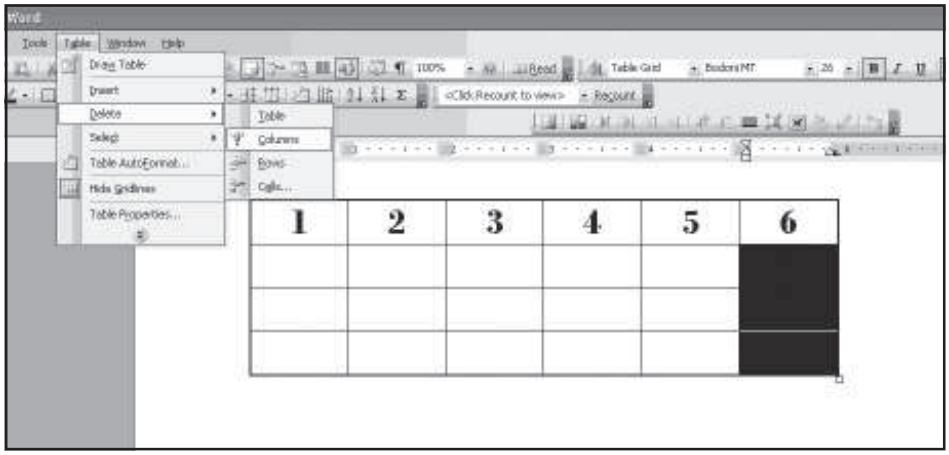


Fig. 9.71

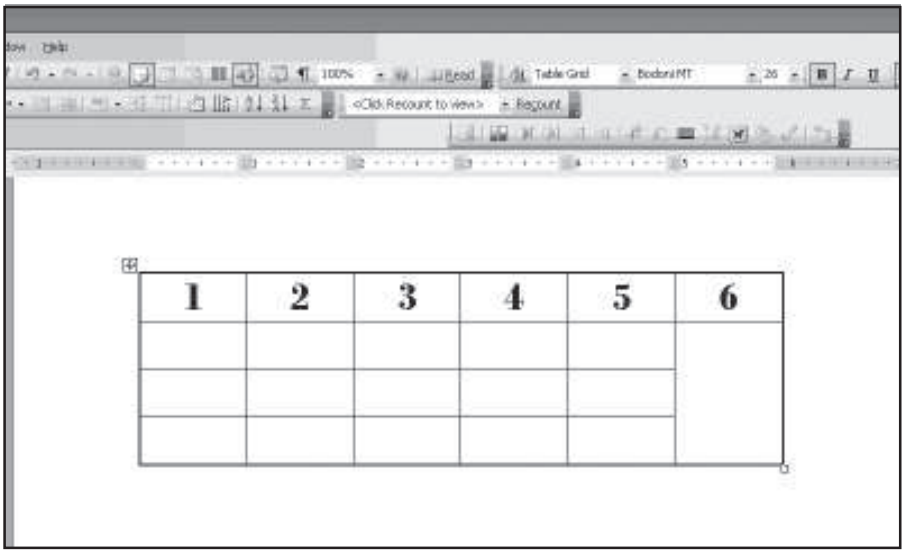


Fig. 9.72

9.12 IMPLEMENTING FORMULA ON TABLE CONTENTS

Consider the following table. In that, consider last column and assume that we want to add the contents to find the total. To do that, follow the steps given below.

1. Point the cursor where we want to get the total.
2. Click on "**Table**" option of menu bar and from the resulting menu click on "**Formula**" option. We will get a menu as shown in **Fig 9.74**. Select the required function from the "**Paste**" function list box (**Fig. 9.74**). There are many functions available. In our case since we want to add the contents, we select the function **SUM**( ) and type "**ABOVE**" inside the parenthesis to add the contents present above the cells where cursor was earlier pointing to. We can see the result in **Fig. 9.75**.

Serial	Item Name	Units	Price/Unit	Price
1	CD-ROM	20	14	280
2	Floppy	20	12	240
3	Cartridge	5	600	3000
4	Toner	2	3500	7000

Fig. 9.73

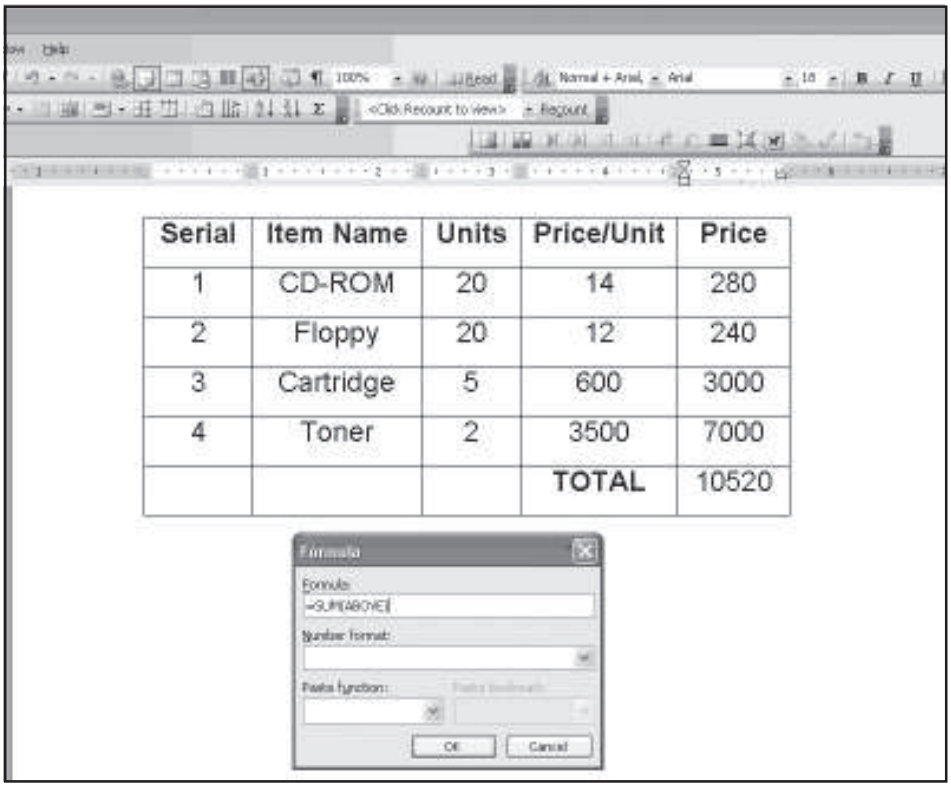


Fig. 9.74

Serial	Item Name	Units	Price/Unit	Price
1	CD-ROM	20	14	280
2	Floppy	20	12	240
3	Cartridge	5	600	3000
4	Toner	2	3500	7000
			TOTAL	10500

Fig. 9.75

Formatting the contents of the table: The contents of the table can be formatted according to our needs using the options available in the Formatting Toolbar. For example, if we want to have serial numbers to be at the center of first column then select the contents of the first column and click on "**Center**" alignment option available on the Formatting Toolbar and we will get the table as shown in **Fig. 9.76**.

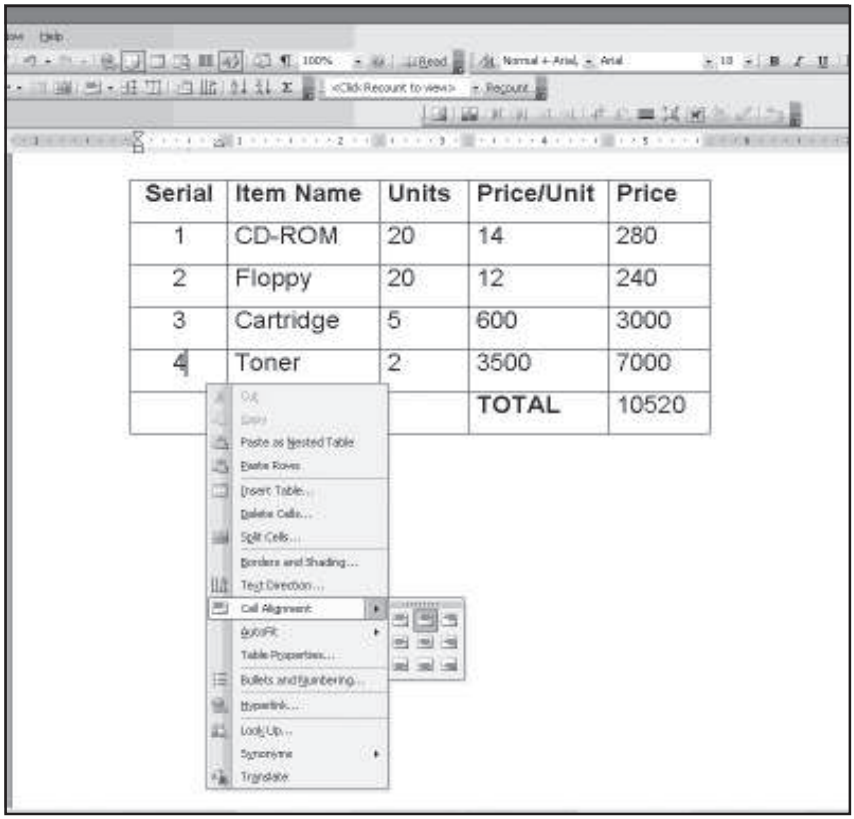


Fig. 9.76

Similarly we can have the different kinds of formatting according to our needs.

Draw table: Using this option we can draw a table using the drawing tool. To use this option, click on the "**Table**" option available in the menu bar. From the resulting menu, click on "**Draw table**" option and we will get the drawing tool as shown in **Fig. 9.77**. Use this tool to draw the table of our requirement as shown in **Fig. 9.78**.

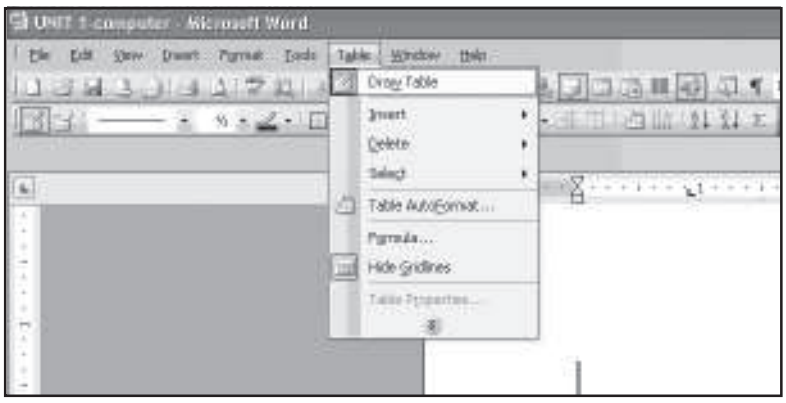


Fig. 9.77

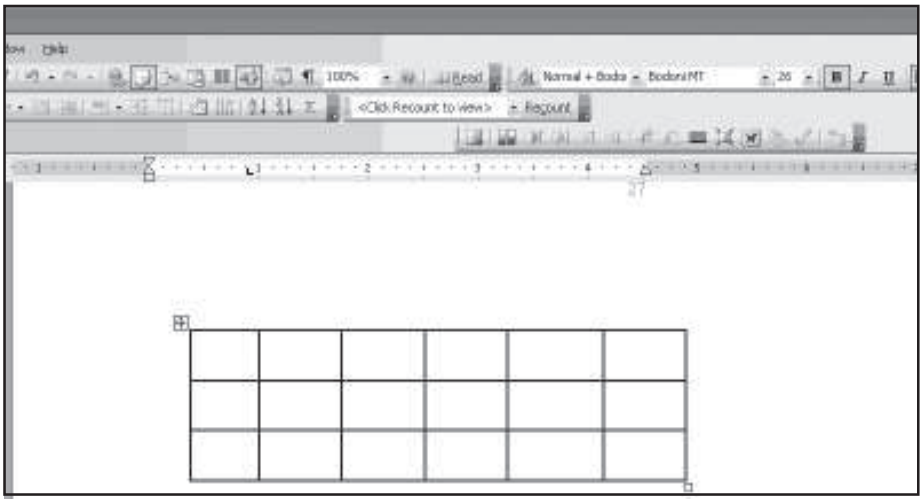


Fig. 9.78

9.13 HEADERS AND FOOTERS

Headers and Footers are typically used in printed documents. We can create headers and footers that include text or graphics - for example, page numbers, date, a company logo, the documents title or file name, or the author's name - that are usually printed at the top or bottom of each page in a document. A header is printed in the top-margin; footer is printed in the bottom-margin.

We can use the same header and footer throughout a document or change the header and footer for part of the document. For example, use a unique header or footer on the first page, or leave the header or footer off the first page. We can also use different headers and footers on odd and even pages or for part of a document.

Follow the steps given below to insert Headers and Footers.

1. Click on the '**View**" option available on menu bar, then click on "**Header and Footer**" available in the resulting menu, we will get a menu as shown in **Fig. 9.79**.

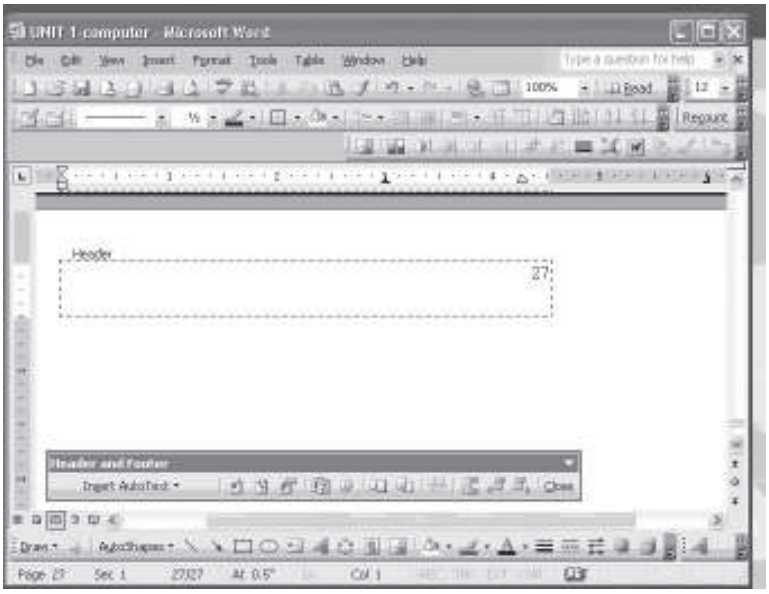


Fig. 9.79

2. To create a header, enter text or graphics in the header area. Or click, button on the Header and Footer bar.

To insert	Click
Page numbers	Insert page number
The current data	Insert date
The current time	Insert time

3. To create footer, click switch between Header and Footer to move to the footer area. Then repeat step 2.
4. When we finish, click "**Close**".

9.14 PAGE SETUP

Page can be set up the way in which we want. Follow the steps given below to set up a page.

Click on to "**File**" option available on Menu bar. Click on to "**Page Setup**" available on the resulting menu and we will get a menu as shown in **Fig. 9.80**.

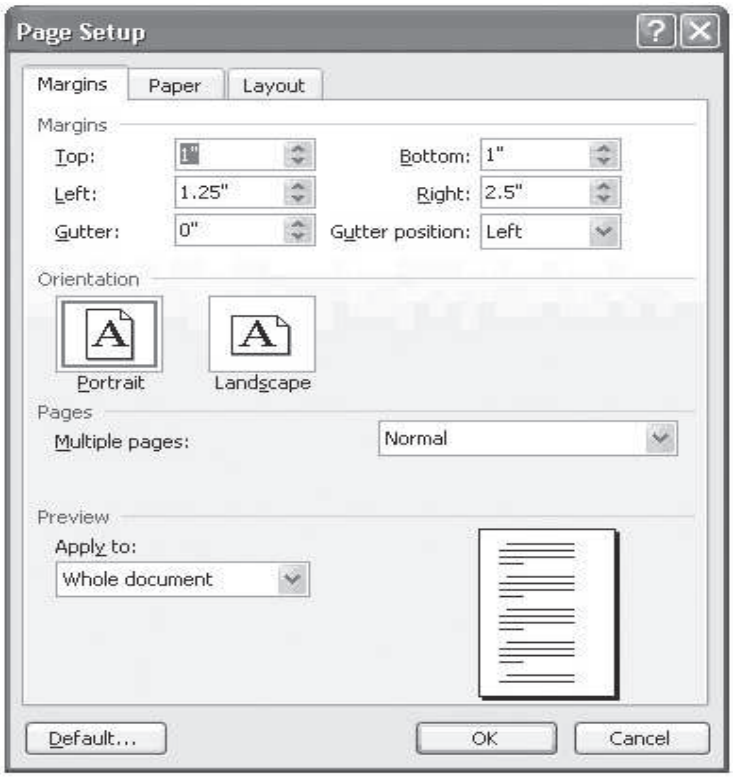


Fig. 9.80

Page setup has four different tabs. They are **Margins**, **Paper size**, **Paper source** and **Layout**.

Options available in **Margins** tab are given below.

Top : Enter the distance we want between the top of the page and the top of the first line on the page.

Bottom : Enter the distance we want between the bottom of the page and the bottom of the last line on the page.

Left : Enter the distance we want between the left edge of the page and the left edge of unindented lines.

Right : Enter the distance we want between the right edge of the page and the right end of a line with no right indent.

Gutter : Enter the amount of extra space we want to add to the margin for binding. **Word** adds the extra space to the left margin of all pages if we clear the "**Mirror margins**" check box, or to the "**Inside margin**" of all pages if we

select the "**Mirror margins**" check box.

From Edge : Enter the distance we want from the top edge of the page to the top edge of the header. If the Header setting is larger than the Top setting, **Word** prints the body text below the header.

Header : Enter the distance we want from the top edge of the paper to the top edge of the header. If the Header setting is larger than the Top setting **Word** prints the body text below the header.

Footer : Enter the distance we want from the bottom edge of the page to the bottom edge of the footer. If the footer setting is larger than the Bottom setting, **Word** stops printing the body text above the footer.

Mirror Margins : Adjusts left and right margins so that when we print on both sides of the page, the inside margins of facing pages are the same width and the outside margins are the same width.

2 Pages per sheet : Prints the second page of a document on the first page. This check box is used when the printed page is folded in half with two pages on the inside. The outer margins (gutter) of the page will be the same width, and the inner margins will be the same width.

Apply to : Click the portion of the document we want to apply the current settings to in the "**Page Setup**" dialog box. We have two options here: **Whole document** and **This point onwards**.

Whole document means the settings, which we are making, will apply to all the pages in the file of which we want to take print out. **This point onwards** means the settings will be applicable to all the pages starting from the page in which we are actually making the settings.

Gutter position : We can set it either to the left or to the top of the page depending upon the radio button we will select.

Options available in "**Paper Size**" menu are given below (**Fig. 9.81**).

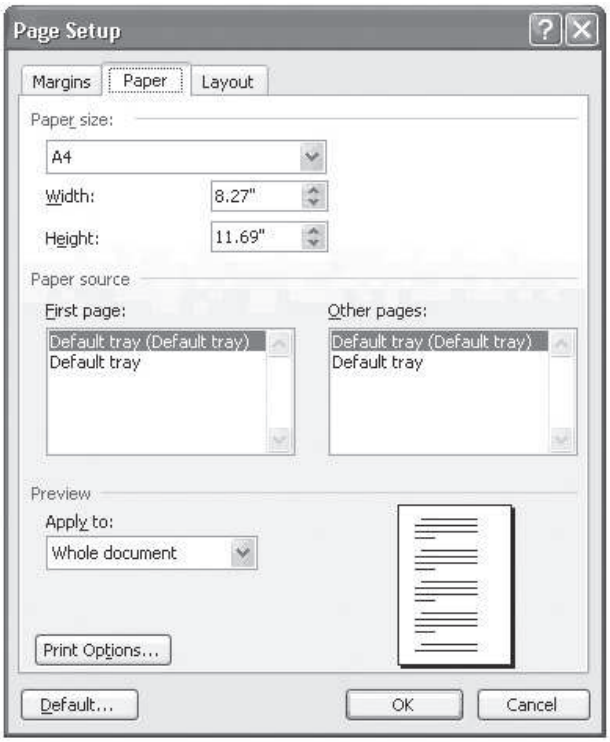


Fig. 9.81

Paper size: Click one of the paper sizes supported by our printer, or click **custom size** and then enter the paper size dimensions in the width and height boxes.

Orientation: Click a page orientation. When we change the page orientation, **Word** swaps the top and bottom margin settings with the Left and Right margin settings.

Review: Shows how our document will look with the selected options.

Apply to: Click the portion of the document we want to apply the current settings. We have two options here. **Whole document** and **This point onwards**. **Whole document** means the settings, which we are making, will apply to all the pages in the file of which we want to take print out. **This point onwards** means the settings will be applicable to all the pages starting from the page in which we are actually making the settings.

Options available in "**Paper source**" menu are given below:

First Page: Click the printer tray from which we want to print the first page

of each section. **Word** lists the feed available on our current printer.

Other pages: Click the printer tray from which we want to print the second and subsequent pages in each section. **Word** lists the feed options available on our current printer.



Fig. 9.82

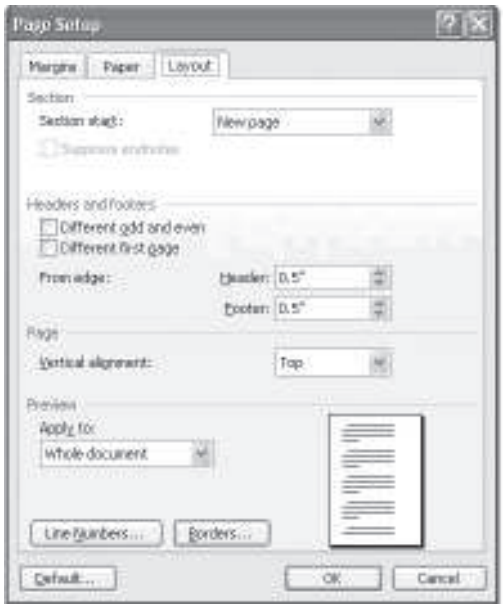


Fig. 9.83

"**Preview**" and "**Apply**" options are same as explained above. Options available in "**Layout**" menu are given below (**Fig. 9.83**).

Section Start: Tells **Word** where we want the current section to start.

Headers and Footers : Select the different odd and even check box to create one header or footer for even-numbered pages and a different header or footer for odd-numbered pages. Select the different first page check box to create a different header or footer for the first page of a section or document.

Vertical Alignment : Click the way we want to align text vertically between the top and bottom margins. The justified setting affects only full pages;

Word aligns pages with the top margin.

Line Numbers : Adds or removes line numbering from the portion of the document currently selected in the "**Apply to**" box.

Borders : Sets options for applying a border around each page in the document.

5.15 INDENTS

Setting Indents and spacing : Indents are used to set the position of text in relation to the left and right margins and spacing is used to set the amount of space between the lines and paragraphs. We can do it by invoking the "**Paragraph**" menu.

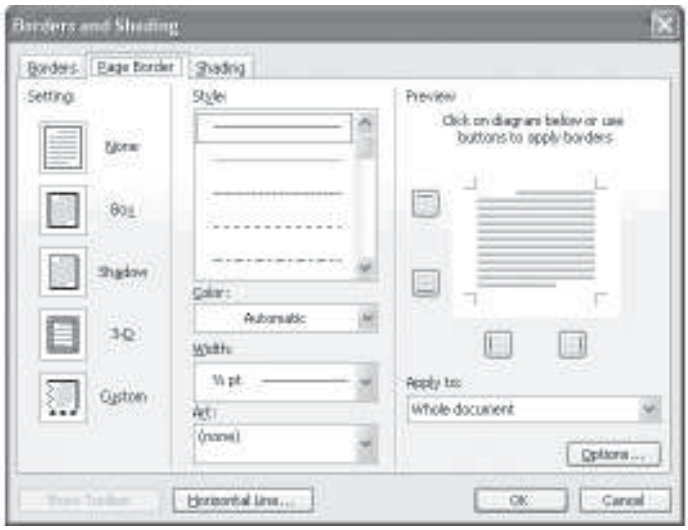


Fig. 9.84

Clicking on "**Format**" option available in the menu bar and clicking on the "**Paragraph**" option from the resulting menu can invoke "**Paragraph**" menu. "**Paragraph**" menu as shown in **Fig. 9.85**.

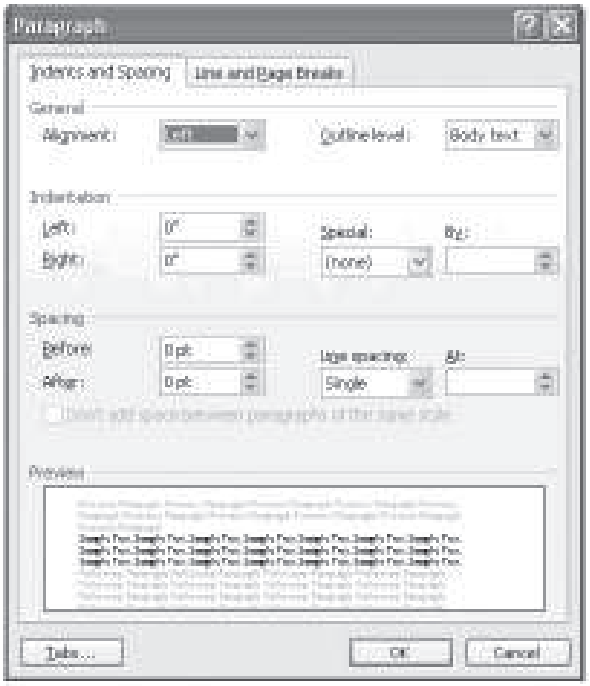


Fig. 9.85

Let us now discuss the different options available in this menu under "**Indents and Spacing**" tab.

Alignment : Sets the position of selected paragraphs relative to the indents. To align text relative to the left and right margins, remove any indentation formatting.

Outline level: Click the "**Outline level**", we want to assign to the selected paragraphs.

Indentation : Sets the position of text in relation to the left and right margins.

Left : Indents a paragraph from the right margin by the amount we enter in this box. If we want text to appear in the right margin, enter a negative number.

Special : Click first line to indent only the first line of a paragraph. Click hanging to indent all but the first line of a paragraph. Click (**none**) to remove special indentation formatting.

By : Enter the amount of indentation for a first line or hanging indent. **Word** clears this box if we click (**none**) in the special list.

Spacing : Sets the amount of space between lines and between paragraphs.

Before : Sets the amount of space above each selected paragraphs.

After : Sets the amount of space below each selected paragraph.

Line Spacing : Sets the amount of vertical space between lines of text. If we click "**At least**", "**Exactly**", or "**Multiple**", enter a value in the "**At**" box.

At : Enter the amount of vertical space we want between lines of text. This setting is effective only if we click "**At least**"', "**Exactly**", or "**Multiple**" in the "**Line Spacing**" box.

Students are advised to consider a text and make paragraph settings according to the **Fig. 9.84**

9.16 TABS

This is used to set or change the tab stop settings in a paragraph. Click on to "**Tabs**" option available in "**Paragraph**" menu, we will get the "**Tabs**" menu as shown in **Fig. 9.86**.

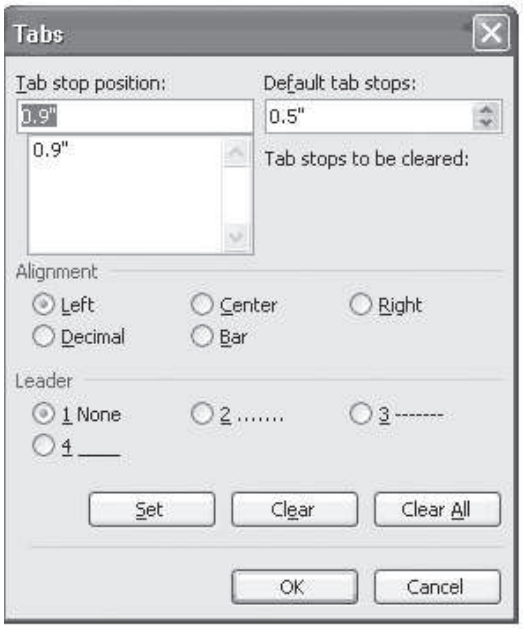


Fig. 9.86

Tab stop position : Type the measurement for a new tab stop, or click an existing tab stop and then type a new measurement for it.

Default tab stops : Sets the default spacing between tabs stop.

Alignment: Click the way we want text to be aligned at the tab stop. To change the alignment for an existing tab stop, click it on the Tab stop positive box, and then click the non alignment option.

Left : Extends text to the right from the tab stop.

Center : Center text at the tab stop.

Right : Extends text to the left from the tab stop. If text fills the space to the

left of the tab stop, the text often extends to the right.

Decimal : Aligns a decimal point at the tab stop. Text or numbers without a decimal point extends to the left of the tab stop.

Bar : Inserts a vertical line at the tab stop.

Leader : Click on the **dotted**, **dashed**, or **solid line** option to fill the empty space to the left of a tab stop.

Click

1. "**None**" to leave the space blank or to remove a previously applied leader line.
2. Fills the empty space to the left of a tab stop with a dotted leader line.
3. Fills the empty space to the left of a tab stop with a dashed leader line.
4. Fills the empty space to the left of a tab stop with a solid leader line.

Tab stops to be cleared : Lists the tab stops that will be cleared from the selected paragraphs when we click "**OK**". **Word** does not clear these tab stops if we click "**Cancel**".

Set: Sets a tab stop using the current settings.

Clear: Clears the tab stop that is selected in the "**Tab stop position**" box. **Word** lists the tab stops to be cleared at the bottom of the dialog box and actually clear them when we click "**OK**".

Clear All: Clears all the custom tab stops listed in the Tab stop position list. **Word** lists the tab stops to be cleared at the bottom of the dialog box and actually clears them when we click "**OK**".

Fig. 9.87 shows the setting of default tab stop which shows **0.5 inches** there onwards.

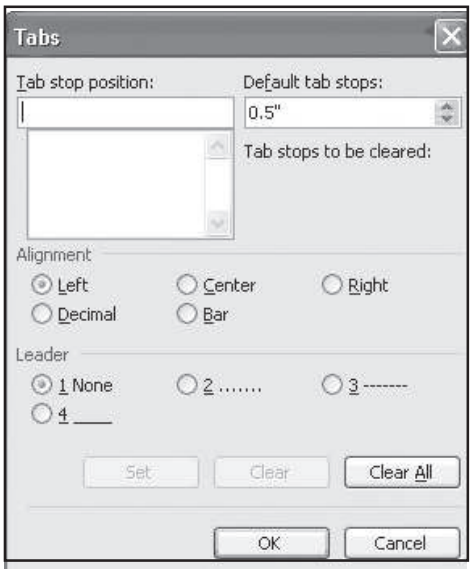


Fig. 9.87

9.17 COLUMNS

This is used to create newspaper columns to continue a story in the next column on the same page.

Assume that we have typed a paragraph and we want to divide that into columns. To do this follow the steps given below:

1. Be in the page where we have typed the paragraphs and click on to "**Format**" option available on Menu bar.
2. From the drop-down menu, click on to Column option. We will get a menu as shown in **Fig. 9.88**.

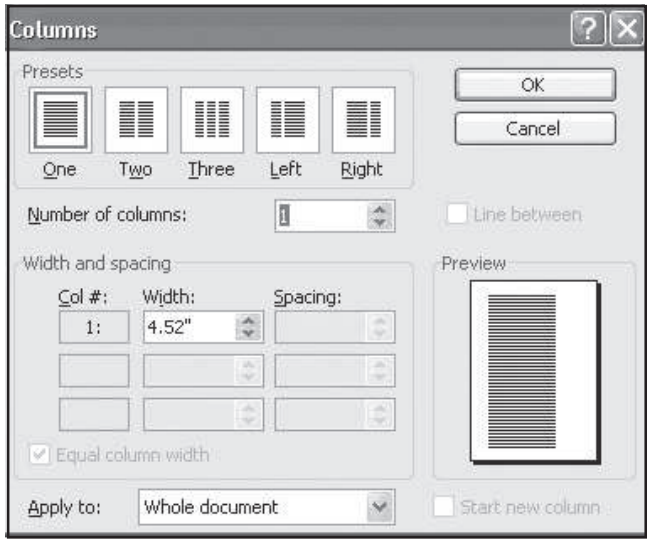


Fig. 9.88

Here, select the number of columns we want to have and other configurations and click "**OK**" to effect the change. The menu in **Fig. 9.88** has different options, which are discussed below.

3. **Fig. 9.89** shows the settings in "**Column**" menu and shows the columns of text from the paragraph we have typed.

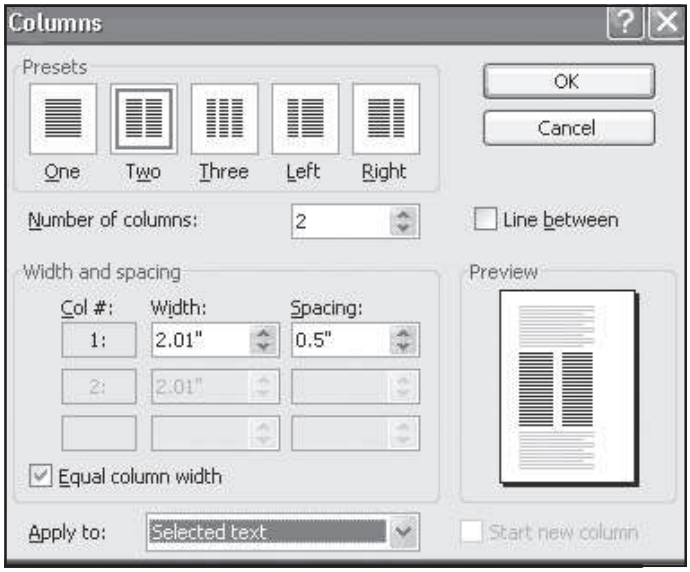


Fig. 9.89

Different options available in Columns menu:

Presets : Click one of these common preset column formats or enter our own custom settings.

One : Inserts a single column.

Two : Inserts two columns of equal width.

Three : Inserts three columns of equal width.

Left : Inserts two columns, of which the left column is half as wide as the right.

Right : Inserts two columns, of which the left column is half as wide as the left.

Number of columns : Enter the number of columns we want in a document or section of a document.

Width and Spacing : Enter the width and spacing measurement for each column. If the "**equal column width**" check box is selected, the width and spacing settings for column apply to all the columns.

Line Between : Adds vertical lines between columns.

Apply to : Click the portion of the document to which we want to apply column formatting. Here we have got two options **Whole document** and **this point onwards**. **Whole documents** mean column format will be applied to the contents of entire document. **This point onwards** means column format will be applied to the document from the point we specify to the document from the point we specify or we can even select the paragraph to which we want to apply the column format.

Start new column : Moves text following the insertion point to the top of the next column.

9.18 CHANGE CASE

This menu provides us with the different options of cases that we can apply to the text.

First select the text to which we want to apply the required case and click on "**Format**" option available on Menu bar. From the drop-down menu, click on "**Change case**" option. We will get a menu as shown in **Fig. 9.90**.

Here selected kind of case we want to have and click "**OK**" to effect the change.

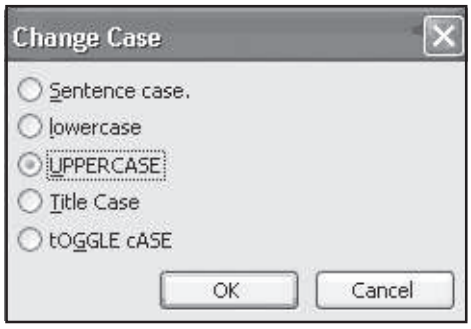


Fig. 9.90

The menu in **Fig. 9.90** has different options, which are discussed below.

Sentences case : Capitalizes the first letter of the first word in the selected sentence.

Lower case : Changes all selected text to lower case text.

Upper case : Changes all selected case to capital letters.

Title case : Capitalizes the first letter of each word in the selection.

Toggle case : Changes all upper case letters to lower case in the selection and vice-versa.

The options themselves are the example for different case which can be applied to.



9.19 LET US SUM UP

Microsoft Word is an Editor. The basic components of this software are **Title Bar**, **Menu Bar**, **Standard Toolbar** and **Formatting Toolbar**. Using this software we can create a new document, edit it, format it if needed. Documents can be formatted in terms of Font type, Font size etc. We can even make some part of the document highlighted. The document can be aligned according to our needs. The numbering can be provided to different points. Proper indentation also can be provided. Symbols, Pictures, Tables can also be inserted in the document. A particular word can be searched and it can be replaced with the new word if required. The printing of the document can be done with the help of this software. The default extension of a **Word** document is "**doc**".



9.20 FURTHER READING

1. Computer Application in Management – *Sanjay Saxena & P. Chopra*.
2. Computer Applications in Business – *R. Parameswaram*.
3. Computer Fundamentals – *V. Rajaraman*.



9.21 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No. 1: Microsoft Word is such software which can be used to create, format, store, retrieve, edit and print the document.

Ans. to Q.No. 2: Title Bar, Menu Bar, Standard Toolbar, Formatting toolbar, Editing area, Scroll Bars, Drawing Tool Bar, Status Bar

Ans. to Q.No.3: Use of New Blank Button on standard tool bar

Use of File option button on Menu Bar

Press Ctrl and N key simultaneously

Ans. to Q.No. 4: Using the Exit option

Using the Close button on the title bar.



9.22 POSSIBLE QUESTIONS

1. **Open MS-Word and type the following Paragraph :**

   Computers have been called “mind tools” because they enhance our ability to perform tasks that require mental activity. Computers are adopting at performing activities such as making calculation quickly, sorting large units, and searching through vast information libraries. Humans can often accomplish them much faster and more accurately. Our ability to use a computer complements our mental capabilities and makes us more productive. The key to making effective use of the computer as a tool is to know what a computer does, how it works, and how we can use it.

   Now, follow the following points (para & bold change)

   a. Format the paragraph with Bold, Size-**20**, Font=**Arial**, Color=**Blue** and justified alignment and apply proper header and footer.

   b. Convert the above paragraph into three columns with alignment justified and lines in between.

   c. Convert the above paragraph into three columns with alignment

justified and lines in between.

d. Insert picture using clip art and place it in middle of the paragraph.

2. Open New Word document and type the following paragraph.

We can define a computer as a device that accepts input, processes data, stores data, and produces output. A computer is actually part of a computer system. Let us look more closely at the basic elements of a computer system.

Hardware includes the electric, electronic and mechanical device used in processing data.

A computer requires a set of instructions, called software or a computer program, which tells the computer how to perform a particular task.

Now follow the following points (para change & bold)

a. Set the first line indents of first paragraph to **2** inches.

b. Set double line spacing for the second paragraph.

c. Set **2pt** space before and after all the paragraphs.

*****

UNIT-10 : MS POWER POINT

UNIT STRUCTURE

10.1 Learning Objectives

10.2 Introduction

10.3 Starting of Microsoft Power Point

10.3.1 Part of Power Point

10.4 Creation of Power Point Presentation

10.5 To Include a Chart in the Slide.

10.6 To Impart a Data Sheet.

10.7 Formatting Options

10.8 Slide Transition

10.9 Different Views of the Presentation

10.10 Let Us Sum Up

10.11 Further Reading

10.12 Answers To Check Your Progress

10.13 Possible Questions

10.1 LEARNING OBJECTIVES

After going through this unit you will be able to

- define how to start MS-power point
- explain parts of power point Window
- create of power point presentation
- explain saving the power point presentation
- outline chart in a slide
- explain imparting datasheet from a file
- outline formatting the slides
- define slide transitions
- explain different views of the presentation.

10.2 INTRODUCTION

Microsoft Power Point is a most widely used utility to create presentations relating to products, organisations, research papers etc. This

presentation can be created at ease and with immense speed. It is an effective software which provides techniques for designing the dynamic presentations. Using this software a slide can be designed, text can be inserted, graphics can be inserted and animation can be given to the slides and the objects within the slide.

10.3 STARTING OF MICROSOFT POWER POINT

Following steps are undertaken to start Microsoft Power Point.

1. Move the mouse pointer over the "Start" button present on the extreme left of the task bar and then click the left mouse button. A push up menu appears.
2. Place the mouse pointer over the ''All Programs'' option inside the push up menu. A second menu gets displayed immediately.
3. Move the mouse pointer over Microsoft PowerPoint option and click the left mouse button. You will get the screen as shown below **Fig. 10.1**.



Fig. 10.1

4. You can create a new presentation by one of the methods given below:
   a) Auto Content Wizard
   b) Design Template
   c) Blank Presentation

Each of this presentation method can be selected using the radio button adjacent to each of them or you can open an existing presentation.

LET US CONSIDER BLANK PRESENTATION

You can create a blank presentation by clicking on the radio button next to blank presentation and then click OK (**Fig. 10.1**).

After following the above mentioned steps you will get a screen as shown below (**Fig. 10.2**).

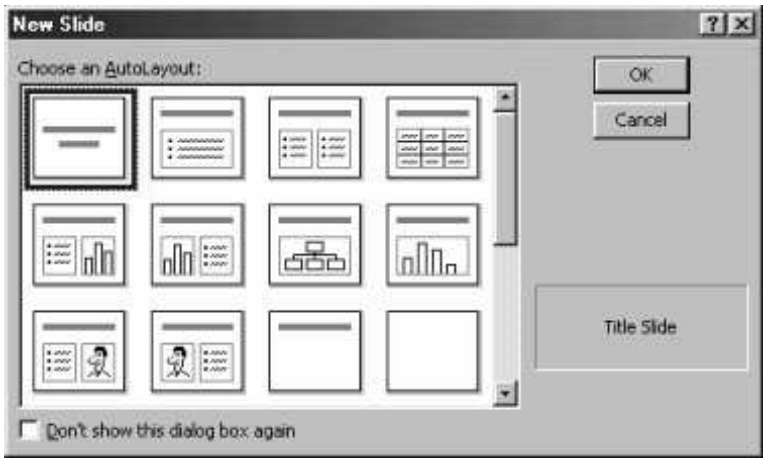


Fig. 10.2

10.3.1 PARTS OF POWER POINT WINDOW

1. **Title Bar -** It displays the application name, file name and various window controls like minimize button, maximize button and close button etc.
2. **Menu Bar -** It displays different options for selection.
3. **Standard Toolbar -** Displayed by default, allows to give common commands like saving the file, opening a file, printing a file etc.
4. **Formatting Toolbar -** Allows the user to give commands related to formatting cells and cell contents like Bold, Underline, Font Style, Font Size, Font Color etc.
5. **The Drawing Palette -** This is used to draw different shapes.
6. **View Bar -** This is used to change the view of the screen.

10.4 CREATION OF POWER POINT PRESENTATION

SLIDE LAYOUTS

Each PowerPoint presentation can have only one slide or it can have more than one slide. Each of these slides can have its own page layout associated with it. The page layout decides the position of the various objects like text, pictures etc. in the slide. Page layout also specifies the appearance of the text like its style, color, size etc.

PowerPoint provides 24 different types of page layouts along with a blank page.

FOLLOW THE GIVEN STEPS TO CREATE THE POWER POINT PRESENTATION

1) Select the slide layout by moving the mouse pointer over the required layout and then click the left mouse button, then click on OK or you can cancel the selection by clicking on the Cancel.

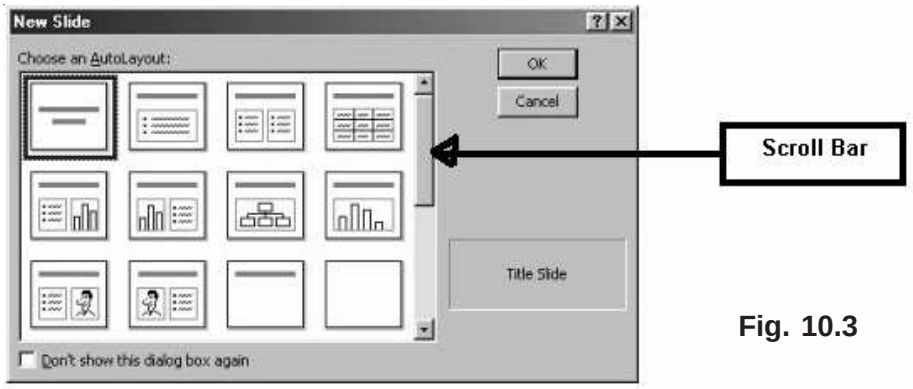


Fig. 10.3

Each of these layouts has different names like Title Slide, Bulleted List, Table, Organization, Charts, etc. as discussed earlier. On the screen 12 layouts are visible. Use scroll bar to see the other layouts.

On clicking OK you will get the screen as shown below :



Fig. 10.4

2) To add text to the upper box as given in the box, click the mouse pointer inside the box. Now you can type any text you want. Say for example K.K. Handique State Open University.
3) Now to add text to the lower box, click inside that box and start typing the text you want to add. You will get the screen as shown in **Fig. 10.5**.

Fig. 10.5

4) Save this presentation. Use save icon of Standard toolbar or file option on Menu bar. While saving give the name for the presentation.
5) To view the slide show, click on to Slide show option which is on the Menu bar. You will get a drop down menu. Click on to view show you will get the slide show presented on the screen **Fig. 10.6**.

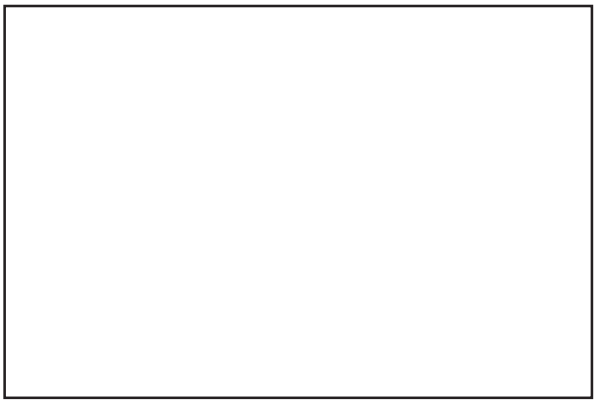
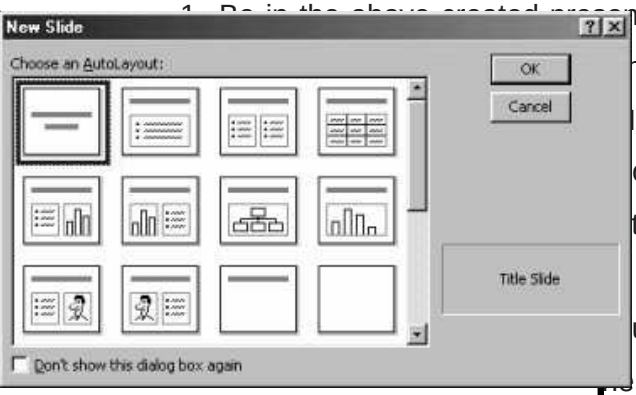


Fig. 10.6

Note : Press function key "F5" to see the slide show instead of step 5. To come back from the slide show to the PowerPoint menu press "Esc" Key.

ADDING MORE SLIDE TO AN EXISTING PRESENTATION

Consider the presentation already created above and follow the steps given below to add more slides to an existing presentation.

1. Be in the above created presentation (**Fig. 10.5**), click on to insert


he drop down menu click on to New
simultaneously being in the above-
or click on to New Slide icon which is
the above created presentation (**Fig.**

u and now you can select a required
text in the slide. Let us assume that
s. It is shown in **Fig. 10.7**.

Fig. 10.7

3. Now click on OK you will get the screen as shown in **Fig. 10.8**.

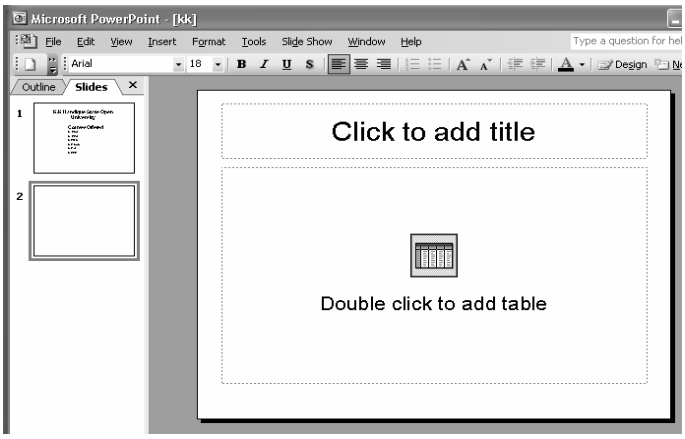


Fig. 10.8

4. Now you can add title in the upper box.
5. Now double click on to the lower box. You will get a menu as shown in **Fig. 10.9**.

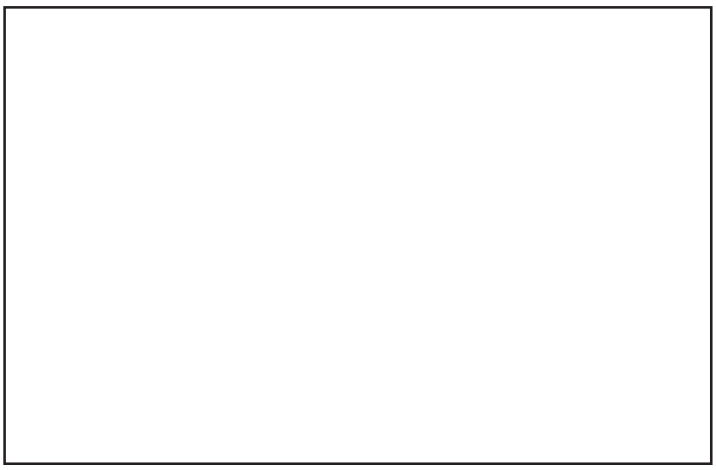


Fig. 10.9

6. Here you can select the number of rows and columns you want in the table by using small arrows present adjacent to Number of Columns and number of rows box. Then click which is present in the insert table menu. You will get the screen as shown in **Fig. 10.10**.

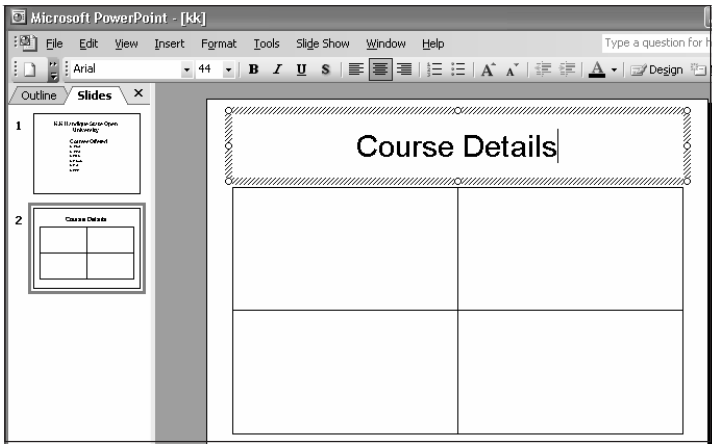


Fig. 10.10

7. Now you can enter the contents in this table shown in **Fig. 10.11** Microsoft Powerpoint (Presentation)

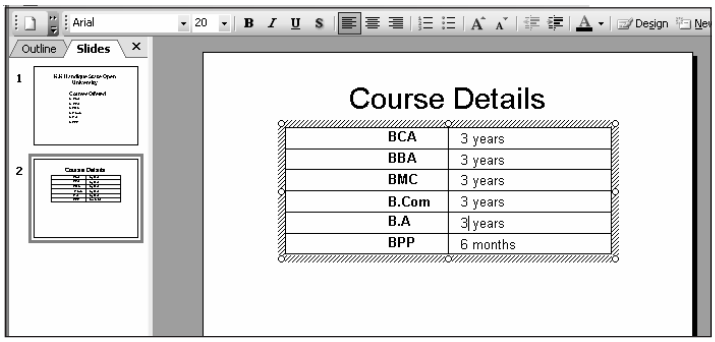


Fig. 10.11

8. Save the presentation.
9. Run the slide show by pressing F5.

Note : When you press F5 it will show the first slide. Now to go to the second slide press space bar key of the key board.

TO ADD A SLIDE WITH PICTURE FOR THE EXISTING PRESENTATION

Consider the presentation already created above and follow the steps given below to add more slides to an existing presentation.

1. Be in the above-created presentation (**Fig. 10.11**). Click on to Insert option on the Menu Bar. From the drop down menu click on to New Slide option or Press Ctrl and M simultaneously being in the above-created presentation (**Fig. 10.11**) or click on to New slide icon which

is on the Standard tool bar being in the above created presentation (**Fig. 10.11**).

2. You will get the slide layout menu and now you can select a required layout for the slide and enter the text and picture in the slide. Let us assume that we have selected layout as shown in **Fig. 10.12**.

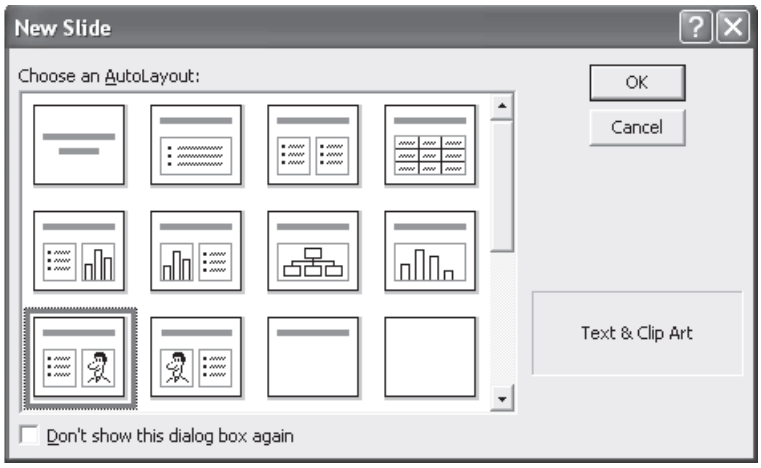


Fig. 10.12

3. Now click on OK. You will get the screen as shown in **Fig. 10.13**.

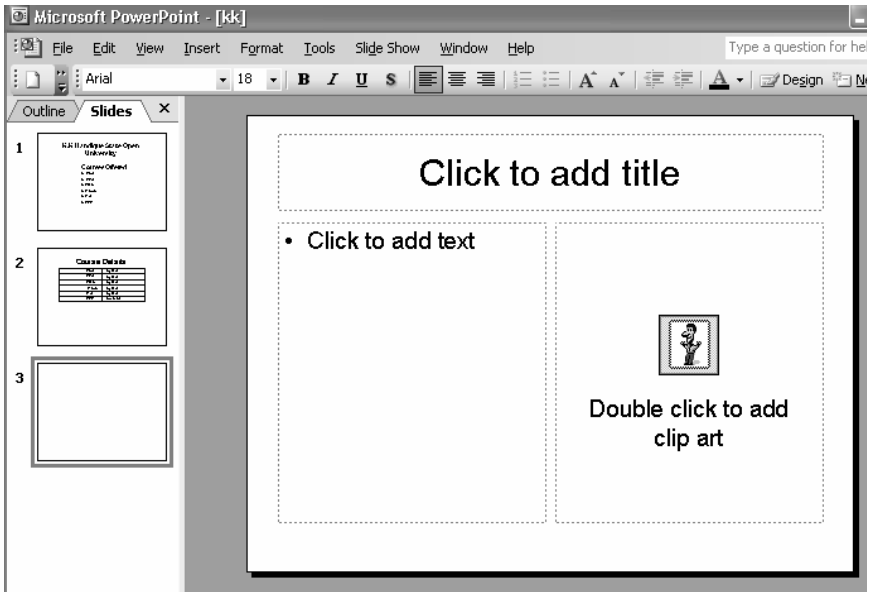


Fig. 10.13

4. Add Title to the slide and add text at the left hand box shown.

5. To add the picture at the right box follow the steps given below.
   a) Double click as instructed in the box you will get a menu as shown in **Fig. 10.14**.
   b) Now you can select any of the titles among the available ones as shown in **Fig. 10.14**. For example we have selected

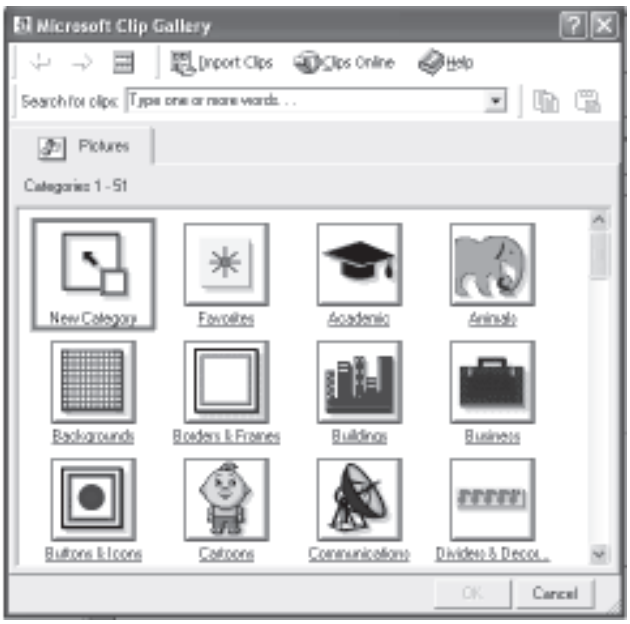


Fig. 10.14

"Academic". Again you will get a menu, **Fig. 10.15** which contains



Fig. 10.15

different pictures. Now click on the picture you want to insert and Click on to OK on that menu. You will get the slide as shown in **Fig. 10.16**.

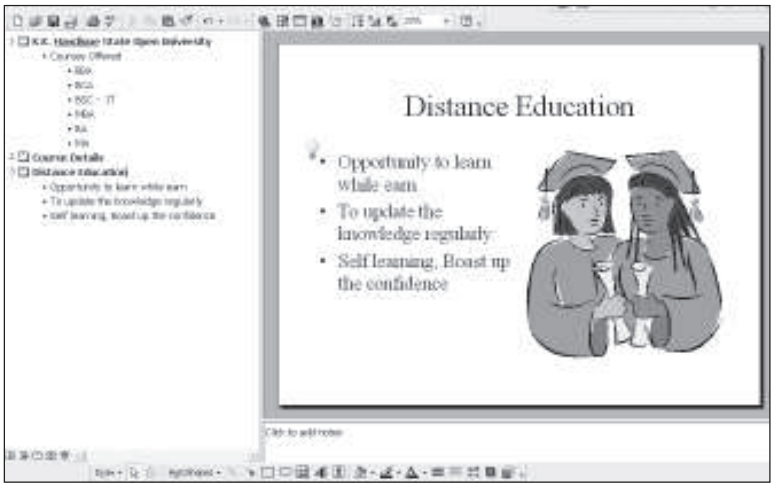


Fig. 10.16

c) Save the presentation as discussed earlier :

Note : To insert the pictures from the file....

1) Execute the step (a) of the above steps,
2) Clip on to the import clips item you will get **Fig. 10.17**.

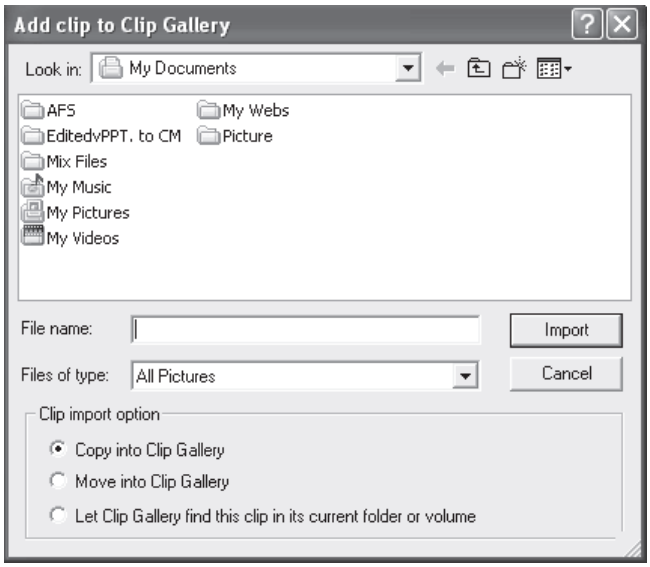


Fig. 10.17

3) Select the file from where you want to insert the file. You can select required drive and required folder.

4) Click on to Import item. You will get a menu as shown in **Fig. 10.18**.

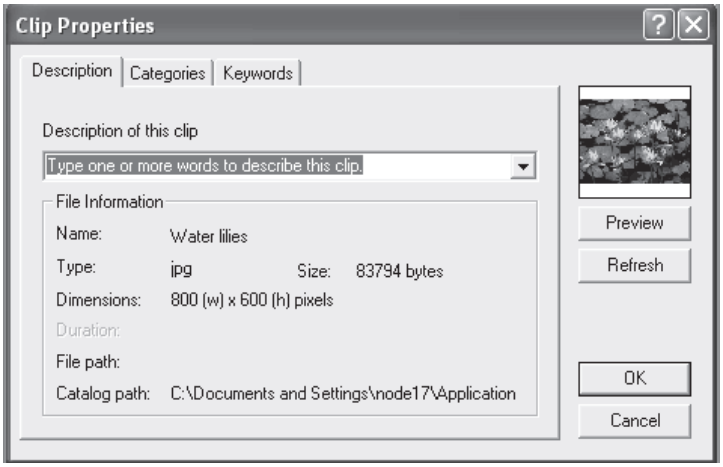


Fig. 10.18

5) Click on to OK you will get the menu as shown :

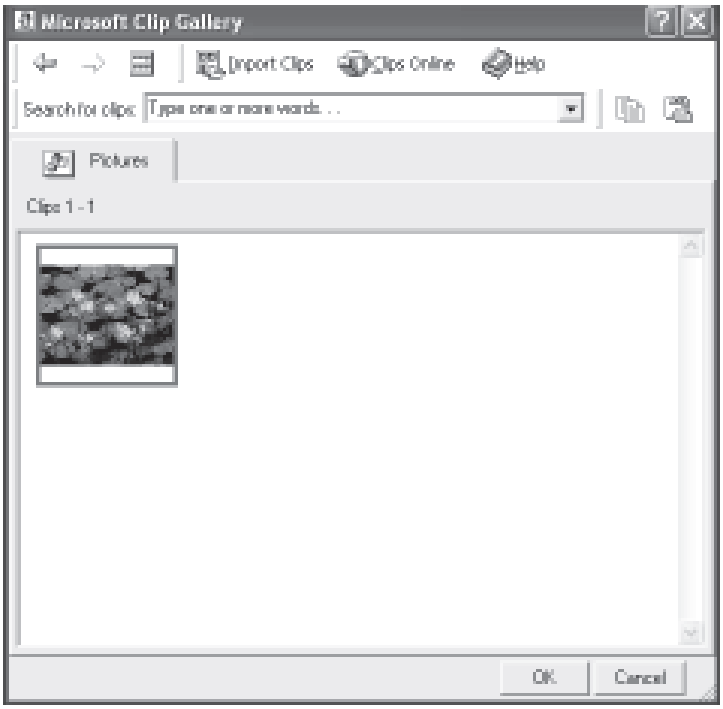


Fig. 10.19

6) Click on OK you will get the picture inserted in the box of the slide.

SAVING THE POWERPOINT PRESENTATION

We can save the files in different ways which are discussed in other applications like MS-Word, MS-Excel etc. The procedures are same. Even performing the tasks like opening of an existing presentation or closing a presentation without saving it, is also similar to the process carried out in other applications, so, you can follow the same procedures.

Note : The default extension used for the power point presentation file is **"ppt"**.

10.5 TO INCLUDE CHART IN THE SLIDE

To include a chart in the slide follow the steps given below :

1. Follow the steps to insert a new slide, as explained earlier, and select the chart layout as shown in **Fig. 10.20** and click OK.

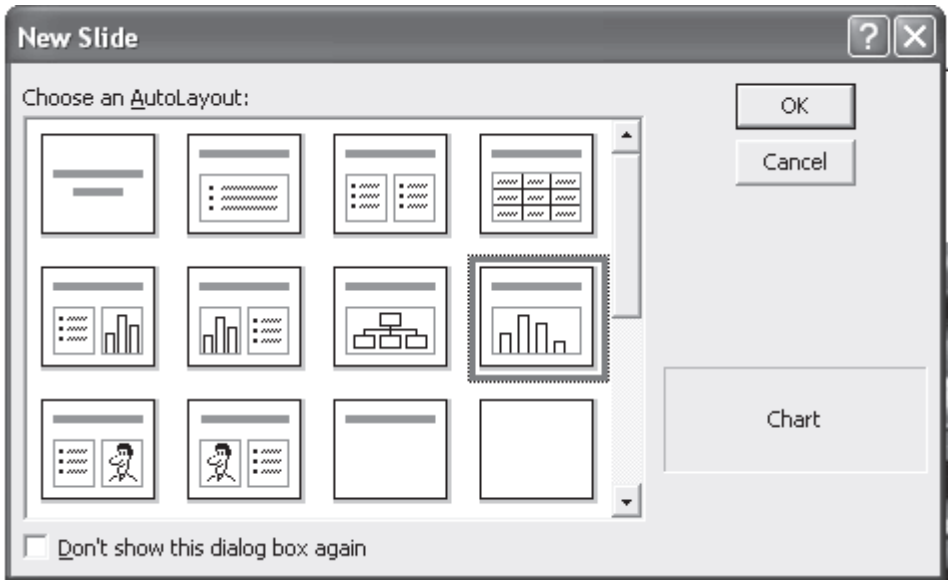


Fig. 10.20

2. Add title to the slide. For example Admission chart.
3. Double click at the chart area, you will get default chart. To have your data you can edit the data sheet according to your needs.
4. You can change the type of the plot, style etc. Right click on to the chart area and edit it.

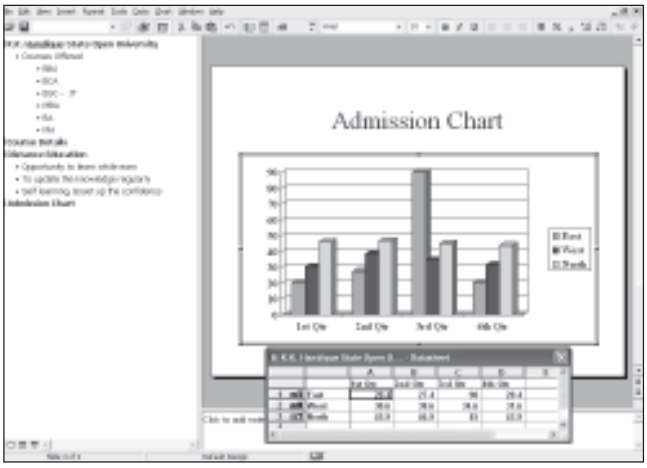


Fig. 10.21

10.6 TO IMPORT A DATASHEET

You can import a data sheet from a file, for example from Excel. To do so follow the steps given below :

1) Double click at the chart area and you will get default chart. Click on to the Import File icon present on the standard toolbar and select the data sheet which you want to import, according to the type, you want to draw the chart.
2) You can change the type of the plot, style etc. To do it, right click on to the chart area and edit it.

Microsoft Power Point

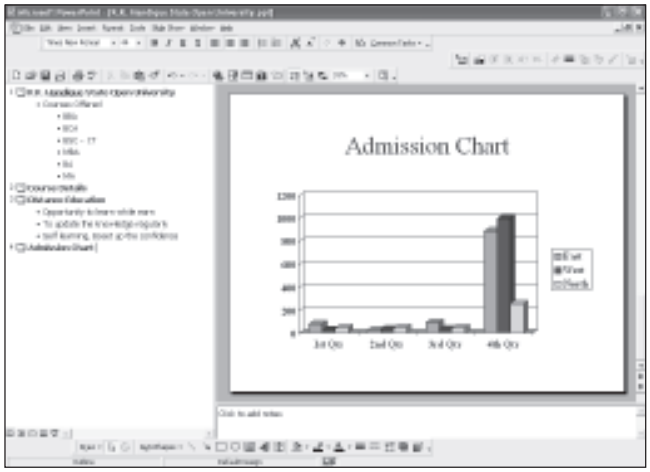


Fig. 10.22

10.7 FORMATTING OPTIONS

Font style : Font style of the text can be changed by selecting the text of which you want to change the font style and clicking on to the required font style icon available on the formatting toolbar.Similarly Font and their size can be changed. Select the text and use the required icons respectively.

Aligning text : After selecting the text, use required icons depending on whether you want to align the text Left, Centre or Right respectively. To have Numbers or Bullets use the respective icons.

Background of the slides : The background of the slide can be changed according to our needs to give an attractive look to the slide. Follow the steps given below to change the Background of the slide.

1) Click on to Format option on the menu Bar. From the drop down menu click on the Background option. You will get a menu shown in **Fig. 10.23**.

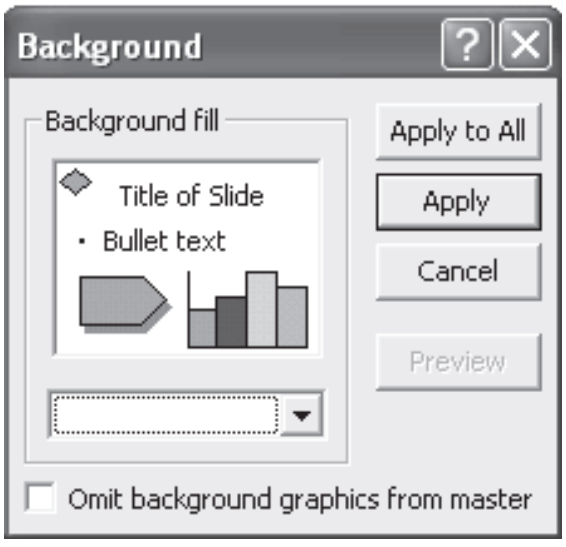


Fig. 10.23

2) To select the required Background, click on the arrow mark as shown above. You will get different colour on the resulting menu as shown in

Fig. 10.24. Select the required color for the Background.

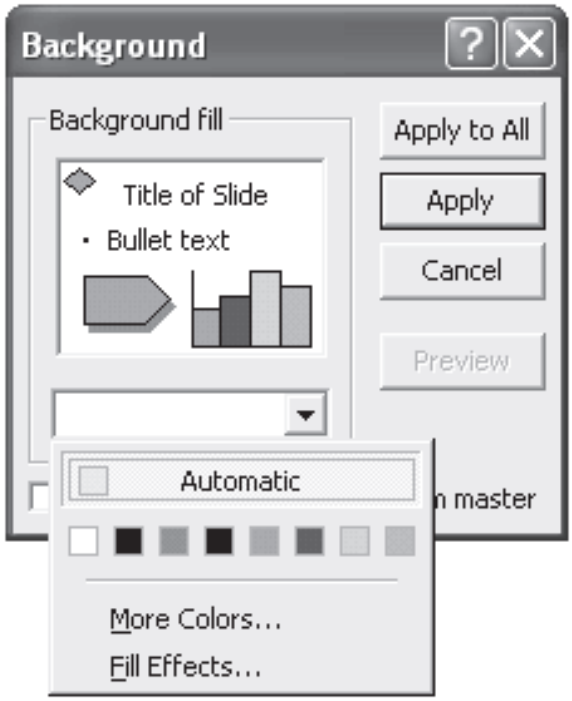


Fig. 10.24

For example, assume that you have selected grey colors as Background color then you will get the color applied to the sample slide in the menu as shown in **Fig. 10.25**.

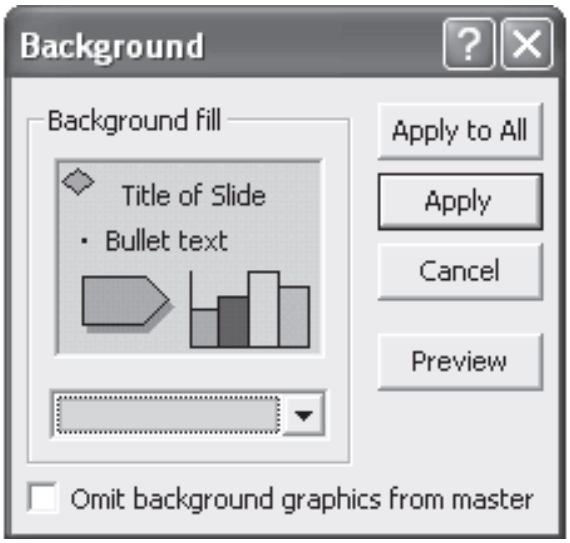


Fig. 10.25

3) You can apply this Background color to all the slides in the presentation by selecting. You can select Apply option to apply the Background color only to the current slide in the presentation. To apply the background colour to all the slide select ‘‘Apply to All’’ option. You can also cancel this menu by clicking on the ‘‘Cancel’’ option. You can click on to ‘‘Preview’’ option to see the new background color on the slide without actually applying it to the slide/slides and if you did not like it you can select a different Backgound color.

Note : All options discussed above are available in the Menu shown in **Fig. 10.23**. **Fig. 10.26** shows the application of the Background color to one slide.

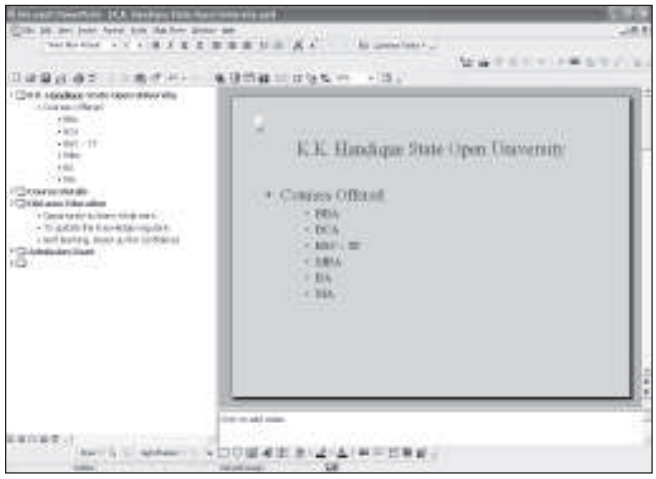


Fig. 10.26

More color : If you are not satisfied with the available colors, then you can click on to ‘‘More colors’’ option. This option is available in menu shown in **Fig. 10.24**. You will get a menu as shown in **Fig. 10.27**.

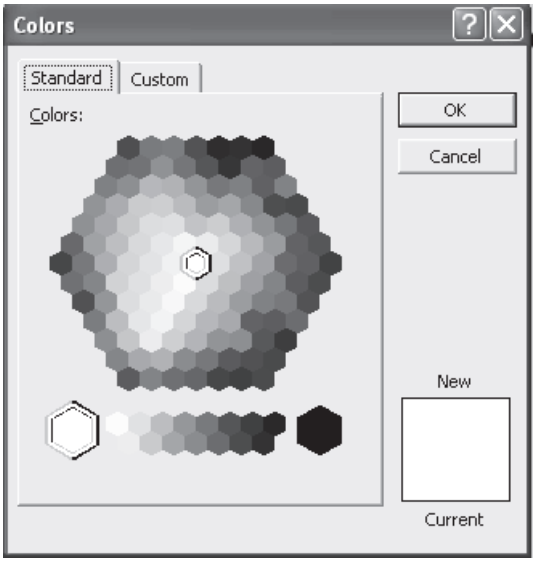


Fig. 10.27

Now select the required color by clicking on your required color, you will get the display of your selected color in the box titled “New” at the right button corner of the menu as shown in **Fig. 10.28**. Now click OK. You will

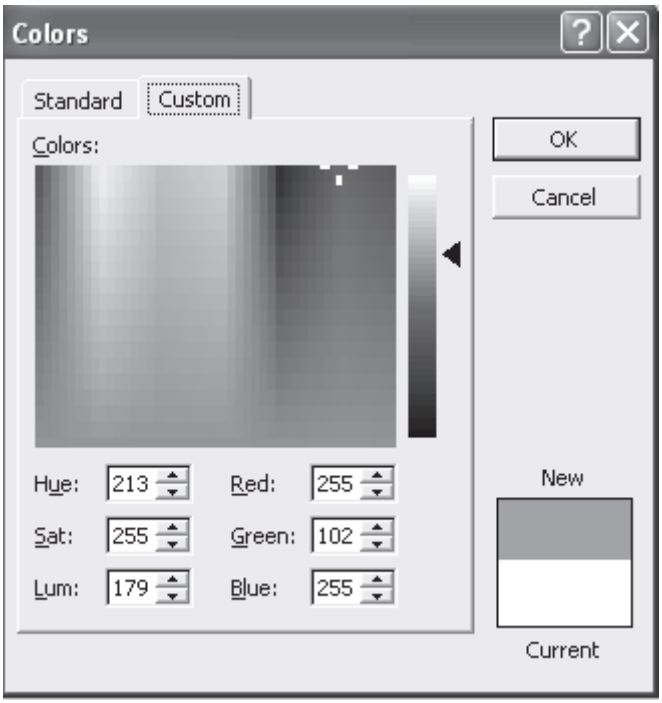


Fig. 10.28

get the color applied on sample slide as shown in **Fig. 10.29** and now you can apply this color to all the slides or current slide.

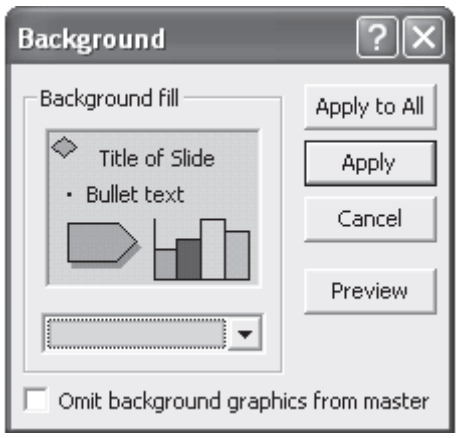


Fig. 10.29

Fill Effects: You have different kinds of Background color fill effects. Follow the steps given below.

1) After selecting the required colors click on the arrow as shown in **Fig. 10.29**. In the resulting menu select Fill Effects. You will get a menu as shown in **Fig. 10.30**.

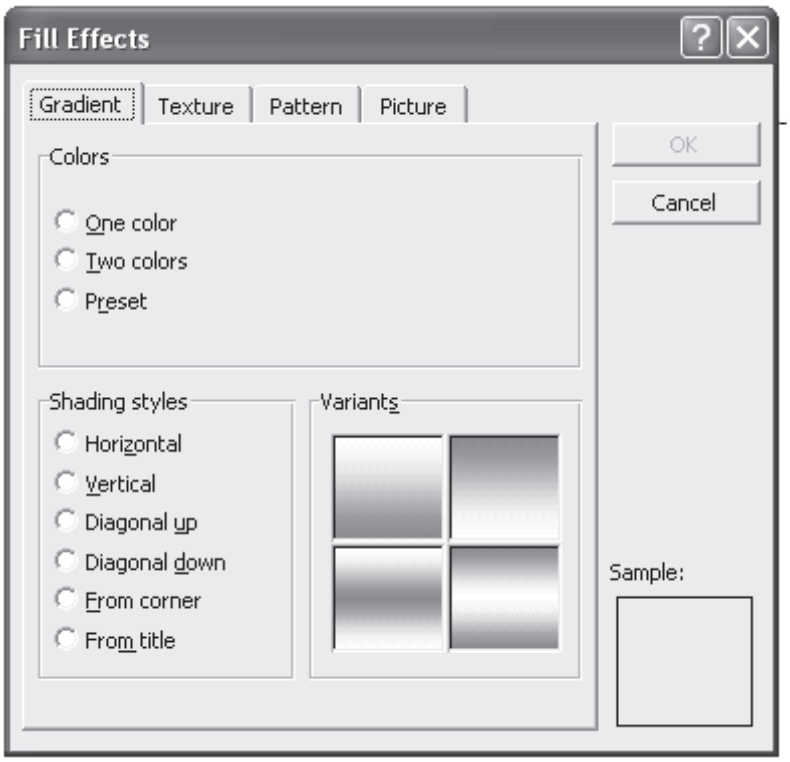


Fig. 10.30

2) You can use “Gradient” according to your **Fig. 10.30**.

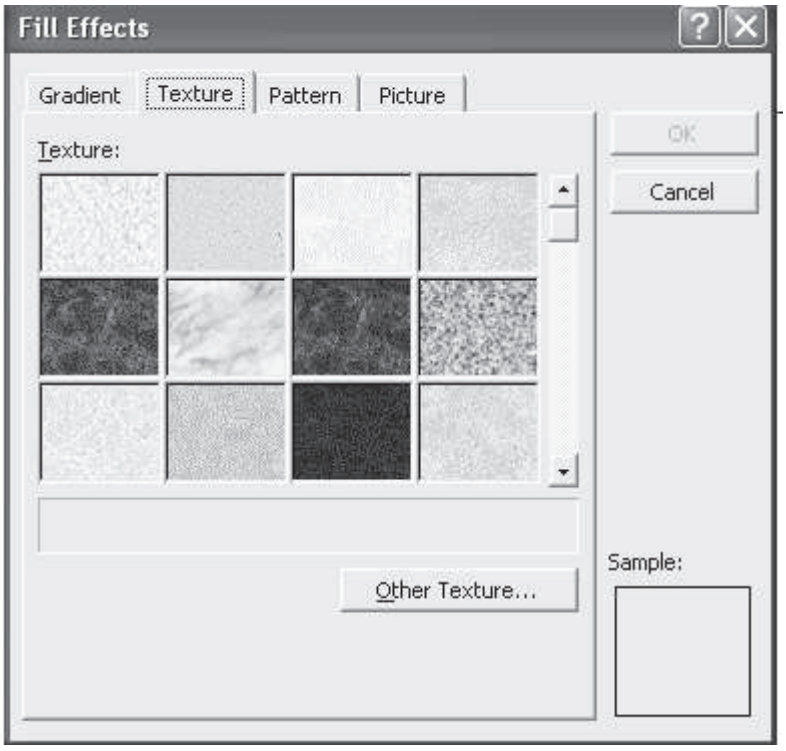


Fig. 10.31

3) You can select the “texture” **Fig. 10.31**.

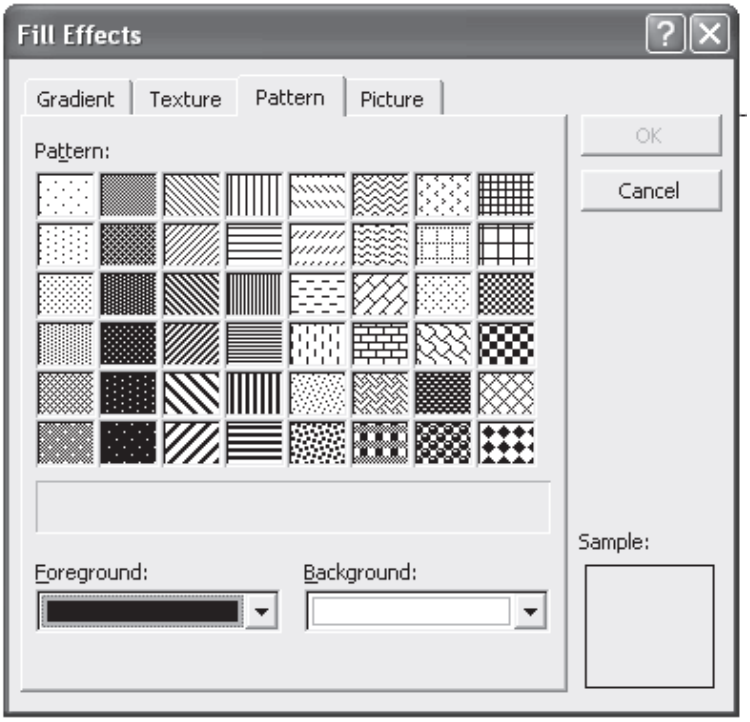


Fig. 10.32

4) You can select ‘‘Pattern’’ **Fig. 10.32**.

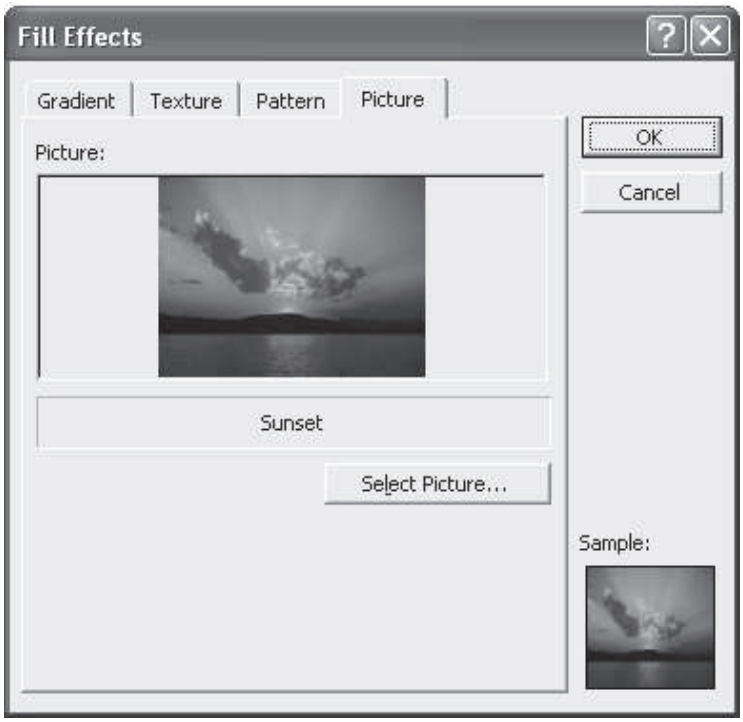


Fig. 10.33

5) You select ‘‘pictures’’ **Fig. 10.33**.

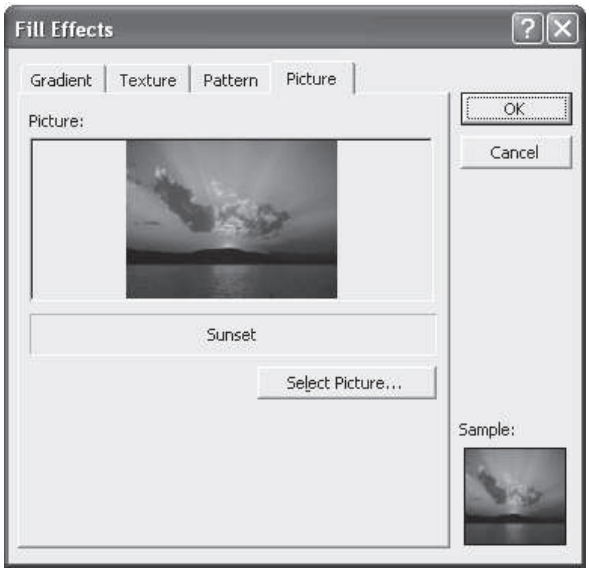


Fig. 10.34

Note : Try all the options.

APPLYING DESIGN TEMPLATES

You can apply different design templates to the slides to improve the appearance of the slides. To do so, follow the steps given below.

1) Click on to Format option present in the menu bar you will get the screen as shown in **Fig. 10.35**.

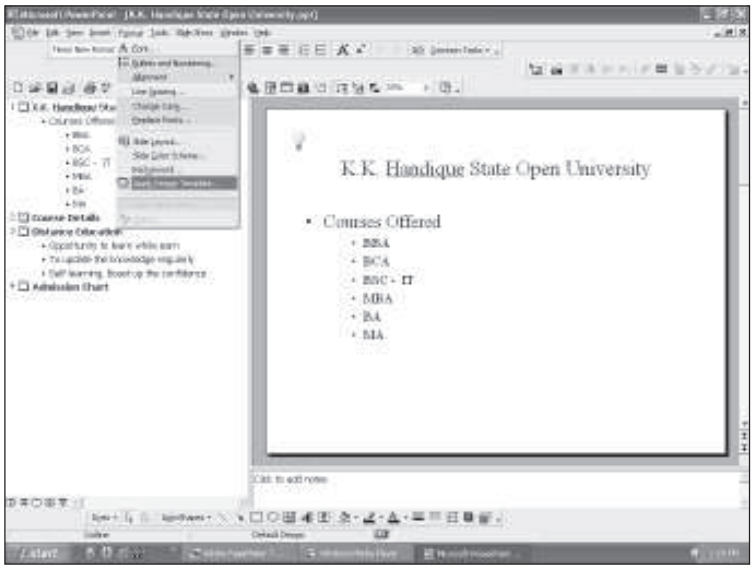


Fig. 10.35

2) Click on Apply Design Templete option of the drop down menu. You will get another menu as shown in **Fig. 10.36**.

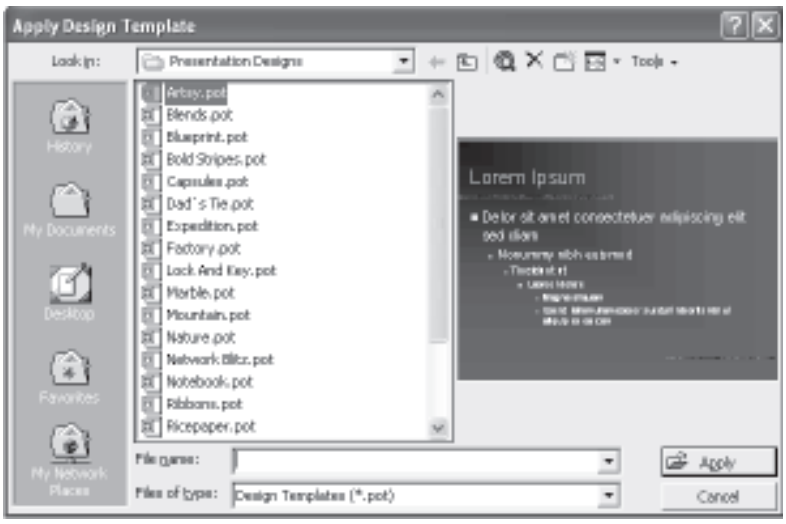


Fig. 10.36

3) You can select any of the templates available in the list by clicking on it and clicking on the Apply Option in that menu. The template will be applied on the slides of the presentation. You can also cancel this menu by clicking Cancel option present.

Note : Right side box present in the Apply Design Template menu [**Fig. 10.36**] will display the application of the selected design Template on the sample side; so by looking at that you can choose the correct template.

Example : Let us select Fill Bar design Template **Fig. 10.37** and apply it to the slides **Fig. 10.38**.

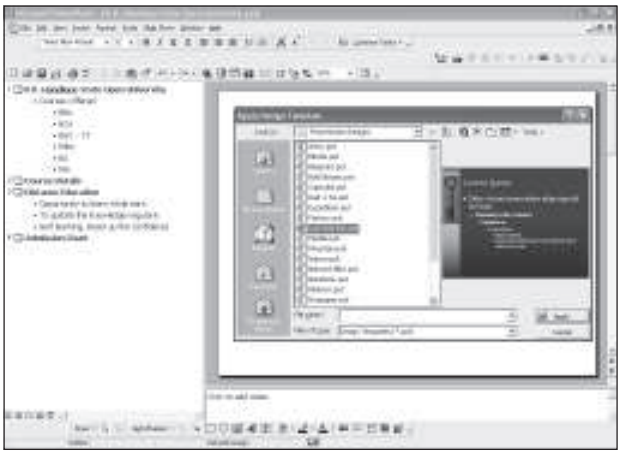


Fig. 10.37

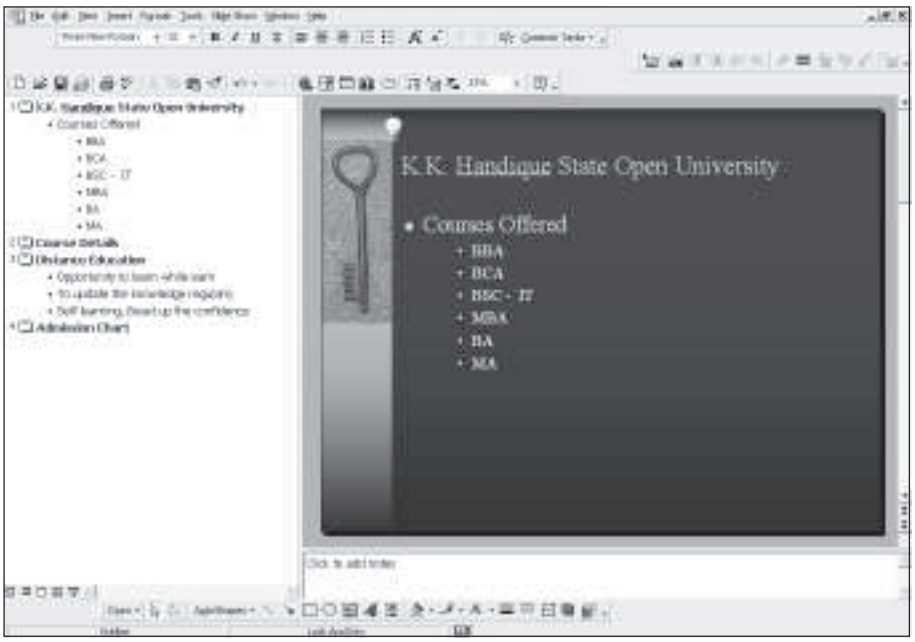


Fig. 10.38

10.8 SLIDE TRANSITION

During the slide show if you want to give different kinds of transition to the slides follow the steps given below.

1) Click on to Slide show option present on the Menu Bar you will get a drop down menu as shown in **Fig. 10.39**.

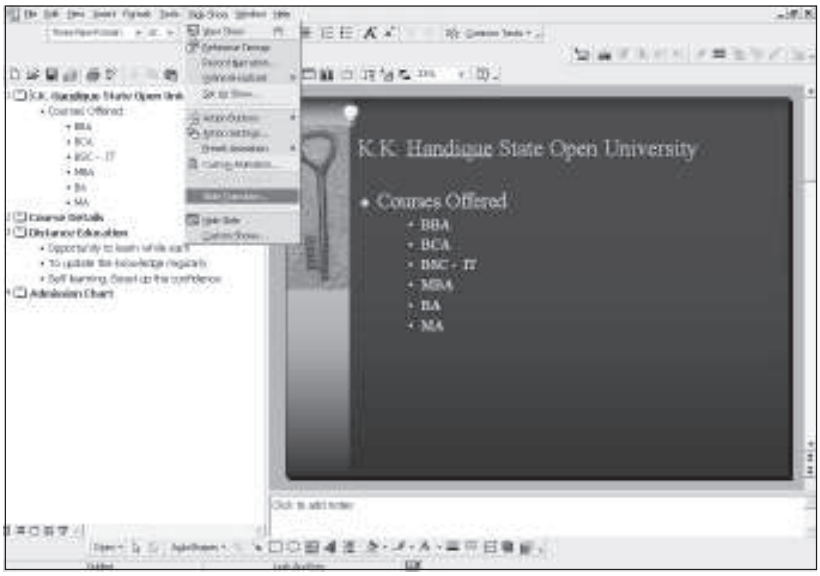


Fig. 10.39

2) Click on to "Slide Transition" option you will get a menu as shown in **Fig. 10.40**. This menu has different options. Let us see each of these options.

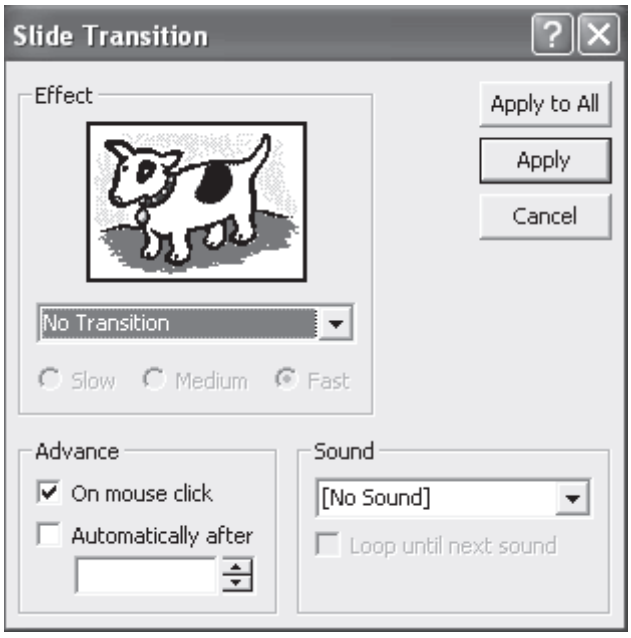


Fig. 10.40

a) **Effect :** By default it is ‘‘No Transition’’. You can select different kinds of effects for transition by clicking on the arrow as shown in Fig. 9.40 and clicking on the required effect. The effect of your selection is shown in the box of the menu immediately. (**Fig. 10.40**). The effect can be made slow, Medium or Fast.

b) **Advances :** This is used to move from one slide to another slide in a presentation during slide show. You can select the option on **‘‘mouse click’’** or **‘‘Automatically after’’**. You can select both the options also (**Fig. 10.40**)

On mouse click : When you select this option you are required, click the mouse button to advance to the next slide.

Automatically after : When you select this option after certain amount of time as you have selected, the next slide will be displayed on the screen. When you select both the options, the slide will be advanced either by mouse click or automatically whichever is first.

c) **Sound :** You can select different kinds of sounds during the appearance of the slide to do so click ‘‘at the sound’’ option of Slide Transition menu and select the required type of sound (**Fig. 10.40**).

Note : Now you can apply this Slide Transition feature to all the slides (Apply to All) of the presentation or the current slide (Apply).

You can also Cancel the menu (Cancel) **Fig. 10.40**.

10.9 DIFFERENT VIEWS OF THE PRESENTATION

You can have the different views of your presentation.

1. **Normal View :** Click on this you will get normal view.

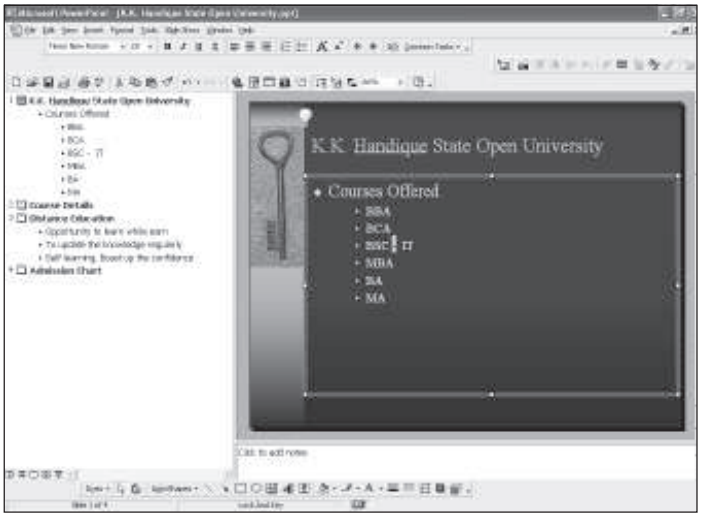
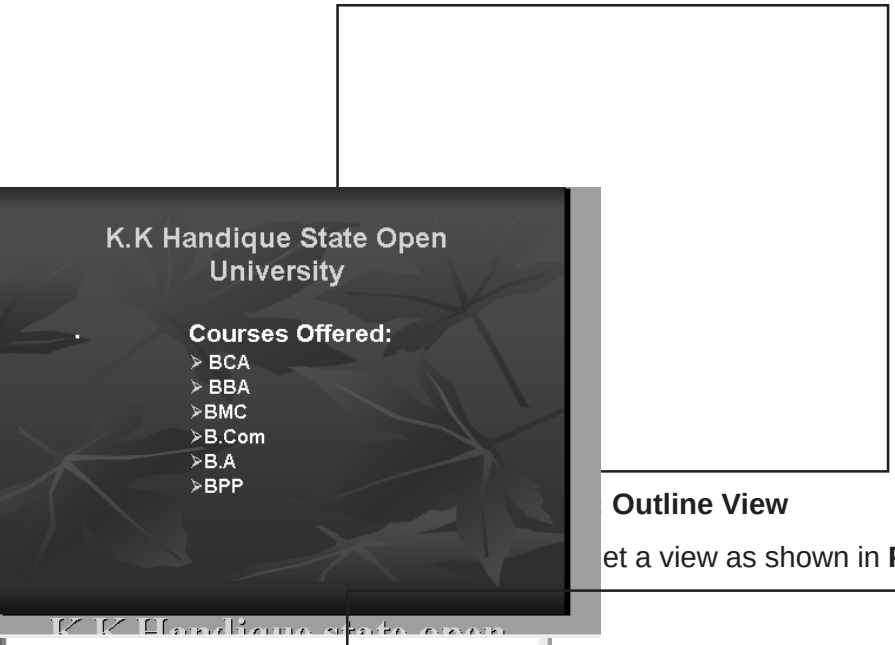


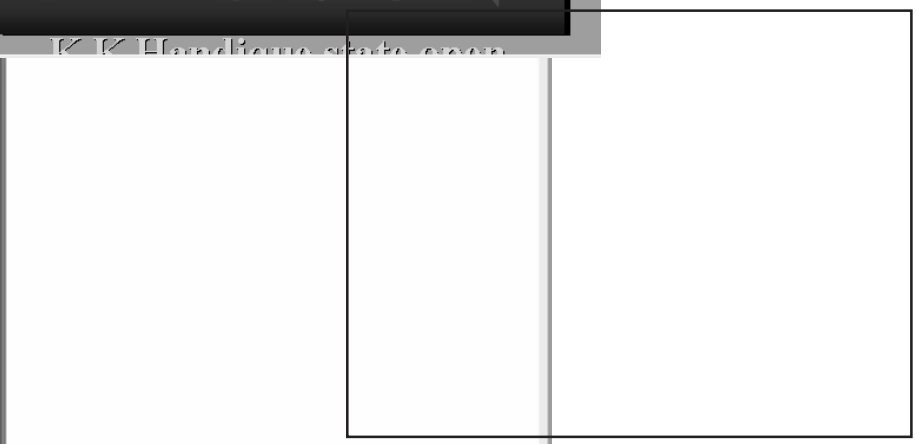
Fig. 10.41 : Normal View

2. **Outline View :** Click on this to get outline view as shown in **Fig. 10.42**.



Outline View

et a view as shown in **Fig. 10.43**.



0.43 : Slide View

4. **Slideo Sorrter View** : Click on this to get the view as shown in **Fig. 10.44**.

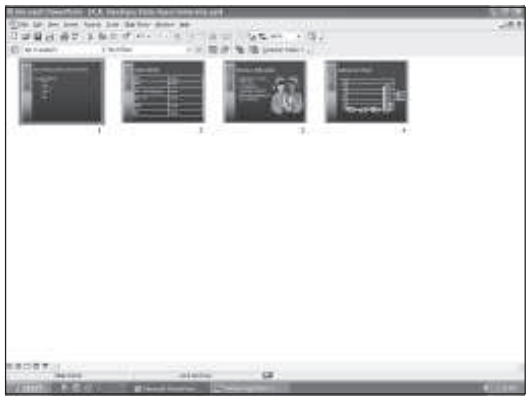


Fig. 10.44 : Slide Sorter View

5. **Slide show** : This takes you to slide show.

CHECK YOUR PROGRESS

Q.1: Write true or false for the following statements:

(i) You can create a new presentation by Autocontent Wizard.

(ii) You can apply sound affect while presenting the slides.

(iii) We cannot insert graphics in Microsoft power point.

Q.2: Define Microsoft Power Point.



10.10 LET US SUM UP

PowerPoint provides 24 different types of page layouts along with a blank page. A PowerPoint presentation can include one or more slides. You can even add more slides to the existing presentation. The default extension used for the PowerPoint presentation file is **ppt**. A chart can be included in a slide. A Data Sheet can also be imported from a file say from Excel. The

appearance of the text in the slides can be changed to suit the requirement. Attractive books can be given to slides by changing the Background. You can also have the required kind of transitions for the slides in the PowerPoint presentations.



10.11 ANSWER TO CHECK YOUR PROGRESS

Ans. to Q.No.1:

(i) True, (ii) True, (iii) False,

Ans. to Q.No.1: Microsoft PowerPoint is a most widely used utility to create presentation relating to products, organisation, research papers etc. Using this software a slide can be designed, text can be inserted, graphics can be inserted and animation can be given to the slides and the objects within the slide.



10.11 FURTHER READING

1. Fundamentals of Computers – *Rajaraman, V.; 4th Edition, Pentice-Hallof India, New Delhi, 2004*.
2. World 2000 – An Introduction – *Lotia, M.; BPB Publication, New Delhi*.
3. MS Excel 2002 – Training Guide – *Jain, V.; BPB Publication, New Delhi*.
4. Power Point 2000 Fast & Easy – *Witherspoon; BPB Publication, New Delhi*.
5. Introduction to Information Technology – *Syganski; Pearson Education, Delhi-110092*.



10.13 POSSIBLE QUESTIONS

Q.1: Explain different basic parts of PowerPoint Window.

Q.2: What are PowerPoint presentation? Why they are used?

Q.3: Explain the steps in creating a PowerPoint presentation.

Q.4: How do you import a Data Sheet from Excel?

Q.5: Discuss slide transition.

Q.6: What are the different views of presentation?

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UNIT-11: DESKTOP PUBLISHING

UNIT STRUCTURE

11.1 Learning Objectives

11.2 Introduction

11.3 Desktop Publishing

- 11.3.1 Background of desktop publishing
- 11.3.2 Advantages of desktop publishing

11.4 Primary desktop publishing software programs

11.5 Adobe PageMaker

- 11.5.1 PageMaker Basics

11.6 Adobe Photoshop

- 11.6.1 Photoshop Basics

11.7 Let us sum up

11.8 Answers to check your progress

11.9 Further reading

11.10 Possible questions

11.1 LEARNING OBJECTIVES

After going through this unit you will be able to

- define desktop publishing or DTP
- discuss the origin and development of DTP
- narrate the advantages of DTP
- explain the primary DTP software
- discuss the basics of Adobe PageMaker
- iscuss the basics of Adobe Photoshop

11.2 INTRODUCTION

Desktop Publishing or DTP has revolutionised printing technology from what it was since the inception of printing. Just like every other technology has incorporated computers in their functioning, so also has publishing and printing. DTP has replaced the earlier model of typesetting.

In this unit we will discuss what DTP is and how it has become all pervasive in the publishing sector.

This unit will also focus on the major publishing software available in the market. Being a media student, it is absolutely essential for you to know about the publishing industry and about the various software which are now being used in the big publishing houses, be it newspapers or magazines. So, in this unit you will get a basic idea about the most common DTP software, i.e., Adobe PageMaker and you will also get an understanding about Adobe Photoshop. But first, let's start with what DTP is all about.

11.3 DESKTOP PUBLISHING OR DTP

Desktop Publishing is mainly about creating documents on a computer which are later printed on paper. DTP uses software on a computer to combine multimedia elements like text and images to create a proper printable document. Once the document is created on the computer they can be printed on a home printer or printed at professional printing machines.

Now-a-days, almost every printing is based on DTP. Be it newspapers, magazines or simple pamphlets and brochures, most documents are designed on computers and then they are printed. Desktop Publishing has become an all-encompassing term these days as DTP software also includes other utilities like web publishing and presentation software.

Earlier, DTP was only about composing text and graphics into page layouts for publishing. In the 21st century the meaning of desktop publishing further expanded to include Web Design software and other forms of visual communication into the DTP software. It has now gone beyond just mere printing design. The term "desktop publishing" was earlier used to describe only page layout skills. But now the skills and software are not confined to newspaper and book publishing. They are used to create graphics for promotional items, for trade show exhibits, package designs, sale displays, outdoor signs etc.

Once the page is created on the computer with the help of the DTP software, they can be downloaded as files and printing plates can be

produced. While desktop publishers are well-suited with standard laser printers, they can also function with more specialised printers like photogravure printers used for making art prints, or thermographical printers used to make raised lettering on wedding invitations or flexographic printers used in product packaging.

11.3.1 BACKGROUND OF DESKTOP PUBLISHING

Desktop Publishing is a relatively new innovation as it burst into the scene in the early 1980s. Mac Publisher was the first desktop publishing software to be designed for Apple's Macintosh computers, which ran on the original 128K Macintosh computer. In January, that same year Apple introduced LaserWriter printer and in July came the PageMaker software introduced by the Aldus Corporation. It was later acquired by Adobe Systems. The latter became the DTP industry's standard software.

DTP caught on the imagination of the publishers and printers alike and in a few years DTP software began to be used extensively. One of the key features about DTP was its ability to preview a page or a document layout before it went for printing. You could see the page that you have designed on the computer and then send it for printing. This feature is called **the WYSIWIG** or "What You See IS What You Get", also pronounced as "wizzy-wig".

Creating WYSIWYG page layouts on screen and then printing them at 300 **dpi** resolution was a revolutionary move for both the typesetting industry and the personal computer industry. Gradually the newspaper industry and other print publications made the shift to DTP-based programs from the previous systems like Atex. Desktop publishing as a term can be attributed to Paul Brainerd, the Aldus Corporation founder.



dpi : Dots per inch. It is a measurement of printing resolution, i.e. how a image is printed to medium such as paper.

The early DTP software was much simpler compared to what we have today. There would be frequent software crashes, inability to control letter spacing plus other typographical shortcomings. But it was a groundbreaking innovation and it received

considerable acclaim.

Although desktop publishing is still in heavy use, now-a-days, word processing services have also included several applications which were once exclusive only to DTP. You can make simple layouts of documents on MS Word itself by adding tables, clipart, pictures, charts, diagrams etc. But despite all the added features on word processing units, DTP is still very popular because it provides users with finer control over documents through desktop publishing. High-end software is fundamental to quality document design and the design industry wouldn't compromise on that. DTP software enables the production of hi-quality catalogs, brochures or business cards. Not just that it also enables high-volume printing as used in book publishing.

Owing to the great demand for high quality publishing design, DTP software has evolved over the years. Many companies have introduced many different softwares to meet the demand.

11.3.2 ADVANTAGES OF DESKTOP PUBLISHING

DTP systems have flourished since the first day they were introduced. The reasons for which may be many. Some of the major reasons for users embracing DTP are discussed below:

Cost effective: If the per-page cost is taken into account it is found that DTP is extremely inexpensive in comparison to the other available options. Publishing companies can save money on salaries and office space because with DTP they may not need to hire lay-out specialists. Even the editor or writer can do it.

Time saving: Making the page layouts on your own saves a lot of time rather than wasting time on telling the printing house what you want. When you design the page you see what you will get. And you don't have to keep running back and forth to the printer to make changes. A DTP system also helps companies to cater to their client's needs in a more relevant way. Instead of merely jotting down whatever changes the client requires one can quickly get a print

with the new changes. DTP saves a lot of time and facilitates any work.

High on quality: When documents are created on a word processor we have to rely on the printer's built-in font set or on the fonts supplied by the word processing software. Page-layout programmes, however, have a much wider range of fonts and in a variety of sizes and styles. And with DTP software programmes, we can also add graphics, boxes and lines.

Under your control: When a document is ready it looks exactly like the way you want it to and not like the way the lay-out artist wants. From the font size of the text, to the colour and type of headline, you are in control completely. And if the finished product is still not exactly the way you planned it to be, it can be changed without much hassle.

Personal satisfaction: Doing your document or page on your own gives immense creative satisfaction. Once you see your idea, your creative input taking the shape of a document and in the way that you wanted it to be, it is a very heartening experience. The user friendly techniques of DTP software give one the pleasure of doing one's thing and creating a document on one's own.

A comprehensive idea of the final product: Here the person practicing the DTP system can get a very comprehensive and almost final-looking image of what is going to be printed out of his or her efforts. This allows a person to play with various changes whenever and wherever required.

A boon for the common man: We all know that earlier, preparing or composing the words and lines for writing a pamphlet or pages of a book, magazine, newspaper etc. used to be quite a clumsy affair with the 'composers' (human beings) requiring to compose each and every word manually from 'lead' impressions kept in trays. Now, because of the DTP system nothing like that is required and the person himself or herself can do everything by themselves. It is only that the person requires some amount of knowledge of the

relevant software.

Variety of designs: The advent of the DTP system has also brought in the possibility of experimenting with an almost 'unlimited' number of designs of various types to print a magazine or a book or a newspaper etc. This was not possible in case of the old system of printing composing as mentioned above.



CHECK YOUR PROGRESS

Q.1: What is desktop publishing?

Q.2: What is the meaning of WYSIWYG?

Q.3: In the 21st century the meaning of DTP expanded to include _____ and other forms of visual communication.

Q.4: _____ was the first desktop publishing software to be designed for Apple's Macintosh computers.

Q.5: PageMaker was introduced by _____ and later acquired by Adobe Systems.

Q.6: Desktop publishing as a term can be attributed to _____.

11.4 PRIMARY DESKTOP PUBLISHING SOFTWARE PROGRAMS

As mentioned earlier, there are several companies that produce DTP software. The major ones are Adobe, Quark, Corel and Serif. Apart from them, Microsoft, Nova Development and several others are also producing consumer and business desktop publishing software for many years. Adobe has also produced many software packages for designers

like Photoshop, Acrobat etc. These, however are not page-making software. They are graphics and web design software. The most basic page layout software applications for desktop publishing are:

- **Adobe FrameMaker**: Adobe FrameMaker is popular for large documents. Although it has evolved slowly in recent years, it maintains a strong following among professional technical writers.
- **Adobe PageMaker**: It was one of the first desktop publishing software to be introduced in the market in 1985 by Aldus. Its popularity spread far and wide and even now most media organisations use PageMaker. Major newspapers and magazine houses in Assam use PageMaker. Adobe announced in 2004 that the development of PageMaker has ceased but that they would still sell and support it. Adobe's InDesign software was presented as its successor.
- **Adobe InDesign**: It can be used to create anything from posters, flyers, and brochures to full magazines or books. InDesign was launched as a competitor to Quark Express because Quark had taken over the market from PageMaker by 1998. It launched InDesign 1.0 in 1999. And it is presently the most popular software used in major international publishing houses.
- **Quark XPress**: This is one of the two DTP software applications (the other being Adobe InDesign) which dominates the market space now. First released in 1987, it now allows publishing in English and 36 other languages. Most national newspapers in India use the Quark technology.
- **Corel Ventura**: Ventura was launched in 1986 as the first DTP package for IBM PC compatible computers running DOS. It was later acquired by Corel in 1993 and was repackaged as Corel Ventura 4.2.
- **Microsoft Office Publisher**: It is an entry-level desktop publishing application from Microsoft. It differs from Microsoft Word because in the former the emphasis is on page layout and design rather than text composition and proofing.
- **Serif PagePlus**: PagePlus was first introduced in 1991 by Serif. It is the first commercial DTP package for Windows. Their latest product

is PagePlus X3, which supports Windows Vista.



CHECK YOUR PROGRESS

Q.7: Name some of the major desktop publishing software programs available in the market.

11.5 ADOBE PAGEMAKER

Adobe PageMaker is one of the first desktop publishing programs to have been introduced into the industry. And even now this software is one of the most popular ones to be used, despite the fact that Adobe has stopped producing the software anymore.

Introduced in 1985 by Aldus Corporation it was initially meant for the then-new Apple Macintosh. But it was later compatible with other platforms as well which ran on the then-new Microsoft Windows. It helped popularize both the Macintosh platform and the Windows environment. In 1986, PageMaker was awarded an SPA Excellence in Software Award for Best New Use of a Computer.



Mac OS 9 and **Mac OS X** are Operating Systems developed, marketed, and sold by Apple Inc. MAC OS X is the successor to Mac OS 9 and since 2002 it has been included with all new Macintosh computer systems.

The last version of PageMaker, PageMaker 7.0 was released in July, 2001 and in 2004, Adobe announced that they wouldn't be developing the software any further. The PageMaker 7.0 Macintosh version only runs on the **Mac OS 9** but not on **Mac OS X**. The Windows version of PageMaker works on Windows XP but does not install on Windows Vista.

11.5.1 PAGEMAKER BASICS

Adobe PageMaker may appear to be a bit difficult for the first-timers. But the more one keeps trying out the different properties of the software, the easier it becomes. Adobe PageMaker may not be the market leader in DTP software in the world right now. But as media students, you need to understand the fundamental rules of

the most basic page-making software in the market. If you know PageMaker, you will be able to move on to Quark Express as well as Adobe InDesign.

So, here's a look at the basics of the PageMaker software:

- Launch PageMaker and open a new document (File > New). On the Document Setup box, fix the page size, number of pages, margin widths etc. If you are designing for a newspaper, select the "Facing Pages" option.
- Get familiar with the Toolbox Palette, the Control Palette and the Pasteboard (Help Topics>Toolbox Palette>Display).
- Select the number of columns for your page (Layout > Column Guides) and also Lock Guides (View > Lock Guides).
- Save the document (File > Save).
- If you are designing a newsletter, you need to make a nameplate on the first page. Choose the Text tool and click on the top left corner of the page. Fix the font, the size and the alignment for the text. (Type>Type Specs) or Control palette (Window>Show Control Palette). Then type the name of the newsletter.
- Define Headline style by choosing Define Styles on the Type Menu.
- If you wish to import text from a word document, just copy the text and paste it on one of the columns on the page. Do select the Text tool and define a text block on the page while pasting any text. Do take a moment to decide a font style for your body text.
- Add the jump line (Utilities > Pagemaker Plug-ins > Add Cont'd Line). This way you can continue the text from one column to another.
- Images are extremely important for any document. So to import an image on to the page, choose "Place" from the File menu, locate the image file and click OK. Use the Pointer from the Tool Box to fix the place for the image. If you wish to rescale use the sizing handles. Remember to keep pressing the Shift key on

your keypad while you are dragging a corner handle. This way the picture will resize proportionately. You can also import images by simple copy-pasting them. Some images like Microsoft Word Clip Art can only be imported this way.

- If you wish to underline a paragraph you can draw line using the Line Tool. But if the paragraph gets realigned, the line will not move with the text.
- If you want to use the Typographer's Quote, open File > Preferences > General > More. Enable the Typographer's Quotes. But this will only work on the present page.
- If you want to rotate an image with the Rotating Tool, you need use one of the object's handles. It can be rotated from any point, within or outside the image area.
- If you wish to wrap text around an already existing text block, select the text block with the pointer tool and click Element > Group.



CHECK YOUR PROGRESS

Q.8: PageMaker was awarded an _____ Award for Best New Use of a Computer.

Q.9: The Windows version of PageMaker works on Windows XP but does not install on _____.

Q.10: How can you define headline styles in PageMaker.

Q.11: How can you import an image on to a PageMaker file?

11.6 ADOBE PHOTOSHOP

Adobe Photoshop is also known as DPP or Desktop Publishing Program as it is basically a graphics editing software. A flagship product of the Adobe Systems, it rules the market for commercial bitmap and image manipulation. Graphic professionals swear by this software as they use it for almost every small work that they have to do, be it image correction, cropping, adding colour and texture, making cutouts, blurring, enlarging etc. A 'Photo shopped' image can look totally different from what it originally looked like.

It all began in 1987 when Thomas Knoll, a PhD student at the University of Michigan, wrote a program to display grayscale images on a monochrome display. He did it on his Macintosh Plus and named the program Display. His brother, John Knoll, an Industrial Light & Magic employee, was impressed by the work and asked Thomas to turn into a complete image editing program. Thomas then collaborated with his brother to work on the program which he later renamed as ImagePro and then as Photoshop. He made a short-term deal with scanner manufacturer Barneyscan and distributed around 200 copies of this program.

During the same time, John went to Silicon Valley and presented the program to the engineers at Apple Computers Inc. and to Russell Brown, the art director at Adobe. Both companies liked the program and Adobe purchased the licence to distribute the product in September, 1988. While Thomas was in Ann Arbor writing the program code, John was in California working on the Plug-ins. Photoshop 1.0 was finally released in 1990 but for Macintosh platforms exclusively.

Photoshop is strongly connected to other Adobe software for media editing, animation and authoring. Photoshop files (PSD) can be exported back and forth from Adobe Premiere Pro, Adobe Illustrator, After Effects and Adobe Encore to provide non-linear editing and special effects services for TV, film and the web. Colour models like RGB (red, green and blue), CMYK (cyan, magenta, yellow and key or black), binary bitmap, grayscale and duotone can be utilized by Photoshop. It has the capacity to read, write



EPS, GIF, PNG, JPEG : These are all digital formats for storing images.

raster and vector image formats such as **EPS**, **GIF, PNG**, **JPEG** and Fireworks.

Adobe Photoshop is highly popular because of several reasons.

- It is user friendly and anybody with little interest and inclination towards image processing can use it.
- Photoshop provides multi-purpose using as it can be used to completely transform an image with its various tools. As mentioned earlier, images can be retouched beyond recognition.
- The graphics program of Photoshop is very comprehensive with excellent features.

However, there are also certain weaknesses of the program.

- One has to do a lot of experiments to actually get a hang of the system and to know the uses of the various tools and features.
- The loading interface for Photoshop takes a long time.
- And the most important disadvantage of this most effective software is its cost. The retail price for the software is very expensive which has led to several pirated versions being available in the black market.

11.6.1 PHOTOSHOP BASICS

Photoshop is an image editing program; as such it has various features which one can imbibe as one keeps working at it. It becomes easy once it has been practiced a lot. Also, if one wishes to edit or manipulate a picture one should at least know what he or she wants to do with that image. What kind of an effect is needed for the image? Once that is fixed you can go about using the different tools for it. But for starters, the following basic rules should take you through the Photoshop software.

HOW TO START

- Photoshop opens with a Welcome screen that includes links to Tutorials, Tips and Tricks, Color Management Setup and What's New. Sometimes this screen might not appear if it was already deactivated in the settings.
- To make a new Photoshop document select File > New. New

Dialogue Box will appear.

- On the dialogue Box, put a name in the space for a Name. The Dialogue Box will also ask for specifications as to the image size. There are several preset sizes on the Box—letter, legal, tabloid, plus standard web graphic sizes (640 x 480, 800 x 600, 1024 x 768, and 468 x 60).
- If a preset size is selected then the resolution, height and width will be automatically set. You may not select the preset sizes and put in your own measurements (inches, pixels etc.) for the image.
- Many computer monitors are limited to a fixed image resolution of 72 ppi (pixels/inch). So set your resolution as that.
- There is also the color mode with options like RGB, CMYK and Lab modes. Set it to RGB.
- Then there is the Background Contents Section which provides 3 options: White creates a white background for the image, Background Color allows any colour to be selected for the background and Transparent creates a transparent layer behind the image.

DIFFERENT PALETTES

- **Tools Palette**: It is also known as the Toolbox as it presents the various tools Photoshop provides.
- **Options Palette**: This one displays the available settings for the selected tool. This palette will change according to the tool that has been selected.
- **Navigator palette**: Use this to navigate within an image or to adjust the zoom level. Until you alter the zoom level a red View Box Marquee will appear around the image.
- **Color Palette**: It is used to select the colour for the foreground and the background. You can mix and match the colours to get the desired colour.
- **History Palette**: This palette keeps a track of all the steps that are taken in a particular Photoshop session. It lists all the steps

taken, right from opening a new document. If you click on any of the steps taken it will restore the image to that stage in the editing process.

- **Layers Palette**: It helps identify the various layers linked to the current image. The Layers palette is a very important part of the Photoshop program. The layers are like overhead transparencies that are stacked one on top of the other. Each layer contains one visual information, it may be an image or some text or some graphic. When you edit an image you use several different effects and graphics to do it. Each of these effects and graphics would make one layer. Each layer can be worked on individually and that adds to the final image.

  All these palettes will open once you click the Window menu and select the Palette you wish to open.



Photoshop Toolbox

PHOTOSHOP TOOLBOX

When you open the Photoshop program, the Toolbox menu opens by default on the left of the window. The Toolbox has several sections. These are:

- Selection Tools
- Painting Tools
- Path, Text, and Shape Tools
- View Tools



CHECK YOUR PROGRESS

Q.12:. What do you mean by the term 'Photoshopped?

Q.13: What is the biggest disadvantage of Adobe Photoshop?

Q.14: Fill in the blanks:

a. Thomas Knoll's initial attempt at creating an image editing software was named _____.

b. CMYK stands for _____.

c. _____ Palette keeps track of all the steps taken in one Photoshop session.

d. Set your image resolution to _____.

e. The layers are like overhead _____.



ACTIVITY-A

1. Take any image (your own picture or a landscape) and edit the image on Adobe Photoshop to create a postcard.
2. Make a one page leaflet on how to promote Assam tourism. Use pictures about tourism in Assam, use catchy slogans and some text. Make the leaflet on Photoshop.



11.7 LET US SUM UP

- Desktop Publishing (DTP) is a system which allows one to make documents and page layouts on a computer. These lay-outs can then be printed.
- Desktop Publishing involves a computer and a software program which enables one to design a page or a document on the computer. This designed page can be then printed on a regular personal home printer or on a professional printing machine.
- Nowadays, most printing is done on the basis of DTP. Major newspapers, publishing houses, books, magazines, brochures, leaflets etc are all designed using DTP software programs.
- Desktop Publishing's major advantage is the WYSIWYG concept, i.e., the concept of "What You See Is What You Get" or "wizzy-wig". This implies that whatever document or page you see on the computer

is what you get in hand. The design is made on a computer and you get exactly the same print-out.

- The first DTP software, Mac Publisher, was introduced in 1984 and it was designed for Apple's Macintosh computers. Then came Apple's LaserWriter and then PageMaker. The latter is a milestone in this industry. Introduced by Aldus Corporation and later bought over by Adobe Systems, PageMaker is the mother of all DTP programs.
- DTP software was readily accepted by the industry because it had various advantages. Most importantly, it was cost effective.
- DTP software programs saved a lot of time for all those who were using it. One could design the page or document the way one wanted it without running to the printer with corrections every other day.
- The pages designed on DTP software were notches up in quality as compared to designing pages on word processors. DTP software programs offered a lot many features to improve the design quality.
- DTP allowed one to be in complete control of a document. One would get a document or page the way he or she would want it to be. And this would bring in a lot of personal satisfaction.
- Several DTP software programs have been launched in the recent years. Some of them are Adobe FrameMaker, Adobe PageMaker, Adobe InDesign, Quark XPress, Corel Ventura, Microsoft Office Publisher and Serif PagePlus.
- Adobe PageMaker is one of the first DTP software's to have been launched and it is also the most popular one all over the world.
- It was introduced in 1985 by Aldus Corporation and then bought over by Adobe Systems. In 2004, Adobe announced that they wouldn't produce the software anymore but would support and sell it.
- Adobe Photoshop is the most popular graphics editing software and it is the flagship product of Adobe Systems.
- Thomas Knoll and his brother John Knoll developed this program and Adobe bought the licence to distribute it. Photoshop 1.0 released in 1990.

- Photoshop is the most effective image editor because it is user friendly, provides multi-purpose using and the features are very comprehensive.
- The most important feature of the Photoshop program are the palettes which include the Options Palette, Navigator Palette, Color Palette, History Palette and the Layers Palette. The Tool Box is also an important device to do all your designing on Photoshop.



11.8 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Desktop publishing refers to a system of creating printable documents on computer. It involves DTP software which helps create a document or a page with text, graphics and images on a computer. This document can be then printed in a personal home printer or by major printers. DTP software was first introduced in 1984 and since then several other programs have been launched. Nowadays, almost every kind of publishing is based on DTP.

Ans. to Q.No.2: WYSIWYG refers to "What You See Is What You Get" and it's also called "wizzy-wig". WYSIWYG is a major attribute of DTP software programs as they facilitate the system of seeing the document on computer before it goes for printing. And what you see on the computer screen is what you get once it's printed.

Ans. to Q.No.3: Web Design software

Ans. to Q.No.4: Mac Publisher

Ans. to Q.No.5: Aldus Corporation

Ans. to Q.No.6: Paul Brainerd

Ans. to Q.No.7: Some of the major desktop publishing software programs are Adobe PageMaker, Quark Express, Adobe InDesign, Corel Ventura, Serif PagePlus, Microsoft Office Publisher etc. The first three programs are the most popular ones. PageMaker, is now not produced anymore and most international publication house have moved over to Adobe's successor to PageMaker, i.e., Adobe InDesign. Quark Express was the one software which dethroned the PageMaker and

compelled Adobe to come up with an even better program, which indeed they did with InDesign. Most national newspapers of India use Quark Express and newspapers and other publishing houses in Assam still rely on PageMaker.

Ans. to Q.No.8: SPA Excellence in Software

Ans. to Q.No.9: Windows Vista

Ans. to Q.No.10: In PageMaker we can define Headline style by choosing Define Styles on the Type Menu.

Ans. to Q.No.11: To import an image on to a PageMaker file, go to the "File" menu and click "Place". Then locate the image file and click "OK". Take the Pointer from the Tool Box and use it to fix the position of the image on the page. Images can also be imported by simply "copy pasting" them. In fact most MS Word Clip Art images can only be "copy pasted".

Ans. to Q.No.12: 'Photoshopped' is a colloquial jargon used to describe an image which has been edited or manipulated through the Photoshop software. Although pictures may be edited and changed by various other programs like Paint, Corel Photopaint etc, since Photoshop is the most popular of the lot, the term is used extensively. Adobe Systems, the makers of Photoshop, however, have always discouraged the use of the word 'Photoshop' in terms of a verb because it may undermine the company's trademark.

Ans. to Q.No.13: The biggest disadvantage of Adobe Photoshop is the fact that the retail cost of software is very exorbitant. This has led to many pirated versions being available in the market.

Ans. to Q.No.14:

a. Display

b. Cyan, magenta, yellow and key or black.

c. History

d. 72 ppi

e. transparencies.



11.9 FURTHER READING

- **The Desktop Publisher's Idea Book** — *Chuck Green (Bantam Books)*
- **The Photoshop Cs / Cs2 Wow! Book** — *Linnea Dayton, Cristen Gillespie (Peachpit Press) 2006*.



11.10 POSSIBLE QUESTIONS

Q.1: Explain the emergence of the desktop publishing boom.

Q.2: Explain the present desktop publishing scenario with special emphasis on the various DTP software programs available in the market.

Q.3: Despite Adobe's declaration in 1994 that the PageMaker program wouldn't be produced anymore, this software is still very common among consumers. Discuss.

Q.4: Discuss the benefits of Adobe Photoshop.

Q.5: What is the significance of the DTP system?

*****

UNIT-12: PRINTING TECHNOLOGY AND TYPOGRAPHY

UNIT STRUCTURE

12.1 Learning Objectives

12.2 Introduction

12.3 Printing technology

- 12.3.1 History of printing
- 12.3.2 Types of printing technology

12.4 Offset Printing

- 12.4.1 Advantages and disadvantages of offset printing
- 12.4.2 Types of Offset presses

12.5 CTP (Computer to Plate)

12.6 Typography

- 12.6.1 Page Layout
- 12.6.2 Tips for good typography
- 12.6.3 Fonts and font families

12.7 Let us sum up

12.8 Answers to check your progress

12.9 Further reading

12.10 Possible questions

12.1 LEARNING OBJECTIVES

After going through this unit you will be able to:

- define printing technology
- discuss the history of printing
- explain the different types of printing technology
- discuss CTP technology
- explain what typography means
- enlist the ways to achieve good typography
- explain the various font families

12.2 INTRODUCTION

In the previous unit we have discussed desktop publishing and how different computer programs can assist us in creating pages and documents for printing. As media students it is important for you to know about every stage of the modern communication process. That includes having the technical knowledge about printing as well. Because in every media field be it print journalism, advertising or PR, you will have to come across computers and computer related designing as well as printing know-how. You have to be accustomed to the various technologies that facilitate communication.

This unit will give you an understanding of what printing means and what are the various types of printing technologies available in the industry. You will also learn about Offset printing, which is the most favoured technology and about CTP. The unit will also focus on typography and what makes a good typography. Font families and page layout are the other aspects that you will come across in this unit.

To start with, you need to have a brief understanding of printing because even though we all know what printing generally means we tend to ignore its importance in today's world. The next section will take you through the world of printing.

12.3 PRINTING TECHNOLOGY

The process of reproducing text and images using ink on paper on a printing press is called printing. Printing is basically a large scale industrial process and it is a significant part of the publishing industry. Before printing technologies came about, the only way people could copy words and pictures was by hand. But after printing machines were invented the job of copying text and images have become much easier and less time consuming.

The printing press uses ink to put words and images on paper. This ink is very much like the ink we see in our pens. But press ink comes in hundreds of colours. Before you start to print, you need the content, i.e.,

text and images. The text can be anything, facts, stories, reports etc. while the images may be photographs, drawings or graphics. The content is then put on a thin sheet of metal known as the printing plate which then goes to the press. Most new press now gets their content straight from the computer. They are called the digital press.

Once the content is put on the plate, the press is fed with paper and the printing plate then puts ink on this paper to copy the content. The paper then comes out with the inked / printed content. Once the paper comes out it is sent for cutting. The cutter is actually a big blade which can cut many sheets of paper at one go and make them into proper sizes. After the pages are cut, they are then folded properly as per requirements. The folders fold the pages into books or magazines or newspaper sheets. Your printed material is now ready for use.

12.3.1 HISTORY OF PRINTING

Printing goes back a long way as instances of wood block printing date back to before 220 AD in China. Woodblock printing is the process of printing content on textiles with blocks of wood which were carved out into shapes of letters and images. They were then inked and pressed on to a sheet of cloth or latex. It originated in China and was used all across East Asia. By 593 AD the first printing press was invented in China and Kaiyuan Za Bao became the first newspaper to be printed from China in 713 AD. The Tianemmen scrolls were also printed in China in 868 AD.

Woodblock printing on cloth was also seen in Egypt during the 4th century but it is not known whether the Egyptians learnt this style form the Chinese or developed it on their own. Evidences suggest that some of these blocks were also made of metals like tin, lead and cast iron.

Then came moveable type printing which involved moving pieces of metal type for printing. This type of printing allowed more flexibility than hand copying or block printing. Even in this regard the Chinese were ahead of the whole world as the first known movable

type system was created in China by Bi Sheng in 1040. But he used porcelain to create the types which would break easily. So Wang Zhen later modified this by using wood for the moveable types. This was in 1298 AD.

However, the biggest name in the history of printing technology is undoubtedly Johannes Gutenberg. He was the one to introduce moveable type in Europe in1450. He created type pieces from alloy of lead, tin and antimony, the components which are still used today. One of the first books he printed was the Bible.

Gutenberg's movable type printing was quicker than wood block printing and the metal pieces were more durable and the lettering more uniform. Even the printing cost was less compared to the previous methods. Present day moveable type printing is mostly based on Gutenberg's invention.

Apart from Gutenberg's moveable type, there were some other types of printing which evolved over the years. One such technique was the Rotary printing press invented by Richard March Hoe in 1847. This technique uses a cylinder which has impressions cast around it to print on long continuous rolls of paper.

There are several other printing technologies which have come up in the recent decades. The next section will tell you a bit more about the different types of printing.

12.3.2 TYPES OF PRINTING

Commercial printing industry is a booming business and there have been several advancements in the last two decades. Many types of printing machines have been invented and introduced into the market. Some printing techniques are very popular like Offset Printing while Letterpress printing is the oldest of the lot. Following is a list of the most popular printing techniques:

- **Digital Printing**: This does not involve any plate or film to produce images. It makes use of digital imaging technology through computers to provide high quality printing. It eliminates

the cost of making plates, film etc. Digital printing can be used to reproduce digital images and text on paper, film, cloth plastic etc.

- **Embossed Printing**: This is also called Blind or Relief Printing. This technique transfers text or images as a relief onto various surfaces like paper, metal foils and cardboard. The embossing is done behind the surface while the actual image is seen as relief on the front. The image stands out giving it a three dimensional effect.
- **Flexography Printing**: This technique is mainly used to print packaging materials. It can be used to print on materials like boxes, folding cartons, plastic bags, paper sacks etc. It employs flexible printing plates made of rubber or plastic.
- **Letterpress Printing**: In use since the 13th century this is the oldest technique to be still in use. In this process pages are printed by the "relief" types printing plates where the printing area is raised above the non-printing areas. Inked rollers then pass the page to be printed onto a separate ink-bed where a fresh film is picked for the following sheet of paper.
- **Screen Printing**: This technique is special because it uses a porous fabric and a stencil to create a sharp-edged image. This technique developed in early 19th century and was used extensively to make banners and flags during the First World War.
- **Electrostatic Printing**: It is a type of printing technique which is done without any plate, ink or type form. A thin layer of zinc oxide is used to coat the paper, which then becomes an insulator in the dark and also a conductor of electricity when exposed to light. Electrostatic printers are mostly used to print geographical maps.
- **Engraving Printing**: In comparison to the other techniques, this technique produces the sharpest, crispest and finest images. The method is a type of gravure printing which involves

pushing the paper against a recessed plate. The paper is slightly moistened and the cylinder pressure forces the ink from the recessed area to the paper.

- **Gravure Printing**: It is mainly used for high volume printing of wallpaper, packaging and gift-wraps.
- **Offset Printing**: One of the most common printing techniques, Offset printing is used by many industries. Although the machines and the set-up is expensive the printing expense is nominal. We will discuss offset printing in detail in the next unit.
- **Thermography Printing**: This process relies on heat to print letters or create images on a sheet of paper. Special thermography paper is spread over the paper after it is removed from an offset printing press. This powder is then dusted off the paper leaving only the part with the inked image. This sheet is then passed through a heat tunnel which melts the powder and a raised impression is left behind. It is used mainly on envelopes and business cards.



CHECK YOUR PROGRESS-A

Q.1: What do you understand by the term 'printing'?

Q.2: What is Woodblock printing?

Q.3: Why did Johannes Gutenberg's moveable type printing become so popular?

Q.4: What are the different types of printing?

Q.5: The first printing press was invented in _____.

Q.6: The first known movable type system was created in China by _____ in 1040.

Q.7: Present day moveable type printing is mostly based on _____ invention.

Q.8: The _____ was invented by Richard March Hoe in 1847.

12.4 OFFSET PRINTING

Offset printing is the most popular form of printing in the present scenario. It was invented by an American - Ira Washington Rubel in 1903. It is used in most big industries and press. Major newspapers use offset printing and as such it is necessary for media student to know in detail about this type of printing.

In this process ink is spread on a metal plate with etched images. This metal plate is then transferred onto an intermediate surface, mostly a rubber blanket. The plate is then applied to paper by pressing it against the intermediate surface. Due to its high quality printing and capacity to print high volumes, offset printing is the most common form of printing. The machine and the set-up may be a bit expensive but the cost of printing is very less. The major expense goes into the preparation before the actual printing takes place. The more one prints, the less one pays per page because every additional paper print will only require the cost of paper and ink which is very minimal.

Even though modern digital presses are competing with offset printing in terms of cost/benefit but digital press cannot get closer to offset in terms of the sheer volume of product that the latter can produce. And now-a-days, most offset presses are using CTP (Computer to Plate) systems as

opposed to older computer to film. This further increases the quality.

12.4.1 ADVANTAGES AND DISADVANTAGES OF OFFSET PRINTING

ADVANTAGES

The fact that this process of printing is the most common in today's industry is due to its several plus points. It scores over the other techniques in several ways. Some of these major advantages are discussed below:

- Superior image quality at a consistent rate. Offset printing produces high quality prints much more easily than letterpress printing. This is because of the rubber blanket which conforms to the texture of the printing surface.
- The production of printing plates is quicker and easier.
- The plates have a longer life in comparison to those in litho presses because in offset, the plates are not in direct contact with the printing surface.
- Offset printing is the cheapest way to produce volumes of high-quality prints.
- Other than paper, this technique can be used on other surfaces as well, including wood, cloth, metal, leather etc.

DISADVANTAGES

Offset printing has several benefits no doubt, but it has a few disadvantages as well. Some of these are discussed below:

- In comparison to photogravure printing, the image quality is slightly inferior.
- The set-up and cost of offset press is very high. And it also takes a good amount of time to be set up.
- It is good mainly for high volume work. Smaller printing jobs are not feasible or cost-effective here. As a result smaller printing jobs are going to digital presses.

Despite the few anomalies of offset printing, the advantages are enough to make it the most popular printing mechanism.

12.4.2 TYPES OF OFFSET PRESSES

Offset presses are primarily of two types:

1. Sheet-fed Offset Printing Press: Here the printing is carried out on single sheets of paper as they are fed to the press one at a time. It is used to print brochures, letterheads, short-run magazines and other commercial printing. This doesn't require continuous reams of paper.
2. Web-fed Offset Printing Press: In this process, the printing is carried out on a single, continuous sheet of paper which is fed from a large roll. The sheet is then cut into individual sheets of desired sizes. Web printing is mostly used for excess of 10 or 20 thousand impressions. Printing of newspapers, newspaper ads, magazines, books etc involve web-fed offset printing.



CHECK YOUR PROGRESS

Q.9: Who invented the offset press?

Q.10: Why is offset printing highly preferred?

Q.11: What is the full form of CTP?

Q.12: What are the types of Offset press?



ACTIVITY-A

1. Visit a printing press near your place and make a report on how the printing process is carried out.
2. Visit a newspaper press and find out how newspapers are printed.

12.5 CTP (COMPUTER TO PLATE)

CTP or Computer to Plate is an imaging technology used in most modern printing processes. Through this process, an image that has been created on a computer with desktop publishing (DTP) can be directly sent to the printing plate. CTP has been developed as a replacement for the earlier technique of CTF or Computer to Film.

Before CTP was developed, most printing was done through CTF, where the computer created image was transferred to a photographic film first. This film was then used to make a printing plate. So CTF is a much longer process than CTP because in CTP one step is completely skipped.

CTP eliminates the stage where the image is developed on film and this increases the image sharpness and details. The omission of this step also removes the need for film and the other chemicals necessary to develop the film. CTP ensures better quality printing because the potential loss of quality during the film processing is avoided. In CTF the photographic film may be exposed to harsh light or it may get scratches. In CTP the plates are produced in less time, are more consistent and they come at a lower cost. CTP also ensures better registration of images even if they are repeated over and over.

CTP's benefits are aplenty but there are certain drawbacks too. The most significant drawback is its restriction to the digital format. CTP production requires the printed matter as well as the imposition to be digital. Besides this, another major drawback is that in CTP, if a plate gets damaged or if something has to be corrected after the plate is exposed, a completely new imposed plate has to be created.

CTP, however, is still the most common form of imaging technology used in the present times. The drawbacks are very little in comparison to its positives. Since most industries now use computers for work, CTP is a much easier option. Besides, it is less time consuming and cheap as well.

Now that you have come across all the major techniques and processes involved in printing, you also need to have an understanding of the building blocks of printing—the elements which form the basis of any document, i.e the **typography**. The next section will take you through the world of typography and how significant it is.



CHECK YOUR PROGRESS

Q.13: What is CTP?

Q.14: What are the advantages of CTP?

Q.15: What is CTF?

Q.16: CTP has been developed as a replacement for the earlier technique of called _____.

12.6 TYPOGRAPHY

The simplest meaning of typography is that it is the art of print. It combines communicative and artistic elements to create a print which is both easy to read as well as pleasing to the eye. Typography is made up of fonts, lettering and print types. A small font or a fuzzy font will be hard to

read and will make the message difficult to comprehend. It is a mark of good typography if the print is legible and easy to read. The choice of typography depends on the material to be printed. So, if it is for a newspaper then the typography will be simple and straightforward but if it is a wedding card, the print has to be ornate and elegant to suit the happy occasion.

The arrangement of type includes the choice of typefaces, point size, line length, line spacing or leading, tracking or adjusting the spaces between groups of letters and kerning or adjusting the space between pairs of letters. Typography is done by typographers, graphic designers, art directors, typesetters, compositors, comic book artists etc. Before the advent of computers, it was a specialised occupation. But now with the spread of digitization, typography is open to a new generation of visual designers and layman users.

12.6.1 PAGE LAYOUT

In the previous unit and even in this unit we have mentioned the term 'page layout' a number of times. But what exactly does it mean? Simply put, page layout is the process of arranging text and graphics on a page. This can be for a newspaper, a brochure or for a book. Every printed material needs to have a proper layout with some text and some images that are designed using good typographies.

You have read about desktop publishing software programs in the previous unit. The primary desktop publishing software are also known as page layout applications because they help create a page using the available tools. Before DTP was developed, page layout was done by pasting blocks of text and picture cutouts on sheets of paper.

But now with the spread of desktop publishing, page layouts are not such a messy ordeal. You might only have to know a few tricks of the trade. In DTP page layout, grids and templates are of extreme importance. Grids allow the user to align the material on the page. They are basically columns and rows which help place

the text and images in an appropriate manner. Grids are visible only during the designing process. Templates make minimal modification of background elements and frequent adjustment of foreground content.

Now good typography goes a long way in making a page layout look pleasing to the eye. The elements of typography become evident only through a page design or layout. So what exactly is a good typography? The next section will give you some answers.

12.6.2 TIPS FOR GOOD TYPOGRAPHY

Typography is an intrinsic part of page design and design is an intrinsic part of typography. One cannot merely throw a body of text on a page. It has to be placed in a neat and organised manner so that it adds to the importance of the information on the page. If a typed message has to make the maximum impact, the typography of the page matters a lot. So designers need to know how to create a good typography. Some of the tips that can make up a good typography are discussed below:

- **Grid-Based Layouts**: Grids are the basic structure of all printing design. They are simply a structure of columns and rows. Use grids as you set out to design a page. Do this even before you get to the type. A well-structured layout will use one or two columns. You can be original by using three or maybe four or five column layout. But do remember that the columns must fit into the page and every time you add a new column the other columns will shrink in size.
- **Alignment**: Maintaining correct alignment of text and images works wonders for a layout. A standard print layout is normally left aligned. For the headline central alignment is often considered ideal but centered headers can often throw off the layout. Sticking to left alignment with bold text is a safer option. A page with complete right aligned text is a bit jarring to the eye. Right alignment can be used for footnotes or captions. While

maintaining the alignment you should be careful about making everything line up at the same spot. This is where the grids come handy. Make sure that every text object should be at the same exact distance from the left or the right, depending on the alignment.

- **Margins, Kerning, Leading and Spacing**: Appropriate spacing and perfect line margins are an important aspect of printing and typography. Even a tiny little space can spruce up or mar the design. The content is important so make sure that you space it out well so that the content is given focus. The space between the individual alphabets, which is called kerning, and the space between the baselines of text, called leading are essential to typography. The leading and kerning have to be balanced. Too much leading can leave a lot of white space and less leading can make the words unintelligible.
- **Colour contrasts:** The text colours and their degree of contrast are also important facets to be looked into. If the colour contrasts are not perfect, the readability will be affected. It's challenging to find the right balance of contrast for the body text because it needs to be strong enough to be visible and yet not that strong that it becomes distracting. For headlines, it is advisable to use strong contrasts to make them prominent.
- **Consistent style:** If you are making a multiple page layout, be consistent with the fonts, colours and point sizes. You can try to change the look of every page but stick to the basic feel of the layout. You can try out different number of columns or rows and even alter their sizes but try to have uniformity in all the pages.
- **Graphics and text go hand-in hand:** A page layout is not just about the text. Graphics and images are also essential to give it a balanced look. The type or text must be in perfect harmony with the images. Lay the text in such a manner that it flows with the graphic elements. Maintain appropriate spacing between the text and the images by having margins.

- **Maintaining hierarchy:** Hierarchy in typography means the difference between headlines and body text. In other words, the headers and the body text need to be of different point sizes. This is necessary because it enables the reader to distinguish between the two. Headings are generally placed on top but you can experiment and place it in the middle or anywhere else. The size and variation of heading style will make it distinct from the remaining text even if it comes in between the body text.
- **White Space**: It is always better to stick to a minimalist typographic style and white space helps you achieve that. Proper white spacing adds a professional, clean look to any page layout. But you need to know how much is too much.

12.6.3 FONT AND FONT FAMILIES

A major element of typography is font. Fonts are basically the various typefaces that are available for printing. It is a collection of characters like alphabets, numerals, symbols and punctuation marks. And then there are various types of this collection of characters. Selecting a particular font type goes a long way in determining the look of any page layout.

All font types have some similar characteristics. Some of these basic font properties are:

- Name: Every font has a distinct name. Eg: Times New Roman, Courier, Arial etc. The font used on this page is Arial.
- Size: The size is determined by the height of the characters which is expressed in points. Each point is 1/ 72 of an inch. The text size in this page is 11 points.
- Style: The style of a basic font is referred to as Roman. The other styles are bold and italic.

When a group of fonts exhibit similar characteristics they are said to belong to a font family. It is a group of fonts that can be used in combination and that which exhibit similarities in design. These families may be grouped in different categories. Some with or without

serifs, some that look like fantasy fonts, some that resemble handwriting while some others whose characters are or are not proportionately spaced out. In the same family, one member may be italic, one bold, and another condensed or using small caps. Some font family names are Helvetica, New Century Schoolbook. There are basically two types of font family names:

- Family-name: The name of a font-family of choice, like “Times”, “Courier”, “Arial”, “Helvetica”, etc.
- Generic-family: The name of a generic-family, like serif (Times), sans-serif (Helvetica), cursive (Zapf-Chancery), fantasy (Western) and monospace (Courier).



CHECK YOUR PROGRESS

Q.17: Why is typography important?

Q.18: What is a font family?

Q.19: Fill in the blanks:

1. The simple structure of columns and rows are called _____.
2. The space between two individual letters is known as _____.
3. Fonts are a _____ of characters.
4. Headers and body text help establish the _____ in typography.
5. DTP software programs are also known as _____ applications.



12.7 LET US SUM UP

- The process of reproducing text and images using ink on paper in a printing press is called printing.
- For a page or document to be printed it must have content. Content can be only text or only images or both.
- Once the content is put on the plate, the press is fed with paper and the printing plate then puts ink on this paper to copy the content. The paper then comes out with the inked / printed content.
- The Chinese were the first ones to introduce printing as instances of wood block printing date back to before 220. They used to print on textiles or latex earlier with the help of blocks of wood which were carved out in the shape of letters or images. These blocks were then inked and placed on the sheet of cloth or latex.
- Even the Egyptians used wood blocks to print as far back as the 4th century.
- After woodblock printing, came moveable type printing. Even this was invented by a Chinese, Bi Sheng, in 1040. Sheng would use porcelain to make the type pieces for printing and these would break easily. So another Chinese, Wang Zhen later modified this by using wood for the moveable types in 1298 AD
- It was Johannes Gutenberg, a German, who revolutionised printing by introducing moveable type in Europe in1450. He created type pieces from alloy of lead, tin and antimony, the components which are still used today.
- Gutenberg's movable type printing was quicker than wood block printing and the metal pieces were more durable and the lettering more uniform. Even the printing cost was less compared to the previous methods.
- Now-a-days, there are several printing technologies available in the market. Some are used extensively while some are used by specific industries. The major printing technologies are: Digital Printing,

Embossing Printing, Flexography Printing, Letterpress Printing, Screen Printing, Electrostatic Printing, Engraving Printing, Gravure Printing, Offset Printing, Thermography Printing.

- Offset printing is the most popular of the lot because it is cheap, it saves time and it produces high quality prints in volumes.
- Newspaper presses are mostly based on offset printing.
- In offset printing process, ink is spread on a metal plate with etched images. This metal plate is then transferred onto an intermediate surface, mostly a rubber blanket. The plate is then applied to paper by pressing it against the intermediate surface.
- The machine and the set-up for offset printing may be a bit expensive but the cost of printing is very less.
- Offset presses are two types: Sheet-fed offset and web-feed offset.
- In sheet-fed process the printing is carried out on single sheets of paper as they are fed to the press one at a time.
- In Web-fed process, the printing is carried out on a single, continuous sheet of paper which is fed from a large roll.
- CTP or Computer to Plate is an imaging technology that enables an image created on a computer with desktop publishing (DTP) to be directly sent to the printing plate. CTP has been developed as a replacement for the earlier technique of CTF or Computer to Film.
- In CTF the computer created image is transferred to a photographic film first. This film is then used to make a printing plate. So CTF is a much longer process than CTP.
- Typography is the art of print which combines communicative and artistic elements to create a print which is both easy to read as well as pleasing to the eye. Typography is made up of fonts, lettering and print types.
- A good typography will include the choice of typefaces, point size, line length, line spacing or leading, tracking or adjusting the spaces between groups of letters and kerning or adjusting the space between pairs of letters.

- A good typography is possible only when one follows some basic tips. Try to make grid based layouts. Grids are basically the structure of rows and columns. Use grids as you set out to design a page. Do this even before you get to the type.
- Maintaining proper alignment is another important task. A standard print layout is normally left aligned. While maintaining the alignment you should be careful about making everything line up at the same spot.
- The spacing between words, between letters and in between lines is very essential. So, use margins and manage the kerning and leading spaces appropriately.
- Using colour is another choice you have to make. Ensure that the colour contrasts are pleasing to the eye. It shouldn't be too harsh; neither should be it too soft.
- If you are making the typography for a multiple page layout, maintain uniformity throughout by being consistent with the fonts, their point sizes and colours.
- Use graphics and text in harmony. They need to be balanced out to make a page look neat and readable.
- Maintain hierarchy between the headlines and the body text. The headers need to be distinctly created so that readers can identify the two even if you do not put the header on top of the text.
- Give ample white space. Too much clutter on the page is not at all pleasing to the eye. White space enables some breathing space to the content on the page.
- Fonts are a basic element of typography. They are basically a collection of characters or typefaces that are used for printing text. A particular font collection will have alphabets, numerals, symbols and punctuation marks.
- Every font will have a name, a size and a style.
- Some fonts have certain distinctive characteristics and these characteristics make them a part of a family. They are the font families. Some families may be without serif (sans serif), some with

serif, some families will look like handwriting etc.

- There are basically two types of font family names:
  - Family-name: The name of a font-family of choice, like “Times”, “Courier”, “Arial”, “Helvetica”, etc.
  - Generic-family: The name of a generic-family, like serif (Times), sans-serif (Helvetica), cursive (Zapf-Chancery), fantasy (Western) and monospace (Courier).
- Page layout is a basic part of printing. It refers to the process of placing text and images in a proper manner so as to create a page. the various desktop publishing software helps us in creating page layout with minimum fuss.
- It is while making a page layout that the various typographical elements come into play. A proper use of typographical elements will create a proper page.



12.8 FURTHER READINGS

- **Digital Colour Printing Technology** – *Bishwanth Chakravarty, (ASIAN BOOKS)*.
- **Modern Printing Technology** – *National Institute of Industrial Research*.



12.9 ANSWERS TO CHECK YOUR PROGRESS

Ans. to. Q.No.1: Printing is basically the process of reproducing text and images using ink on a sheet of paper. And the process is carried out in a printing machine. Before printing evolved the only way to copy text was by way of writing it down. This would take time and it was also very cumbersome. Printing technology, however, changed all that. Now printing machines can print reams and reams of paper within minutes.

Ans. to. Q.No.2: Woodblock printing is the earliest form of printing where

the prints were made not on paper but on textiles or cloth and latex. This type of printing dates back to China before 220 and in Egypt during the 4th century.

Ans. to. Q.No.3: Johannes Gutenberg's moveable type became popular because he created the type pieces from the alloy of tin, lead and antimony. Before Gutenberg the Chinese had invented the moveable type of printing but they had used porcelain to make the type pieces. These would break very easily. The Chinese also made type pieces out of wood but it was Gutenberg's invention of metal type pieces which made a major difference to printing technology. His components are still in use because they are durable and the lettering is more uniform.

Ans. to. Q.No.4: The different types of printing are Digital Printing, Embossing Printing, Flexography Printing, Letterpress Printing, Screen Printing Electrostatic Printing, Engraving Printing, Gravure Printing, Offset Printing, Thermography Printing.

Ans. to. Q.No.5: China

Ans. to. Q.No.6: Bi Sheng

Ans. to. Q.No.7: Gutenberg's

Ans. to. Q.No.8: Rotary printing press

Ans. to. Q.No.9: Offset printing was invented by an American Ira Washington Rubel.

Ans. to. Q.No.10: Due to its high quality printing and capacity to print high volumes, offset printing is the most preferred form of printing. The machine and the set-up may be a bit expensive but the cost of printing is very less.

Ans. to. Q.No.11: Computer to Plate.

Ans. to. Q.No.12: Offset presses are primarily of two types: Sheet-fed Offset Printing Press and Web-fed Offset Printing Press.

Ans. to. Q.No.13: Computer to Plate which is commonly known as CTP is basically an imaging technology which enables the direct transfer of pages created on a computer to a printing plate. CTP technology connects the computer to a printing plate unlike the earlier CTF

(Computer to Film) technology which necessitated the involvement of photographic film to transfer pages from computer to plate. Whatever pages are created on a computer using desktop publishing software can now be directly put on a plate and printed by the use of CTP technology.

Ans. to. Q.No.14: The advantages of CTP are that in CTP the plates are produced in less time, are more consistent and come at a lower cost. CTP also ensures better registration of images even if they are repeated over and over.

Ans. to. Q.No.15: It is an imaging technology where the computer created image is transferred to a photographic film first. This film was then used to make a printing plate. CTF was used before CTP emerged in the printing scenario.

Ans. to. Q.No.16: CTF

Ans. to. Q.No.17: Typography is important because it establishes the look of a page or document. It is the art of print which involves both artistic and communicative elements to put across the message. Typography includes the selection of fonts, point sizes, spacing between the alphabets and the lines etc. If you can select the appropriate typography for your document, half your job is done. Good typography will make the message on the document readable as well as pleasing to the eye.

Ans. to. Q.No.18: A font family refers to a group of fonts which have similar characteristics. A particular font family might be characterized by 'serifs' like the Times font family. Another font family may have fonts that look like handwriting; some families might be 'sans serif' etc.

3. a) grids b) kerning c) collection
d) hierarchy e) layout



12.10 POSSIBLE QUESTIONS

Q.1: What are the different types of printing? Discuss in detail.

Q.2: Why is offset printing the most common printing technique?

Q.3: What makes up a good typography?

Q.4: Will digital printing overshadow offset printing in the years to come? Discuss with relevant examples.

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