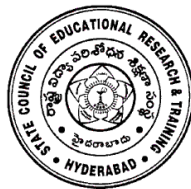


ICT TEACHER HAND BOOK

(Computer Education)

Class - VI



**State Council of Educational Research & Training,
Andhra Pradesh, Hyderabad.**



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Foreword

Information Communication Technology (ICT) is one of the rapidly changing area in domain of learning. The main purpose of introducing ICT in schools is to help the students to make use of different ICT tools in enhancing their learning. The ICT education helps the students to face the challenges of 21st century and attain the millennium developmental goals in education. ICT also helps in reducing the digital divide among the rural and urban students.

As per the UNESCO “technology can be powerful education multiplier, but we must know how to use it. It is not enough to install technology into classrooms- it must be integrated into learning. Nothing can be substitute for a good teacher. It is not technology itself that empowers people- empowerment comes from skills and knowledge”.

The teachers have become more critical than ever- the challenge is how to enable teachers not only to overcome the technology barriers but also to empower them to integrate appropriate technology into the teaching and learning process.

This handbook contains the required content in using the different tools and linking then with other subjects i.e. Mathematics, Science, Social Science and languages.

The SCERT, A.P, Hyderabad appreciates the efforts of the content experts and other team members in developing these ICT handbooks. We also acknowledge the C-DAC, Hyderabad for sharing their content related to software security in the preparation of these handbooks.

We hope, the teacher may find this handbook useful and transact it in the classroom to enhance the learning levels of the students and also infuse confidence among them as they were not left behind in using technology on par with other students who are studying in corporate schools.

Date: 24.05.2014

Director

SCERT AP Hyderabad

Class - VI

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Instructions to Teachers

The main purpose of introducing ICT in school syllabus is to help the children to understand how to make use of ICT tools in enhancing their learning.

- This material is meant for teacher only. Hence, the teacher should read, understand and add their experience while transacting the same to students.
- Prepare a year plan in advance keeping in view of the number of periods available under computer education.
- Read all the topics given in the handbook and prepare thoroughly before start teaching.
- Refer relevant material and consult the experts in case of any doubts.
- Before going to practices, the theory/ content should be explained to students then only demo and practice sessions should be taken up.
- All abbreviations must be thoroughly practised by the teacher before teaching.
- Update your knowledge in software and hardware in addition to the latest ICT tools. Use internet to update the knowledge in the given topics.
- Ensure all children get equal opportunities in practices.
- There will be two periods in a week for ICT subject, accordingly, teacher has to plan for transaction.
- Few projects are given at the end of the handbook. All students should do these projects. In addition to these, you may consult your colleagues and identify some more projects and assign to your students.

Assessment :

Children performance should be assessed at the end of each summative based on the indicators given below:

- Students are able to operate and use the ICT tools.
- Students are able to learn subject-wise content by using ICT tools.

There is no written test the children performance should be assessed through observation based on their participation and their ability in using the ICT tools in their learning.

Assessment Indicators

In addition to grading the qualitative Indicators are to be written in the students' progress report under Computer Education. The following are the indicators:

- A1** Students can use all the tools of the ICT and can use them effectively in their learning.
- A2** Students can use all the tools of the ICT and able to use them in their learning.
- B1** Students are able to use the different tools of ICT and able to use most of them in their learning.
- B2** Students are able to use the different tools of ICT and use some of them in their learning.
- C1** Students are able to use the ICT tools and able to use few of them in their learning.
- C2** Students are able to some of the ICT tools and try to use them in their learning.
- D1** Students are able to identify the ICT tools and try to use a few of them in their learning.
- D2** Students are able to identify some of the ICT tools but they are unable to use them in their learning.

Note: The computer education is linked with Work Education and made a single paper under other curricular subject areas. Hence, out of 50 marks, 25 marks each are to be allotted to Work Education and Computer Education.

Information and Communication Technology (ICT)

Introduction

The field of Information and Communication Technology (ICT) is evolving at such a pace, where concepts, technology and terminology are continuously changing. ICT helps to bridge the digital divide among the students of various socio economic and other geographical barriers. Information and Communication Technology (ICT) is universally acknowledged as an important catalyst for social transformation and national progress.

Information and communication technology which is a by-product of science and technology explosion has revolutionized the world of learning. It is very essential to integrate the IT with education in order to have the advantage of ICT education.

Around the world, policymakers and educators have high hopes for ICT in the classroom as a springboard to students “21st century skills”—that combines the competencies of problem solving, critical thinking and managing their own learning is needed for success in the global workplace.

Information and Communication Technology (ICT) has dominated in every walks of life affecting right from bus & railway reservations, hotel industry, online money transfers , bill payments, in class room teaching and learning process, distance education, e-learning and film making etc..

The learning activities through ICT make a difference. Students are much more likely to learn to solve real-world problems and collaborate productively with their peers, if their learning activities are carefully designed to offer opportunities.

The aim of 21st Century education is being redefined. It is not only for employment generation but also to create a better world through understanding and development of human qualities.

In this context, the Government of India has announced 2010 – 2020 as the decade of Innovation. For which reasoning and critical thinking skills are essential. And these skills are to be inculcated at the school level for which ICT tools and techniques should be integrated into class room instructions right from the primary

education level, so that the children develop the required skills. In this matter the web is an open source and the child should know how to grab it.

According to UNESCO education is important to achieve the Millennium Development goals; the following are reasons for which the ICT in education is a key aspect. i.e., *‘More people would grow and develop; More people would learn and know; More people would be equal and just; More children would survive and live; More mothers would be healthier; More people would be able to combat illness; More people would think of the future; More people would work together.’*

The purpose of this material is to create awareness and practice among the student and teacher communities with a “diverse set of technological tools, resources used to communicate, create, disseminate, store, and manage information.” These technologies include computers, internet, broadcasting technologies (radio and television) and telephony.

The relevant and contemporary content, lucid language, attractive illustrations and constructive exercises make the learning of computers more meaningful and enriching.

The journey of the student starts right from the ICT tools available in and around such as Radio, Tape recorder, TV, mobile and Computer. The students of primary level learn to draw by using MS & Tux Paint, learn to type small words, sentences, paragraphs, making documents by using typing tutor and MS Word. Moving away a little from these applications, the students can learn MS Excel for mathematical calculations & graphs and MS PowerPoint for making subject wise presentations. Further the students learn the concepts of Data Base Management System (DBMS), Internet, Networking and computer languages, maintaining the computers and its peripherals. The students are also introduced to learn about the Antivirus, Computer security and privacy and open source software technologies.

This material is useful in acquiring the concepts in a better way which make the student journey in learning more fruitful and engrossing. It has been developed in tune with the guidelines given by NCF-2005 and with various activity based methods. This will lay down a path to create interest to take up high level computer education courses in future and career.

The government had initiated Computer Education and Computer Aided Learning in selected Primary, Upper Primary and High Schools. A huge number of teachers in the State already had been trained to use computers in their regular class room transactions and a lot of computer aided learning material also has been developed and supplied to schools.

As part of Education Technology policy, the Education Department of Andhra Pradesh has been developing a large quantity of material in the form of Audio (Radio Programs under Vindam Nerchukundam), Audio and Video based programs (SIET and SAP Net) and Computer based programs(CDs) in collaboration with NGOs.

The Objectives of the ICT in School Education:

- To inculcate the ICT skills among the students of government schools.
- To bridge the digital divide between rural and urban students.
- To create computer awareness and literacy among students and teachers.
- To provide ICT environment in the schools to make teaching-learning process an effective and interesting
- To train the teachers on computer syllabi, emerging information and communication technologies.
- To develop confidence in students to use computers in future.
- Student-centered pedagogies that promote personalized and powerful learning for students;
- Extending learning beyond the classroom in ways most relevant to knowledge-building and problem-solving in today's world; and
- ICT integration into pedagogy in ways that support learning goals. It is important to note that ICT use is not a goal in itself, but a tool to broaden and deepen learning opportunities.

Teaching Learning Process

The ICT material has been developed from class 1 to class 10. The teacher can act as a facilitator to help the students in their learning process. In every Unit the teacher explains the concepts and students do the activities/projects with ICT tools and finely able to integrate with their subjects.

Academic standards and Assessment

Academic Standards

- The students are able to operate and use the ICT tools
- Students are able to learn subject wise contents through the ICT tools

Assessment Process

At the end of the each chapter exercises and projects have been given. On the basis of the students performance appropriate grade may be awarded in summative assessment.

Learning Objectives:

In this chapter you will be able to understand;

- Understand what is ICT.

Introduction :

This chapter will give you a complete knowledge about the usage and impact of ICT in our daily life.

ICT - What is it?

You see the letters ICT everywhere - particularly in education. But what does it mean? Read our brief introduction to this important and fast-changing subject.

ICT is an acronym that stands for **Information and Communications Technology**

However, apart from explaining an acronym, there is not a universally accepted definition of ICT? Why? Because the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis. It's difficult to keep up with the changes - they happen so fast.

Let's focus on the three words behind ICT:

- **INFORMATION**

- **COMMUNICATIONS**

- **TECHNOLOGY**

A good way to think about ICT is to consider all the uses of digital technology that already exist to help individuals, businesses and organisations use information.

ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots.

So ICT is concerned with the **storage, retrieval, manipulation, transmission or receipt** of digital data. Importantly, it is also concerned with the way these different uses can work with each other.

In business, ICT is often categorised into two broad types of product: -

- (1) **The traditional computer-based technologies** (things you can typically do on a personal computer or using computers at home or at work); and

- (2) The more recent, and fast-growing range of **digital communication technologies** (which allow people and organisations to communicate and share information digitally)

Let's take a brief look at these two categories to demonstrate the kinds of products and ideas that are covered by ICT:

Traditional Computer Based Technologies

These types of ICT include:

Application	Use
Standard Office Applications - Main Examples	
<i>Word processing</i>	E.g. Microsoft Word: Write letters, reports etc
<i>Spreadsheets</i>	E.g. Microsoft Excel; Analyse financial information; calculations; create forecasting models etc
<i>Database software</i>	E.g. Oracle, Microsoft SQL Server, Access; Managing data in many forms, from basic lists (e.g. customer contacts through to complex material (e.g. catalogue)
<i>Presentation software</i>	E.g. Microsoft PowerPoint; make presentations, either directly using a computer screen or data projector. Publish in digital format via email or over the Internet
<i>Desktop publishing</i>	E.g. Adobe Indesign, Quark Express, Microsoft Publisher; produce newsletters, magazines and other complex documents.
<i>Graphics software</i>	E.g. Adobe Photoshop and Illustrator; create and edit images such as logos, drawings or pictures for use in DTP, web sites or other publications

Specialist Applications - Examples (there are many Finances)

Accounting package E.g. Sage, Oracle; Manage an organisation's accounts including revenues/sales, purchases, bank accounts etc. A wide range of systems is available ranging from basic packages suitable for small businesses through to sophisticated ones aimed at multinational companies.

Computer Aided Design Computer Aided Design (CAD) is the use of computers to assist the design process. Specialised CAD programs exist for many types of design: in the area architectural, engineering, electronics and roadways

Customer Relations Management (CRM): Software that allows businesses to better understand their customers by collecting and analysing data on them such as their product preferences, buying habits etc. Often linked to software applications that run call centres and loyalty cards for example.

Traditional Computer Based Technologies

The C part of ICT refers to the **communication** of data by electronic means, usually over some distance. This is often achieved via **networks** of sending and receiving equipment, wires and satellite links.

The technologies involved in communication tend to be complex. You certainly don't need to understand them for your ICT course. However, there are aspects of digital communications that you need to be aware of. These relate primarily to the **types of network** and the ways of connecting to the Internet. Let's look at these two briefly (further revision notes provide much more detail to support your study).

Internal networks: LAN

Usually referred to as a **local area network (LAN)**, this involves linking a number of hardware items (input and output devices plus computer processing) together within an office or building.

The aim of a LAN is to be able to share **hardware** facilities such as printers or scanners, software applications and data. This type of network is invaluable in the office environment where colleagues need to have access to common data or programmes.

External networks

Often you need to communicate with someone outside your internal network, in this case you will need to be part of a **Wide Area Network (WAN)**. The Internet is the ultimate WAN - it is a vast network of networks.

ICT in a Broader Context

Your ICT course will almost certainly cover the above examples of ICT in action, perhaps focusing on the use of key applications such as spreadsheets, databases, presentation, graphics and web design software.

It will also consider the following important topics that deal with the way ICT is used and managed in an organisation:

- **The nature of information** (the "I" in ICT); this covers topics such as the meaning and value of information; how information is controlled; the limitations of ICT; legal considerations
- **Management of information** - this covers how data is captured, verified and stored for

effective use; the manipulation, processing and distribution of information; keeping information secure; designing networks to share information

- **Information systems strategy** - this considers how ICT can be used within a business or organisation as part of achieving goals and objectives

As you can see, ICT is a broad and fast-changing subject. We hope our free study materials (revision notes, quizzes, presentations etc) will help you master IT!

Summary :

In this chapter you have learnt about What is ICT and its impact.



Teacher Activity



Key Words

Technology, Communication, Storage, Applications, Graphics, Accounting.

Learning Objectives:

In this chapter you will be able to understand;

- Different types of Mobile Computing Device, Types of Projectors and Types of TV
- Describe the evolution of computers
- Classify computer languages
- Define the term robotics
- Explain what computer aided design and computer aided instruction are

Introduction :

By understanding about the Computer Generation you will become aware about the initial and current development in Computers.

Types of Mobile Computing Devices

The term mobile device covers a wide range of consumer electronics. Usually mobile device describes the devices that can connect to the Internet. However, some people classify digital cameras and standard MP3 players as mobile devices as well. The category of mobile devices includes the following devices, as well as others:

Personal Digital Assistant: Sometimes called pocket computers, PDAs combine elements of computing, telephone/fax, Internet and networking in a single device. A typical PDA can function as a cellular phone, fax sender, Web browser and personal organizer

Smartphone: Smartphones combine both mobile phone and handheld computers into a single device. Smartphones let you store information (e.g., e-mail) and install programs, along with using a mobile phone in one device. For example, a Smartphone could be a mobile phone with some PDA functions integrated into the device or vice versa.

Tablet PC: Tablet PCs are a type of notebook computer that has an screen display on which you can write using a stylus. The handwriting is digitized and can be converted to standard text through handwriting recognition, or it can remain as handwritten text. Tablet PCs also typically have a keyboard and/or a mouse for input.

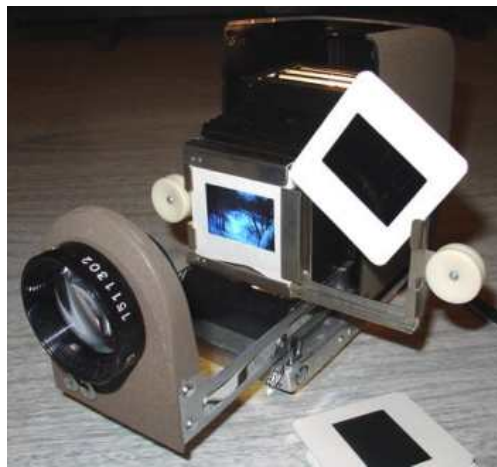
Different types of projectors

Projector Types

In today's modern world, it offers a broad selection of projectors. Here are just a few different types of projectors and a brief description on what each one is used for.

Slide

Slide projectors were commonly used as a form of entertainment in the 1950s and 1960s. The new slide projectors have small built in screens or walls enabling instant and portable viewing.



LCD

LCD projectors are lightweight and portable; they provide very good quality images, you may want to think about getting an LCD projector depending on your usage. Digital LCD projectors are normally used for places such as the cinema, exhibitions, or advertising etc.



DLP

DLP technology is reasonably priced for the home, business and schools. They are good, lightweight projectors which you can just plug in and start using straight away.



Digital Projector

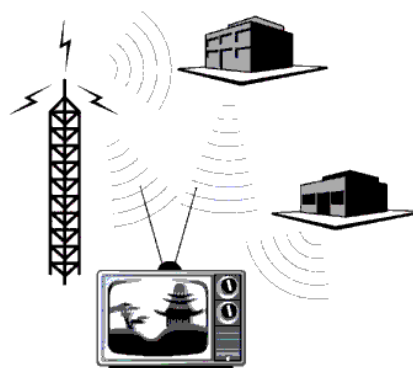
A digital projector is a computer display system that displays enlarged image on a movie screen. The digital projector can be used in a program that helps to view 3D, interactive Power Point presentations, and mp3 movies from a computer/laptop.



Types of Televisions

Analog TVs

Analog signal is transmitted on a particular radio frequency, from the television station's transmitting antenna over the air to the receiving antenna connected to your TV set.



Digital TVs

Digital television (DTV) is the transmission of audio and video by digitally processed and multiplexed signal, in contrast to the totally analog and channel separated signals used by analog television. The Audio and Video quality of digital TVs are very good.



Computer Generations

You are familiar with using computers and know how it helps you in finishing your work quickly. But do you know how computers evolved?

The first mechanical computer was invented by Charles Babbage. This computer called the Babbage's Analytical Engine performed basic mathematical functions. After the invention of the first mechanical computer, there were constant developments in the world of computers. These developments led to classify computers as:

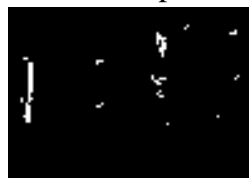
- The First Generation Computers
- The Second Generation Computers
- The Third Generation Computers
- The Fourth Generation Computers
- The Fifth Generation Computers

The first generation is also called the vacuum tube era. A vacuum tube is an electronic switch. Vacuum tubes were expensive, bulky and used a lot of power. The computers that used vacuum tubes were called the First Generation Computers. These computers were huge, occupied several rooms and produced a lot of heat. They were extremely slow and were giving problems frequently.



- Vacuum Tube

The second generation is also called the transistor era. Transistors that were more efficient and cheaper replaced the vacuum tubes. William Shockley and others of Bell Labs, U.S.A invented transistors. The computers that used transistors were called the Second Generation Computers. These computers were smaller in size and were not very costly. These computers were much faster and more dependable than those in the first generation.



- Transistor

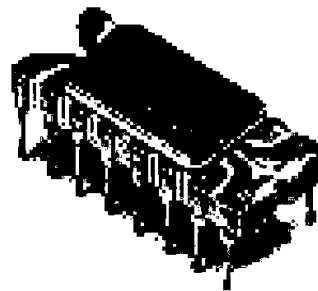
The third generation is also called the integrated circuit era. In this generation, there was a major change. Thousands of transistors were successfully connected together and placed on a single silicon chip called the Integrated Circuit (IC). Sometimes, there were more than one layer of such circuits. These were called large-scale integrated (LSI) circuits.

The size and the cost of these computers decreased and their speed and efficiency increased. One of the early Integrated Circuits .



- Circuit

The fourth generation is also called the microprocessor era. With the introduction of VLSI (Very Large Scale Integration) technology, millions of transistors could be placed on a single chip. The computers that used VLSI chips were called the Fourth Generation Computers. Microprocessor (refer Figure 1.4), a single chip that could do all the processing of a full-scale computer, was also invented in the year 1972. This led to a further decrease in the cost of the computers. Recent research has focused on developing “thinking computers”. These computers are called Fifth Generation Computers.



- Electronic Chip

Computer Languages

Machine Language

As you know, a computer is an electronic machine, which works on electronic pulses. The electronic components of a computer have two states only – ON and OFF. These two states are represented as 1 and 0. A digit representing one of these states is called a binary digit or a bit, in short. Computers understand input only in a language that comprises a combination of bits. This language is called machine language. Machine language can be directly understood and executed by the computer.

Assembly Language

A simple addition operation would require hundreds or thousands of machine language instructions to be given. Every machine language instruction has to be written as a series of 0s and 1s. Therefore, it is very difficult to give instructions by using machine language. Errors are very frequent and it becomes difficult to locate and correct them.

To overcome the disadvantages of machine language, the assembly language was developed. An assembly language program consists of a combination of mnemonic codes. A mnemonic code is a short form representing a basic operation.

For example:

- ADD is the mnemonic for addition operation .
- SUB is the mnemonic for subtraction operation .
- LOAD is the mnemonic for load operation .

Mnemonic codes cannot be directly understood by the computer. Hence, each mnemonic code is translated into the corresponding machine code by a special software called the Assembler.

Both machine language and assembly language are machine dependant and vary from computer to computer. Hence, machine language and assembly language programs have to be rewritten specifically for every computer. They are also difficult to learn and use. Hence, these languages are known as low-level languages.

High-level Languages

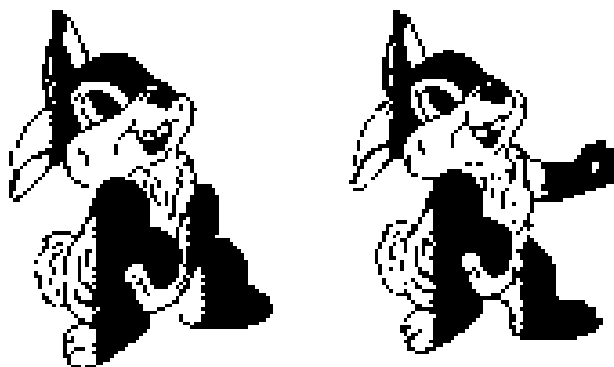
High-level languages use common English words and are therefore, easy to learn and use. Examples of such languages are BASIC, COBOL, FORTRAN, Pascal, C, etc.

Every high-level programming language is associated with a specific translating program called “Compiler or Interpreter” . These are used to convert programs written in a high-level language to machine language.

Computer Applications

Computer Animation

Computer animation is an illusion of motion created by a number of still images generated by the computer in quick succession. Prior to the advent of computers, animation was accomplished by filming hand-drawn or painted sequences on plastic or paper, one frame at a time. Computer animation can be used to create special effects in movies, which would otherwise be impossible. Example of computer animation: small babies swimming deep under the sea.



Robotics

Robotics is the science that deals with robots – their construction, capabilities and applications. A robot is a computer-controlled machine that is programmed to move, manipulate objects and accomplish various kinds of tasks. Robots can be used to perform repetitive tasks more quickly, inexpensively and accurately than humans.

Two generations of robots have appeared so far. The first generation robots can perform mechanical actions without difficulty. But they do not have external sensory abilities – that is, they cannot hear, see, feel or smell. Second generation robots possess more human qualities, which include the sense of touch and vision.

Robots are used in assembly line manufacturing units for repetitive tasks. They are very useful in places where harmful chemicals need to be handled. They are also better than human beings where precision of work is required. American factories have more than 10,000 robots at work.

The automobile industry is the largest single user of robots in America. Robots are also useful in high-radiation environments where radioactive materials are used.



Computer Aided Designing and Manufacturing

Computer Aided Designing and Manufacturing (CAD/CAM) is the use of computers in the design and manufacture of materials. They are used in manufacturing units to control individual production tools such as milling machines. Some operations are automated with the help of robots.

In the design stage, the techniques of drafting and computer graphics are combined to produce models of the objects. These models can be manipulated and tested on the screen. CAM engineers use such computer modelling to determine the best overall manufacturing procedure for a manufacturing plant as a whole. For example, CAD/CAM principles are used in manufacturing of automobiles, shoes, computer cabinets and other plastic goods.

Computer Aided Instruction

Computer Aided Instruction (CAI) is the latest of computer technologies that assist the teaching and learning process. It is also known as computer-aided education. Examples

of CAI applications include guided drill and practice exercises, computer visualisation of complex objects and computer-facilitated communication between students and teachers.

Types of CAI

Information that can be presented on computers in the form of text, visuals and sound can be used to teach or encourage interaction. The guided drill is a computer program that poses questions to students, returns feedback and selects additional questions based on the students' responses.

Computers can also help students view objects that are difficult or impossible to visualise. For example, computers can be used to display human anatomy, molecular structures or complex geometrical objects.

CAI also facilitates communication among students, between students and instructors and beyond the classroom to distant students, instructors and experts.

CAI systems can be categorised based on who controls the progress of the lesson – the author of the program or the student. Earlier systems were linear presentations of information, where the author of the software directed control. In modern systems, especially with visualisation systems and simulated environments, control often rests with the student or with the instructor. This permits information to be reviewed or examined out of sequence.

Summary:

In this chapter you have learnt about various Computer generations .



Test Your Knowledge

Fill in the blanks

1. In the second generation of computers, vacuum tubes were replaced with _____.
2. The third generation is called the _____ era.
3. VLSI stands for _____.
4. A _____ code is a short form representing a basic operation in assembly language.
5. Every high level programming language is associated with a translating program called _____.
6. The science that deals with robots is called _____.
7. For designing and manufacturing materials, _____ is used.



Key Words

Computer Generation, Robotics, Digital, Analog, Vacuum Tube

Chapter - 3 Working of a PC - Number System

Learning Objectives:

In this chapter you will be able to understand;

- Explain the different types of number systems
- Decimal Number System
- Binary Number System

Introduction to Number Systems

Numbers are used widely in daily life. You use numbers to identify houses in a street, to represent the value of goods etc. To perform these activities, you use the decimal number system. You use the decimal number system whenever you perform any manual calculation also. Computers can also be used to store numeric information, such as cost of products and perform calculations. However, computers use another type of number system called the binary number system. You will now learn more about these two number systems.

The Decimal Number System

The number system that is used in our daily life is the Decimal Number System.

- The Decimal number system contains 10 digits.
- The digits used are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9.
- In the decimal number system, the value of a digit depends on its position from the decimal point.

For example, in the number 356,

The digit 6 is in the units (10⁰) position.

The digit 5 is in the tens (10¹) position.

The digit 3 is in the hundreds (10²) position.

So, the value of the number 356 is written as:

$$\begin{array}{r} 3 \quad 5 \quad 6 \\ \begin{array}{l} \longrightarrow 6 \times 10^0 = 6 \\ \longrightarrow 5 \times 10^1 = 50 \\ \longrightarrow 3 \times 10^2 = 300 \end{array} \\ \hline \text{Value in decimal is } 356 \end{array}$$

In general, any number is simply the sum of the products of each digit value multiplied by its positional value.

In any number system, the digit in the right most position is called the least significant digit (LSD) because it carries the least value in the number. Similarly, the digit in the left most position is called the most significant digit (MSD) as it carries the most value in the number. In the above example, 6 is the LSD and 3 is the MSD.

Base of a Number System

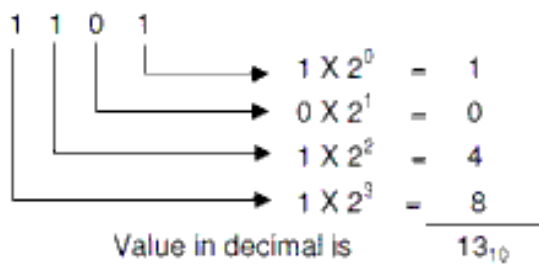
The base of a number system is defined as the total number of digits used by that number system. As the decimal number system uses 10 digits, it uses a base of 10. The base of a number system is always written as a subscript of that number. For example, 2310 and 56710 are decimal numbers.

Binary Number System

Though the decimal number system is used for daily calculations, the computers use a system that is easier and more efficient – the Binary Numbering System.

- The Binary number system uses a base of 2. That is, it has only two digits.
- The digits used are 0 and 1.
- Each number in a binary number system represents a power of the base 2.

For example, the binary number 1101 can be written as



In this way, you can find the decimal equivalent of any binary number. A list of some binary numbers and their decimal equivalent is given below

<i>Binary</i>	<i>Decimal Equivalent</i>	<i>Binary</i>	<i>Decimal Equivalent</i>
000	0	110	6
001	1	111	7
010	2	1000	8
011	3	1001	9
100	4	1010	10
101	5		

In any binary number, the right-most digit is called the least significant bit (LSB). The left-most digit is called the most significant bit (MSB). For example, in the binary number 1010, the leftmost digit 1 is the MSB and the right-most digit 0 is the LSB.

Just as you found the decimal equivalent of a binary number, you can also find the binary equivalent of a decimal number. To convert a decimal number to its binary equivalent, it has to be divided repeatedly by 2 until the quotient becomes zero.

For example, consider the number 61. To convert it to binary:

1. Divide the number repeatedly by 2.
2. Write down the remainder by the side of the quotient after each division as shown below.
3. Repeat this division process till you get a final quotient of 0.

2	61		
2	30	-	1
2	15	-	0
2	7	-	1
2	3	-	1
2	1	-	1
2	0	-	1

Quotient of 0 has been reached →

↑

4. Now write down the bits in the order shown by the arrow, from bottom to top.
5. So the binary equivalent for 61 is 111101.

Advantages of the Binary Number System

The reasons for computers being designed to use binary numbers are given below.

- The computer circuits have to handle 2 binary digits only (bits) rather than 10 (as in decimal number system). Due to this,
- The design is simplified.
- The cost is reduced.
- The reliability is improved.
- Binary system is used because everything that can be done by using the decimal system can also be done by using the binary system.

Summary:

- The number system used widely in daily life is the decimal number system.
- The Decimal number system has ten digits represented by 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9.
- The number system used by computers is the binary number system.
- The binary number system uses only two digits – 0 and 1.
- You can convert a binary number to a decimal number by multiplying the first digit from the right by the 0th power of 2, second digit from the right by the first power of 2 and so on and adding the individual values.
- A decimal number is converted to its binary equivalent by repeated division of the decimal number by 2 till the quotient becomes 0.



Test Your Knowledge

Fill in the blanks

1. The number system that is used by man in daily life is the _____ number system.
2. The _____ number system is used commonly by computers.
3. The right-most bit in a binary number is called the _____ significant bit.
4. The binary system has a base of _____.
5. The _____ of a number system is defined as the total number of distinct digits used by that number system.

Answer the following

1. Find the decimal equivalent of the following binary numbers.
a) 11 b) 101 c) 1101 d) 10011 e) 101011
2. Find the binary equivalent of the following decimal numbers.
a) 15 b) 36 c) 65



Key Words

- Decimal ○ Significant ○ Binary

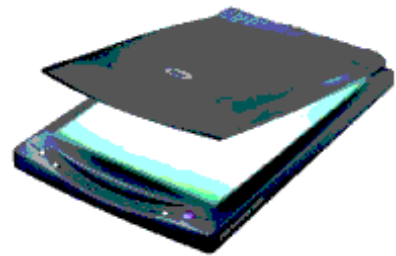
Learning Objectives:

In this chapter you will be able to understand various input & Storage Devices such as

- **Scanner**
- **Inputs for Projector**
- **Inputs for Television**
- **Memory & Storage**

Scanners:

A scanner can be used to input printed images such as photographs or pages of text directly into the computer. A scanner works by shining a light at the image being scanned and measuring how much light is reflected back using an optical sensor. The amount of light that is reflected back tells the computer how light or dark the image is at each point.

**Input Device for Projector :**

The above remote will be used as input device for the projectors to operate.

Input devices for Television :

Remote , CD Player, DVD Player are etc used as in put device for Television.

Modem : A modem (modulator-demodulator) is a device that modulates an analog carrier signal to encode digital information and demodulates the signal to decode the transmitted information. It produce a signal that can be transmitted easily and decoded to reproduce the original digital data. Modems can be used with any means of transmitting analog signals, from light emitting diodes to radio.



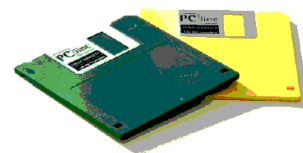
Memory and Storage:

Different kinds of computer storage devices are available for data storage. Storing data in such storage devices helps in avoiding use of too much space on the computer's hard drive. They can also help to keep the computer's hard drive from crashing, along with keeping it running at top speed.

The most common storage devices are:

- Floppy Disks
- Zip Disks
- Compact Discs (CD) + RW
- CD + R
- Digital Video Disc (DVD) + RW
- DVD + R
- Flash/ Pen drive

Floppy Disk - They are plastic square disks, usually with a silver or black sliding piece going across the top. These disks come in a variety of colors and they hold about 144 million bytes (MB).



(Bytes are characters, symbols and letters).



Zip Disk - They look like a floppy disk, but they are a little thicker. This disk also comes in a variety of colors and holds about 200 MB of data.

CD + RW Disc (Compact Disc Rewriteable) - This disc looks like a regular CD. The only difference is that we can write data on this disc and erase it as many times as we want. It works just like a floppy disk or a zip disk. A CD + RW disc holds about 650 MB.



CD + R Disc (Compact Disc Recordable) - This one is a CD that can be used to record data. It's mostly used to record audio. Once it's been written on, it is not possible to re-write or erase anything off it. This compact disc comes in different sizes, but they are usually silver in color. (Some CDs are black in color and they actually don't get as many scratches on them as the silver ones do. They are also a lot less fragile).

A DVD – R Disc (Digital Video Disc - Recordable) - These discs hold the space of about 4.7 GB and are used to record movies.



A DVD + RW Disc (Digital Video Disc Rewriteable) The primary advantage of DVD-RW over DVD-R is the ability to erase and rewrite to a DVD-RW disc. According to Pioneer, DVD-RW discs may be written to about 1,000 times before needing replacement. DVD-RW discs are commonly used for volatile data, such as backups or collections of files. They are also increasingly used for home DVD video recorders. One benefit of using a rewritable disc is, if there are writing errors when recording data, the disc is not ruined and can still store data by erasing the faulty data.



Flash Drive - This a storage device that comes in many colors and has a stick shape to it. They are very small in size, but they can hold anywhere between 256 MB and 8 GB of material on them.



The other storage devices are:

- Removable Hard Drive
- Internet Hard Drive
- Flash
- PC Cards
- Smart Cards
- Storage Tapes
- Memory Sticks
- Smart Media

Removable Hard Drive - This is a disk drive in which a plastic or metal case surrounds the hard drive. It can be inserted and removed just like a floppy disk.



Internet Hard Drive - This one is a service on the Internet that provides storage space to computer users. This service offers about 25 MB of space, but it could be more, depending on the service type.



PC Card - This is a thin credit card size device that fits into a PC card slot, usually on a notebook computer. This card simply adds storage to most notebooks.

Smart Cards - These are the size of an ATM card. When inserted into a smart card reader, they can read and update data.



Storage Tape - This one is a magnetically coated ribbon of plastic, capable of storing large amounts of data at a very low cost. Usually, storage tapes are a little bigger than audio tapes. Older computers used tape and tape drives, but even today, some people still back their systems up with storage tape. These tapes hold between 20 GB to about 110 GB of data. An external tape drive can be purchased separately as well, but those are even harder to find.



Miniature Mobile Storage Media

This is used mostly with handheld computers and digital cameras.

Memory Stick - This is a rectangular shaped disk that is used mostly with digital cameras and notebook computers. They hold approximately 128 MB.



Micro Drive - This is a square disk that has 4 GB of space and is used with digital cameras and handheld computers.

These are just some of the storage devices that are available today. So, the next time you want to save something that takes up a large amount of space on your hard drive, think twice about it and consider using one of these storage devices instead. One of these devices could save you a lot of space on your hard drive and keep your system running at its best!



Summery

In this Chapter we have understood

- Input and storage Devices such as
 - Scanner
 - Input for Projector
 - Input for Television
 - Memory & Storage



Teacher Activity

Demonstrate the Usage of available Input, Storage devices in the comuter labto the students



Key Words

Modem, Digital, Zipdisc, Smart Cards, Memory Sticks.

Learning Objectives

In this chapter you will be able to understand;

- About Computer Printer
- Types of Printers.

Introduction

By gaining this knowledge you will be able to make use of computer printers effectively.

A printer is a piece of hardware for a computer. It is a device that must be connected to a computer which allows a user to print items on paper, such as letters and pictures. It can also work with digital cameras to print directly without the use of a computer.

**Types of printers**

Today, the following types of printers are in regular use:

- Inkjet printers, also sometimes called bubble jet printers use colored ink they put on a paper.
- Plotters are large format inkjet printers, or printers that use special pens.
- Laser printers transfer tiny particles of toner onto the paper.
- Dot-matrix printers are now almost extinct. They used a ribbon and made a lot of noise. There were models with 9 pins and models with 24 pins.

Ink Jet Printer:

An Inkjet printer is a printer for computers. It uses special ink to print on the paper. Another type of printing technology is the Laser printer.

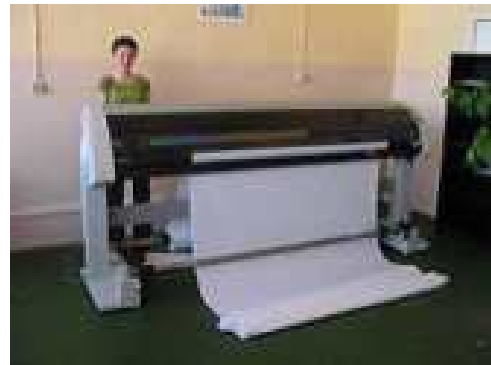
Usually, inkjet printers are used by people who print very little. The ink comes in special ink cartridges, which can be very expensive and uneconomical. Also, the ink in the cartridge may dry up. This means that a new cartridge is needed. canon ink

Many professionals use inkjet printers to print on very large surfaces (up to 5m width). These printers usually do not use cartridges, but have a continuous supply of ink that could last for a long time. Inkjet printers need special paper. This paper has been treated so that the ink does not smear. Less expensive inkjet printers, which cost a little more than 100 US dollars, are a bargain for users who want to be able to print pages in color.



Plotter:

A Plotter is a kind of printer for computers. Plotters use vector graphics. Usually they are used to print to paper which is very large in size. Plotters print things using special, coloredpens. There is one called the drum plotter. They are often used in warehouses.



Laser Jet Printer:

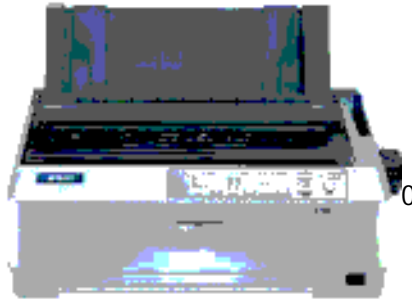
A laser printer is a printer for computers. It uses LED-technology to get small particles of toner from a cartridge onto paper. Very often, this is more economical to use than the ink of inkjet printers.

The laser printer was first invented by a team at Xerox in 1969.[source?]



Dot Matrix Printer:

Dot-matrix printers are printers for computers. A dot matrix printer creates characters by striking pins against ink ribbons. Each pin makes a dot and combinations of dots form characters and illustrations. This is much like a typewriter. Each character is made from a matrix of dots. Today, dot matrix printers are not used by many people anymore. They are still in use where forms (with multiple copies) need to be filled out.



Summary :

In this chapter you have learnt about various types of Printers.



Teacher Activity

Demonstrate the print out using the available printer at your school.



Key Words

- Dot Matrix
- Ink jet
- Laser
- Plotter

Learning Objectives

In this chapter, you will be able to understand;

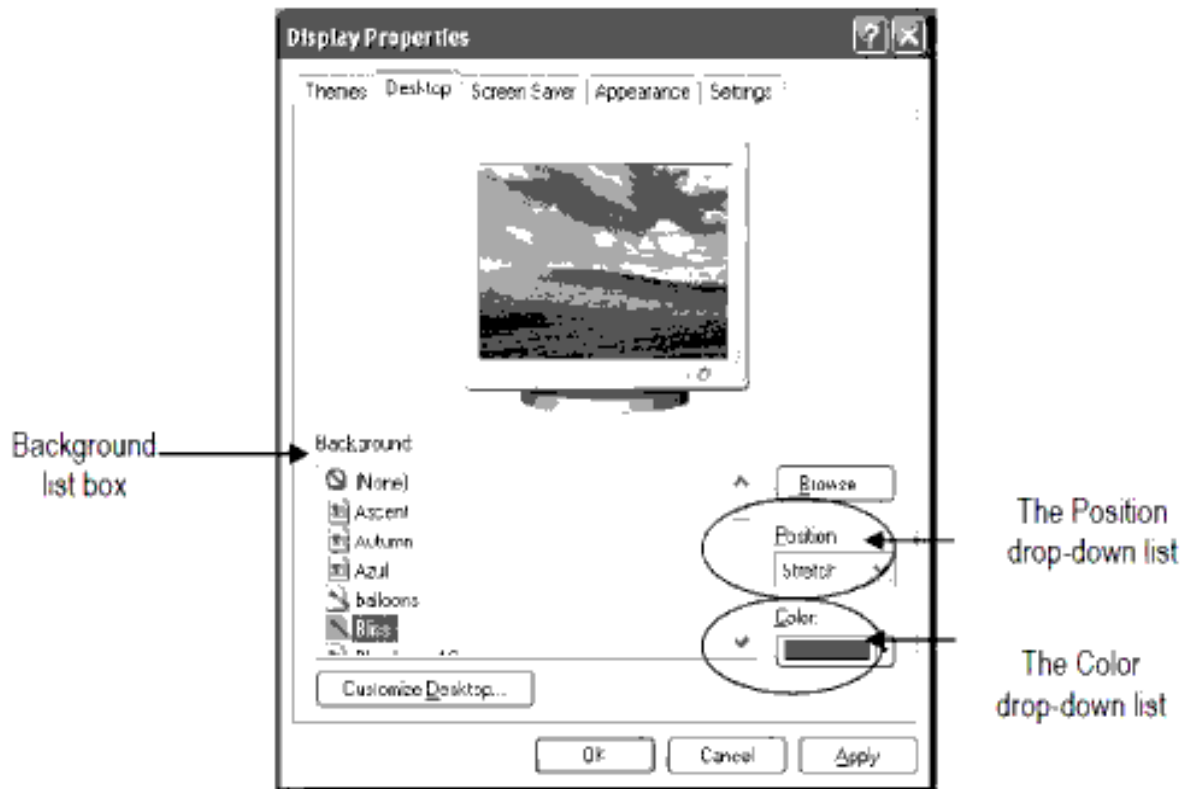
- Change the Desktop background
- Change the screen saver
- Open an icon
- Identify the parts of a window
- Minimise, maximise and close a window
- Resize and move a window
- Switch between windows
- Understand the concept of folders
- Use Accessories
- Start an application using all Programs menu and the Run option
- Perform calculations using Calculator

Changing the Desktop Background

As you know, the desktop is the large area on the screen that appears as soon as you start Windows. The appearance of a desktop can be changed. To change the appearance of the desktop:

1. Right-click on the empty space on the desktop. A pop-up menu (refer Figure) appears.
2. Click the *Properties* option. The *Display Properties* dialog box appears.
3. Click the Desktop tab.
4. Select a background picture from the Background list box. The List box is a box that has many options from which you can select an option of your choice. These single word pictures are also called wallpapers.
5. Click the *Apply* button.
6. Click the *OK* button to close the dialog box.





Changing the Screen Saver

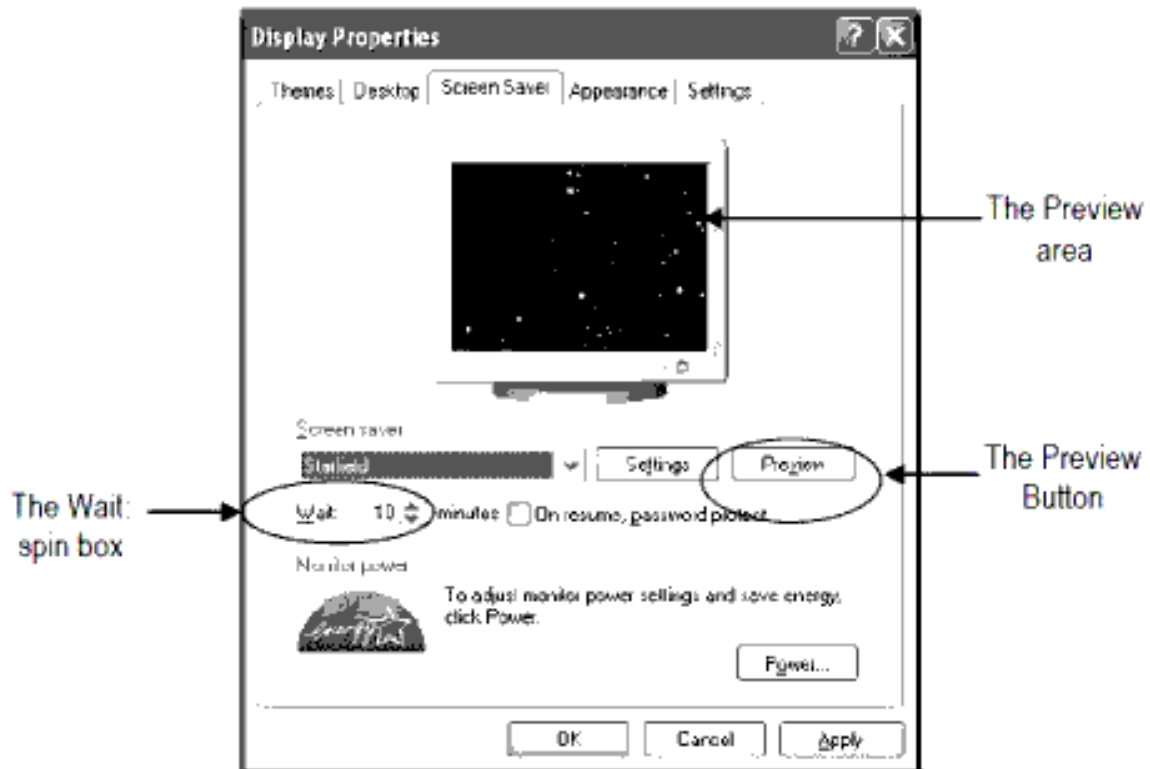
Screen saver is a moving picture or a pattern that appears on the screen when the mouse or the keyboard is not used for a specified period of time. This time can be set in the *Wait* spin box. The time interval is specified in minutes. You can specify the time by typing it, or by simply clicking the up or down arrows, to increase or decrease the time in the *Wait* spin box.

To change the screen saver,

1. Right-click on the empty space on the desktop.
2. Click the *Properties* option.

The *Display Properties* dialog box is displayed.

3. Click the *Screen Saver* tab.
4. Click the screen saver in the *Screen saver* drop-down list. Example: Starfield.
5. Click the *Apply* button.
6. Click the *OK* button to close the dialog box.



Opening an Icon

You know that there are a number of icons on the desktop. To view their contents, they must be opened in a window.

To open an icon, there are three ways:

1. Place the mouse pointer on the icon and double-click it.

Or

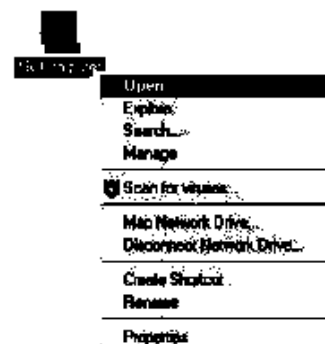
Place the mouse pointer over the icon and click once.
The item gets highlighted.

2. Press the *Enter* key.

Or

Place the mouse pointer on the icon and right-click once. A pop-up menu appears.

3. Choose the *Open* option



Parts of a Window

When you open an icon on the desktop, a window is opened. For example, when you open the *My Computer* icon, the *My Computer* window is opened as shown in the figure.

The parts of the window are the Title bar, the Menu bar and the Toolbar

Title bar

The horizontal bar at the top of a window that contains the name of the window is called the Title bar. The title bar also contains the *Maximize*, *Minimize*, and *Close* buttons.

Menu bar

The horizontal bar found just below the Title bar, which contains many options, is called the Menu bar. When these options are clicked, a list of commands appears with which you can perform various functions. These options help you to give instructions to Windows about the action that needs to be performed.

Toolbar

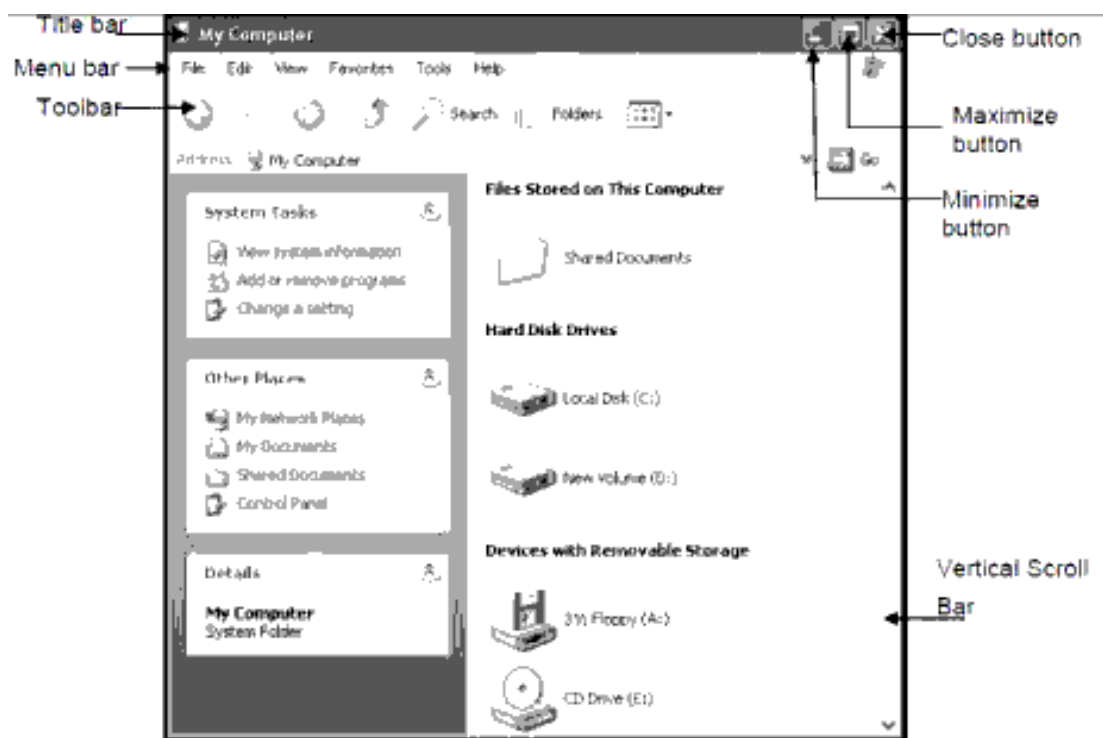
The toolbar gives shortcuts for commonly used functions listed in the menu bar.

Scroll Bars

Scroll bars enable you to scroll through the contents of a window. The scroll bar appears if the window is too small to show the entire contents of the work area.

A window can consist of two scroll bars:

- ❖ Vertical scroll bar – It is used to move through a window horizontally.



The edges of a window are called borders. They can be used for resizing the windows




Working with a Window

Just as you can have many books on a table at the same time, you can have several windows on the desktop at the same time. To take the example of books again, the books on


the table can be of different sizes and you can keep them beside each other or one above the other. Similarly, the size of the windows can also be different and they can be placed beside each other or one on top of the other. You can minimise or maximise a window, change its size, move it around and close it.

Maximising, Minimising and Closing a Window

The three buttons on the right side of the Title bar are the *Minimize* button, the *Maximize* button and the *Close* button.

- The *Minimize* button  minimizes the window to a button on the Taskbar. To restore the window, click its button on the Taskbar.
- To maximise a window, click the *Maximize* button . When you maximise, the window occupies the whole screen. On maximising a window, the *Maximize* button changes to the *Restore* button.
- To bring it back to its original size, click the *Restore* button. On restoring the window, the *Restore* button will be replaced by the *Maximize* button.
- To close a window, click the *Close* button. 

Resizing and Moving a Window

To increase or decrease the size of a window, Place the mouse pointer  on one of the edges of the windows. The mouse pointer changes to a double-headed arrow \leftrightarrow click and drag the mouse in the direction you want depending on the direction in which you drag the mouse. the size of the window will increase or decrease.

Some times, a window might hide a part of the desktop that you want to see in such a case you would like to move the windows to a different place

To move a window, click anywhere on its title bar. Drag the window to the place where you want to place it

Switching Between Windows

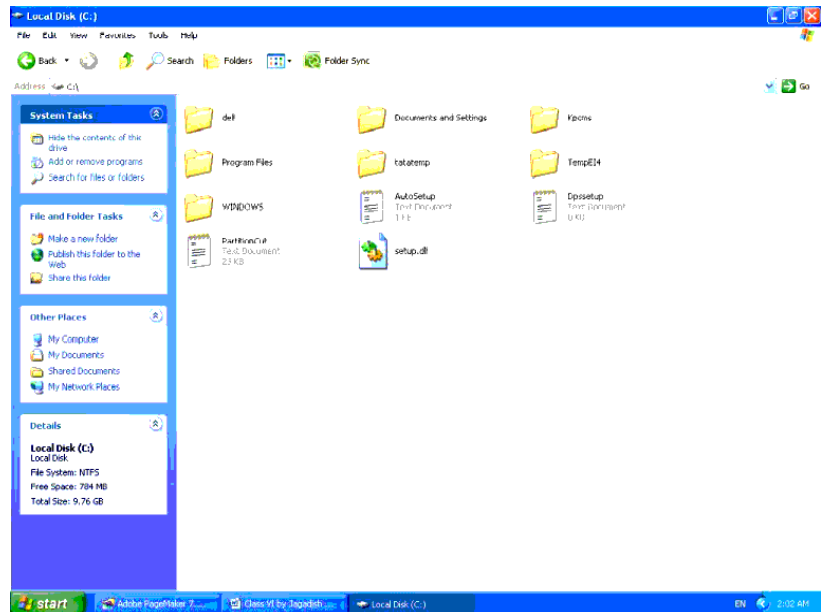
There may be situations where many windows are open at the same time. All the windows will be displayed as buttons on the taskbar. The button of the application windows that you are using currently will be highlighted on the taskbar and its window is called the active window. To switch to some other windows, click its button on the taskbar on the taskbar. This window will appear in front of all other windows on the desktop and its button will get highlighted on the taskbar.

The other way of switching to a window is by clicking on any part of the window. However, this is possible only if a part of the window is visible on the desktop.

Understanding Files and Folders

When you open the *My Computer* window, you can see few icons. These icons denote the different disk drives in your system.

You know that the computer uses drives to store information and each drive is identified by the drive name. The floppy disk drive is usually referred to as A: and the hard disk drive is usually referred to as C:. When you double-click the *Local Disk (C:)* icon, the window appears as shown in Figure.




Now, you are able to see small yellow icons. These are called folders. A **folder** is like a container that store files. You can use a folder to store files on a particular topic together in a common location.

Files can be stored directly in the hard disk. So what is the use of folders?

Imagine that you have to search for a book in a library that has no racks. Books of different subjects are put together. You will find it very difficult to get the book you want.

Similarly, if all the files in a computer are stored together it becomes difficult to search for a particular file. So, it is important to organise the different files in your computer. For this, Windows provides you with folders. In Windows, a small icon as shown in the Figure represents a folder.

A folder can contain files. It can also contain other folders in it. These are called subfolders. 

File Names

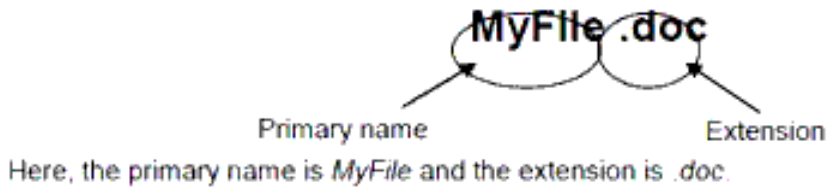
Every one of you has a name. Similarly, each file must have a name to identify it. This is called the file name.

Many of your names have two words in them. The first part of the name is the name by which your friends call you. The second part of the name is the family name. It is the name with which people recognise your family.

Similarly, all files have two parts in their names – the Primary name and the Extension.

- **Primary name** – This is the first part of the filename. It is the name by which a file is identified.
- **Extension** – The second part contains the extension of the file name. This identifies the type or family of the file.

For example, picture files have the extension .bmp and text files have the extension .txt. An example for a file name is MyFile.doc.



Note The full stop is also a part of the extension.

A file name can contain

- Alphabets
- Numbers
- Spaces
- Special characters, such as [] { } , ! \$ ~ ' % @

Though you can give any name for your file, it is always a good practice to give meaningful names to your files. By just referring to the filename you should be able to know what are the contents stored in the file.

A file containing a list of schools, can be given the name “xyz.doc”, but this does not provide any information about what the file contains. Therefore, you can give it a meaningful name like “schoolnames.doc”.

Accessories

You know that application software is written to perform a specific function. There are many application software (also referred to as applications) used for general purposes like painting, calculating, typing letters etc. There are a variety of applications available in Windows. These applications come free along with the Windows operating system and are collectively referred to as Accessories. A few examples of Accessories are:

- Paint – Application to draw and paint pictures.
- Notepad – Application to create and edit text files.
- Calculator – Application to perform mathematical calculations

Starting an Application in Windows

There are two ways to start an application in Windows.

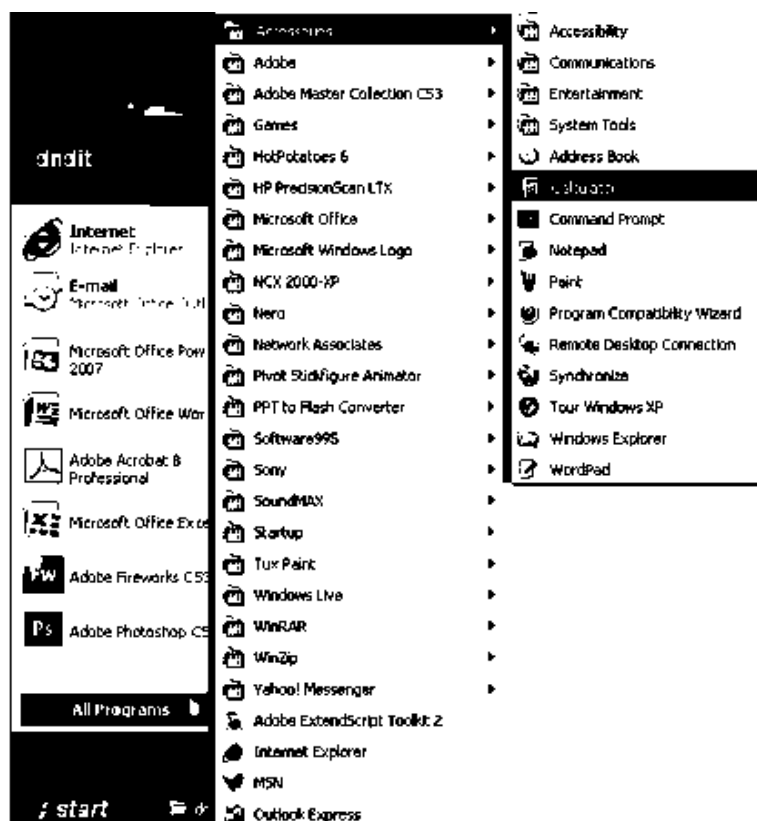
- Using the All Programs menu
- Using the Run option on the Start menu

Using the All Programs Menu

The applications in Windows can be started using the *All Programs* on the *Start* menu. For example, there is an application called Calculator that is used for making calculations. To open Calculator through the *All Programs* menu:

1. Click the *Start* button.
2. Choose *All Programs* on the *Start* menu.
3. Choose the *Accessories* option on the *All Programs* submenu.
4. Click the *Calculator* option on the *Accessories* submenu.

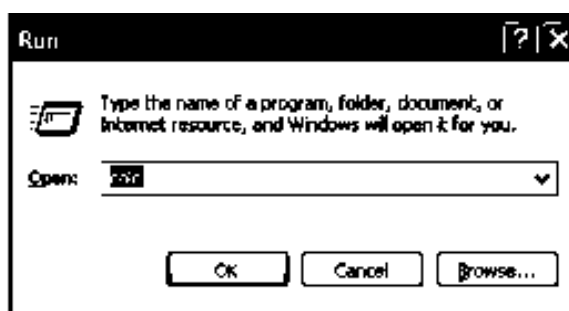
The Calculator opens. You can now perform calculations using it.



Using the Run Option

The *Run* option on the *Start* menu can also be used to open or start a program. To open the Calculator program through the *Run* option:

1. Click the *Start* button.
2. Click the *Run* option on the *Start* menu.



The *Run* dialog box appears (refer Figure). This dialog box has a box titled 'Open' where you can specify the name of the program.

3. Type the name of the program that has to be opened in the *Open* box. For example, type `„calc` to open Calculator.

Calculator

If you have to do complex mathematical calculations like multiplying 20 numbers then it will be tough. Generally,

you may use a pocket calculator for doing such calculations. The Calculator (refer Figure 6.5) in Windows is also like your pocket calculator. It can be used to perform calculations, such as addition, subtraction, multiplication, division, square root etc. The Calculator has a set of buttons for numbers and signs. It has a Result textbox where the numbers and the results are shown.



Using Calculator

In your pocket calculator, you use your hand to press the number buttons. In the Windows Calculator, you can use the keyboard to type the numbers or the mouse to click the number buttons. For example, to add 563 to 201:

1. Click the number buttons `„5` , `„6` and `„3` .
2. Click the button `„+` .
3. Click the number buttons `„2` , `„0` and `„1` .
4. Click the button `„=`

Now the sum of the two numbers, 764, is shown in the Result text box.

Summary

- To change the background, select a background from the Background list in the Desktop tab of the *Display Properties* dialog box.
- Screen Saver is a moving picture or a pattern that appears on the screen when the mouse or the keyboard is not used for a specified period of time.
- To change the screen saver, select a screen saver from the list in the *Screen Saver* tab of the *Display Properties* dialog box.
- You can open an icon by double-clicking it.
- The major parts of a window are Title bar, Menu Bar, Toolbar, and Status bar.
- You can minimise, maximise and close a window using the buttons on the right side of the title bar.
- You can switch between multiple windows by clicking the button of the required window on the taskbar.

- Files can be arranged in folders.
- File names have two parts – Primary name and Extension.
- The programs in Windows can be started using *All Programs* and the *Run* options on the *Start* menu.
- The Windows Calculator is like the pocket calculator that is used to do calculations.



Teacher Activity

Demonstrate the various , windows options discussed in the this chapter to the student.

Student Activity

1. Start the computer. List the icons that are shown on the desktop.
2. Change the background of your desktop to “Wind”.
3. Change the screen saver to “Starfield”.
4. Apply a screen saver to the computer, so that the screen saver gets activated if the computer is not used for 1 minute.
5. Open the *My Computer* icon and maximize the window.
6. Restore the window to the original size.
7. Close the window.
8. Open the Windows Calculator.
9. Using the Calculator, find the product of 397 and 693.
10. Close the Calculator.



Test Your Knowledge

Fill in the blanks

1. The _____ is a moving picture or a pattern that appears on the screen when the mouse or the keyboard is not used for some period of time.
2. You can change the background of your computer using the _____ tab in the *Display Properties* dialog box.
3. The _____ option on the *Start* menu contains the last 15 files that have been recently opened.
4. You can enlarge a window using _____ button.
5. The programs in Windows can be started using the _____ and the _____ options on the *Start* menu.



Key Words

Desktop, Background, Pattern, Display, Primary Extension.

Learning Objectives:

At the end of this chapter, you will be able to understand;

- Appreciate the need for PowerPoint
- Start PowerPoint
- Identify the parts of a PowerPoint window
- Identify the components of a presentation
- Create a new presentation
- Add text to slides
- Save a presentation
- Close PowerPoint
- Exit PowerPoint

Introduction

Consider the following situation:

You are asked to explain about the domestic and wild animals by your science teacher in the class. There are two different ways of doing it.

1. You can draw pictures on a chart and bring it to the class and explain it to the students.
2. You can draw the same on the blackboard itself and explain.

In the first case, you can use the sketch pens to make the diagram look good but the problem is that it will not be clearly seen to the entire class.

In the second case, though it will be clear to all your friends, it may not look good and colourful, as you can use only chalk pieces.

You explain your confusion to your science teacher and she gives you an answer to this problem. She asks you to make use of PowerPoint to create your presentation as it will not only be colourful but also will be easier for your friends to understand it.

PowerPoint allows users to create good and interesting presentations. Presentations are made of slides. Each slide will contain some text or pictures that will be a part of the presentation.

The word presentation refers to the way of explaining a particular subject. Thus when the teacher teaches a subject in the class, she is making a presentation. In a PowerPoint presentation, pictures, sound, charts and graphs can be included easily.

The advantages of using PowerPoint are:

- You can draw diagrams very easily.
- You can make changes to the diagram or sentence easily.
- You can also get a variety of pictures.
- Your presentation can be made to look very colourful and attractive.
- You can include text and picture movements on the screen.

Starting PowerPoint

Now that you have decided to use PowerPoint to create your presentation, first it has to be started.

To start PowerPoint:

1. Click the *Start* button.
2. Choose the *All Programs* on the *Start* menu.
3. Click the *Microsoft Office* option on the *Programs* submenu (refer Figure 10.1).
4. Click the *Microsoft PowerPoint 2007* on the *Microsoft Office* submenu

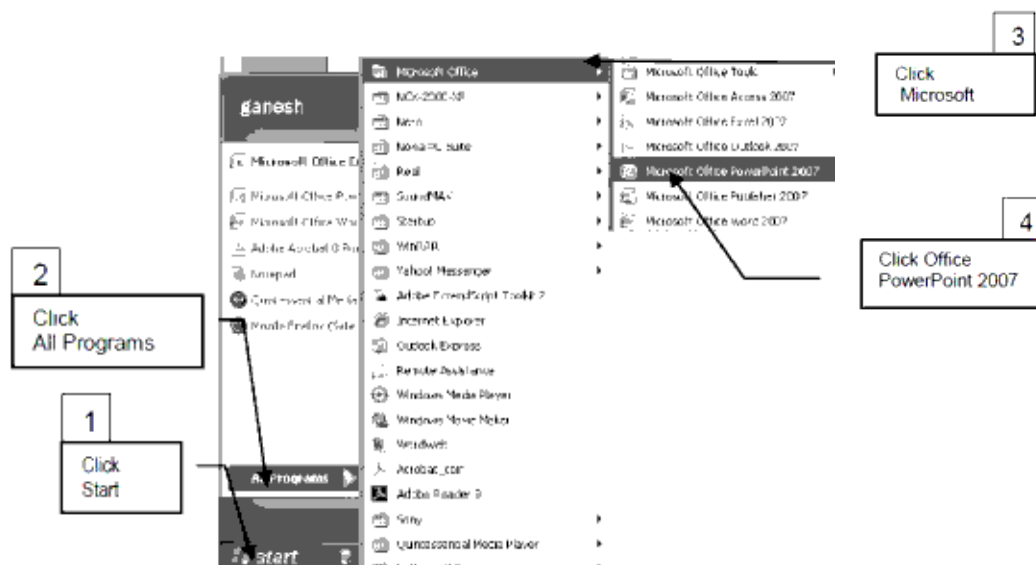
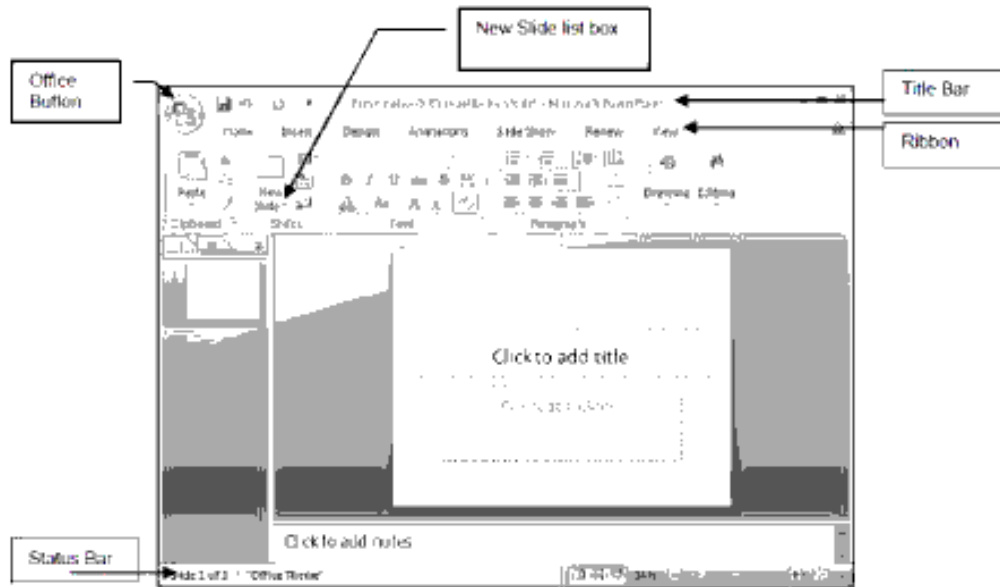


Figure 10.1: Starting PowerPoint

The PowerPoint window appears with a blank presentation as shown in Figure 10.2.

The blank presentation is the white area of the screen where you have to enter the content of your presentation.



The other parts of the PowerPoint window are:

Title bar :

This is present at the top of the PowerPoint screen. It is used for displaying the name/ title of the presentation.

Office Button :

The Office button appears on the upper left corner of the screen. It displays the basic commands to open, save and print your file.

Ribbon :

This is present right below the Title bar. The Ribbon contains the various tabs. Each tab displays various groups under which, a set of tools are present. The area where all the groups are collectively displayed under each tab is called the Ribbon

Status bar :

It is present at the bottom of the PowerPoint screen. It displays the details of the currently opened presentation like number of slides, the design template used etc.

Some of the other components are the slides tab, view buttons and the slide pane.

Components of a Presentation :

In addition to the slides, PowerPoint can be used to generate outlines, speaker notes and audience handouts to compliment the presentation.

Slides:

Each slide is a separate page that is displayed in a sequential order. Slides can have text, pictures, drawing objects, graphs, sounds or movies.

Outline:

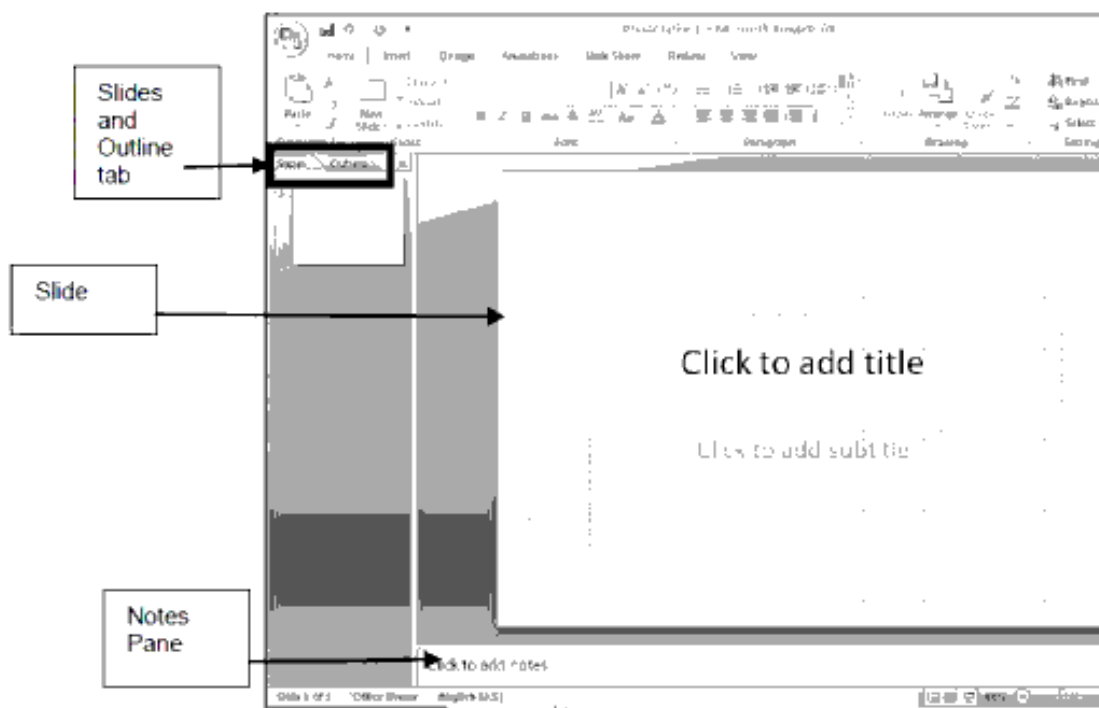
An outline is a text only version of the entire slide show indented according to the levels of headings, sub-headings and body text. This is useful for editing and rearranging the text in the slides. You can create a new slide by entering text in outline view.

Speaker Notes:

Each slide can have corresponding speaker notes. You can create speaker notes to help remember key points during a presentation or for the audience. Speaker notes have a miniature picture of the slide along with notes for the speaker.

Handouts:

You can print the slides in a presentation as audience handouts. The audience can use the handouts for future reference. Handouts can be printed with 2, 3, 4, 6 or 9 slides on a page with a blank area next to each slide for the audience to write notes. Handouts show only the slides and not the corresponding speaker notes.



Creating a New Presentation

You can create a presentation using:

- Blank Presentation
- Installed Themes

Creating a Presentation Using Blank Presentation Option

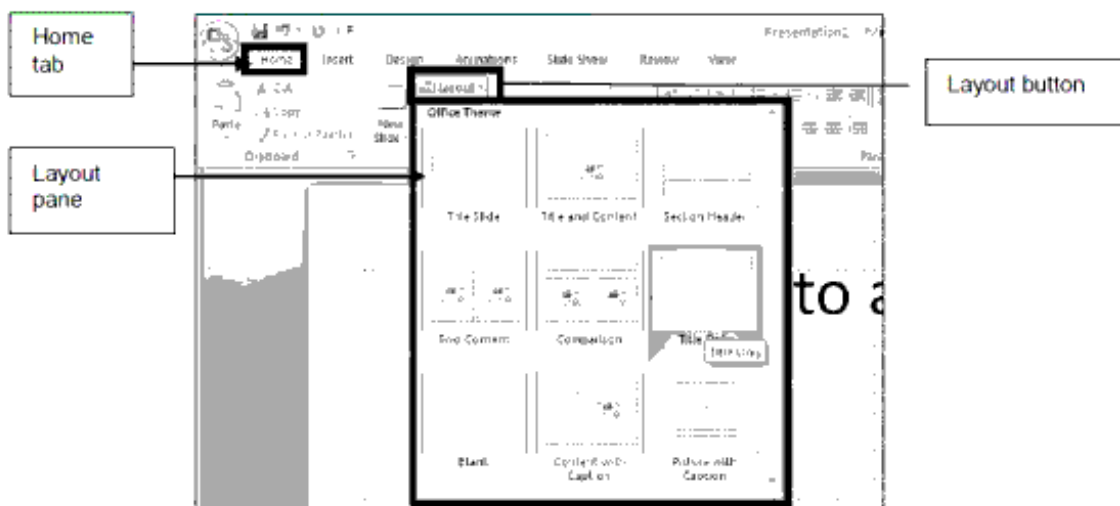
A slide is the area that holds text and graphics. One or more such slides make a presentation.

To create a new presentation,

1. Click the Office button which is present on the top left corner of the PowerPoint window.
2. Select the New option. The New Presentation dialog box gets displayed.
3. Select the Blank Presentation option.
4. Click the Create button.

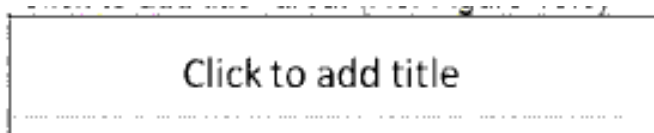
Creating a Title Slide

1. To create a title slide,
2. Select the Home tab.
3. Click the Layout button from the Slide group.
4. Select the Title Only layout from the Layout pane.



To add title,

1. Click anywhere on the “Click to add title” area.



2. Add the text, “Welcome to Power Point”.
3. A slide with text is added.

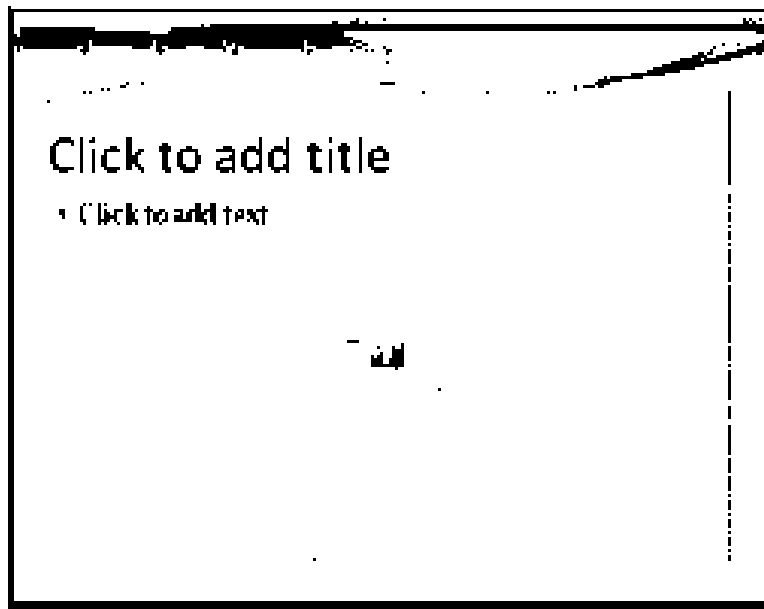
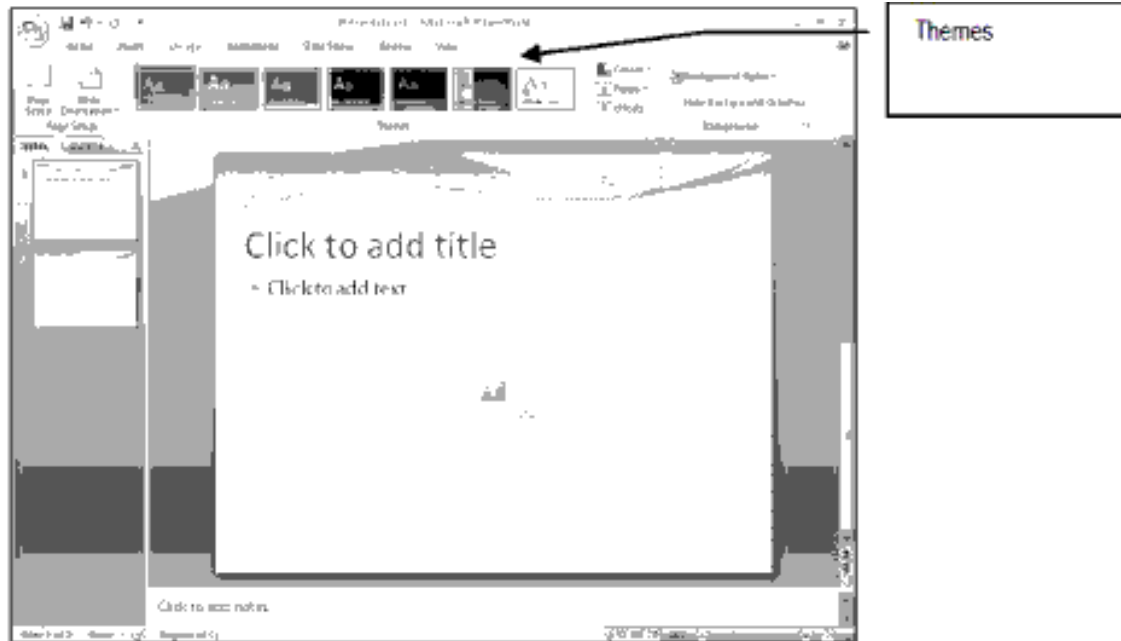


Creating a Presentation Using Installed Themes

A presentation template is a saved presentation file that contains predefined slides, colour schemes and graphic elements

To apply a theme to a new presentation:

1. Select the Design tab. List of themes are displayed.



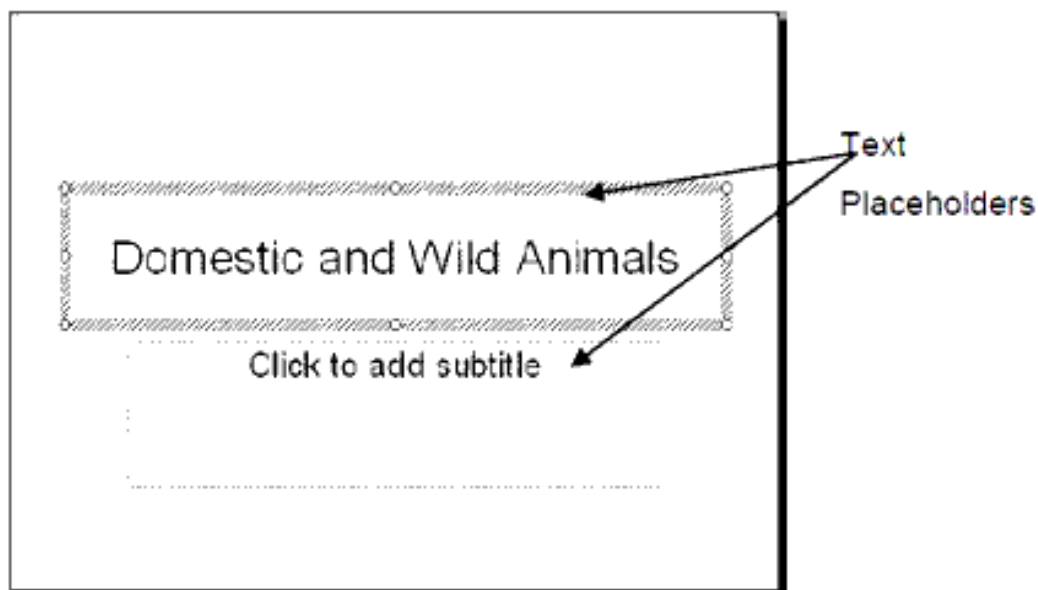
Adding Text

You already know that you have to enter the text of your presentation in the blank area of the screen. This rectangular area is called slide. You can have any number of slides in your presentation.

In PowerPoint, the text has to be typed in *Text Placeholders*. These are the two rectangular boxes that you see on a new slide

In this figure, there are two placeholders – one for the title and another for the subtitle. The steps to add text in a slide are:

1. Click the text box, which reads *Click to add title*
2. The text, *Click to add title*, gets changed and the user is allowed to type in the title for the presentation.
3. After typing the text, click anywhere outside the text placeholder to check how the title looks.



4. In the subtitle area, type your name. Your first slide is completed.

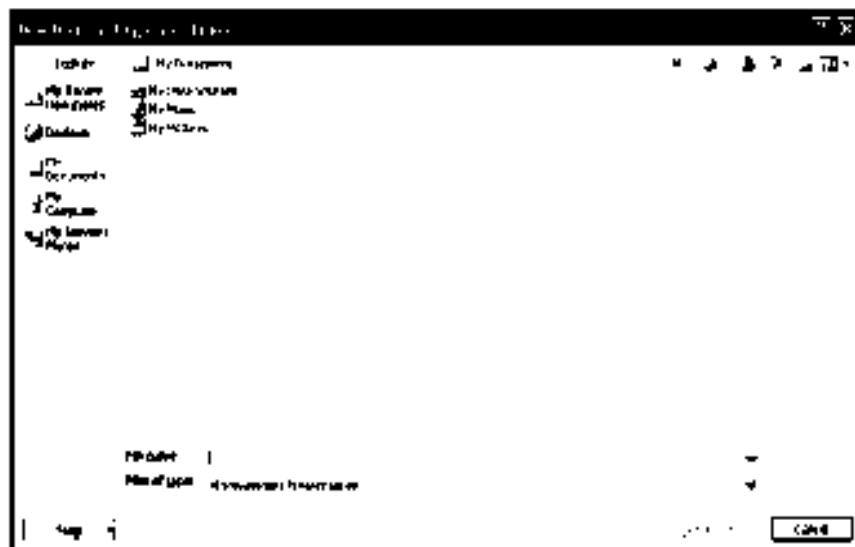
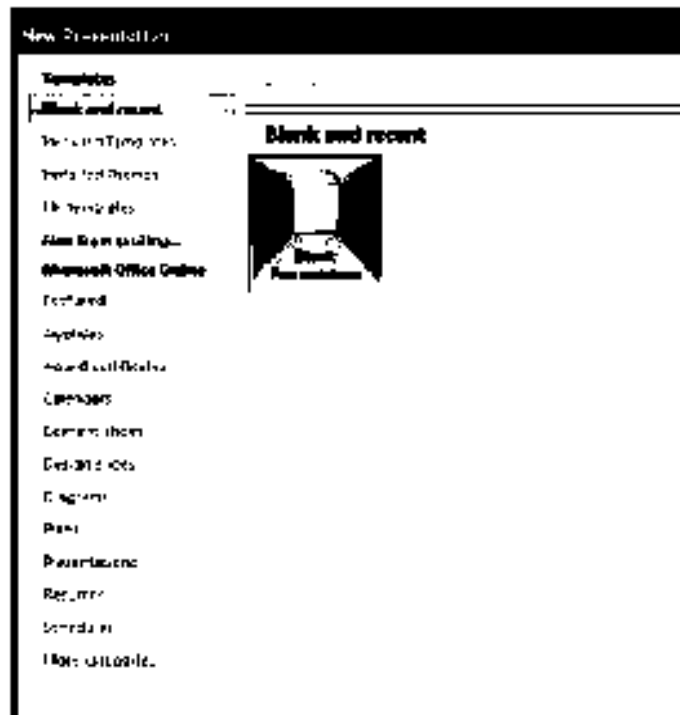
Creating a Presentation Using From existing presentations

New presentations can be created from the existing presentation file. The layout of the existing presentation is applied to the new presentation file being created.

To create a New Presentation from the existing presentation File:

1. Click the Office button.
2. Select the New option. A New Presentation dialog box is displayed,
3. Select New from existing option from the New Presentation dialog box.

4. A dialog box opens New from Existing Presentation dialog box)
5. Select a presentation file from the available presentation files.
6. Click Create New button.



Saving a Presentation

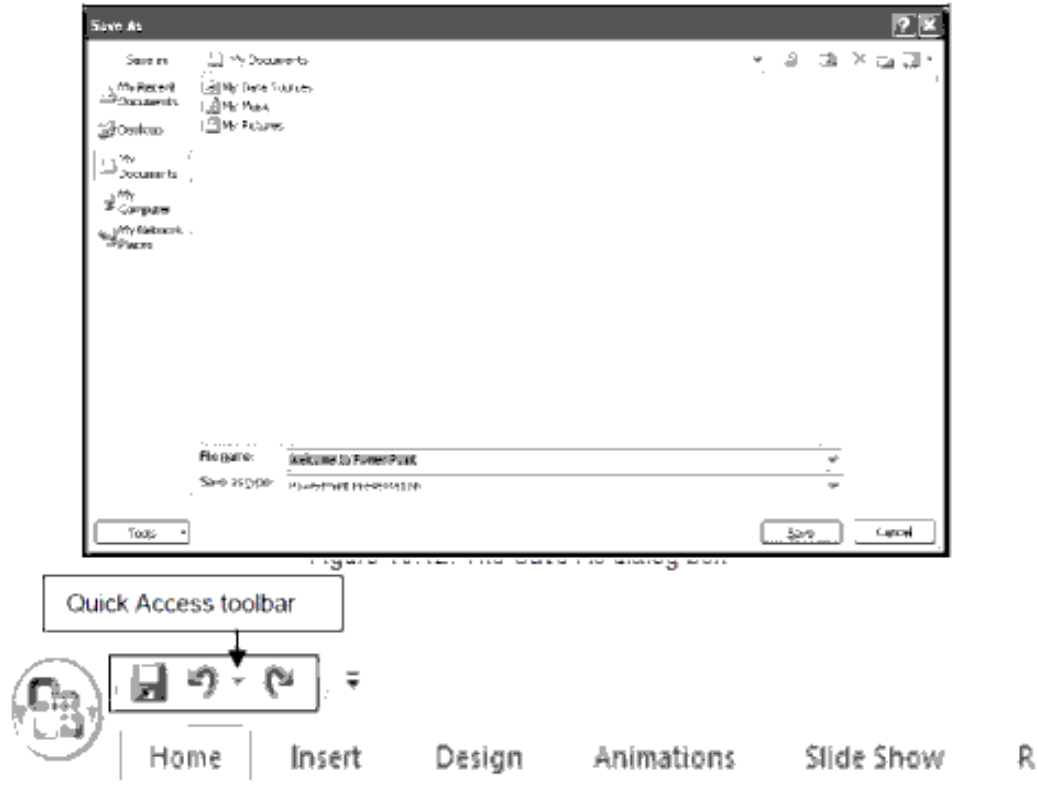
You have created a slide now. It is advisable to save the presentation before adding more slides. The steps to save a presentation are:

1. Click the Office button.
2. Select the *Save* option.

The *Save As* dialog box appears as in Figure 10.12.

3. Type the name of the presentation “Animals” in the *File Name* box.
4. Click the *Save* button.

The presentation gets saved with an extension .pptx.



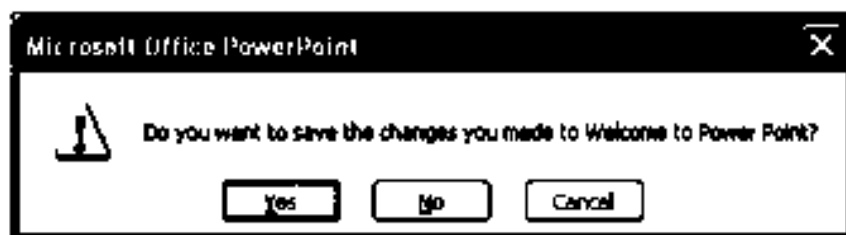
The *Save As* dialog box appears only the first time you save the file. When you choose the *Save* option again, PowerPoint will not ask you any questions and the latest changes will get saved.

Closing a Presentation

Once you have saved the presentation, you can close it. To close a presentation:

1. Click the Office button.
2. Click the *Close* option. The file gets closed.

However, if the presentation has not been saved PowerPoint displays a message box asking you if you want to save the presentation. To save, click the *Yes* button. Otherwise, click the *No* button



Exiting PowerPoint

To exit PowerPoint:

1. Click the Office button.
2. Select the Exit Power Point option.

The PowerPoint window is closed. However, if any presentation in that window has not been saved, the warning message box is displayed

Summary :

- PowerPoint is used for creating effective presentations.
- All PowerPoint presentations are divided into slides.
- Presentations can be created using the, Themes or Blank Presentation option
- To save a presentation file, click the *Save* option on the Office button.
- To close the PowerPoint window, click the *Exit* option on the Office button.



Teacher Activity

Demonstrate the usage of powerpoint to students with a demo project.



Test Your Knowledge

Fill in the blanks

1. _____ is used for creating effective and colourful presentations.
2. The _____ option is used to close the PowerPoint window.
3. Text in a slide can be entered only within _____.
4. To save the changes in a presentation, the _____ option is used.
5. The _____ option helps you to close the PowerPoint window.



Key Words

Presentation, Theme, Slide, Interface

Learning Objectives:

At the end of this chapter, you will be able to understand;

- State the advantages of using a Word Processor
- Start Word
- Enter and modify text
- Perform the undo and redo actions
- Save and close a document
- Exit Word

Introduction

When you write a letter or a report by hand, you might make mistakes. When you try to correct the mistakes, the paper becomes untidy. Writing by hand takes more time. It is also difficult to add pictures.

When you use a Word Processor, it is easy to correct mistakes without making the paper dirty. It is also easy to add pictures. The time taken to create a report is also comparatively less. You can also store your letters and reports for future use.

So, you can say that a Word Processor is a software that helps to create text files. A file created in a word processor is known as a document. Some of the commonly used word processors are WordPerfect, WordPro and MS Word.

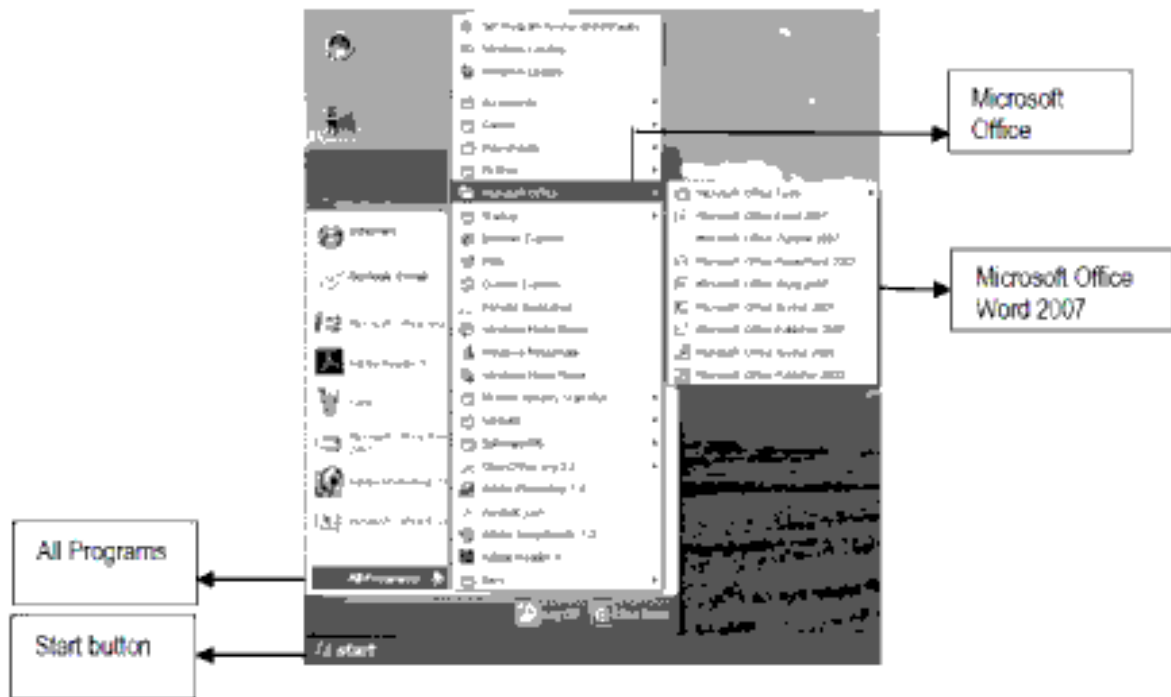
Now, you will learn about Word. Word can perform tasks like inserting and modifying text. It can also perform many more tasks like adding tables, inserting page numbers, checking your document for spelling and grammatical mistakes, inserting pictures and shapes etc.

Starting Word

To start Word,

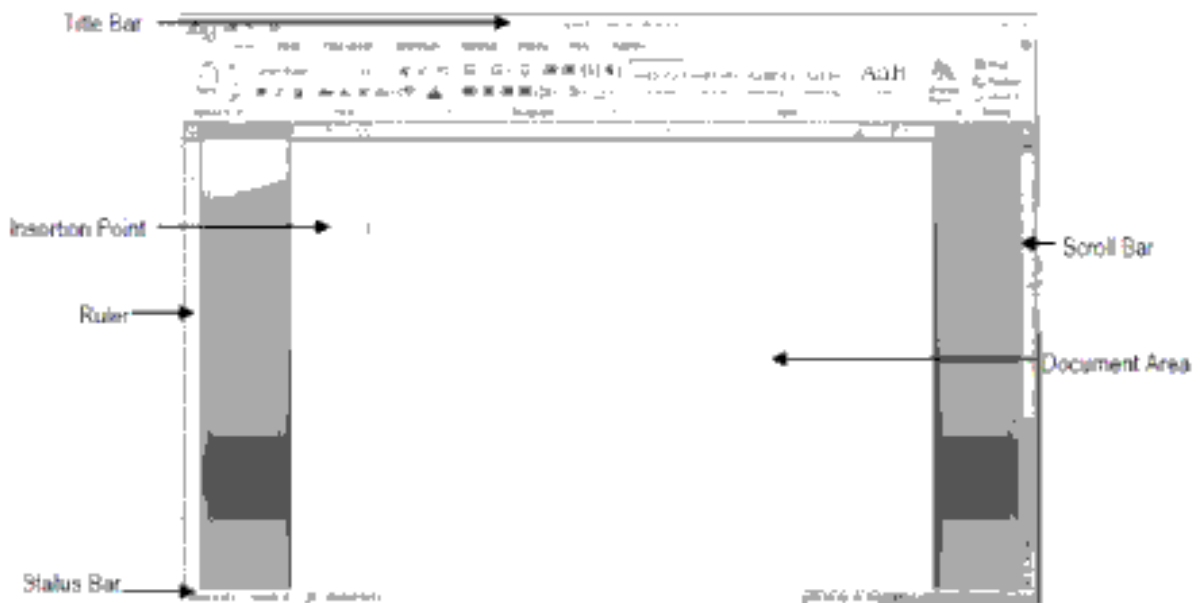
1. Click the *Start* button on the taskbar.
2. Choose the *All Programs* option on the *Start* menu.
3. Click the *Microsoft Office* option from the *All Programs* menu.
4. Click Microsoft Office Word 2007.

This opens a blank document window.



Components of a Document Window

When you start Word, a blank document window appears. The various parts of that window are shown



- **Title bar** –Shows the name of the document and the type of application.
- **Tabs** – Provides commands that enable you to instruct Word about the action that needs to be performed.
- **Toolbars** – Provide shortcuts in the form of images to frequently performed commands. These shortcuts are called icons.
- **Rulers** – Helps you to change margins and arrange the text properly in pages.
- **Document area** – Area where the text is typed.
- **Insertion point** – Blinking vertical cursor that indicates the position on the screen where the text or graphics will be placed.
- **Scrollbars** – Enable you to move up and down in your document.
- **Status bar** – Gives information on the number of pages in the document.

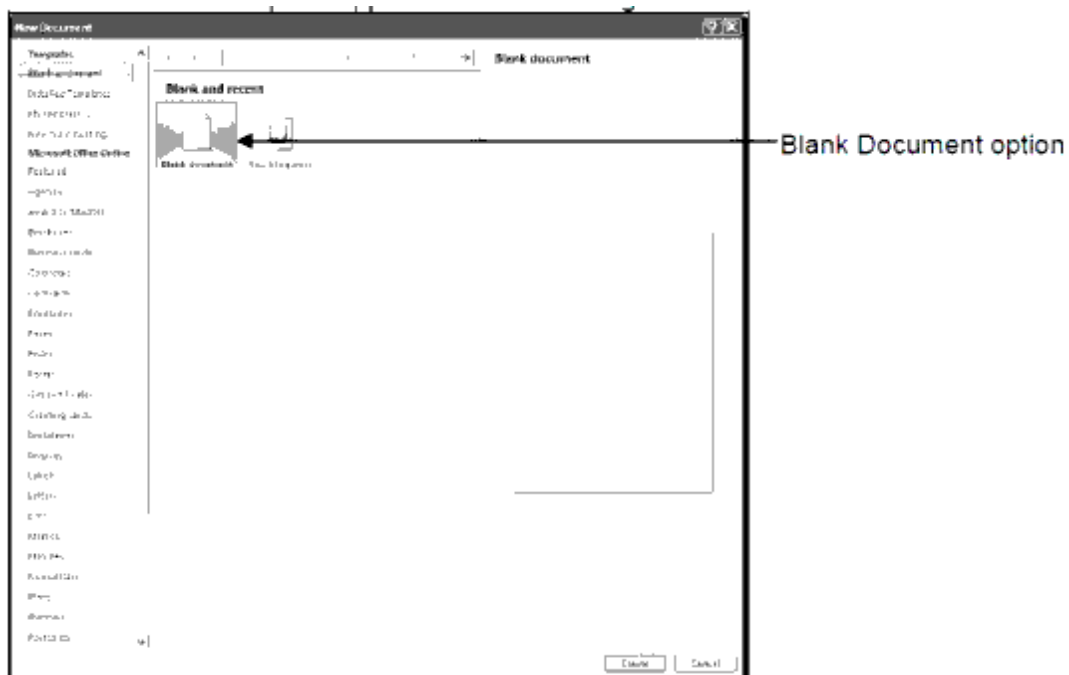
Creating a New Document

If a Word window is already open, you can create a new blank document using the Office button.

To create a new document:

1. Click the *Office Button*.
2. Click the *New* option.

The *New Document* task pane appears as shown



3. Click the Blank *Document* option.
4. Click the Create button.

A new blank Word document is created.

Entering Text

The cursor is now at the beginning of the document. Start typing the required text

The Solar System

The Solar System is like a family made of objects in the sky. The Sun forms the center of the solar system. It is surrounded by the other family members namely planets, moons, asteroids and comets.

Sun:

The sun is the most prominent feature in our solar system. It is the largest object and contains more than 99% of the entire mass of the solar system.

Planets:

There are nine planets; which move around the sun in elliptical orbits. The nine planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.

Moon:

Moons are the natural satellites that revolve around planets. There are more than 1000 moons in the solar system. The most notable of them all is the Moon that revolves around the Earth.

Asteroids:

Asteroids are metallic, rocky bodies without atmospheres that orbit the Sun but are too small to be classified as planets. They are also known as minor planets.

Comets:

Comets are small, irregularly shaped bodies composed of a mixture of non-volatile grains and frozen gases. These comets move around the sun in highly elliptical orbits which often go beyond the orbit of Pluto.

As you type, the cursor moves across the screen in front of your text. As your text reaches the end of a line, Word automatically brings the cursor to the next line below. The text you type now will appear in the second line. This feature is called *Word Wrap*.

Manipulating Text

If you make any mistake while typing, you can correct it easily.

To erase a character:

1. Place the cursor after the character you want to erase.
2. Press the *Backspace* key.

The *Backspace* key erases the character to the left of the cursor.

Alternatively, you can also use the *Delete* key to erase text.

To do this:

1. Place the cursor before the character to be erased.
2. Press the *Delete* key.

The *Delete* key erases the character to the right of the cursor.

Selecting Text

In Word, it is possible to work with blocks of text. For example, you may want to erase words, sentences or paragraphs. To perform any action on a block of text, you must first select it.

To select a word, place the mouse cursor anywhere on the word and double click it.

To select an entire line:

1. Move the mouse to the extreme left of the page till the mouse cursor changes to an arrow (↖).

To select an entire paragraph, triple-click anywhere inside the paragraph.

To select any text:

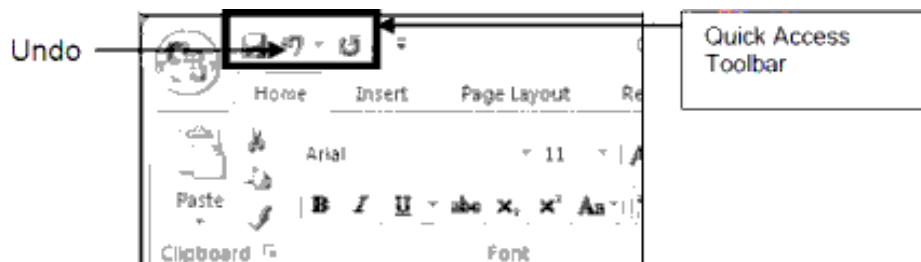
1. Place the cursor at the beginning of the text you want to select.
2. Hold the left mouse button down and drag the mouse across the text and release the left mouse button when the desired text is selected. The selected text will be highlighted.

The Undo and Redo Options

The *Undo* option is used to reverse the previous action.

To undo an action:

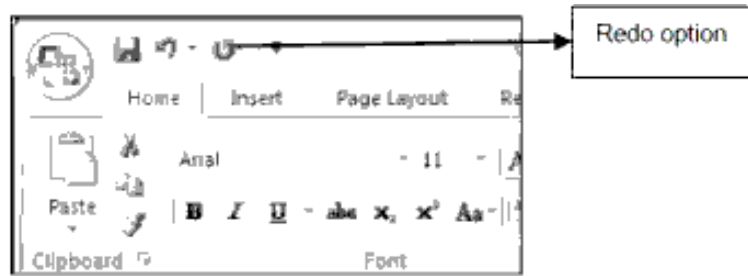
1. Click the *Undo* option from the Quick Access Toolbar



The *Redo* option is used to reverse the last *Undo* action performed on the document.

To redo an action:

1. Click the *Redo* option from the Quick Access Toolbar



To undo or redo multiple actions, click the arrow button near the *Undo* or *Redo* icon and choose the actions from the list of actions that it displays.

Redo option

Saving a Document

After you have finished typing, you have to save the document so that you can use it later.

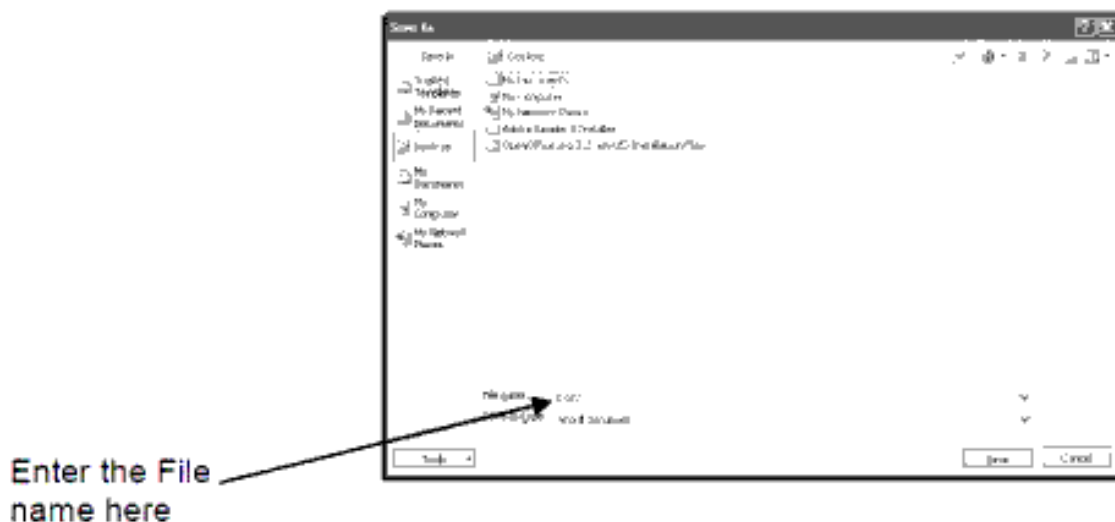
To save the document:

1. Click the Office Button.
2. Click the *Save* option.

The *Save As* dialog box appears as shown below.

3. Enter the file name in the *File name* box.
4. Click the *Save* button.

The Word document gets saved with an extension *.docx* in the default location. The default location for Word documents is the *My Documents* folder.



Once you have saved your document, you can choose the *Save* option any number of times. Word will not ask you any questions and the latest changes will get saved.

Using the *Save As* option

It is always safe to keep a copy of your documents in another location also. This would be useful in case your original document is accidentally deleted. You can use the *Save As* option to save your document in another place or to save the document with a new name. For example, to save your document on the desktop:

1. Click the Office Button.
2. Click the *Save As* option.

The *Save As* dialog box appears.

3. Click anywhere on the *Save in* drop-down list.
4. Select the *Desktop* option.
5. Click the *Save* button.

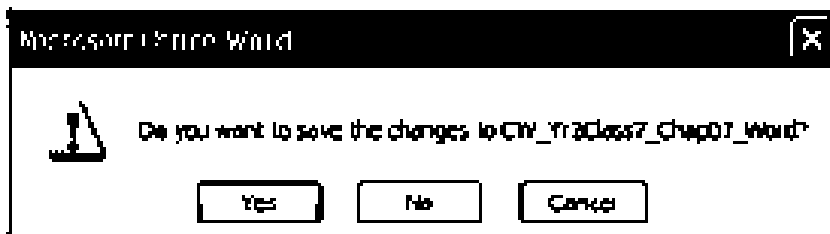
Closing a Document

Once you have saved the document, you can close it.

To close a document:

1. Click the Office Button.
2. Click the *Close* option.

If you have not saved the file, Word displays a warning and asks you if you want to save the changes to your document. To save the document, click the *Yes* button. If you do not want to save it, click the *No* button and proceed



Exiting Word

Once you have finished working and saved the document, you can close the Word window.

To quit Word:

1. Click the *File* menu.
2. Click the *Exit* option.

The Word window is closed. But, if you had some document open and did not save the changes, Word displays the warning dialog box.

Summary :

- Word is the most commonly used word processor.
- To create a new document, click the *New* option on the Office Button.
- The undo option is used to cancel the previous action.
- To undo an action, click the *Undo* option on the Quick Access Toolbar.
- The redo option will reverse the previous Undo action.
- To redo an action, click the *Redo* option on the Quick Access Toolbar.
- To save a document, click the *Save* option on the Office Button.
- To save a document in a different folder or with a different name, click the *Save As* option on the Office Button.
- To close a document, click the *Close* option on the Office Button.
- To quit Word, click the *Exit* option on the Office Button.



Teacher Activity

- 1 Explain the MS Word interface to the students
- 2 Demonstrate the Option & Learn in this chapter to student

Student Activity

1. Start Word.
2. Type a short essay in your own words on Diwali using the hints given below.

The Diwali ... An important festival... celebrated in memory of Lord Ram's return to Ayodhya after an exile of 14 years... people of Ayodhya decorated their houses... lit earthen lamps (diyas)... put on their best clothes... all in a joyous mood... all in honour of Lord Ram's return to Ayodhya... now the day is celebrated every year.

3. Make the following changes in your document.
 - a) Select the last line and delete it.
 - b) Undo the above action.
4. Save the document with the filename "Diwali".
5. Save the same document now on the desktop with the filename "MyFestival".
6. Create a new document and type the following text.

Mohandas K. Gandhi was born in 18 69 in the state of Gujarat in Western India. He married Kasturbai Makanji when both were 13 years old. His family later sent him to

London to study law, and in 1891 he was admitted to the Inner Temple, and called to the bar. In Southern Africa, he worked ceaselessly to improve the rights of the immigrant Indians. It was there that he developed his creed of passive resistance against injustice, satyagraha, meaning truth force, and was frequently jailed as a result of the protests that he led. Before he returned to India with his wife and children in 1915, Mohandas K. Gandhi had radically changed the lives of Indians living in Southern Africa.

7. Save the document as “Gandhiji.doc”.

8. Close the documents and exit Word.



Test Your Knowledge

Fill in the blanks

1. Word is a _____.
2. The point where your text gets added in the document is called the _____.
3. The blank area where your text appears in a document is called the _____.
4. The _____ option is used to reverse the last action.
5. A Word document has an extension _____.
6. The _____ option is used to save the same document in two different places.
7. The _____ option on the Office Button is used to close a document.
8. The _____ key is used to erase the character to the left of the cursor.
9. The Redo option is present in the _____ toolbar.
10. The _____ gives you information on the number of pages in the document.



Key Words

Processor, Document, Intersection, Scroll bar, Status bar.

Learning Objectives

In this chapter, you will be able to understand;

- Define the term Internet
- Know the history of Internet
- List the advantages of the Internet
- Understand the services available on the Internet
- Access the Internet

What is Internet?

Internet is an inter-connection between several computers of different types belonging to various networks all over the globe. It is a network of networks.

The enormous power that the Internet gives your machine is mind-boggling. Sending or receiving data within a matter of seconds to someone placed beyond the Pacific was unimaginable before the advent of the Internet. Internet represents the transformation and evolution of the entire information age. The flexibility, ease, and extent with which people communicate using Internet actually bring out the power of communication when compared to the other means of communication.

History of the Internet

In 1969, the Department of Defence (DOD) of United States of America started a network called ARPANet (Advanced Research Projects Administration Network). It began in a modest way with one computer in California and three in Utah. Later, to share the software and hardware resources, the military allowed universities to join the network, from where the students proceeded and developed much of the software, thus giving birth to the popular network of networks called Internet.

Advantages of the Internet

The Internet is an ocean of information. The Internet has information on all topics, which can be accessed by people across the globe with any kind of machine. The Internet is simultaneously a:

- Network
- Medium
- Market
- Transaction Platform

As a Network

Organizations use the Internet as a link between office and employees, making the Internet into a virtual private network. Such a network can be used to transfer official data, conduct meetings and conferences etc.

As a Medium

The Internet allows effective communication for people dealing with product marketing to corporate communications. For example, a company can advertise its products to all its branch offices across the globe.

As a Market

The Internet is a vast virtual market place. A lot of companies promote their products by advertising them on the Internet. Some Web sites even allow online shopping, that is, e-shopping market. For example, the Web site www.amazon.com allows you to shop for books and place orders online.

As a Transaction Platform

The Internet allows you to complete your business and financial transactions online by connecting to your suppliers, customers or financial institutions.

Even though the Internet community has shared some principles in the past twenty years, as such there are no strict rules that have been laid down for accessing data over the Internet. However a society called the Internet Society (ISOC) is working towards setting standards for all transactions over the Internet.

Internet Services

The Internet has grown enormously in the last few decades and every year sees new and easier ways of accessing the information. However, there are sets of core features that are considered essential tools on the Internet.

Some of them are:

- E-Mail
- Newsgroups
- FTP
- Search Engines
- Chat rooms

E-Mail

Electronic mailing, popularly called E-Mail is the largely used feature on the Internet. A number of service providers give you free e-mail accounts. E-mail is becoming very popular when compared to regular postal mail because of its benefits like there is no postage

and no delay. Printing E-mail addresses on business cards is becoming as common as printing telephone numbers.

Newsgroups

Newsgroups are discussions on a wide range of topics from recreational activities to scientific research. Any Internet surfer can access some of these newsgroups, whereas in some commercial newsgroups you need to subscribe and agree on not to forward any information to others. You can read any article or write articles and post them. You can even post follow-up articles and check for new article groups. You can use the e-mail facility to communicate with fellow users. A Newsgroup of interest is comp, for computer professionals

FTP

FTP stands for File Transfer Protocol. The FTP application is used to transfer files between computers. Several FTP sites permit you to access their files without establishing an account with them. These sites are called anonymous sites. When you logon to such a machine, on being prompted for password, it is considered polite to enter your E-mail address as a password. However, pressing the Enter key would be sufficient. While transferring files, it may be necessary to compress files to reduce the file size and thereby save time while transferring it.

Search Engines

Search engines are Web sites that allow the users to search on keywords or a combination of keywords. If the user wants information on music, then the user can type the keyword music in the edit box. The user can also select any of the headings specified on the page. For example, music can be found under Art and Entertainment. This is a link that takes the user to a page that has a number of subheadings and information on the main topic. The user has the option of selecting any of the subheadings to start another search. For example, under music, if the user selects rock music, then the engine will return a page having information on rock music that again might have list of bands playing rock music. Search engines allow the user to access various levels of information.

There are also certain engines that provide information and also start a search on various search engines available on the Web. Some examples of search engines are Google, Yahoo, Excite, and AltaVista.

There are two main types of search engines. Some like Yahoo use the catalogue system where you can locate resources quickly. Others like Google contain indexes where you can search for required information using keywords.

To enable better searching, most search engines allow you to use logical operators in search conditions. You can use an appropriate combination to specify the condition clearly. A list of such operators is given in Table

Operator	Meaning
AND	Use this if all the keywords must appear in the results. Alternatively use the + sign.
OR	Use this if you want to search for any of the keywords.
Wild cards	Use wild cards (* or ?) if you want to search for various combinations of the keyword.

Use a specific condition if a search results in too many matches. Conversely, generalise the search condition if the search results in too few matches.

All these sites also provide a help feature that will guide you to perform efficient searches.

Chat Rooms

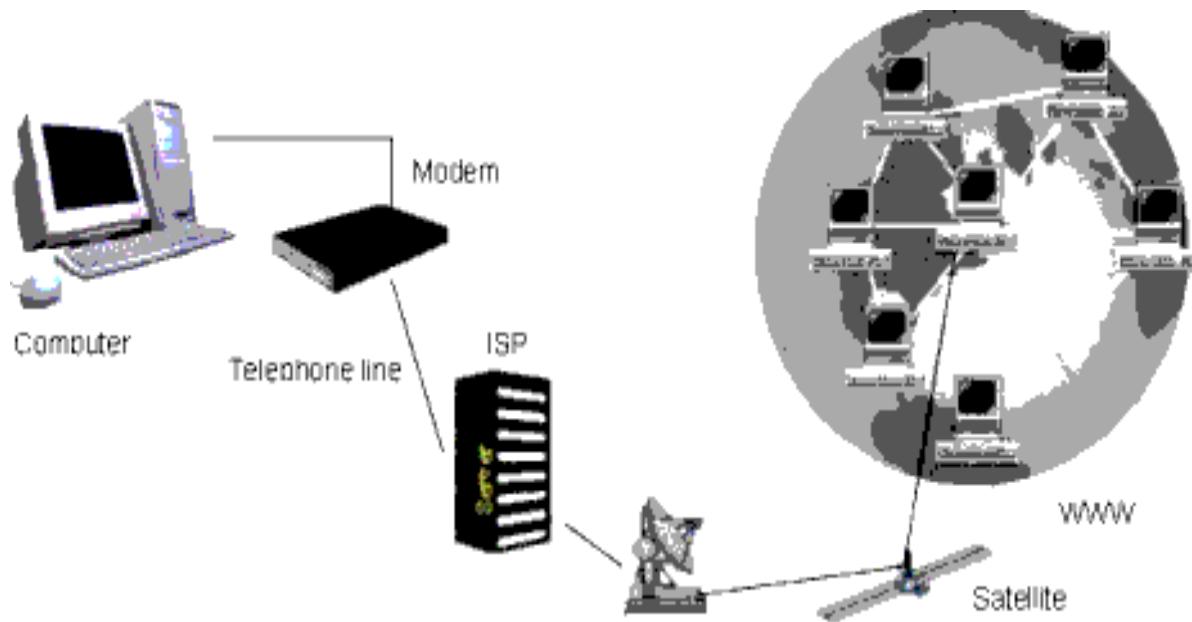
The user can log on to certain Web sites and communicate with various other users on-line by using an Internet chat software, which is an interactive software that allows the user to type comments in one window and receive replies in another. Such Web sites are called *chat rooms*. It is a conference kind of a system where users can have discussions on various topics, ranging from what the world looked like in 9 B.C to what it might become in 3000 AD

Accessing the Internet

To access Internet, you need:

- *A computer* - It should have at least 16 Megabytes of RAM is required, as it will need to run several programs simultaneously.
- *A communication software* - It resides on the computers hard drive. It enables the computer to send and receive information on the Internet.
- *A telephone line* - It is used to get connected to the Internet. When you are using the Internet, you cannot make or receive phone calls.
- *A modem* -Modem stands for *Modulator – Demodulator*. It helps your computer to communicate with another computer. It converts digital signals to analog and vice versa.

- *An Internet Service Provider (ISP)* - Internet Service Providers are companies that provide access to the Internet. ISP has computers that are always connected to the Internet. The biggest service provider in India is VSNL. Figure 21.1 shows how to access the Internet.



The computer is connected to the ISP through the telephone lines. The ISP will connect you to the Internet through the satellites.

Types of Internet Access

There are two types of Internet access, Dedicated Internet Access and Dial-up Access.

Dedicated Internet Access

The Internet can be accessed directly. For this, you need Dedicated Internet Access. A dedicated connection allows your computer to remain connected to the Internet 24 hours a day. Usually, large companies and universities have such a connection. Dedicated lines are expensive because they require special hardware.

Dial-up Access

In dial-up access, you have to dial the Internet Service Provider using the communication software on your computer. In this access, Internet can be accessed only for a fixed number of hours. There are two types of dial-up access, namely the IP account and the Shell account. The main difference between the IP account and the Shell account is that the shell account can access only text and not graphics where as IP account can access both.

The differences between Dedicated Internet Access and Dial-up Access are shown

Types of Internet Access

Dedicated Access	Dial-up Access
<ul style="list-style-type: none">● Direct access to the internet● Allows your computer to remain connected to the Internet 24 hours a day	<ul style="list-style-type: none">● Need to dial the Internet service provider to access the Internet.● Computer can be connected to the Internet only for a fixed number of hours.

Summary :

- Internet is an inter-connection between several computers of different types belonging to various networks all over the globe.
- The first network, ARPANet, was developed by the Department of Defence (DOD) of United States of America in 1969.
- The Internet is an ocean of information accessible to people across the world, but the way it can be put to use on various platforms is different.
- Some of the services offered by the Internet are e-mail, newsgroups, FTP, search engines and chat rooms.
- To access Internet, you need a computer with a communication software, a telephone line, a modem and an Internet Service Provider (ISP).
- There are two types of Internet Access, Dedicated Internet access and Dial-up access.

Test Your Knowledge

Fill in the blanks

1. _____ is an inter-connection between several computers of different types belonging to various networks all over the globe.
2. The first network developed by the department of defence is called _____.
3. _____ are Web sites that allow the users to search on keywords or a combination of keywords.
4. _____ are companies who provide access to the Internet.
5. _____ is used to connect to the Internet.

6. A _____ connection allows your computer to remain connected to the Internet 24 hours a day

 Key Words

- ARPANET
- Modem
- Service Provider
- Search Engines
- Chat rooms

PROJECTS

1. Prepare a tree diagram of your family by using power Point.
2. Prepare a list of your friends names using word.
3. Type a small praragraph from your English textbook.