

BASIC COMPUTER EDUCATION



Written By :

B.L. Sharma

M.A., M.Ed., M.Phil., Ph.D.
Ex-Incharge
C.C.S. University, Meerut (U.P.)

B. M. Saxena

M.A., M.Ed., Ph.D.

Dr. Naresh Pratap

M.Sc. M.Ed., Ph.D.
SRMIST Deemed University, Modinagar

CONTENTS

1. Computer : Introduction	3-9
2. Historical Prospectus of Computer	10-18
3. Structure of Computer	19-28
4. Using Computers in Education	29-31
5. M.S. DOS	32-58
6. Word Processing and Microsoft Word 2000	59-69
7. Microsoft Excel 2000	70-77
8. Microsoft PowerPoint	78-105
9. Computer Network	106-107
10. Internet	108-114
11. Database Management System	115-118

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Chapter 1

COMPUTER : INTRODUCTION

"Computer has an important place in the scientific inventions of the history of Human Culture. It comes in the series of that inventions which give a new direction to development of human culture."

**Q.1. What do you understand by computer? Why computer invented? Explain in brief. Or
What is computer? Discuss in brief the invention of computer.**

Ans.

Meaning of Computer

The word computer is obtained from the English word ‘Compute’ which means to calculate or to count. In the early stage of development of computer, the main work of it was only to calculate, but with the technical development of computer, the work of it has increased. In computer these works are performed in following four steps—

1. Input of data
2. Storage of data
3. Processing of data
4. Output

These data can be given in the form of sound, written, graph or in any other form.

We can say that, computer is such an automatic and multi-functional electronic device, which remains active as it is **put on** and can perform variety of work. Computer has much effect of logical efficiency and memory. Modern computers have capacity to store and accept the instructions of user and to follow them word by word.

Definition of Computer

It can be defined as, “*Computer is such an electronic device which presents the true and trustable result in a quick time after the processing the received informations according to given instructions.*”

Why Computer is Invented?

Necessity is the mother of invention.

If we observe our surroundings, we'll notice the interference of computer. In our daily deed, the use of computer is constantly increased. The bills of telephone and electricity come to our house are prepared by computer. The mark-sheets of board and university examinations are prepared by computer. At many Railway Stations the reservation are also computerized. Most of the work of publishing is done with the help of computer. The use of computer is increasing day by day in factories, high educations and researchers. Since, the word computer is derived from the word ‘compute’ which means to do calculation, so it is clear that the computer is related with calculations.

Since, ancient time man has been using different means to calculate. In the absence of perfect calculation, neither the making pyramids nor the making of canal and dam would be possible. In that time the making of all these, high technical talent and minute and exact calculations were done in the absence of computer, then why the need of computer is felt, when the cheaper and easier methods are available. Why computer is invented?

At the time of second world war, it was felt that to get a better war like estate there should be fast development in the field of science and technology. To contend the tanks which hit aeroplanes and submarines can hit at the long distance, it became necessary that a higher capacity device should be developed, which can attack an invisible target. To fulfil their need Radar was invented. The place of enemy, the direction of their movement and speed etc., all these facts can be confirmed with the help of Radar. But for this the true and trustable results of complex calculation required in a short time. And it was impossible due to the limited capacity of human brain. Now such a machine, which can do such calculations in a short time without any error, was required.

This requirement became the reason to invent the computer.

Q.2. Discuss in brief the uses of computer in modern society.

Ans.

Use of Computer in Modern Society

In the beginning, computer was used basically for calculations, but now its field has been more expended and broad. Now-a-days computer is being used in the forecasting of weather, designing of machines & buildings, way deciduation and instruction of space ship etc. In the present time, several tasks, like, to analyse the disease, to reservation of seats in trains and aeroplanes, the preparation of daily letters and documents of offices etc. are also needed the help of computer daily.

Computer has proved its usefulness in all fields of human-life. Some special fields are following—

(1) Education and Teaching—Now-a-days in the field of education, computer is used on a large scale. From the primary education to higher education computer is used. In education computer is treated as a subject as well as a teacher. In the field of education computer is mainly used in following fields—

1. For educational instruction and advice.
2. To create marksheets of students and to create the certificates.

The modern technique for the use of computer is the information technology, that is to say internet is being used in the field of education. Different educational boards and institutions publish their results on internet. By this students get their result in a short time. In Newspaper only division can be confirmed, but on internet “marks obtained” can also be confirmed.

(2) Weather Forecasting—On the basis of information which are given by the artificial satellites of earth, weather scientist analyse the weather. On the basis of the information they do weather forecasting with the help of computer, by collecting the old information and on the basis of these information, the changes of weather are analyzed.

(3) Banking and Accounting—The work of data management and different calculations can be done with the help of computer, so the usefulness of computer is the most important in bank and in different financial institution. Generally the banks in which till now computers are not used, provide customer service till 2 O'clock afternoon. After that they prepare accounts of all the transactions of that day. But the bank which are computerised, provide extended customer services. The accounting which was done manually by bank clerk, now is done by computer in very short time. The passbook entry work was also a time consuming task, but now with the help of computer it has become too easy. In computerized banks we can get printout of our accounts in a short time.

From banks and general business association to housewife, all of them need accounting. Accounting is done on the basis of arithmetic calculation, so the computer has been proved useful for this work. Not only for accounts, but also for inventory work computer is used. Now for business organisation, there exist a programme for both account and inventory called Tally 5.4.

(4) Scientific Research—In the primary and mediatory time of scientific research, the calculations which were related to research were too complicated and irritating. There was so much wastage of time and power, as well as possibilities of mistakes also. Computer has established its usefulness in this field also, so that there is additional increment in the amount and storage of scientific research. Now computer is mainly used in scientific research of Mathematics, Physics, Chemistry as well as Biology.

(5) Space Science—The interference of computer in space science can not be ignored. Human had reached on moon only because of computer. For rocket, the errorfree calculations in a little moment and to decide the way on the basis of these calculations has been possible with the help of computer. With the help of computer today human is seeing dream to reach at Mars and Jupiter. Today many satellites are installed in the space, which has been possible with the help of computer.

(6) Military—Now-a-days military and other defence facilities are more modern. Whether at the time of war or peace, the communication of military should be perfect. The exchange of informations gives a definite direction to important decisions. If communication is computerized, then the exchange of information can be done in short time. Now-a-days missiles are used in military. If the control of the missiles, which attack land to land or land to air, is computerized the possibility of lurk from the way will be zero.

(7) Business—In the beginning of development of computer, it was used only to solve the equations, but now it is used for different works. 80% of the work, which is done with the help of computer, comes in professional series.

In the field of business, computer was used in beginning for the office related work. Mostly office related deeds are basically designed on a decided model. This work was managed in a structured files, so the use of computer for these type of work did not occur any problem. Different paper works which took a lot of power and time, can be done with little effort and in short time by computer. Some uses of computer in business are as follows—

(1) Information of Worker's Salary—To create description of salary etc., by computer, comes in primary professional uses. In the descriptions of worker's salary, all related informations such as his name, designation, basic salary, special bonus, income tax deduction, salary increased etc are provided to computer for every worker. Now according all informations a worker gets his salary. The changes in fringe benefits like house rent, medical, conveyance, incentives, stored in some masks files.

(2) Stock and Sales Control—Keeping records of manufactured material and the accounts of sales can be done with the help of computer. Account of sales and stock inventory can be maintained with the help of computer. In which storeroom how much and which material is stored, how much material received and how much material delivered for which purpose (sales or samples) etc. all these informations can be stored in a computer. On the basis of these facts businessman can control manufacturing and can create new strategy for sales.

(3) Management—Computer is also used in perfect management. Informations has special place in management. With the help of computer, new information can be gathered. So, the decision which are based on true information, proved more satisfying and trusty. In the special subject of management operational research, decision is taken on the basis of scientific methods. This work analysis is done by PERT & CPM technique. Computer are useful for this work also.

(4) Production—In industry outline of production, co-ordination in different departments etc. can be done by computer. Computer is also used to operate different machines. In chemical industry and other process industry, all processes are controlled by the computer. By this security and the quality of product also increases along with savings.

(5) Census—Any work, in which facts and informations are to be used, computer has proved its worth. Census is also this type of work. The use of computer in Census started in it's beginning in 1886,

6 | Basic Computer Education

Hermon Hollerith working in American population bureau, invented an electronic tabulating machine, to make ease the working of census. With the help of this tabulating machine, the work of census which would be completed in five years, was completed in only two years.

(6) **Computer Robots**—Computer robots are generally known as “Machine Man.” But in reality computer is a machine which can do revising, bearing, dangerous work for man, but there are some differences robot and automatic machines. Some dangerous works such as to lift very hot things, or to maintain radioactive things can be done easily by robots. Associated with many censors and computer controlled robot, can do many works by its own decision also. It is not compulsory that all robots are as same as humans in structure. The first robot, which was used in industry, was installed in General Motors Company in 1961. Mostly robots are working in factories of motor cars. The two main works they do, are welding and painting.

Earlier robots were mechanical but now computers are being used in them. Artificial Intelligence (AI) is mostly used in robots. The working capacity and the thinking capacity of robots has increased. They are also used in atomic experiments and space missions. They are doing such works which are hard for a human being. In American space ship ‘Wiking-2’ the main working ‘person’ sent on Mars, was a robot and this session was completed successfully.

(7) **Telecommunication**—Artificial satellites are also used for telecommunication. For the live telecast on television and telecasting of programs on different television channels, computer is used. Other media of telecommunication such as internet, e-mail, fax etc., are only possible by the computer.

We can say that the field of computer is very broad. Today in each field of human life, computer has been used in many forms.

Q.3. Describe in brief the importance, merits and demerits of computer.

Ans.

Importance of Computer

Computer has rooted completely in modern life of human. It is an information dependent electronic device. In it the collection of informations, analysis and mordernization can be done very easily and with expertise in very short time. For important decisions in different fields of human life, new and true informations are necessary. So the importance of computer has established in each field of human life.

Characteristics of Computer

Because of its special characteristics, today computer is entering in every field of our life. Its main characteristics are as follows—

- (i) Speed
- (ii) Storage Capacity
- (iii) Accuracy and Reliability
- (iv) Versatility
- (v) Automation
- (vi) Diligence

(i) **Speed**—Because of its speed, we can say that computer is such a calculator by which impossible scientific calculations can be done in few seconds. Today the use of computer is increasing in field of military, science and education. Computer is an electronic device. Today computer do calculations with speed. We can understand it, as the unit of speed is second, micro-second (the lakh part of second it means 10^{-6}), nano-second (10^{-9}), modern computer takes 300 to 400 nano-second to add numbers of 18 to 20 digits. A person can take almost the whole day but a micro computer can follow, one lakh instruction in a second.

(ii) **Storage Capacity**—Any person needs memory to do all works of mind. If we do any calculation, we reply after storing the result in our memory. But a human can store limited informations in his mind.

So the information which become older, he starts forgetting them. The memory of computer, which is too big, we can store many information at a time. e.g. a small compact disk can store the information which can be written in thousands of pages. By a laser disk forty million words can be stored. The unit of computer memory is kilobyte. A kilobyte has 1024 memory parts. It is too hard to store all informations in the internal memory of computer, so for this purpose we use external memory. In external memory we can store any number informations; and these informations can be used any time.

(iii) **Accuracy and Reliability**—Computer has more capacity to present accurate results. Solid electronic apparatus of high capacity are used in computer. There is no possibility to be wrong of analization and the result which is produced by there electronic apparatus. Mostly the inaccuracy of result in computer is because of the user's mistake and because of any damage in hardware, there is no other reason possible for it. Computer has more capacity to correct the mistake than other machines.

(iv) **Versatility**—Now a days computer is used in such works, which are seldom imagined by human. The versatility of computer can be determined by, that one side where many artificial satellites are moving in space with the help of computer and the works of presenting the result after analysing the satellite's informations is also being done by computer. On other hand computer is used only for data entry and to play the games. It is presumed that as the electricity has become necessity for every house, such as in the coming time computer will be used as a necessary apparatus in every house, whereas in foreign countries it has already been started.

The work which is to be done by the computer, is arranged in a definite order, then data is moulded in a pre-defined pattern which will be accepted by computer. So by computer following four works can be done—

- Exchange of data by input-output devices by user.
- Internal transfer of information.
- Find the result of algebraic calculations.
- Comparable discrimination of informations which have been input in the computer.

(v) **Automation**—Once the program is loaded in the memory of computer then each message is executed by central processing unit (C.P.U). This execution by central processing unit remain till the end of program occurs. With the help of programs which are programmed in high level languages, computer can take decisions on the basis of facts. It means an artificial intelligence can be generated in computer.

(vi) **Diligence**—Computer is an electronic device, so there is no sign of tedium, after doing lot of work, but many mechanical devices show sign of tedium. If computer is used in proper atmosphere, then it can do work with more diligence. If a person also works regularly, then after a time period the mind of human also feels weariness, and because of this he loses control and starts doing mistakes.

Demerits of Computer

As a coin has two faces, so computer also have some demerits—

(1) **Unemployment**—With the help of computer more and difficult work can be done in a very short time. So less manpower is needed to do the work by computer. Because of this any organization will need less employees and this will lead to unemployment. Today when population is increasing at a high rates, in this situation very less people get job, so it is natural that unemployment will increase.

(2) **Dependency**—We get so many facilities from the use of computer, that we become habitual of them and we depend upon computer for our different works. Today we are not using computer directly but we are using the facilities which are provided to us with the help of computer e.g. Reservation in trains and aeroplanes, keeping of our accounts in bank, highlevel medical apparatus in hospital etc. If by any reason computer gets any fault, then the facilities became irregular, whereas before the use of computer these facilities were available.

Q.4. Write short notes on the following—

- (a) Impact of Computer on Education.
- (b) Role of Computers in Education Administration.
- (c) Computer and Human Mind.
- (d) Difference between Computer and Human.

Ans.

(1) Impact of Computer on Education

Computer was discovered for different types of calculations. Seeing the usefulness of computer, the interference of computer is increasing in each field of life and it has proved its usefulness in each field. In this situation, education which is such an important field, so how can it be untouched from this?

Computer is being used from primary education to higher education. Stored information becomes hoary in human's mind, but the information which are stored in computer remains the same. If a student is not understanding a subject in one time, then with the help of computer he can study this subject regularly, which is not possible by a teacher. So computer is used as a teacher as well as a teaching subject. By the use of computer in teaching, each student get his personal profit. By the use of computer a student do not have to study more books, there are some encyclopedias which exist in computer. As we see that education gets the amplitude with the help of computer-aid, we can study subject, we want in very short time.

(2) Role of Computer in Education Administration

The role of computer is constantly increasing in educational administration. Any school, which have several students, any board examination, in which lacs of students participate, need computer to store necessary informations of the students. As this work require many clerks and a large accommodation, it can be done on a table with the help of computer by an operator. To edit stored informations in computer is more easy than to edit stored informations in registers.

The important part of educational administration is—examination. Examinations are of many subjects in which many students appear. Checking of answer book can be done with less manpower in very short time by the use of computer. Now-a-days all competition examinations use the answer book, which can be checked by computer. All educational boards are publishing the results on the internet.

So, we see that for educational administration computer is proved as an important media.

(3) Computer and Human Mind

Computer is made by a man. So, computer can not be called better than man but we can say that it can do work with more accuracy than a man.

Man's mind has its own limitations. His working capacity gets effected by age, atmosphere etc. Because of this computer is more trustable than a man, computer does not get effected by any thing. A human mind has at most 100 billion nerves. These nerves get all information from different mediums, these mediums and related informations are—eyes (vision), ear (listen), skin (touch), nose (smell) and tongue (taste).

More than one lakh kilometer longer, dendrite kneaded together. There is a joint between these dendrite, called synapse. Only because of them, all instructions of mind go to different parts and all information of different parts to mind. By the extension of the circuit in the different parts of the body, memory and mind etc. are operated. In computer in place of circuit of nerves, there is a net of ICs wires etc. Computer do the calculation with the help of this net. All the works, which computer do, are based on calculation.

(4) Difference Between Computer and Human

- (i) Memory of computer is more trustable than memory of a human. The informations which are stored in a man's mind, can be changed by daily experiences and feelings.

- (ii) Memory of a man becomes weak as age increases, whereas computer does not have effect of age.
- (iii) In a man-mind, the speed of flow of binary signal is 10m/sec. It means man-mind can accept 40,000 instructions in second, whereas in computer, the speed of binary signal is 22 magma/sec and it can accept 15 billion instructions in a second. Because of this difference a man take more time to analyse any thing, whereas computer needs 2 or 3 nanosecond.
- (iv) Different calculations can be done more fast by computer than a man's mind.



Chapter 2

HISTORICAL PROSPECTUS OF COMPUTER

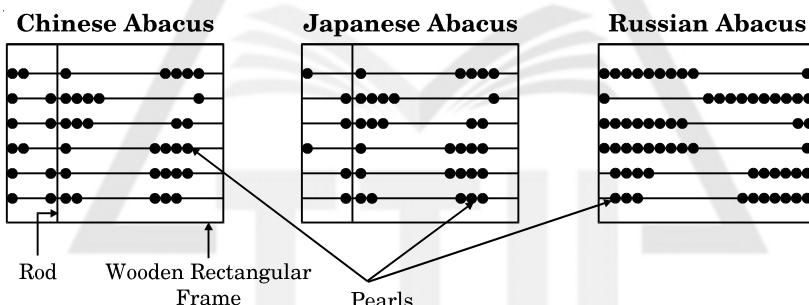
"The schools in which computer education is in way, there does not exist any computer laboratory. Government should decide a standard for laboratory and after inspecting the laboratory they should give authority of computer education to school."

Q.1. Discuss in brief the History of Computer.

Ans. History of Computer

From the ancient time human being was curious and because of this curiosity human is different and better than other creatures. Human felt the need of calculation from the Stone Age. He needed to account of exchange the things, but because of lack of knowledge, he was unable to do this. At that time the only way for this work was calculation with small stones. They put small stone for everything. This can be called starting of calculation.

After this start human used fingers for counting. By this calculation can be done in a little amount. In this age hunters wanted to know that how much animals, birds etc., are hunted. To do this human started to make picture of animals birds on clay walls. At most in 600 B.C. first real try for calculation was done in China. An accounting device called Abacus was discovered. Abacus is a counting device, which became famous in whole world by China through Japan & India.



Abacus Machine of Different Countries

Abacus is known as the first Model computers. This machine is used till now to teach counting to the children.

In a wooden rectangular frame, there are metallic wires in which source pearls exist, this whole machine is called Abacus. The wooden frame is divided in two parts, in which one part is big and other small. The smaller part is called Heaven and the bigger part earth. In this frame there are many wires which are tied left to right and all are parallel to each other. In a wire, can be exist five or more pearls. In Chinese Abacus, in each row of smaller part there were two pearls and each of them represents value five. In each row of bigger part, there were five pearls and each of them was to represent a digit. Pearls had to be shifted in middle from up to down each row represent Ones, Tens, Hundreds, Thousands, Ten Thousands, Lakhs and Ten Lakhs, respectively. By shifting of these pearls, addition, subtraction, multiplication or division can be done.

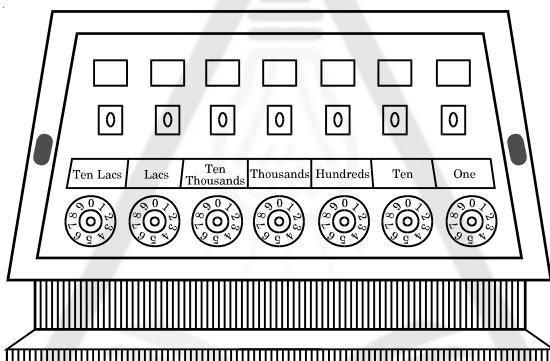
Abacus is used till now. Many students prefer to calculate by Abacus instead of by calculator and in competitions with the help of Abacus result can be produced soon.

Abacus made in Japan was different from the **Chinese Abacus**. In this Abacus on the left side of middle rod there exists only one pearl and remaining five pearls exist on the right side of middle rod. After some time a Russian Abacus were discovered. It was different from both Chinese and Japanese Abacus. In the rectangular frame of this there was no middle rod and each row had ten pearls.

A mathematician of Scotland, **Sir John Napiour** discovered a calculating device, in year 1617, which was known as **Napiour Bones**. In this device there were two rods made by bone. These rods could be joined. By this device addition, subtraction, multiplication or division could be done so easily.

William Otraid of Germany, discovered a calculating device named slide rule, which was based on the **theory of Logarithm**.

First mechanical calculating device was discovered by a French nineteen year old young boy, **Blaze Pascal** in year 1642. This device was named Pascaline. In this mechanical device there were gears, wheels and disks. The numbers 0 to 9 were written on each wheel. When a wheel rounds whole, then the next wheel would shift from a place. It means if wheel of one rotates ten times then the next wheel often rotate one time. By this machine only addition would be done.



Pascal Model

After this a German Mathematician **Kummer** developed a machine, which could do addition or subtraction of any number of digits in any order. This machine became very famous.

British mathematician and inventor **Charles Babbage**, who was a professor in Cambridge University, imagined a complete computer and to make this imagination come true, he gave his total life and money. In the year 1822, he succeeds to make a working Model of a machine by which algebraic equation and arithmetic tables could be solved and the result was true till the third place of decimal. This machine was named as Difference Engine.

After this he started to make it more big and powerful. Now he was trying to develop it, to that the result should be true till the twentieth place of decimal. In 1842 he presented a new concept of analytical engine in front of world. This had all qualities of modern computer. This had facilities of, Input, process unit, control unit, memory and output.

Charles Babbage didn't see the working model of Analytical Engine. He died before this would be completed. Because of this extra ordinary work in: computer field, Charles Babbage is called father of modern digital computer.

His assistant Ada Augusta proceeded his work, Ada Augusta stored instructions in Analytical Engine first time and Analytical Engine worked according to these stored instructions. She is known as the world's first programmer. With help of Charles Babbage Ada developed binary numbers system. To make respect of Ada's this work; American Defence Department gave name Ada to the special language which was used in this department's computers.

12 | Basic Computer Education

After almost fifty years of concept of Charles Babbage's Analytical Engine, American scientist **Herman Hollerith**, who worked in American Census Bureau, developed Electrical Tabulating Machine.

In this machine information's were stored with the help of punch cards. These punch cards were put on tabulating machine and the needles which were mounted in this machine, read the data from the punch cards. When these needles go through the hole of card, then they touched the mercury and the electric path was completed. With the help of Herman Hollerith's this machine the work of Census, which go for five years could be completed only in two years.

In 1886 Hollerith established a company named Tabulating Machine Company for the business of these machines. In 1911 other companies added to this company. Hollerith named this wide group of all companies Computer Tabulating Recording Company.

In 1924 this company was named with new name-International Business Machine Co-operation (IBM). In the end of 1930, IBM had right on 80% of the world, which was made by Punch cards. Because of IBM, Mechanical equipments used at that time, changed into electro-mechanical equipments.

In third and fourth decades of twentieth century different countries Germany, Britain, United States of America, Russia etc. were running in the race of computer making. In these decades computer techniques processed extremely.

In 1948, **Howard A. Aiken**, a scientist of Harvard University, with IBM got success to develop first electronic computer named Automatic Sequence Controlled Calculator. This was named MARC-I. There were 800 km length wires in this broad computer which was of eighteen mts. long and three mts high. It had thousands electro-magnetic relays, hundreds of electronic tubes and many other components. This computer could produce the multiplication of two numbers of 23 digits in just four and a half second. This computer made a noise at working time and exhausted heat very much.

In 1946, Moore School of Engineering, of University of Pennsylvania developed **Electronic Numerical Integrator and Calculator (ENIAC)**. It was a machine which did work faster than **Mark-I**.

This machine could do 5000 addition and 350 products in a second. Lack of memory storage facility, some computer scientist, say it a calculator not computer.

After it many large computers were made, which did work on Binary method and that also had facility of memory storage. There are some examples of these-EDUAC, EDSAC, UNIVAC-1 etc. ●

Q.2. Discuss in brief the Classification of Computer.

Ans.

Classification of Computer

Generally when we discuss about computer then it means-electronic digital micro computer, in which a key-board, a monitor and a printer are also added.

Electronic computer can be classified in following groups—

(i) **Analog Computer**—The word of Greek language analog means to establish similarity between two numbers. In analog computer, by changing physical methods in electronic signals with the help of electronic circuits used regularly. Analog computer is used to help of instruct the job to be regular after making the model of physical task. This type of computer does not present cent-percent accurate results, but by these computers at the most 99 percent accurate, result can be achieved.

(ii) **Digital Computer**—Generally the meaning of computer is the digital computer. In digital method digit can transfer from their place. Digital computer does its work after changing all received information into binary digit.

On the memory of digital computer a digit or alphabet is designed by switching of binary codes 0 and 1 in different blocks. In which block 1 binary code reaches that block activates and in which blocks binary code reaches, becomes idle.

Digital computer does all calculations multiply, divide and even power also do by adding. Because of its capacity to do lakhs or cores calculations per second. This computer can solve typical problem in very short time and the result of the calculation is cent-percent accurate. Digital computer has following characteristics—

- (i) For analization of information's, to store those till the needed time
- (ii) Execution of given information's
- (iii) Analysis in very short time
- (iv) Cent-percent accurate and real result.
- (v) Small size, light weight and low price.

(iii) Hybrid Computer—By incorporate of good characteristic and speciality of analog compute and digital computer, hybrid computer is invented. Such an apparatus is robot, by which many works are done automatically. In the system of analog computer does not present accurate answer. So to accurate the result it's signal are converted in digital form. For that work some special devices are used, which called modem, which is the short form of modulator demodulator. Modem does the work to convert analog signal in digital signal and to convert digital signal in analog signal. Hybrid computer is used an assistant computer which is joined with a main part of computer.

(iv) Optical Computer—Now in the development of computer of fifth generation, optical fibre is used to connect one part to another part. Calculation part of this computer are also making upon optical system. Because of 3 lakh km/second speed of light, any electric signal takes 3 nanosecond to cover 1 meter distance. To do calculation it is more or less than this time, optical fiber method is used to make a wireless computer. By this computer will faster is comparison.

(v) Atomic Computer—In Carnagge Melon University, the work to make atomic computer is on progress. The effort to make such computers having 10,000 times more capacity and speed than today's computer is on progress.

Development of Computer

The progress of computer is regularly running after 1946 to till now. As electronic parts were developed, a new step is added in the development of computer. Before we get more information about development of computer, we should have some knowledge about standard design of computer.

Von Neumann Architecture of Computer

In 1946, in governorship of a famous mathematician of Cambridge University John Von Neumann in discussion about the subject '**Designs of Electronic (Digital) Computer**', computer specialist recommended following computer related necessities—

1. In computer the storage of data should be in binary number system.
2. The architecture of computer should be such, that desired change in entered data and used instructions can be done.
3. Computer should have the capacity to store data, as well as to represent the result by running and store a program (Instructions in a sequence), by using stored data.

It means the standard achltechrehrure for computer of future, which was named as 'Von Neumann Architecture', was decided in this conference.

Q.3. Discuss in brief the Generation of Computer.

Generations of Computer

On the basis of main electronic parts used in the computer, it is classified in following five generations—

(1) First Generation (1946-1956)

The computer, which was developed in between 1946-1956 are called first generation computers. Vacuum tube was used as main electronic device in the computers of this generation. In 1904, Sir **Umbrage Flaming** invented a vacuum tube, named diod valve. According to **Von Neumann Architecture** these computers work on binary number system. In binary number system a switch is used which can 'ON' or 'OFF' fastly. With the help of these (binary 1 and 0) switches Cloid Shenon made switching circuit which was ON or OFF by 1 or 0.

In 1940, the first computer of this generation, which was named Electronic Numerical Integrator and Calculator (ENIAC) was build. Its weight was 80 tons. In this computer 18000 vacuum tubes, 70000 Resistors, 10000 capacitors and 6000 switches were used. It was a computer of very great size. ENIAC could perform 5000 additions or 350 multiplications in a second, which is thousands times less than modern computer.

ENIAC had some limitations. One or more vacuum tubes were fused from the 18000 vacuum tubes in use. This computer spent 150 kw, along this it also produced heat equal to 50 Room heaters. To program this computer, Biard Programme Board was used, in which at the time of entering a program, all connections were done with a new form.

In 1951, in Manchester a computer named MARC-I was invented. In this computer, memory was stored on cathodes ray tube. At the demand of data it took 10 to 50 microseconds.

In 1952, After the invention of computer model-701, produced by IBM company, the manufacture and development of computer started on a big scale. In model-701 bilkeiz cathodes ray tube and magnetic drum were used with magnetic tape.

(2) Second Generation (1956-1964)

The computer which were developed in between 1956-1964 are called second generation computers. Transistors were used as main electronic device in this generation. In 1948 three scientists **John Bardin, Walter H. Bastain** and **William Shoakley** invented transistor in bail telephone laboratories. This invention produced a new evolution in the field of electronics.

The word transistor is a short form of 'transfer-resister.' Transistor was as same as triod valve, but it was small in size. It consumed much less electricity and also less heat was exhausted.

In 1952 **Shakily** made field effect transistor (FET). There was an electrode called gate in this. Due to this gate the conductivity of transistor increased. It took only a micro second to convert one position into another, means flip to flop.

These type of circuits were called flip-flop circuit. By the use of their circuits calculation in binary number system could be done easily, so transistors started to be used in computers.

In 1959 I.B.M. made first fully transistor depended computer called model-7096. The other computers of second generation of computer development are—**Spare UNIVAC-3, Heniwal 400, 800** and C.D.S. 1604 and 3600, I.C.A . 50, **Leo Marc-3, I.G.L. 1901, Atlas G.E.C.K. 635, 200** etc. In this generation modular design started to use in the computers.

Assembly language started to use for computer programming in this generation. In this language, computer could be instructed by some symbols. In computers of first generation, there was a problem in giving a program to a computer that program was made separately for different company's computer. The generations which came after it, use the English based high level language to solve this problem.

(3) Third Generation (1964-1970)

The computers which were developed in between 1964-1970 are called third generation computer. Integrated circuit (I.C.) was used as main electronic device in this generation. After 1960, efforts were

started to make electronic apparatus in short form. Because of smaller size of circuit, the apparatus would take less place, the use of electricity would be less and the exertion of heat also would be less.

In 1966, many transistors could be established on a chip in the form of I.C., because of this the size of computer decreased. In the third generation of computer development, the production of mini computers was started. These minicomputer took place equal to a almirah. They took only a nano second for calculation.

In this generation high level computer programming languages such as **Fortran** and **Cobol** were developed.

The memory capacity of this generation. Computer was more than of earlier generations. There was a facility to keep out-side memory storage too. The output of this generation computer could be get on monitor screen (visual display unit). In 1964, I.B.M. launched a computer named 'system-360' in world market.

World's first mini-computer, which name was P.D.P-5 was also made by this company. After some improvement in this computer by using I.C., P.D.P model-8 was made by this company, which cost was the least till today's computer.

(4) Fourth Generation (1970-1985)

The computer was developed in between 1970-1985 are called fourth generation computers. Microprocessor was used as main electronic device in this generation.

After the production of large scale integrated circuit, it made possible that total central processing unit of a computer could come on a single chip. Such chips are called micro processor and the computer which used this are called micro computers. In 1971, American company Intel Corporation made first micro processor chip.

Based on Intel 8080 first micro computer '**Altair**' was made by **Mr. Ed. Roberts**, the president Micro Instrumentation and Telemetry System (M.U.T.S.) of **Albukrek Macsico**. The memory of thij computer was one kilobyte. Around 1976 other companies made also such computer, is which some us z-80 chip of zilog company.

Two American students **Steve Bozanike** and **Steve Jove**, made such computer which could adjust in a match box. Then after connecting a visual display unit with this, they made a total micro-computer which could adjust in a box. Based on eight bits this micro computer was named as Apple. After a series constructed Apple-1 and Apple-2. Apple-3 was named as personal computer.

Now the market has filled with personal home Computer of many companies. Main of there are—PET of camodor, Aacorn of Radioshek-8 B.B.C., spectrum etc. In 1985, I.B.M. made personal computer of 16 bits, this computer was in the range of a common person. After this some other companies made chips according their own techniques, such as intel-8080, 8085, 8086, 80268,80386, 80486, **Pentium**, **Metarola**-6800, 68000; **zilog**-z-80, z-8001.

In 1981, as I.B.M. introduced its P.C. series, many models of other companies came into the market and all these companies challenged that the capacity of their computers was equal to computers of I.B.M. The role of floppy disk cannot be ignored, as it made easy the use of I.B.M. Computer. It was thinner and smaller than gramophone record of 45 R.P.M. Starting with floppy disk, the development came to compact disk (C.D.), which storage capacity is thousand times of floppy disk.

(5) Fifth Generation (1985-till today)

Computers are passing from the process of development of fifth generation from 1985 till now. It is hoped that after some time the computer of this generation will be ready. Man like characteristics are being added in computer of this generation.

The computer of fifth generation will be able to decide that what should be next step. Having artificial intelligence, these computers will be faster and with more capacity. After seeing an open field, we store many information's but a computer cannot analize a field like this, since it has to convert analog signal into digital signal and each analog signal cannot be converted. So computer scientists want to invent a computer which can work on analog signals in analog form. In the computer of fifth generation there is also a planning to use artificial intelligence.

Computer scientists of Japan named their planning of development of computer as KIPS-Knowledge Information Processing System.

It is assumed that these computer should have capacity of 10 billion Logic Interference Per Second- LIPS. For this a chip has been invented approx squall to coin of 50 paise in size, and on this chip the knowledge of 40 books can be stored.

Q.4. Write short notes on the following—

- (1) Computers of Future.
- (2) Present Status of Computer Education as a subject.
- (3) Types of Computer.
- (4) Personal Computer.

Ans.

(1) Computers of Future

The all five generations of computer development are based on flow of electrons. The computer of future will be based on Photon instead of electron.

As the basic particles of a matter are electron, proton and neutron, the basic particle of light is photon.

The speed of photon is more than electron. It covers three lakh km in a second. Laser rays are also made by photon. The computers of future will be called Photonic or Optical Computer. These computers will be much powerful and faster than till today's compute.

(2) Present Status of Computer Education as a Subject

Government has understood the importance of computer in education. In central schools and now in state schools also, computer has been recommended as a subject.

Today we can see the interference of computer in each field of life. In this situation it is going to be compulsory to make our next generation familiar with computer.

As in present education system the primary knowledge of Mathematics is compulsory, in the future education system the primary knowledge of computer will be compulsory. After completing their education, they do job or do their business, they will have to face computer. In this situation without primary knowledge of computer man will be an ulter failure.

Keeping in mind the importance, computer education is necessary to add as a subject from primary.

If we observe present education, then the condition of computer education as a subject in school is much desired.

Government has promised to accept computer education as a subject but to do this, there is great, need of efforts. In teaching a subject should be a syllabus for the subject but from last five year computer education does not have any syllabus. The syllabus of computer education depends on writer and publisher.

As a school subject to improve the condition of it, the step is to be decided a definite syllabus.

The schools in which computer education is in way, there does not exist any computer laboratory. Government should decide a standard for laboratory and after inspecting the laboratory they should give authority of computer education to school.

(3) Types of Computer

On the basis of size and working method computers are of following four type—

(1) Super Computer

According to modern definition, the computer which have memory more than 52 mega byte and which can do work with the capacity of 500 M.Flop, is called Super Computer. In this computer micro processor exists which work on informations in 32 or 64 parallel circuits. The speed of these computer is the fastest. These are 1000 to million times faster than normal computer. In these computers Maganetic Bubble Memories or Charged Coupled Device—CCDS are used. With the help of these, more informations can be stored in a small place.

In these computer modern computer programming language and Artificial Intelligence of LISP (List Processing) and programming logics are used. In the chips which are used in super computers, Gallium Arsenide is used besides of silicon which is used in other types of computer and this increases its speed about six time.

In 1980, Control Data Co-orporation made a super computer Syber-205, which had capacity of 400 megaflop. In 1982, A Japanese company made a computer having 500 megaflop capacity. Hitachi company made the computer which is faster than above all and it's capacity was 630 megaflop. Now a time super computer SX-2 made by N.E.C., company of Japan is the latest computer having the most storage capacity. Now E.T.A. is also ready which speed is 500 M.flop.

Now-a-days most of companies are making Super Mini Computers, which is small in size but having more analization capacity, either it has less memory. Indian super computer is named as Param.

(2) Mainframe Computer

Computers are so small in size that it can be used on any study table. The capacity of these computers is equal to 1 lakh instructions per second (100 KIPS). The most famous form of micro-computer is personal computer a series of I.B.M. Because of this popularity, the softwares used in it, started to make in a large number.

Generally micro computers are of four types—personal home computer, educational micro computer, personal computer (P.C.) and laptop computer.

(3) Personal Home Computer

Those computers, which can be attached to television are called personal home computer. The famous names of the series are—Sinclier ZX-81, Camodor 64 etc. In each personal home computer system, only the software can be used which is made by the company of that personal home computer system. Personal computer neither has hard disk nor floppy disk. For external memory, small cartridges can be attached in it. Personal home computer has its own operating system and there exist some programms of basic language to learn this. In such computer there is a facility of video games and also professional works e.g. storage of database, income tax, personal diary, budget etc. To play games on personal home computer, joystick can be attached with it.

(4) Educational Micro Computer

These are used to teach children computer programming for other educational programs. In educational micro computers, video display unit (monitor) should be attached. The most famous educational micro computer of India is B.B.C. Micro made in Chandigarh named UNICON by NCERT for their class project, now is being used in many schools.

(4) Personal Computer (P.C.)

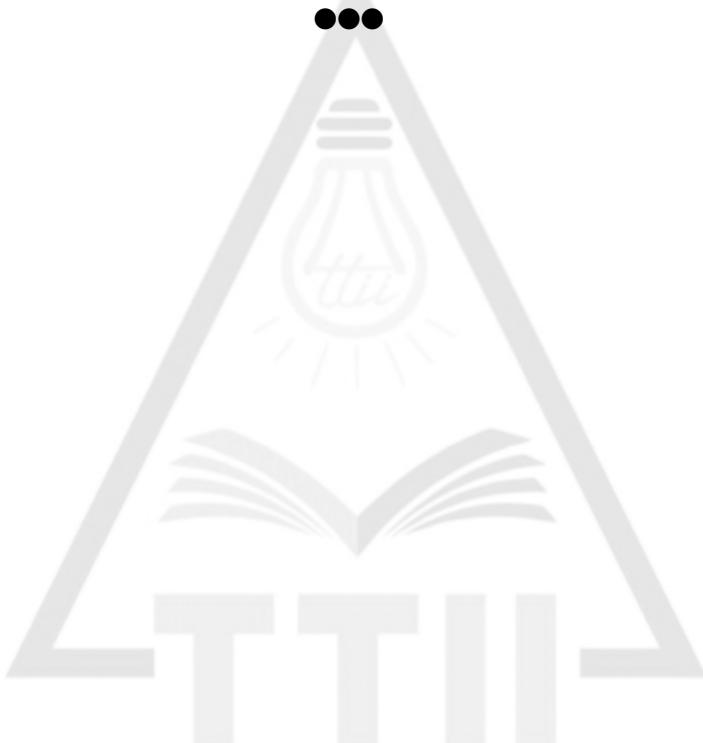
Because of it's less price and having many uses, these computers have become popular and in the present time the 4 crore computers are scattered all around and continuously increasing. Many software of these are available in market.

Personal computers are of three types—P.C., P.C.-XT and P.C.-AT. P.C. is only for primary use and P.C. XT is for small businessmen and P.C. AT is for high level works. It has temporary memory from 64 KB to 4 MB (1MB = 1024KB). Generally on PC-XT word processing (text entry, correspondence etc.), database (make the list of telephones and addresses etc.) and spreadsheet (Accounting etc.) work can be done. For graphics engineering design and publication etc., PC-AT is needed. Now a days the use of PC and PC-XT has been negligible. The computers based on pentium micro processor are in use.

Laptop computer

These computers are equal to briefcase in size. The weight of these are approx 3.5 kilogram. These computer can be carried from one place to another conveniently.

The cost of these are more than personal computers. These computers are also called electronic diary. There exists a small display screen of LCD type. This computer is made for officers of co-operate sector which have to move regularly for work of company or department.



Chapter 3

STRUCTURE OF COMPUTER

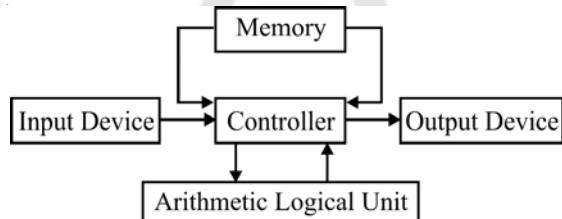
“The main work of computer is to analyse the information and to present true and reliable result after processing. In this, with different parts of computer, the different agents are also important to operate the computer.”

Q.1. Discuss in brief the working of computer.

Ans.

Working of Computer

A personal computer system is made by connecting many small devices. On the basis of their work, these devices are described in three groups—input devices, output devices and processing devices.



Computer gets instructions from input devices to do any work. Its processing unit, calculates results according to instructions got by input devices. All types of arithmetical and logical problems are solved in this. After processing, computer displays results with output devices in front of us.

Parts of Computer

According to structure, computer is divided in four parts—

1. Central Processing Unit (C.P.U)
2. Memory
3. Input Devices
4. Output Device

Central Processing Unit (C.P.U)

The part of computer, in which processing and calculation of informations is done, is called Central Processing Unit (C.P.U.). It can also be described into two parts—

- (a) Control unit
- (b) Arithmetic and logical unit (ALU)

Control Unit

The work of control unit is to control input and output devices and standard devices. The main works of it is to get informations from input devices, and after interpreting in computer understandable language send them to Arithmetic Logical Unit (ALU), after processing to get result from A.L.U. and send them to output devices. Use of memory in a manner is also done by control unit.

Work of Control Unit

1. First of all, with the help of input devices it sends information/facts/data to controller.

2. Placing information/facts/data properly in memory.
3. Again taking facts from memory and send them to ALU.
4. To send results on output devices and to place them properly in memory.

Arithmetic of Logical Unit-ALU

Two main principles of computer arithmetic calculations are—first, all type of arithmetics calculations—addition, subtraction, multiplication, division is done by the addition, and second, to do this it has to add digits of 1 and 0 by which digit 1 and 0, is to be got. All works in computers are done by logic gates. An electronic circuit is made by types of logical gates to complete an arithmetic program. There are many types of logical gates e.g. AND, OR, NOT etc.

1. AND gate gives ‘1’ as output signal when it gets ‘1’ as input signal it means AND gate opens only when both condition are true,
2. OR gate gives ‘1’ as output signal when it gets ‘1’ or ‘0’ as input signal it means OR gate opens when any one condition is TRUE.
3. NOT gate gives just opposite of its input signal it means NOT gate opens only when both conditions are false.

By using output of a gate as input for another gate in different manner a perfect circuit for arithmetic calculation can be constructed. Totally four works have to do—

- (i) in $0 + 0$, getting 0 total and 0 remainder.
- (ii) in $0 + 1$, getting 1 total and 0 remainder.
- (iii) in $1 + 0$, getting 1 total and 0 remainder.
- (iv) in $1 + 1$, getting 0 total and 0 remainder.

Such gates which can do above works, can compute our arithmetic work. Logic section of ALU is different from logic gates. This is the section which helps in proper running of program. ●

Q.2. Discuss in brief the collection of data in computer and memory of computer.

Ans.

Storage of Facts in Computer

In computer, the storage of data is done by electrical and electronic components.

Transistors, integrated circuits (I.C.s), capacitors, resistors etc., are used for electronic circuit. Transistor and I.C. work on basis of switching method *i.e.* this remains ‘ON’ in any special condition and remains ‘OFF’ in any other condition. These both conditions are decided by presence and absence of electrical voltage.

Two digits are decided for these conditions—0 (zero) and 1 (one). On the basis of these two digits, computer does all calculations and processing. This system is called binary system.

First of all, total given informations and instructions, are converted in binary digits. Then these are sent to ALU. Processing results by ALU again are represented in binary digits by ALU, but controller represent them on output devices after changing again binary digits in normal form. In binary digit system, each *i.e.* 0 and 1 is called bit. Bit is a short form of binary digit.

In computer alphabets and special symbol of english are converted by ASCII (American Standard Code for Information Interchanges). It is a method of changing english alphabets and specials symbols in binary digit system. In this method binary digit group works in 8 digits. In these eight digits, first four digits are zone and remaining four are numeric. When any instruction to computer is given by input device, computer understands these instructions by changing it in ASCII code. Generally to give instruction, we have to press keys of alphabets, digits and signs on key-board and computer converts them in its language itself.

Memory of Computer

A part of our mind is also used for memory. If we have do any calculation then the numbers which are to be calculated firstly stored in memory. Then after calculation, after storing the result in our mind we reply. So it is clear that memory is a part of our mind in which we store informations, messages, instructions etc. Just like this, in computer to store any instruction, information or result, memory is used.

Methods of Storage in Memory of Computer

There are two methods to store program in memory of computer—

1. SAM (Sequential Access Memory)—The meaning of SAM is to write or read sequentially. In this method the stored program can be found only in a sequential method i.e. the memory location will be sequential and we have to traverse all previous memory location. This method of storage of program or data is called sequential access memory. The example of this method are magnetic tape, cassette etc.

2. RAM (Random Access Memory)—The meaning of RAM is to read or write in any order. In this method the stored program can be found randomly i.e. at the call of any data, the locator will directly read an address.

Different Units of Measurement of Memory

The units of measurement of memory capacity are bit, byte, KB, MB, and DB.

Bit is the smallest unit of computer memory. It represents the storage of a binary digit 0 or 1. It is short form of binary digit.

Byte is the standard unit of computer memory. Each alphabet, digit or special symbol pressed by keyboard are stored in computer memory in ASCII code. Each ASCII code is to 8 bit. In this manner to store a letter in memory occupy 8 bits or 1 byte. It means 1 byte is equal to 8 bits.

The KB means kilobyte, the value of 1 KB is equal to 1024 bytes.

The MB means Megabyte, the value of 1 MB is equal to 1024 KB.

The GB means Gigabyte, the value of 1 GB is equal to 1024 GB.

Type of Memory

There are two type of computer memory—primary and secondary.

Primary Memory

The primary memory of computer is in the form of I.C. The internal memory is also called primary memory. The internal memory of computer is also divided in two parts—read only memory and read/write memory.

1. Read Only Memory (ROM)—In computer ROM exists in form of a chip. The output of written program in ROM can be read only. Any program or information can not be stored in it. Generally, in ROM the programs made by computer designer or programmer, are permanent which works timely to instruct the operator.

Basic Input Output System (BIOS) named program is an example of ROM. When the power of computer is ‘ON’, it works for checking and controling all input and output devices. Some special I.C.s are included in ROM. They are PROM, EPROM, EEPROM and characteristics of these are—

(i) Programmable ROM (PROM)—In this type of ROM I.C. the program can be stored only one time. Once the program is stored, then it can not be erased and it can not be improved. Because of any electric interruption etc., if any program of I.C. is damaged, then the I.C. becomes useless.

(ii) Erasable PROM (EPROM)—In this type ROM I.C. a stored program can be erased by laser rays and this I.C. is again ready to use. For this a special device called I.C. programmes is needed.

(iii) **Electrically EPROM (EEPROM)**—No special device is required, to erase or to make any improvement in the program stored on EPROM. By use of electrical signals, which are available in computer, stored program in this type of ROM I.C. can be improved.

2. Read/Write Memory—In this type of memory, we can store our program etc. for some time. Generally in normal language this memory is called RAM (Random Access Memory). Following two types of this are—

(i) **Dynamitic RAM (DRAM)**—Dynamic means moving. If on this RAM 10 data are stored and we remove two data of middle, then all data which are after these will move and the blank will be filled.

(ii) **Static RAM (SRAM)**—Static RAM has stored data. If two data are removed of this RAM, then other data will not move and the blank will be remain same. This blank will not be used until the whole memory is washed.

Secondary Memory

Secondary memory is also called external memory or auxiliary memory. It is used to store works on computer. The storage capacity of these are more than primary memory. These are also cheap in comparison but working speed of these are more or less than primary memory. Main external memory devices are—floppy disk, hard disk etc.

Q.3. Discuss in brief the Auxiliary Storage Devices.

Ans.

Auxiliary Storage Devices

The devices, which are used to storage of information is auxilliary memory, are called auxiliary storage devices. There are three types of these storage devices—magnetic tape, magnetic disk and compact disk.

Magnetic Tape

Generally, in any wide area network the data from main computer and associated computers are copied and stored on magnetic tape. It can also be used on general computer. Magnetic tape is available in market in the form of audio tape spool and audio cassette. It is long plastic strip of $\frac{1}{2}$ " width without any joint. This strip is covered by a lair of ferromagnetic material. On magnetic tape the data is stored in the different forms of magnetised or demagnetised dots. Code of 7 bit or 9 bit is used for a character on magnetic tape, i.e. for a character there are 7 or 9 magnetised or demagnetised dots on magnetic tape. When many words are written on the magnetic tape one-by-one, then a parallel line of magnetised or demagnetised dots is made, to length of magnetic tape and this line is track. The tape in which 7 bit code is used, it called 7 track tape and the tape in which 9 bit code is used, is called 9 track tape. Quality of magnetic tape depends upon the density per inch for storage of characters. The tape which can store 556, 800, 1600 or 6250 characters per inch are available in the market.

On magnetic tape the data is stored by SAM method. To use magnetic tape in computer, magnetic tape device is attached. Magnetic tape is a cheap and trustable storage device. The limitation of this storage device is that this tape can be read/write sequentially only.

Magnetic Disk

Generally the magnetic disk is used for data storage. The magnetic disk is covered from both sides with ferromagnetic material.

It rotates with speed of approx 1800 to 3600 revolutions per minute (R.P.M.). Read/write heads are used to reach any stored information on this. There are some concentric tracks on magnetic disk, in which information are filled by magnetic method.

To make use with magnetic disk, disk drive named device is used. There are read/write heads in this device which read and write the data. These heads write data on disk in the forms of tracks. Disk

drive is better than tape drive, because there is no need to write data sequentially. Data stored on any track of any layer, can be read easily. This method is called random access. By this we can read/write data fastly and on the right place.

Magnetic disk used by methods—first disk pack or multi disk memory device and second floppy disk.

When magnetic disks are arranged one-by-one and parallel, then the made up storage device is called multi-disk memory or hard disk. The data can not be written on the lower layer of the lowest magnetic disk.

Compact Disk

This disk is also called optical disk. It is a disk of silver colour plastic, which is covered by a thin layer of aluminium with the help of laser rays. On this layer data is stored. The diameter of this disk is approx 4·5 inch. The storage capacity of this disk is almost 600MB.

If at the time of storage of data on this disk, it is closed, then the data can not be amended, and if it is not closed then the amendment of data can be done only on CD-writer. General CD-ROM drives are used to read the information and data stored on a CD.

Hard Disk

It is a multi-disk memory device. In it many magnetic disks are arranged parallel one-by-one. Hence, the hard disk and the drive both are together, It is called hard disk drive (HDD). It is fixed at a place in computer so it is also called fixed disk.

The storage capacity of this disk is much more than a floppy disk. In present time the hard disk which is in trend have storage capacity of dust 20 GB, 40 GB and 60 GB. Hard disk is stored in a airtight box in which any particle of dust can not be enter. On the upper surface there is coating of special gloss materials. By this there does not exist any friction between disk and read/write head and because of this, these both remain useful for a long time. This disk is faster than floppy disk.



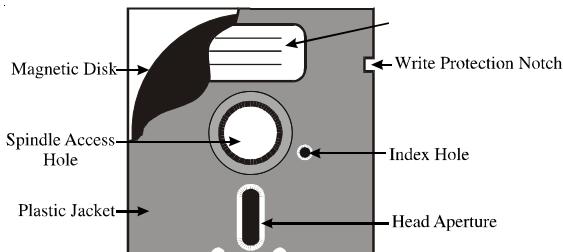
Floppy Disk

It is a disk which is made by flexible plastic so it is called floppy. Floppy disk is a very delicate thing so it is stored in a cover of plastic or cardboard. This disk is coated by a 0·007cm thick layer of ferrite. On this the storage of data can be done by floppy disk drive. There is a hole in center of floppy by which the spindle of floppy disk drive unit rotates the floppy disk.

There are 84 data track in a standard floppy disk in which each track can store 64 characters. The speed of this disk is 360 R.P.M., so there occurs many chances of damage of the recording head. To protect the recording head there is an arrangement in computer end, this is the floppy will touch the recording head only at this time of recording. According to size generally two types of floppy in use are—of 5 $\frac{1}{4}$ inch diameter and of 3 $\frac{1}{2}$ inch diameter.

Floppy Disk of 5 $\frac{1}{4}$ Inch Diameter

It is a magnetic disk of plastic having 5 $\frac{1}{4}$ inch diameter, which is stored in square jacket of plastic. The storage capacity of this floppy disk is almost 360 KB to 2·44 MB. The main parts of floppy disk are shown in the diagram—



1. Label Area—This place is used to write the information about the stored data. A striker, on which data information is written, is pasted on it so that we can know about the stored data without putting it in computer. The information should be written on the label before the label is pasted on the floppy disk. If on the pasted label information is written, then because of pressure the stored data may be damaged.

2. Write Protection Notch—On the right side of floppy there is a square notch. This notch is called write protect notch. When in floppy disk on **write protection notch** a write protect label is stucked then any information cannot be written on the disk and any information can not be removed, only stored information can be read only. Write protect label is an opaque, non-transparent, label of paper. There is a censor in floppy drive on the place of write protect notch and it can off only when, this type label is stucked on it and light can not be pass through.

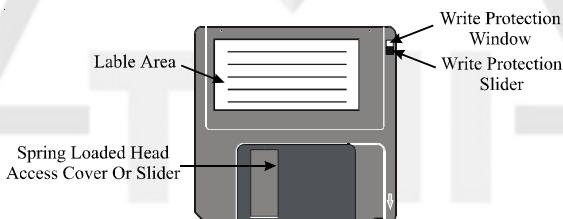
3. Spindle Access Hole—When a floppy disk is entered in floppy drive, this drive rotates it speedly by pressing a hole in center of floppy, this center hole of floppy is called spindle access hole.

4. Index Hole—There exists a small hole near spindle access hole, which is called index hole. When we format the floppy then first track starts from here.

5. Head Aperture—The floppy jacket has a cut, in the form of an ellipse. The read/write head of floppy drive reads and write informations from this place, this place of floppy disk is called head aperture.

Floppy Disk of 3½ Inch Diameter

It is a magnetic disk of plastic of 3½ inches diameter, which is stored in jacket of plastic.



It was used for the first time in apple computers. The storage capacity of this floppy is more than 5¼ inch floppy disk. The main parts of this floppy disk are shown in above diagram—

1. Label area—Just like 5¼ inch diameter floppy, this floppy also has label area. Use of this area in both floppies is quite similar.

2. Spring Loaded Head Access Cover or Slider—When this floppy disk is entered in drive then this cover slides on right side and read/write head of drive read and write data with the help of read aperture which stands under this cover. This cover made by metal is connected by a spring, so when the floppy comes out then this cover also come on its place.

3. Metallic Drive Hub—When this floppy disk is entered in drive then drive rotates the floppy disk, to do work, from this place.

4. Write Protection Window and Slider—On the right side of this disk there exists a small window of $\frac{1}{4}$ inches which is called write protection window and with this window, a slider also jointed. To write protect the floppy, this slider is shifted, therefore, it can be seen across the window.

In this manner the write protection system of floppy of $3\frac{1}{2}$ inches diameter is just opposite of floppy of $5\frac{1}{4}$ inches diameter. ●

Q.4. Describe in brief the input devices.

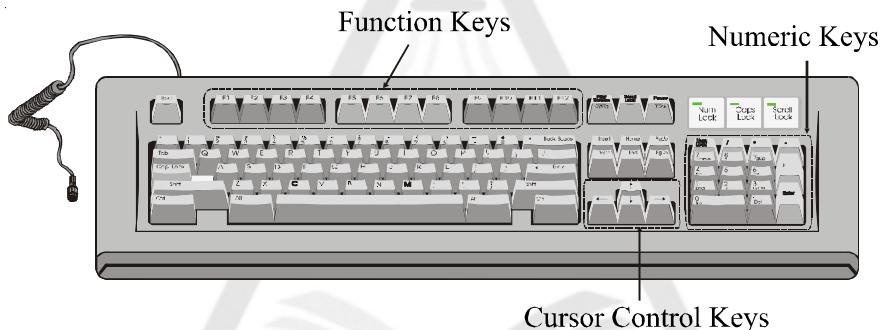
Ans.

Input Devices

The devices, which are used to enter the data and to give instructions, are called input devices. Main input devices are—key-board, mouse, joystick, lightpen, etc.

Key Board

The key-board of computer is same as the key-board of a typewriter. The key-board is connected to computer through a cable. The plug on the other hand of this cable is connected to the key-board socket situated on back of CPU box of computer. This cable establishes the relation between computer and key-board. When any ‘key’ is pressed on key-board, it appears on the monitor screen, to know that the typed word is correct or not.



There are three LEDs on the upper right side. When the keys Caps Lock, Num Lock and Scroll Lock are activated, then these LEDs blow and when becomes off then these leads extinguishes. Keys of key-board can be divided in following six parts—

1. Alphabetical Keys—The keys on which all alphabets of English A to Z stands are called alphabetical keys.

2. Numeric Keys—The keys on which the digits 0 to 9 stands are called numeric keys.

3. Function Keys—On the upper side of key-board, keys F1 to F12 are called functions keys.

4. Logical Sign Keys—All the keys on which logical signs i.e. <, >, ?, &, \, /, \$, ~ stands are called logical sign keys.

5. Arithmetical Sign Keys—All the keys on which arithmetical signs i.e. =, +, -, ., #, @, etc., stands are called arithmetical sign keys.

6. Special or Command Keys—All the keys which are used for special works are called special or command keys. These keys can be described in following types—

(i) Cursor Control Keys—The keys on which \leftarrow , \rightarrow , \uparrow and \downarrow signs exist are called cursor control keys. These are used to move the cursor on screen in left, right, up and down direction. By this the cursor moves the distance of a character and of a line. Besides this, other cursor control keys are home, end, PgUp, PgDn. PgUp key used to move the cursor on previous page, now previous page will appear on the screen and any work can be done. PgDn key is used to move the cursor on the next page. Home key is used to go in the start of any line and End key is used to go in the end of any line.

(ii) **Numeric Key Pad**—Numeric key pad stands on the right side of key-board. The keys on this are just like calculator keys. There are also cursor control keys on some keys besides of digit. The work of these key are controlled by Num Lock. All keys work as number keys when **Num Lock** is ON and when Num Lock is OFF, then these keys work as cursor control keys.

(iii) **Caps Lock Key**—This key is used to type capital letters. When this key is pressed then in three LEDs, the LED of caps lock becomes ON. To type normal letters again, this key is to be pressed. and now LED would be OFF.

(iv) **Shift Key**—When any key is pressed with the shift key, then the upper letter or special signs made keys is typed.

(v) **Enter or Return Key**—This key is used for two works. This informs the computer the instruction is finished and now that can perform processing according to instruction. In word processing, when enter key is pressed then other line or other paragraph gets started. Generally, it is represented by ↵ sign.

(vi) **Pause Key**—At the time of working in any program, we give such command by which information presents very fastly on monitor screen and we can not read it, then by press the pause key we give instruction to stop, therefore, we can read presented information on the screen. Now to read forward information press any key.

(vii) **Alt and Ctrl Keys**—These keys are also called action keys, and these are used for some special works with the keys of any alphabet or any sign. These keys are used in different software for different purpose.

(viii) **Backspace and Del Key**—When the backspace is pressed then the left character to cursor is erased and cursor moves to left character. This process can be revised many times. When the Del key is pressed then right character to cursor is erased.

(ix) **Insert Key**—This key is used in different softwares for different purpose. Generally insert key is used to insert any graphics, any text. In DOS, when we work after pressing this key, then if we type in middle of any command then the typed characters skips to the right side and again if we work after pressing key then typed characters overwrites the right side characters.

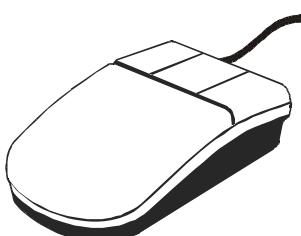
(x) **Space Bar**—In the beneath of key board, the largest key is the space bar. This space bar is used to make a blank space of single characters.

In new key-boards, which are made after window 95, there stands a new key on both sides of space bar. The key, on which window is printed, is used to open the start menu of window 95 or upper version of windows.

Mouse

It is also called micromouse. It is an important device of plastic which has shape of a mouse. There exists a ball below area of mouse. This ball makes contact with two rollers, which stands on right angle.

When the mouse moves on mouse pad, this ball rotates and on the rotation of the ball, the rollers roll on their axis, then by the electronic shaft indicator, which are connected to axis, produce the electric pulses. It means when we move the mouse then the electric pulses are produced. These pulses go into the computer memory where according to there pulses, the instructions are sent to monitor screen. Mouse has two or three buttons, which are used to instruct the computer. When mouse becomes active, then an arrow sign is also seen as on the monitor screen and as the mouse moves on mouse pad, the arrow sign, which is called mouse cursor, moves on monitor screen. This sign can be any place on the monitor screen and to finish any work the mouse button is pressed.



Generally, the left button of mouse is used for any command. In modern operating systems windows 98, the right button is used to present a shortcut menu. The shape of mouse pointer changes for different works in different programs.

JoyStick

It is a electric-mechanical device. By this the cursor or any shape can be moved on monitor screen. The upper part of this is like a handle or stick, which can be rotated in socket that exists under that stick. A trigger button is also stands near handle. A printed curcuit also exist under the socket, that changes the mechanical movement of handle into electronic pulse by analog method. According to these instructions, the shape on monitor screen moves.

Light Pen

It is a device some like as pen that has a cable behind it. When this is moved on screen then computer feels with the cable that where the pen is moving. In this a photo diod or photo transistor exists which feels the speed of light which stands in the end of the pen. By this pen, direct designing can be done on monitor screen. This pen does not make any scratch on monitor screen.

Q.4. Describe in brief the output devices.

Ans.

Output Devices

The devices which are used to get the result from computer are called output devices. Main output devices are—printer, visual display unit.

Printers

Printer is the output device, that prints informations on paper. There are two types of computer—impact printer and non-impact printer.

Impact Printer

In impact printer the printing is done by impacting. Typewriter is a good example of impact printing method.

By use of carbon paper, more than one copies can be printed. In impact printers the printing is done by print head, paper remains fixed at its place and print head prints by moving horizontally. After a line is completed, paper is shifted to one line up and printer prints the next line on paper.

In some printers, print head prints only left to right and some printers print both sides. The two side printing takes less time.

The main impact printers used with computers are daisy wheel printer and dot matrix printer.

1. Dot Matrix Printers—Dot Matrix printers are impact printers. The printer in which characters are printed by dot, are called Dot Matix Printer. In this printer by the help of head, the ribbon is pressed and this make printing on the paper.

The group of dots which are arranged in a manner called matrix. Either a matrix has many dots, but it is not compulsory that the print head also have same pins, i.e. for 5×7 , 35 and for 7×9 , 63 etc. In modern print heads, pins are arranged in one or more pins hidden in print head, but at the time of printing, these comes out fastly and impact on the ribbon by which the dots are printed on the paper. In this printer, print head can print by moving in both sides so the time of printing is less. This printer can print text and graphics easily.

2. Line Printers—Line printers are impact printers. It is a improved form of Dot Matrix. Fabric ribbon is used in Line Printer too. It prints the lines of text one by one. The speed of this fast in comparison.

3. Daisy Wheel printers—Daisy wheel printer is impact printer. It is a purified form of electronic typewriter. Its speed is much less. All characters of it are made by plastic which rotates on a wheel. These alphabets becomes useless after some time and the wheel is to be changed again and again. As the result of this, the use of this has stopped.

Non-Impact Printers

There is no printing noise in non-impact printers. The main examples of non-impact printers are Ink Jet Printer and Laser Printer. In these printers only one copy can be printed at a time.

1. Ink-Jet Printers—The printing method of Ink-jet printers is same as Dot Matrix Printers. The difference is only that the dots are made by small drops of ink. These dots are much smaller than the dots of dot-matrix printers and because of this the printed characters are very clean and clear. In the print head of this printer, the ink is thrown by a nozzle by pumping. As the print head moves, these small drops of ink make characters. In these printers, the received electric signals from computer are converted in pressure and then this pressure is transferred to the pot of ink. By this the drops of ink becomes charged and comes out for printing.

2. Laser Printers—Laser printer also prints by dots, but these dots are very small and much near so printed characters and graphics are much clear. Laser printers have 600×600 DPI or 1200×1200 DPI or more than this, resolution. The resolution of laser printer means Dots Per Inch (DPI). The mean of 600×600 DPI is that if one square inch shape is printed then it will make of 360000 dots. In laser printer, a laser beam is thrown by the help of a mirror on the drum passing through the modulator. Due to this beam, the circumference of drum become charged. A special powder, which is called Toner, is used on this charged layer. By this characters and graphics are produced on the paper. The quality of prints printed by laser printer is the best in comparison of any other printers.

Visual Display Unit (VDU)

Working on computer, given instructions and received results are displayed on the monitor screen. Monitor is also called visual display unit. Computer monitor also has controller of brightness, contrast and colour as in television.

For interchange of information, computer and monitor are connected through a cable of many wires. Besides of this monitor needs electric power, for which, an additional wire also exists.

There are two types of monitors—monochrome i.e. of single colour and colour i.e. multicolour. For study and to make many type of pictures monochrome is used. In colour monitor multi colours can be seen. It is mostly used for colourful pictures. In many programs, after connecting the colour monitor, different informations are displayed in different colours.



Chapter 4

USING COMPUTERS IN EDUCATION

"Computers provide, for the first in history, a key ingredient that was lacking in all the previous tools that raised high expectations when introduced in the educational system; individualized interactively. From blackboard to television, the previous tools were presentation tools only."

Q.1. Explain the Computer in Education.

Ans. Use of Computer in Education

Although education sector was late in recognizing the power of computers but is significant role in the field of training and education was soon realized and has recently made deep in roads especially in the field of Computer Based Instructions (CBI) which is also referred as Computer Assisted Instructions (CAI). The first use of computers in training sector was seen in 1950 with a computer driven flight simulator used to train pilots of the Massachusetts Institute of Technology (MIT, USA). In the education sector Computer Assisted Instruction started in 1950s (late) with 'linear programs'. A linear program is a stream of steps involving a question and its response based on the previous knowledge or by trial and error. The development of such programs was influenced by the prevailing behaviorist psychological theories and the programmed learning machines of the previous century. The first attempt to use computers with school children was made in 1959 when the IBM team reported a program to teach binary arithmetic of New York Elementary School students via a "typewriter inquiry station" connected to an IBM 650 computer.

Skinner (1986) noted that Pressey in the early 1920s developed a mechanical testing device that administered multiple choice items one at a time. In this, if the student gave the right answer, the next item appeared; otherwise, the student repeatedly answered the same question until the correct answer was selected. Observed that learning occurred, and that perhaps the testing machines could be used for teaching. The benefit of teaching machines over programmed textbooks was that; they helped assure that the student would answer all the questions in the lessons and not skip over important material.

Around this time, the computer programming language called BASIC was developed which processed words as well as numbers, and was used in writing instructional programs. During this time, programmed instruction (as well as non-interactive textbook style instruction) was incorporated into Computer Based Instructions. The fire was fuelled by the need of mass education. Several major universities, including Dartmouth, Florida State University, the University of Illinois, the University of California and California State University were prominent in early CBI projects. In 1960 the University of Illinois and Control Data Corporation started a project PLATO (Programmed Logic for Automatic Teacher Operators) which was extensively used throughout the United States. PLATO had a number of adult education applications. Presently it is used to teach basic reading skills to inadequately educated adults. PLATO is also being used for training of pilots by American Airlines. It is used successfully in various fields now-a-days. A library of many courses and lessons has been developed for PLATO covering numerous areas at all educational levels.

The teaching mode is questions and answer, with a computer setting the questions and the student responding by touching appropriate parts of screen or pressing requested buttons on the keyboard.

30 | Basic Computer Education

Since 1982 PLATO's course ware could be used on floppy discs suitable for running on stand along microcomputer. Another educational use of computers was evidenced by the development of LOGO language during 1970s by Paper and his colleagues, again at the Massachusetts Institute of Technology in USA. LOGO helps in developing computer programs and also trains persons to think analytically and logically.

Many educators resisted the machines and their programs because they felt the machines might displace teachers or impact education in an undesirable, mechanical fashion. Skinner answered critics by saying that machines would improve teacher-student interactions because the teacher would be freed of 'routine instructional presentation', drill, and testing duties. Many instructional programs were prepared and for a while, enjoyed popularity. In many instances, however, students were not experienced at being active during instruction, and many expressed displeasure with programmed course. Many of the courses were horribly boring because of their strict adherence of a certain, researched and placed in the background for some future time. However, the principles behind programmed instruction live on and underline the design of the current CBI systems.

The period from 1960 to 1980 was identified by time-sharing activities offered by universities and instructional computing projects which were developed on large scale mainframe systems. In the early 1970s, the decreasing price of equipment and the increasing availability of time sharing systems led to small scale experiments in schools in France, U.K. and in U.S. largely funded by the government. The advent of micro-computer in the late 1970s, its low price and its rapidly increasing use in industry, commerce and administration has led to the adoption of computers in schools on a large scale. The efforts were directed to have 'best' use of computers to 'improve' educations but the general trend was to replace the teacher by the computer.

The supporting arguments were : non-availability of teacher all the time, dependency of learning process on speed of teacher, lack of patience in teachers, etc. Hence in the 1980s as the "Microcomputer revolution" ushered in, many microcomputers were purchased for schools. The advent of the microcomputers changed drastically the problem of the use of computers in education, not only because of their low price but also of their less weight and absence of air-conditioning, not only because of their low price but also of their less weight and absence of air-conditioning which made it transportable to any place including the classroom (Lewis, 1982). However, electronic games were the major use in the beginning of micro-computers.

The 90's saw the proliferation of personal computers and the use of computer base training programs. Internet came in a big way and it is affecting all sphere of life. It is also making possible for the people sitting on a distance to communicate. Discussion groups, real time chatting, e-mail, telnet are some of the features on internet, which are very much useful in the field of education. Most of the institutions have put their details and journals which are very much useful in the field in education. Most of the institutions have put their details and journals on their websites so that anyone can access this information anytime from anywhere in the world.

Computers provide, for the first in history, a key ingredient that was lacking in all the previous tools that raised high expectations when introduced in the educational system; individualized interactively. From blackboard to television, the previous tools were presentation tools only. Computers, however, cannot only present information with all the audio-visual expressive possibilities of television or film, but also can receive information from the user, and can adapt the presentation to the user needs, preferences or requests. Furthermore, in those schools where the Internet is accessible, the computer is the gateway to information of the classroom, moving away from frontal, expository, didactic presentations to environments where learners are active discoverers and builders of knowledge, the computer is the tool with the potential to help in reaching these goals.

Use of Computers in Education (India)

Advent of microcomputers was indeed, a revolution in the entire human society, which was learning to work with the help of computers. India was no exception where computers not only made roads deep into the developing economy but also seeped into the field of education. Indian experiments in taking computers to schools involved the participation of a large number of institutions for tasks such as the supply of hardware and software, the development of Computer Assisted Learning (CAL) packages, and the training of teachers. A project called Computer Literacy and Studies (CLASS) launched in 1984 was a joint initiative of Ministry of Human Resource of Development, Department of Electronics, and National Council of Educational Research and Training. The project had only a limited success, and had been described at best as a "spectator sport".

A revised CLASS project during 1993-2004 saw the introduction of PC machines in keeping with broad global trends. Subsequently, the government initiated the CLASS 2000 program with the aim of providing computer literacy in 10,000 schools, computer-assisted learning in 1,000 schools, and computer-based learning in 100 schools. These 100 schools were called smart schools, and were designed to be agents of change seeking to promote the extensive use of computers in the teaching-learning process. This, too, has not yielded the expected results. In the words of **Prof. Utpal Millik** (2005), "Ambiguity of purpose, tentative policies and faltering practices marked the major computing initiatives in Indian during the last two decades. Schools are using Information Technology as an add-on, not as an integral part of a new pedagogy.

Though all these interventions did make some impact, where the schools and teachers went the extra mile to avail of the facilities provided using their own ingenuity, many of these schemes have been half-hearted attempts even at the conceptual level. Computer literacy is not so much about knowing the technical jargon, but rather learning to use computers in a meaningful way, that is, meaningful of children. The government sponsored programs lacked not only conceptual clarity but there were also no provisions for a number of other essential aspects, such as students and teachers having easy access to computers, problems of scalability, timetables, etc. Without such clarity and preparation, and lacking the machinery to make mid-course corrections, these programs failed to bring about the desired changes; some were given up halfway. Given this void, many international corporations, and Indian companies as well, have entered the arena in recent years, although their programs have limited objectives.

Recognizing the immense potential of Information and Communication Technology as a job market, many Governments has taken initiatives to introduce students, especially those in high schools, to computer education. Some of these initiatives have gone beyond providing basic computer literacy, and are trying to integrate computers into education as well. While it is too early to attempt any meaningful impact assessment, heightened levels of interest and innovation are discernible. A variety of private sector-government partnerships have been tried and a large number of corporate houses and NGOs are participating in these.

While computer education appears to have been taken quite seriously by many State Governments and by certain private sector initiatives, most of these programs are aimed at preparing students for the job market. In addition, the programs are software-centric, *i.e.*, they emphasize the learning of a specific set of software tools. There is an urgent need to demystify this technology and de-emphasize the learning of specific tools. A balanced generic curriculum, where computers are related to their due place as tools, and where they extend the horizons or other subjects, is a must. The availability of appropriate software in Indian languages, and in adequate numbers, will catalyze this process.



Chapter 5

M.S. DOS

"After the power of computer is ON, the process till DOS the prompt displays on the monitor screen is called booting. In modern operating systems windows 95 and later versions, the process till the windows open, is called booting. There are two types of booting—cold booting and warm booting."

Q.1. Describe the operating system of computer.

Ans. Introduction and Need of Operating System

The software, which helps the computer to move in working position is called operating system. It establishes communication between computer and user. In the absence of it computer is incomplete. It can be called the soul of a computer. In professional language operating system is called platform. Our computer too modern, have too many modern facility, modern application softwares, but if it does not have any operation system then we can not work on computer. This is the most necessary part of computer. Besides these, it does the following works —

1. File Management—The work which are done on computer is to be stored in the form of files. Operating system is to be needed to store the file after name, to use again on demand, to remove this from the disk at end of necessity, to copy the file from one place to another place, to move the file from one place to another place, etc.

2. Programme Execution—Operating system gives the suitable environment to run the installed programs, modern operating system are much powerful, that can run many program at a time.

3. Fault Diagnosis—If any damage occurs in the standard devices or peripheral devices, when we are working on computer and those are not able to do desired work, then operating system provides its information to the user. When computer is ON i.e., it is booting, then Operating system checks all devices, which are connected to computer and if it finds that any connection is not properly done, then it informs to user by message or sound connected.

Types of Operating System

There are two types of operating system—single user operating system and multi user operating system.

1. Single User Operating System—This type of operating system can not be used on more than one computer at a time. For each computer a different operating system is required. MS-DOS, PC-DOS, Windows 95, Windows 98 etc., are such operating system.

2. Multi User Operating System—This type of operating system can be used on more than one computer at a time. This type of operating system is used in networking. Many users can process the central processor at a time UNIX, Windows-NT etc., are such operating system.

Part of Operating System

Disk operating can be distributed in two parts—resident and transient.

1. Resident Operating System—It can also be called ROMBIOS. At the time of production ROM, this operating system is installed in it. When computer is booted then it checks hardware of computer and associated parts of hardware itself.

2. Transient Operating System—Mostly used transient operating system was developed by an American company Microsoft. It is called Microsoft Disk Operating System (MS-DOS). ●

Q.2. Describe in brief the functions of MS-DOS.

Ans.

BIOS

The meaning of BIOS is basic input output system. BIOS is installed in ROM of computer. When power of computer is ON, then BIOS checks all hardwares of computer. When all hardwares are in order to perform work, then computer boots and a prompt appears on monitor. The two works of BIOS are as follows—

1. It maintains the relationship between all circuits of computer.
2. Because of a copy of a software, which controls the processor, it gives instructions to microprocessor to work.

Functions of MS-DOS

The main function of MS-DOS is to establish a relationship between hardware and software.

It sends the received informations, by the help of computer's input device i.e. key-board, to the CPU after translated it into computer understandable language, presents the results on output device i.e. monitor and on demand on printer after processing the instructions by CPU.

Bootimg

After the power of computer is ON, the process till the DOS prompt displays on the monitor screen is called booting. In modern operating systems windows 95 and later versions, the process till the windows open, is called booting. There are two types of booting—cold booting and warm booting.

1. Cold Booting—Computer is booted again by switching ON after its power is switched OFF, then this type of booting is called cold booting.

2. Warm Booting—When computer is booted by pressing the reset button, situated in front of its processing unit, by pressing Ctrl + Alt + Del keys, then this type of booting is called warm booting.

To boot the computer three files of MS-DOS, MS-DOS.SYS, IO.SYS and COMMAND.SYS are needed. In these first two files are hidden files and COMMAND.COM is a general file. If these DOS files are installed in a disk, then it should be called a bootable disk.

Important Files of DOS

As we have discussed above, to operate computer and its' related devices, following special files of MS-DOS are needed—

MS DOS.SYS

To store and manage data in computer, special programs and logical instructions are stored in this file.

IO.SYS

Some programmes needed to send and receive data from computer peripheral devices are stored in this file. This file is also called input-output system file.

Command.com

Reading the given commands by user to computer, checking these commands and as these are found in right form, completing the task according to the command, all this work is done by this file. In this file all the internal commands of MS-DOS are stored.

Config.sys

The file, which run some such command at the time of booting, which gives right shape to computer hardware and arranges a blank space in memory for processing, is called config.sys. It is an ASCII text file, in which computer system related system.

When the computer is ON, then because of this file firstly memory of computer is checked. After this three files of MS-DOS *i.e.* MS-DOS.SYS, IO.SYS & Command.Com are transferred in memory of computer and after this computer is ready to do our work according to our instructions. With the help of this file, we can use main memory of computer perfectly.

Autoexe.Bat

The full form of this file is auto executable *i.e.* the batch file which executes itself. It is an important batch file of DOS. This batch file is placed in root-directory of computer. It is also an ASCII text file. Some primary DOS commands, necessary to boot the computer are written in it.

Q.3. Describe in brief the some important terms of DOS.

Ans.

Some Important Terms of DOS

File

A name is given to store the work done in computer, it is called file. The name of file can be divided in two parts—file name and file extension. File name may be of maximum 8 characters and file extension of 3 characters. File name and extension are joined with ‘.’ and before or after ‘.’ does not occur any blank space. In AUTOEXEC.BAT file name is AUTOEXEC and file extension is BAT and these both are joined with ‘.’.

At the time of naming a file, the following points are taken into consideration—

1. File name should be of maximum 8 characters and file extension should be of 3 characters.
2. File name and file extension are joined by (.). Any blank place does not exist before and after (.) and it is used one time.
3. A file name may consist characters A to Z (small and capital both), digits from 0 to 9, special characters e.g. (,), \$, &, #, -, —, @, !, %.
4. File name and extension have no blank space and following characters can not be included— ?, ., /, \, !,], <, >, = .
5. For file name eleven words—AUX, COM1 COM2, COM3, COM4, CON, PPTI, LPT2, LPT3, NUL and PRN are not used. We can use them with other words.

Disk

Disk is denoted by A, B, C, D....alphabets. A and B are for floppy disk and after these alphabets present partition of hard disk, slave hard disk or CD ROM. It is called Root Directory.

Directory

If computer is assumed as an almirah, then the main partition of almirah would be called Root Directory. Other partitions in main partition are called directory and if in other partitions, some small partitions exist then these small partitions are called sub-directory.

Prompt

After booting, a special sign A:> or C:>, displayed on monitor screen is called prompt. In front of this special sign the flashy dash is called cursor. At this place different instructions are to be given *i.e.* DOS prompt informs that computer is ready to take our instructions or informations on special place (drive or directory).

The meaning of A:> is that we are working in root-directory of A drive *i.e.* our presently working drive is A and our presently working directory is root-directory of A drive and the mean of e:> is that our presently workly drive is e and presenty working directory is root-directory of C drive.

Cursor

It is a flashy dash (–) beneath a letter/stroke, which represent our position on monitor screen. Any instruction or information is entered on cursor position.

Path

To work on any file, we have to reach that file through directory and sub-directory in which this file is stored. To tell the way of that file to DOS is called to present the path. Each directory is differentiated with backslash (\). In C:\DOS\SYSTEM, C:\ is root-directory, DOS\ is directory and SYSTEM is sub-directory.

Wildcard

The special signs used to work on a special group of files are called wild cards. There are two types of wildcards—‘*’ star and ‘?’ question mark.

“*” star—‘*’ means all e.g. the meaning of *.* is all the files which can have any name and extension. *.com means, files can have any name but extention should be COM.

“?” Question mark—‘?’ means a single character e.g. the meaning of VINA?.CON is, all the files with file name of only five characters and first four characters are VINA and fifth character may be any character but the extention should be CON.

Q.4. What do you understand by DOS Commands? Explain in brief.

Ans.

DOS Commands

The instructions to make any work, given on prompt to DOS are called DOS Commands.

DOS command are typed in a definite format, which is called syntax of command. To get true result of typed command, it is necessary to type it in correct syntax.

Command can be typed either in upper (capital) or in lower (small) letters. If it is typed in correct syntax, then the produced result will be true. DOS Commands are of two types—Internal Commands and External Commands.

1. Internal Commands—The DOS commands, for whom no other associated files are needed, are called Internal Commands. These commands are situated in COMMAND.COM, and COMMAND.COM is situated in root directory, so when computer is ON these take place in memory itself.

Some internal Commands are—DIR, MD, RD, CLS, DEL, COPY, PATH, REN, etc.

2. External Command—The DOS commands, for whom other associated files are needed, are called external commands. These commands complete their work, when associated files are situated in DOS directory. Each External Command has its own file.

Some main External Command are—DISCOMP, UNDELETE, DISKCOPY, TREE, XCOPY, CHKDSK, FORMAT, ATTRIB, DEGUG etc.

Some Important Commands of MS-DOS

To Change Current Drive

To change current drive, type the drive name with colon (:) on DOS prompt and press ‘enter’ key.

Example

C:\>a:
A:\>_

To Check DOS Version (VER)

To know that in which version of DOS we are working, **ver** command is used.

To check the version type ‘ver’ on DOS prompt and press the ‘enter’ key.

Example	C:\>ver MS-DOS Version 6.22
	C:\>_

To Erase Information from the Monitor Screen (CLS)

To erase informations from the monitor screen, type **cls** on DOS prompt and press ‘enter’ key.

To See the List of Files and Sub-Directories stored in Directory (DIR)

To see the list of files and sub-directories stored in a directory on monitor screen, DIR command is used.

Using this DOS Command some informations are displayed on monitor screen. First line shows the name and label of current disk. In the absence of label, ‘has no label’ displays after the drive name. Second line shows the serial number of current disk. Third line shows the full path to directory, whose files and sub-directories are being listed below :

Example	C:\>DIR Volume in drive C is R_LAL Volume Serial Number is 250B-ACF5 Directory of C:\ MOUSE1 <DIR> 08-12-20 5:39p DOS <DIR> 08-11-20 9:39p MSOFFICE <DIR> 08-12-20 7:23p WS <DIR> 08-10-20 10:34p COMMAND COM 54,645 05-11-21 6:22a CONFIG SYS 249 08-11-20 9:44p AUTOEXE BAT 221 08-09-20 8:40p 3 file(s) 351,465 bytes 190,963,712 bytes free C:\>_
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After this, list of sub-directories and files displays. For sub-directories, name of sub-directory is followed by the information of being directory and for files it’s file extension and it’s size is bytes in displayed. These informations are followed by last date and time on which file was operated. Second last line shows the number of files and memory space occupied by them. In the last row, the blank space in disk is displayed.

Switches, used with DIR Command, and their work are as bellow—

/P — Used for display list of files and sub-directory on monitor screen page-wise.

/W — Used for display list of files and sub-directories on monitor screen width-wise.

/S — Used for display the list of all the files and sub-sub-directories, of sub-directories of current directory.

/B — Used for display the list of sub-directories and file name with extension only.

/L — Used for display the list of files and sub-directories in lower case (a-z).

/C — Used for compare the files, which are made by double space DOS command to general files.

/A — Used for display the list of files whose attribute is changed.

To Copy a File

To copy files in another drive or directory, type copy, a blank space, type the name of copying file, a blank space, type the path of drive or directory where this file is to be copied and press ‘enter’. With the use of this command, the file can be copied by other name. The syntax of this command is—

Syntax	COPY <Source_File_Name> <Target>	↓
---------------	---	---

Example	C:\>COPY Account.txt A:	↓
----------------	-----------------------------------	---

In above example account.txt file is being copied in A: drive from C: drive.

Example	C:\>COPY A:\Account.txt	↓
----------------	-----------------------------------	---

In above example Account.txt file is being copied in C: drive from A: drive.

Example	C:\>COPY *.* D:	↓
----------------	---------------------------	---

In above example all files situated on route of C: drive of the help of wild card is being copied in D: drive.

Example	C:\>COPY Account.* A:	↓
----------------	---------------------------------	---

In above example files which names are Account but can have any extension is being copied in A: drive from C: drive.

To Delete the File (DEL)

To delete any file, go in the directory of that file and type DEL, a blank space and then give name of file to be deleted press ‘enter’.

Syntax	DEL <File_Name>	↓
---------------	------------------------------	---

Example	C:\>DEL Accont.txt	↓
----------------	------------------------------	---

In above example account.txt is being deleted from the C: drive.

Example	C:\>DEL Accont.*	↓
----------------	----------------------------	---

In above example files which names are Account and can have any extension is being deleted from C: drive.

To Change Directory (CD)

To change the directory, type the CD Command on the DOS prompt and give a space and the name of wanted directory and press ‘enter’ key. By this command the name of directory is also added with the DOS prompt.

Syntax	CD <Directory_Name>	↓
---------------	----------------------------------	---

Example	C:\>CD\VINAY	↓
----------------	------------------------	---

C:\VINAY\>_

In the above example, to go to the Vinay directory which is situated in root-directory of C: drive, we used the CD Command. Now Vinay has also included in the prompt name.

To Make Directory (MD)

To Make a new directory in current drive or directory, type MD on DOS prompt, a blank space and the name of new directory then press ‘enter’ key. The name of directory should be of maximum 8 characters and should not have any extension.

Syntax	MD <New_Directory_Name>	↓
---------------	-------------------------	---

Example	C:\>MD LAL	↓
----------------	------------	---

In above example a new directory LAL is being made on root of C: drive.

To Remove Directory (RD)

To remove any directory or sub-directory type the RD on DOS prompt, a blank space and the name of directory which is to be removed then press the ‘enter’ key.

Syntax	RD <Empty_Directory_Name>	↓
---------------	---------------------------	---

It should be remembered that the directory which is to be removed should be empty that means there should not be any file or any sub-directory in that directory.

Example	C:\>RD LAL	↓
----------------	------------	---

In above example LAL named directory, which is situated in root directory of C: drive, is being removed.

To Stop the Working of DOS Command

To stop the working of DOS command press ‘Ctrl’ key and ‘C’ key together. When these both keys are pressed together then the working of DOS command stops at the time as well as ‘^C’ displays on the monitor screen and the cursor come on the DOS prompt.

To See Stored Informations in File on Monitor Screen (TYPE)

To see stored information in file on monitor screen type TYPE on the DOS prompt, a blank space the name of file with complete path and then press ‘enter’ key.

Syntax	TYPE <File_Name>	↓
---------------	------------------	---

To see the elements of file Vinay.DOC which is in the floppy, insert it in A: drive, remaining in C: drive on monitor screen the command would be used in following way—

Example	C:\>TYPE A:\VINAY.DOC	↓
----------------	-----------------------	---

To Remove Directory with It's Files (DELTREE)

If we have sub-directory or directory in our current directory or drive of useless files and we want to remove that sub-directory or directory completely, then we will use the command DELTREE.

To execute this command we have to type DELTREE on the DOS prompt, a blank space, the name of sub-directory and directory which is to be removed and press the ‘enter’ key. Generally we go in the directory by CD command and then remove all files with the DEL command and then again use CD command to come back to mother directory and then remove directory by using RD command. In this way if we want to remove a directory, then we have to use atleast four commands and by DELTREE, this work can be done only by one command.

A file directory LAL situated in rood-directory of C: drive is to be removed with all the files and sub-directories in the following by this command—

Syntax	C:/>DELTREE LAL	↓
---------------	-----------------	---

By the use of this command a message displays on the monitor screen—

Delete directory “LAL” and all its sub directory ? [YN]

If you press Y then the directory would be removed with all its sub-directory and files and if you press N then the directory would not be removed. If we use /Y switch with the command then this message will not appear.

Q.5. What do you understand by Path Commands? Explain in brief.

Ans.

Path Command

This command is used to connect all different sub-directories in the hard disk together. By this command we can use programme files of batch files of other sub-directory remaining in a sub-directory. For example if in C drive the COM and EXE files of the sub-directory of C:\DOS, Window and Pm70 it to be used then the path command will be used in the following manner—

C:> PATH = C:\ DOS; C:\WINDOWS; C:\Pm70 ↵

To Present the Current DATE on Monitor Screen

By the DATE command we can see the current date. The syntax of this command is as follows—

Syntax	DATE	↓
--------	------	---

To Format the Disk (FORMAT)

To use new or old floppy or hard disk, type FORMAT on DOS prompt, a blank space, the name of disk or drive and press the ‘enter’ key. By the use of this command new tracks and sectors are made on the disk, on which computer will read and write message.

The syntax of this command is as following—

Syntax	FORMAT <Drive Name>	↓
--------	---------------------	---

Following switches can be used with FORMAT command—

- /Q — To remove the file location table which is made at the time of formating of old disk.
- /C — To check the BAD cluster situated in disk.
- /S — To make disk bootable.
- /4 — formate 360 KB disk situated in 1.2 MB disk.
- /U — The formated disk by this switch can not be unformated.

To Check the Disk (CHKDSK)

To check the disk type CHKDSK on the DOS prompt, a blank space, the name of disk and then press the ‘enter’ key. Using this command the memory used by DOS, the date on which the disk was formatted, blank space in memory, acquired memory by data, acquired memory by hidden files, number of sub-directiores in disk and the acquired bytes by these, volume label of disk, acquired place by bad sectors in disk and the number of allocation units displays on the monitor screen. The syntax of this command is as following—

Syntax	CHKDSK <Dirve_Name>	↓
--------	---------------------	---

The following switches are used with this command—

- /F — To make corrections which are shown by CHKDSK command and to convert loose clusters in CHK files.
- /V — To display required informations on monitor at the time of checking.

DISKCOPY Command

To copy all informations stored in a disk to another disk, type DISKCOPY on the DOS prompt, a blank space, the name of disk to be copied, a blank space, name of drive in which disk is being copied and press ‘enter’ key.

By this command all files sub-directories, even hidden files also, can be copied.

Difference Between COPY and DISKCOPY

COPY command is used to copy only files, whereas DISKCOPY command is used to copy directory, subdirectory and files situated on the disk. By the use of DISKCOPY command, bad sector of the disk are also copied in the target disk. By the use of COPY command, the informations which are stored in target disk do not get any damage, whereas by the use DISKCOPY command all files situated in target disk got damage.

XCOPY Command

To copy a directory with its subdirectories and files, XCOPY command is used. Type XCOPY on DOS prompt, a blank space, name of directory which is to be copied, a blank space, the path where directory is to be copied and then press the ‘enter’ key. The syntax of this command is as following—

Syntax	XCOPY <Source> <Destination>	↓
---------------	---	---

Following switches can be used with X copy command—

- /S — For copy all files with all subdirectories of that directory.
- /P — With the use of this switch, only blank subdirectories will be copied and the subdirectories which have any file will not be copied.
- /E — To copy all files and subdirectories with the files.
- /N — For verify all files with copy.

To Create Backup

To create backup of file on another disk or on floppy, type backup on the DOS prompt, a blank space, the name of file, a blank space, the path where the backup is to be created and then press the ‘enter’ key. The syntax of this command is as follows—

Syntax	BACKUP <Source_File> <Target_drive>	↓
---------------	--	---

When we use backup command, then all information which are stored in backup disk will be erased, so for backup choose a blank disk or which have all useless files. Following switches are used with this command—

- /A — To add the backup in end of backup disk itself.
- /M — When backup files are edited on its basic place then to shift the backup of these files in disk..

To Get Data back from Backup Floppies on Computer (RESTORE)

To get data back from backup floppies on computer again, type RESTORE on the DOS prompt, a blank space, name of drive of backup disk, a blank space, that partition of hard disk i.e. name of drive, the path of directory and then press the ‘enter’ key. The backup files can not be copy on hardisk by the COPY command. For these we have to use RESTORE command. The syntax of this command is following—

Syntax	RESTORE <Source_drive:> <Target_drive:><Path>	↓
---------------	--	---

Batch Files

The files in which many commands and instructions for many work are stored sequentially, are called Batch Files. These are made with the help of COPYCON command. When the full name of Batch File is typed on the DOS prompt and ‘enter’ key is pressed, then all commands stored in these files do their work sequentially. DOS can recognise Batch file only with its extension BAT.

To make a batch file, type COPYCON command on the DOS prompt, a blank space, name of batch file which is to be made and then press the ‘enter’ key. It should be remembered using this command, the extension of batch file should be .BAT. As ‘enter’ key is pressed, cursor comes to next blank line, now the commands which are to be executed are typed. In a line only one command can be typed. To type the second command, press the enter key and come in to next line. To save all commands in Batch files, press function key F6 or Ctrl + Z in the last line of file. Now ^Z will display in end of file and cursor on DOS prompt. By this manner all commands can be stored by the given name.

Example

```
C:\>COPY CON CONFIG.SYS
DEVICE = C:\DOS\SMARTDRV.EXE
FILES = 50
BUFFERS = 30
^Z
1 file(s) copied

C:\>_
```

In above example by the use of COPYCON command, CONFIG.SYS file is created. By this example we are telling about the general commands used in CONFIG.SYS file. The command FILES = 50 shows that how many files can be opened at a time. This number can be increased or decreased. The BUFFER = 30 command shows that how much memory is being used by DOS, which can be used at transfer of disk.

Q.6. Discuss in brief the Operating System Windows 98.

Ans.

Operating System Windows

Microsoft Corporation is busy in regular research and development in the field of operating systems. Windows is a graphical user interface (GUI).

First window did work on the DOS based computers. To work in DOS, we had to learn many commands. To sort out this problem, Microsoft Corporation developed Windows as operating system, in the form of windows 95.

During operating system, different commands are in the form of options in menus. These commands can be used by clicking them by a mouse or a pointing device.

In this time internet grown up fastly. Now with some other facilities in Windows 95 and with internet explorer for internet Microsoft Corporation developed it's new version Windows 98. Now for fast surfing on internet, new version of Windows, Window 2000 and Windows Me, Windows XP are launched in market.

Characterstics of Windows 98

Windows 98 is a fast working operating system as well as an application software. It loads fastly in comparison of other operating systems and also off with the speed. After booting the computer, C:\> does not displays directly desktop of Windows 98 presents.

We can put differnt desired and necessary programmes on the desktop of Windows 98 as icons. We can run these programmes by double clicking the icons. These icons are called shortcut of programme.

In Windows 98 plug-and-play facility is included. As any new hardware is found connected to computer, Windows 98 will recognise it automatically, and will load the driver too, if it is in Windows 98. If driver is not available in Windows 98, then will ask for the driver.

Windows 98 uses the memory of computer with more efficiency, so the work, related to these, are completed earlier. In present time such associating apparatus and hard drive capacity used, that do not have any image in Windows 95. Universal serial Bus or U.S.B, D.V.D. A.G.P., with three dimensional graphics etc., are assembled in Windows 98.

Because of facility of U.S.B., the problem to open the cabinet, does not occur. In Windows 98, update facility based upon Web is also included.

In Windows 98, FAT 32 also can be used. Before Windows 98, FAT system of 16 bit was in use that is called FAT 16. The full name of FAT is File Allocation Table.

In Windows 98, it can be programmed that if monitor and hard disk are idle for a definite time, then system will go OFF, e.g. if decided time is 10 minutes and if monitor and hard disk are idle for this period, computer will go in sleep mode after 10 minutes. To wake up it, press any key.

Desktop of Windows 98

When we ON a computer which has Windows 98 as operating system, then a desktop of Windows 98 displays on monitor screen.

The number of icons displayed on the desktop of Windows 98 depends on that how we have configured the Windows 98 at time of installing it and which softwares are installed in Windows 98. On the bottom of monitor screen a tasksbar is displayed. A push button ‘Start’ displays on the left side of toolbar and on right side a watch displays.



Start Menu of Windows 98

A list of different programs displays when the start button is clicked. In this list a sign ▶ display in front of some programmes, which means that this programme is a group of some programmes. In this list the programme that have no any this type of sign, that is a programme itself. As ‘window’ key also

exists in mid of Ctrl and Alt key on key-board, by pressing this key start menu can be opened. Generally the start menu of Windows is divided in these parts. There are one-one option in first and third part and many options in the second part.

1. Windows Update—It is the only option in first part of start menu. Using this facility of Windows 98, Windows 98 can be updated. It is a wizard programme. To run this programme CD of windows 98, should be inserted in CD ROM.

2. Programmes—It is the first option of second part of start menu. The sign ▶ displays in front of this, so it is a programme group. When this is clicked by mouse pointer, a list of all associated programs displays. In this list all Windows 98 associated programs and program groups—Accessories, Internet Explorer, Start up, MS DOS prompt and Windows Explorer exist. The programmes, installed after the installation of Windows 98, are also listed here.

3. Favorites—It is the second option in second part of start menu. It is used for Internet. When this button is clicked then a list of sub-menus displays in front of this. This menu has three sub-menus—channels, links and software updates. In channel sub-menu, a list of facilitated channel displays. We can choose desired channel from this list. In link sub-munu all Windows 98 have link facilities displays. In software updates, softwares can be updated by websites on Internet.

4. Document—It is the third option in second part of start menu. When this menu is clicked by mouse pointer then a list of the files displays on that we have done work recently. As we works on more files as this list becomes so long. The files displayed in this list can be removed.

5. Settings—It is the fourth option in second part of start menu. When this menu is clicked by mouse pointer then a list of different options and active desktop sub-menus displays. By the help of these programmes we can make changes in work and look of Windows 98.

6. Find—It is the fifth option in second part of start menu. When this menu is clicked by mouse pointer then a list of different sub-menus displays. The programmes given in this sub-menu are used to find any file or folder in Window 98. In this programme, special type of search of file or folders can be stored by a special name. The options given in this sub-menu can also be used for Internet.

7. Help—It is the sixth option in second part of start menu. By the help of this programme, we get help about all works which can be done on Windows 98.

8. Run—It is the seventh and last option in second part of start menu. This command is used for run any external software, for decide the path of file or for open a web page. Run command is used in earlier versions.

9. Shut Down—It is the only one option in third part of start menu. This option is used to get down form Window 98, for shut the computer, to restart the computer, to restart the computer in MS DOS mode. When this option is clicked, a dialog box displays on the monitor screen. There are four options in this dialog box—stand by, Shut Down, Restart and Restart in MS DOS mode.

By the use of **Stand by** option, computer gets sleeping mode. In this mode computer uses minimum electricity but on demand ready to work. In this stage coming informations such as fax, e-mail etc., are stored in tempraory memory, these do not store in hard disk of computer. If in this stage, Electric supply breakes, then these informations are damaged.

Shut Down, command stores all previous work done in Windows 98 and then the message. ‘It’s now safe to turn off the computer’ displays on the monitor screen. Now system can be switched off, if computer is not off in this manner, then when again computer is ON then hard disk of computer does scanning for all mistakes and errors and then loads Windows 98 on computer. If we want to operate Windows 98 again without switching off the computer then we have the third facility Restart. By choosing this option computer operates in the same manner as it operates when computer is ON.



By use of fourth option Restart in MS-DOS Mode Window 98 shuts down and computer operator in the manner of DOS 6.22.

Q.7. Discuss in brief My Computer in Windows 98.

Ans. My Computer in Windows 98

By double clicking on My Computer icon on Desktop of computer, the My Computer window displays on the monitor screen as shown in the picture given below.

In this window all necessary information about all disk drives are given. In the above picture, it is displaying that our computer has two floppy drives A : 3½" and B : 5¼".



The hard disk is divided in four partitions C, D, E, and F. In this window all these partitions are shown separately. There is a CD-ROM drive in computer, called G drive. Besides all these icons of printer, control panel and scheduled Tasks display on the screen.

To know the total storage capacity, used and free space of disk, click on the icon of desired disk drive, then the information will display in left area of the screen. This information also displays in graphic mode. These informations also display on the status bar of this window, which is in the bottom of window.

To get the information about the files and folders stored in this drive, double click on the icon of drive or by choose wanted drive from the pull down list which displays when the pull down arrow of address task bar is clicked.

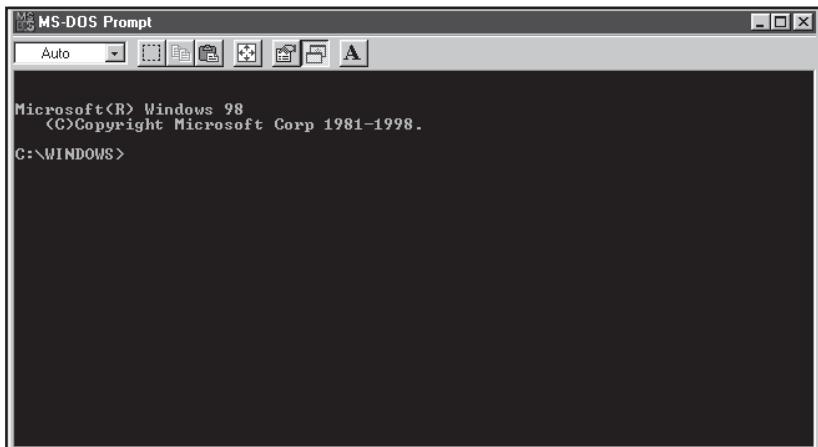
File Management in Windows 98

In Windows 98 for file management, MS-DOS prompt and Windows Explorer are used.

MS-DOS Prompt

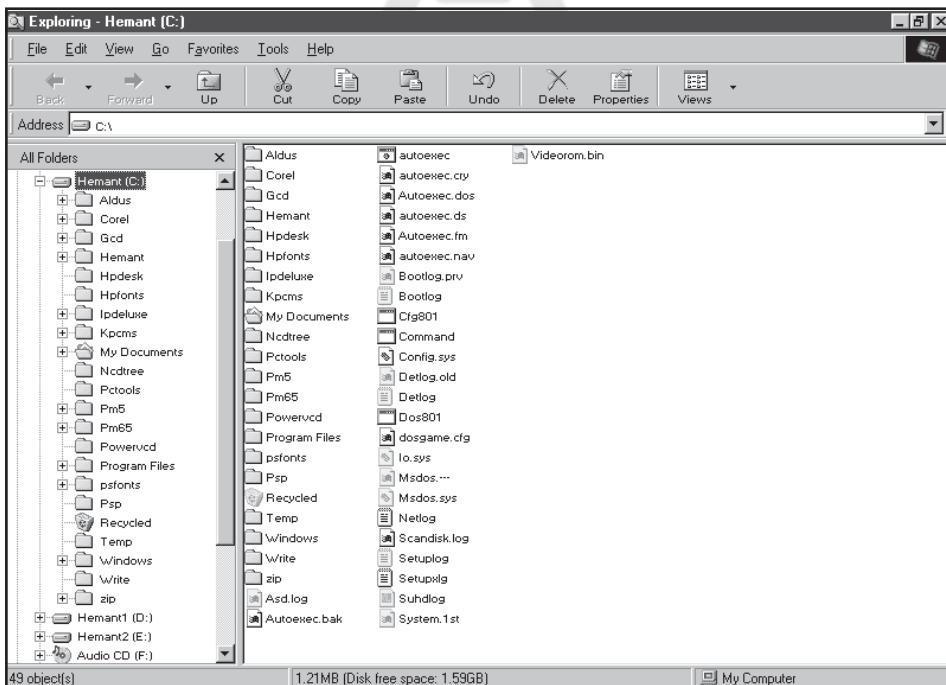
To start MS-DOS Prompt, click on Programs in Start menu and click on MS-DOS Prompt in the displayed list.

Doing this MS-DOS Prompt window displays on monitor screen as in second picture given on next page. There is DOS-prompt in this window that displays current directory. On this DOS prompt all work, which could be done in DOS, could be done.



Windows Explorer

To start Windows Explorer, click on programs in start menu and click on Windows Explorer in the displayed list. Now the following window will display—



There display menu and tool bar below the title bar of windows explorer. After these both address bar displays. It's working area is divided in two parts. In the left side different folders display in form of tree and in right part, files and folders stored in chosen drive or folders display. The name of folder chosen from left part displays in address text box with path, as well as this name also displays on left side of right part in big letters. We can change the display of file or folder in the right part of this window according to our wish.

A status bar exists on the bottom of windows explorer window. The information about chosen drive or folder are displayed on this. The information about blank space in drive and total storage capacity of drive is also displayed on the status bar.

To change the display on file or folder on the right part of this windows, click on view icon on toolbar. Files and folders can be displayed by four types. Each time by clicking on this icon it changes the display of files and folders of right part. If we clicked on this icon for a moment or click on the down arrow, on right side of this icon, then a list displays, in which all four types are listed as options.

There displays + sign in a box before the folders which is made in Windows 98, when this + sign is clicked then all files and sub-directories stored in this folder display on right side but left side only sub-directory display. Now this sign will convert in ‘-’ sign, when again ‘-’ sign is clicked then it converts in ‘+’ sign.

To Copy a file in Windows Explorer

The new facility of Window 98 Drop-Down method means that to pick anything from a place and leave at any other place. In Windows Explorer to copy any file to another place, click the file from right side of this windows and drag it to the folder, where we want to copy it, and release the mouse button. As we release the mouse button, the processing of copy starts and the development of this displays on the monitor screen in the form of a dialog box. Now if we want to stop this process, then click on the push button ‘cancel’ of that dialog box.

To Move a File in Windows Explorer

Move a file in Windows Explorer i.e. to shift any file from its native place. To move any file we have to press ‘shift’ key at the time of dragging.

To Delete a File or Folder in Windows Explorer

In Windows Explorer any file or folder can be deleted by three type—click the file or folder and press ‘Del’ key of key-board, click the file or folder and click on the delete button on toolbar of this window and click the file or folder and then choose delete option from the edit menu of this window. Windows Explorer displays a warning before deleting a file or folder. Now if we really want to delete the file or folder then click ‘Yes’ push button and if don’t then click ‘No’ push button.

To Choose More than One File in Windows Explorer

To choose more than one file in Windows Explorer, there are two methods. If files and folders are in a definite order then we can choose these files or folders by click and ‘shift’ key is also pressed and if these are at random then we choose these files or folders by click and Ctrl key is also pressed.

To Make New Folder or Directory in Windows Explorer

There are two methods to make a new folder or directory. First process is that click on the file menu and then click on new sub menu, now a list will display, choose ‘folder’ sub menu. Second method is, click right button of mouse of window, now choose new sub-menu then again a list will display, choose ‘folder’ from this list. Now a new folder would made in current folder.

To change the Name of Any File or Folder in Windows Explorer

In Windows Explorer it is too easy to change the name of any file or folder. To do this work, first click on the desired file or folder, then choose rename from file menu or press the right button of mouse and then choose the rename from displayed list. Now a rectangle arround the name of icon of file or folder will display. Now we can change the name of file or folder by typing.

To Find any File or Folder in Windows Explorer

The ‘Find’ tool is used for find any special file or folder in Windows Explorer. Find exist in tool menu of Windows Explorer. When **find** option is choosen from Tools menu, then a sub menu displays. By choosing file and folder from this sub-menu, find : all files dialog box displays on the monitor screen. In this dialog box, type the name of file or folder in text box which is infront of Name. If a special group of files or folders is to be found then use wild card. Now it is to be decided, that in which

drive or folder these files or folders are to be found. For this choose desired drive or directory from the drop down list opened by click on look in. Now by click on ‘Find Now’ push button the of files displays at the bottom of this dialog box.

Q.8. To Format the Floppy in Windows 98.

Ans.

To Format the Floppy in Windows 98

To format a floppy disk, MS-DOS prompt can be used and Windows Explorer or My Computer also can be used. The procedure of format a floppy in MS-DOS Prompt is as same as in DOS.

To format the floppy drive using Window Explorer or My Computer, click the right button on that floppy drive which is to format, now a shortcut menu displays, choose ‘format’ option in this menu, now a format window dialog box displays on the monitor screen.

If this is done for the floppy in A: drive, then to decide the capacity for disk formatting in this dialog box, click on pull down arrow, right side of text box given below capacity. Now a list displays. There is 360 KB option also with 1.2MB, *i.e.*, by the use of this option, we can format the floppy having 1.2MB and 360KB capacity.

There are three options, given below, by which type of format is decided. These three options are—quick (erase). Full and Copy system files only. Quick option is to delete all informations stored in floppy, it only works as delete command. Full option is used to format the disk without any condition and last option is used to copy system file in floppy.

After deciding the type of format, in the text box, given below, the label of to be formatted disk is decided. The desired label of floppy is to be typed in this text box. If we do not want to give any label, then by click on the first option given below it, label text box becomes deactivated.

There are also two other options after No Label. By the use of Display summary when finished option, the description of process after processing of format displays on the monitor screen and by the use of last option Copy System. System files are also copied with formatting of floppy *i.e.*, this disk becomes bootable floppy disk.

Word Processor of Windows 98—Word Pad

A Word processor called Word Pad is given in Windows 98. In earlier version Windows 3.1, there was also a word processor called write. In the better version of Windows it was introduced as Word Pad.

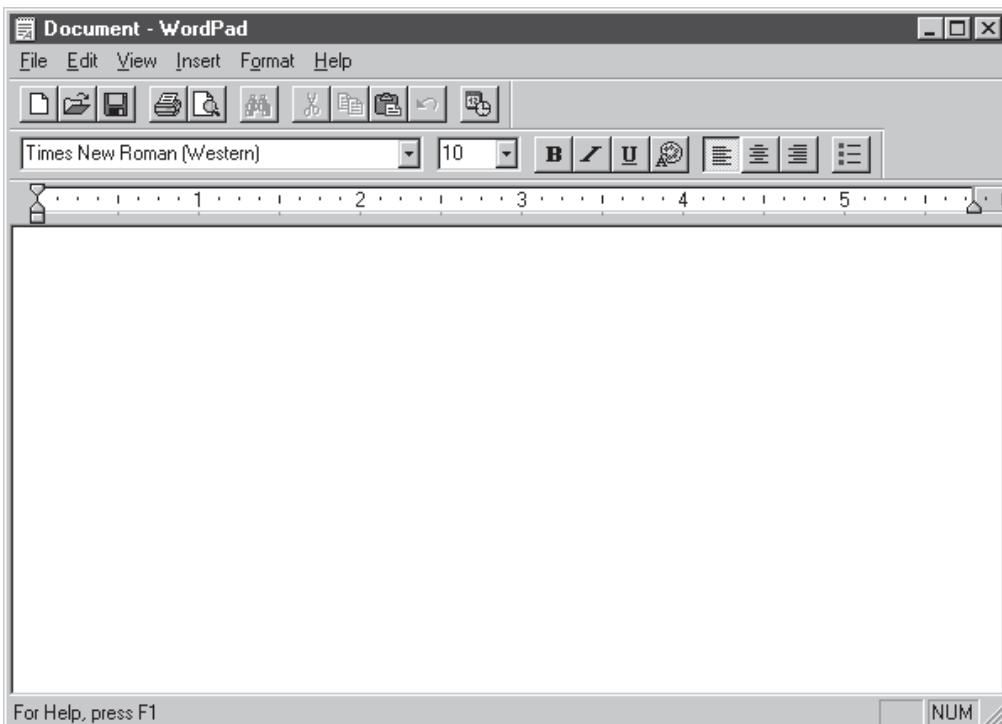
It is a such word processor given in Windows, that text can be designed in desired font, size and colour. We can say it is the short form of the Microsoft Word, an important part of Microsoft Office. Word Pad is firmed in the displayed list when the Accessories option of Program sub-menu, that exist in list of start menu. By click on this the WordPad Window displays on the monitor screen, as in picture given on the next page.

On the top of this Window title bar, under this menu bar, under this tool bar and under this format bar displays.

On its menu bar first menu is file. Different option given in this are used for following works—

New	To make a new file
Open	To open an existing the file.
Save	To save the file.
Save As	To save the file with another name.
Print	To print the file by the help of printer.
Print Preview	To see the print’s display which would be output of printer.

- Send To sent text of file as e-mail
 Exit To exit from word Pad.

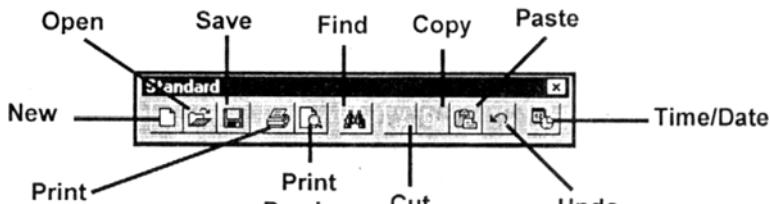


On its menu bar the second menu is Edit, different options given in this are used for following works—

- Undo To cancel the done work.
 Cut To copy selected text to Windows clipboard and removing it from file.
 Copy To copy the selected text to Windows clipboard without removing it from file.
 Paste To paste, the copied text, by cut or copy on clipboard at cursor position.
 Paste Special To paste any item from the clipboard in a different way at cursor position.
 Clear To remove the selected part from the file. By using this option, it is not copied to the clipboard.
 Select All To select the total text of file.
 Find To find desired text in the file and move the cursor to desired text.
 Find Next To find again desired text in file and to send cursor on the text.
 Replace To find any text in file and to replace it with any other text.
 Links If any object is linked at the times of inserting then to know that link.
 Object Properties To know the different properties of inserted object.
 Object To edit, a selected inserted object, in it's parental program.

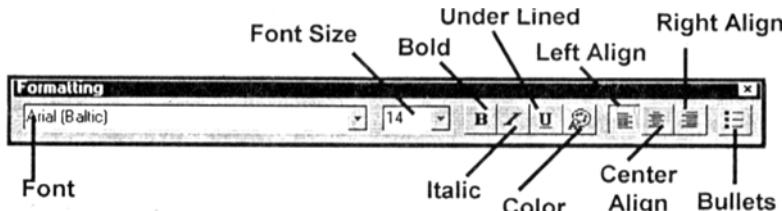
On the menu bar the third menu is view. Different options given in this are used for following works—

- Tool Bar To display the standard toolbar in Word Pad Window.



Format Bar

To display the format bar in Word Pad Window.



Ruler

To display the ruler in Word Pad Window. Ruler is displayed horizontally under the format bar.

Status Bar

To display the Status bar in bottom of Window of Word Pad. On status bar NUM display when NUN Lock is ON and CAP displays when caps lock is ON. At the time of working in Word Pad the short information about the tool or menu, where the mouse pointer is, displays on the left side of status bar.

Default

To decide the different default in Word Pad. Default decision are those, that becomes active itself when Word Pad runs.

On the menu bar the forth menu is **Insert**. Different options given in this are used for following works—

Date/Time

To insert current date and time, in opened document at cursor position.

Object

To insert any object, in opened document at cursor position.

On the menu bar the fifth option is **Format**. Different options given in this are used for following works—

Font

To decide font, size, style and colour of selected text or the text to be typed in Word Pad.

Bullet Style

To display a bullet indent before the text of a paragraph in opened document.

Paragraph

To decide the indent and alignment of selected paragraph or the paragraph to be typed opened document.

Tabs

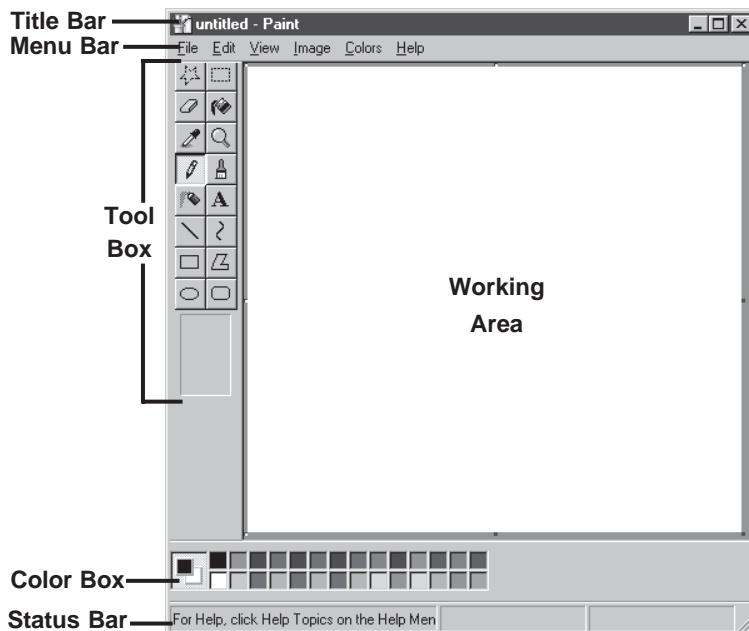
To decide different Tab stops in text of opened document.

Q.9. Discuss in brief the Designing Software –Paint.

Ans. Designing Software of Window 98–Paint

In Windows 98 a software named Paint is given for designing. In starting version Window 3·1, there was also a designing software called Paint Brush. The updated form of this software is introduced by the name Paint in Windows 95.

It is such a designing software, given in Windows, in which we can make bitmap image after design a desired shape and image can be edited. Paint is firmed in the displayed list when the Accessories option of Program sub-menu, that exist in list of start menu. By click on this, the Paint Window displays on the monitor screen, as in picture given on the next page.



On the of this Window title bar displays and under this menu bar displays. In this Window different tools for working with Paint displays in a tool box on the left side. Most of works in Paint are done by tools, so first of all we will gather knowledge about tools given in tool box.

We can adjust this tool box at anywhere in Window easily. To do so we have to drag the tool box, by click on the tool bar leaving tools, to the desired place. Different tools given in this toolbar are shown in picture at previous page. Now let's gather information about the functions of these tools—

- **Line Tool**—This tool is used to draw a straight line. To use this tool we have to click on this by mouse pointer. As this tool is clicked, the shape of mouse pointer converts in tools shape. Now to draw a straight line, click the place where from the line is to be started and drag the mouse pointer to where the line is to be finished. By selecting this tool in preferences box, below the tool box, the different thickness displays. By selecting desired thickness it can be decided for the line to be drawn. The decision of thickness is done before drawing the line. After drawing the line, the thickness and length of line can not be changed by this tool. The colour of the line can be decided from the colour box but this deed should also be done before drawing the line.
- **Curve**—This tool is used to draw curve. This tool is also used as line tool.
- **Rectangle Tool**—This tool is used to draw square or rectangle. As this tool is clicked, the shape of mouse pointer also converts in the shape of this tool. Now to draw a rectangle, click the place where from the rectangle is to be started and drag the mouse pointer to where the rectangle is to be finished. The decision of thickness and colour of line is done same line tool or curve tool.
- **Polygon Tool**—This tool is used to draw a polygon. First click this tool, then decide the thickness and colour of polygon's line. Now in working area of Paint, click the mouse pointer at the place from where the polygon is to start and drag it to place where it's second side is to draw and same as other sides can be drawn, to complete the polygon click on the starting point of polygon. In this manner polygon is drawn in Paint.
- **Ellipse Tool**—This tool is used to draw a ellipse or circle. In this tool, all deeds such as thickness, colour of line and colour of it and work in working area are done as same as rectangle tool.

- **Rounded Corner Rectangle Tool**—The tool is used to draw rounded corner rectangle or square. In this tool also all deeds such as thickness and colour of line and colour of it and work in working area are done as same as rectangle tool.
- **Text Tool**—This tool is used to write text on bitmap. As this tool is clicked, the shape of mouse pointer converts into + sign. Now by clicking on the place where the text is to write, a box of dotted line and a font tool bar displays in Window of Paint. If this tool bar is not displaying in your computer, then place mouse on this dotted line box and right click the mouse then select the last option text toolbar. By using tools of this tool box—font, font size, font style etc., are to be decided. There are eight nodes on this dotted line box. By clicking these nodes, we can change the boundary line of text, by dragging. By click and drag this boundary line, we can move the text in current Window. The decision of colour of text is taken before typing from the colour box. If the text has been typed then these changes could be done by highlighting the text. After typing the text when we do work on another tool of toolbar or we click another place in working area then we can not edit the text.
- **Eraser/Color Eraser**—This tool is used to erase any shape or text drawn or typed on bitmap. As this tool is selected, the shape of mouse pointer converts in \square Shape. In the preferences the size of eraser can be decided.
- **Free-From Select**—This tool is used to choose any part of shape or text made on bitmap. As this tool is selected, the shape of mouse pointer converts into + shape. With the help of this tool we can choose any part of bitmap in a special shape. Desired part of bitmap can be moved, cut or copied.
- **Select**—This tool is used for select any part from shape or text on bitmap. As this tool is selected, the shape of mouse pointer converts into + sign. With help of this tool any part of bitmap can be chosen in the shape of rectangle. Selected part of bitmap can be moved, cut or copied.
- **Fill with Colour**—This tool is used to fill colour in selected part of bitmap. As this tool is selected the shape of mouse pointer converts into the shape of this tool. First of all desired colour is chosen from colour box. Now click the mouse pointer where this colour is to be filled.
- **Pick Colour**—This tool is used to pick colour from any part of bitmap and to use this colour in any other other part of bitmap. As this tool is selected, the shape of mouse pointer converts into the shape of this tool. Clicking this tool, we have to click on the desired part of bitmap, from which we want to pick the colour. Now if we have not decided any colour and rectangle, ellipse, rounded corner rectangle or text are drawn, then all of them would be in this colour.
- **Magnifier**—This tool is used for see the bitmap in a large size. As this tool is selected, the shape of mouse pointer converts into a rectangle. Now this tool, we have to click on the part of bitmap which we want to see in large form. At this time in part of preference, the list of different sizes displays. Desired size of magnifier can be chosen from this list.
- **Pencil**—This tool is used to draw any freehand shape on bitmap. As this tool is selected, the shape of mouse pointer converts into the shape of this tool. Now the freehand shape can be drawn by dragging mouse in working area of Paint.
- **Brush**—This tool is used to draw freehand shape on bitmap. As this tool is selected the shape of mouse pointer converts into + shape. Now below the tool box, in the part of preferences, different options displays to select the shape and size of brush. The colour of brush is decided by click mouse pointer on desired colour in colour box. Now any freehand shape can be drawn by dragging mouse pointer in working area of Paint.

■ **Air Brush**—This tool is also used for any type of spray painting. By the use of this tool, any freehand shape can be drawn which outline will be of in colour spray. As this tool is selected, the shape of mouse pointer converts into shape of this tool. Now below the tool box, in the part of preferences, there displays different options to decide the density of airbrush. The colour of airbrush is decided by clicking mouse pointer on desired colour in colour box. Now any freehand shape can be drawn by dragging mouse pointer in working area of Paint.

On the menu bar of Paint, the first menu is **File**. Different options given in this menu, are used for following works—

New	To make a new bitmap file
Open	To open of existing bitmap file
Save	To save a file
Save As	To save a file with another name
Print Preview	To see the print's a model that could be out-put with the help of Printer
Page Setup	To decide page size etc., of file
Print	To print the file with the help of Printer
Send	To e-mail the file
Set As Wallpaper (Tiled)	To display the bitmap image on desktop in tiles.
Set As Wallpaper (Centre)	To display the bitmap image on desktop in centre
Exit	To exit from Paint

On the menu bar of Paint, the second menu is **Edit**. Different options given in this menu, are used for following works—

Undo	To cancel just done work from file
Repeat	To get the canceled work again
Cut	To copy selected bitmap to Windows clipboard and removing it from file.
Copy	To copy the selected bitmap to Windows clipboard without removing it from file.
Paste	To paste, the copied bitmap, by cut or copy on clipboard.
Clear Selection	To delete the selected part in file. By use of this option this part does not copy on Windows Clipboard.
Select All	To select all objects of file.
Copy To	To copy the selected part in any other bitmap file. In which file this part will be copied, all shapes in that file would removed.
Paste From	To open any other bitmap file in already opened file in Paint

On the menu bar of Paint third menu is **View**. Different options given in this menu, are used for following works—

Tool Box	To display tool box in Window of Paint
Colour Box	To display colour box in Window of Paint
Status Bar	To display status bar in Window of Paint
Text Tool Bar	To display text tool bar in Window of Paint. This tool becomes active at the selection of text tool.
Zoom	A sub-menu list displays when mouse pointer comes on it. The options of sub-menu are used to decide the size of display of bitmap.
View Bitmap	To display bitmap on whole monitor screen.

On the menu bar of Paint fourth menu is **Image**. Different options given in this menu, are used for following works—

Flip/Rotate	To get the horizontal or vertical mirror image of selected part of image or to rotate selected image at 90° angle.
Stretch/Skew	To change the shape of selected part of bitmap and to stretch and skew it at any angle.
Insert Colour	To convert the colours of selected part of bitmap in opposite colours.
Attributes	To make changes in basic factors of bitmap.
Clear Image	To clear the working field of paint.

On the menu bar of Paint fifth menu is **Colors**. There is only an option to Edit colors is in this menu. This option is used to make desired changes in displaying colour in colour box. ●

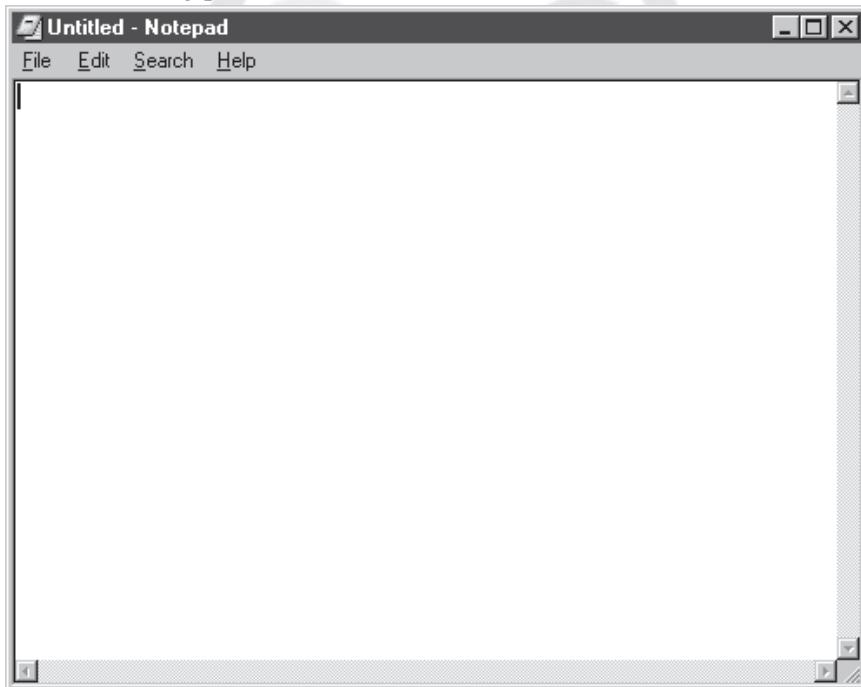
Q.10. Write short note on the following—

- (a) Note Pad
- (b) CUI and GUI Operating System
- (c) BIOS
- (d) Operating System UNIX
- (e) Memory Management
- (f) File Management

Ans.

Note Pad

All most in all versions of Microsoft Windows, this application is included. This is used to make and edit, different text files which are less than 64 KB in size. It is a menu based programme. The extension of Note Pad file is .TXT. At the time of operating this programme, its Window displays at monitor screen as in following picture—



The first menu of menu bar of Note Pad is **File**. Different options given in this menu are used for following works—

New	To make a new text file
Open	To open any already made file. The extension name of file can be .TXT, BAT.,INI,.DOC etc.
Save	To save text file
Save As	To save text file with another name.
Page-Setup	To decide page size and alignment of file
Print	To print the file with the help of Printer.
Exit	To exit from Note Pad.

The second menu of menu bar of Note Pad is **Edit**. Different options given in this menu are used for following works—

Undo	To remove any just work done from file
Cut	To copy selected text to Windows clipboard and removing it from file.
Copy	To copy the selected text to Windows clipboard without removing it from file.
Paste	To paste, the copied text, by cut or copy on clipboard at cursor position.
Delete	To delete selected text from file. By the use of this option, the matter does not copy to clipboard.
Select All	To select whole text of files.
Date/Time	To display the current date and time at the place of cursor in file.
Word Warp	To avoid over writing at time of typing at the cursor.
Set Font	To change the font and size of text.

The third menu of menu bar of Note Pad is **Search**. Different option given in this menu are used for following works—

Find	To send the cursor on the desired text that is find by this command in the file text.
Find Next	To again find the text in file and to send cursor on the text.

(2) CUI & GUI Operating System

An operating system that provides such environment in which all instructions given in form of character is called Character User Interface (CUI) operating system. DOS and UNIX are CUI operating systems.

An operating system that provides such environment in which there is graphical interface for working and the written instruction is not compulsory is called Graphical User Interface (GUI). Windows 95, Windows 98, Windows 2000, Window Me, Windows XP etc., are GUI operating systems.

There is a particular definite instructions for each work in CUI operating system. It should be learned by user, whereas in GUI operating system there are options in menu and small figures called icons for each task. To use these we have to click on option or icons with the help of mouse pointer.

GUI operating system is much easier than CUI.

(3) BIOS

BIOS stands for Basic Input Output System. It is in the form of Read Only Memory (ROM) of computer, fixed on the motherboard. So these are also called ROM BIOS. This is the group of small routines, that are helpful in checking of Input and Output devices and to make these process regularly. It manages the transfer of data between micro-processor and other devices. When computer is On, then

BIOS becomes activate and first of all checks POST (Power On Self Test). After this, it initializes all components of computer e.g. key-board, video controller and other circuits etc., and after it setup programme process runs to decide current date and time and to check remaining memory on disk and drives. In end of process, the programme BIOS bootstrap loader transfers operating system in memory of computer. Besides this, when computer works normally, then BIOS performs many important tasks regularly e.g., to do work according to different instructions, to read information from disk and to write information on disk.

(4) Operating System UNIX

UNIX is a Multi-User operating system. In this many persons can do work at a time by connecting different terminals on a computer. UNIX is a corrupted form of UNICS. The full name of UNICS is Uniplexed Information and Computing System. UNIX was developed in the end of 1960 in AT & T bell laboratories. One scientist, the member of scientists team who developed this operating system, Brian Kernighan named UNIX, UNIX operating system is written in 'C' programming language.

UNIX operating system can be divided into three parts—kernel, shell and tools & Applications.

Kernel is a very important part of UNIX operating system. It loads itself in computer when computer is ON. It is a collection of programmes that deals directly with computer hardware. There is only one kernel for a system.

Shell is a command Interpreter of UNIX operating system that works regularly on each computer terminal. On the request of user, it communicates with kernel.

Kernel and shell together make a UNIX system.

Filters are also used in UNIX. Filter is the command that takes input from a command and presents output of this command as input to another command.

Categories of Files in UNIX

The files of UNIX can be divided in three categories—

1. Ordinary File
2. Directory File and
3. Device File

Ordinary File

It is an ordinary file in which data, basic programmes and user commands are stored. Text files are also in this category.

Directory File

It can be defined as store room. No data is stored in it but only account of all files and sub-directories is stored in this file.

Device File

In UNIX different devices such as floppy drive, tape drive, terminal and printer are treated as a file. These files are called Device Files

Parts of UNIX Command

The UNIX commands can be divided in four parts—

1. Directory Handling Commands
2. File Manipulation Commands
3. Filters and Pipes
4. Editing Commands

To Boot Computer By UNIX

In UNIX operating system, there is a definite password for each user. The computer, in which UNIX operating system is being used, at the display of column prompt (:) ‘Enter’ key is pressed. Now the following message displays on monitor screen—

Root File System needs checking. OK to check the root file system (dev/root)?

File System (/dev/root)/(Y/N)

Here ‘N’ key is pressed. Now the following message displays on monitor screen—

Type control to proceed with Normal Startup (give root password for system maintenance)

Now on the key-board the keys ‘Ctrl’ and ‘D’ are pressed together and current date and time displays on the monitor screen. Here if we want to change date and time then, we can do it by typing the date & time according to given format and press ‘Enter’ key. If do not want to change it then press ‘Enter’ key.

Now UNIX asks user, his log in name and password.

If the user types correct log in name and password, then dollar prompt (\$) of UNIX displays on monitor screen. All commands of UNIX are given on the dollar prompt (\$).

Some Special Commands of UNIX

Some special commands of UNIX and their works are as following—

Command	Work Done by Command
Pwd	To Know the name of current directory
cd	To change the current directory
ls	To see list of files firmed in the current directory
ls-x	To see list of files in many columns the current directory
ls-x-f	By this command the list of files firmed in current directory displays in many columns, but * sign is added with name of executable files
ls-l	By this command in the list of files firmed in the current directory, all 7 attributes also displays with each file
ls-a	By this command the list of hidden files also displays with the list of file firmed in the current directory
mk dir	To make a new directory or sub-directory
rm dir	To remove directory. It is to remember that the directory should be blank i.e., there should not be any file or sub-directory in it.
cp	To Copy file
rm	To remove files
rm*	To remove all files firmed in the current directory
rm-r*	To remove all files as well as all sub-directories firmed in the current directory
rm-r-f*	To remove all files, sub-directories all well as protected files firmed in the current directory

Some Special Sign of UNIX

Working in UNIX, some special signs are used. These special signs and their works are as following—

Special Sign	Work Done by Use of Sign
*	This wild card is used to choose all characters
?	This wild card is used to choose a character
[pqr]	This wild card is used to choose a character which is from a set made by p, q and r.
[!pqr]	This wild card is used to choose a character which is not from a set made by p, q and r
;	When more than one command is used, then semi colon (;) is used between them. Right command executes after left command.
(pipe)	To use output of a command as input to other command
>	To change the direction of output of command
<	To use any file in the from of Input of any command.
(pipe pipe)	It is used as a logical operator, that is OR.
&&	It is used as a logical operator that is AND

To Shut Down computer in UNIX

As work is finished, to OFF the computer directly power button may not be used. Doing such deed, damage may occur in UNIX operating system.

To exit from UNIX operating system, ‘Exit’ is typed on \$ prompt and then ‘Enter’ key is pressed. After this the name of user and password, that was typed at the time of log in, is typed again on the logout prompt. Now hash prompt # displays on the monitor screen.

At this prompt ‘Shut Down’ is typed and that ‘Enter’ is pressed. Now after some time, following message displays on the monitor screen—

Do you want to continue? (Y/N)

Now type ‘Y’ and press the ‘Enter’ key, a message to switch off the power button displays on the monitor screen, now by pushing the power computer can be OFF.

Memory Management

Memory Management is one of the very essential works of an operating system. In memory management operating system decides that in which and how much part of memory of computer, user programme, system programme and other services programmes, would take place.

It is too easy to give a place to a program in memory, but in multi programme system in which there is a need to give place more than one programmes in memory, this process becomes complicated and for it a hard management is necessary. When many programmes are to be stored in memory, then operating system not only gives place to those programmes in memory but also makes differentiation between these programmes. To store many programmes, operating system decides memory in several segments, therefore, each program can be in separate segment. The works which are done by operating system in memory management are as following—

1. Operating system maintains total information of the current situation of memory i.e., which segment of memory is being used for which work, in memory. Operating system also maintains the information that how much part of memory is being used and how much is free.
2. In multi-programming system, operating system decides that which programme would be used, when and how much memory. Therefore, memory can be at its best leave.
3. If the programme has finished the work of memory using, then the work to take memory back from the programme is also done by operating system.

File Management

The work done on computer are stored in the form of files. The important work to manage these files is also done by operating system. In File Management, operating system does following works—

1. When the user gives command to store the work as a file, then operating system finds the necessary place for storage in memory and stores the file at that place.
2. Operating system adds the names and information of stored files in a list. This list is allied file allocation table and in general language it is called FAT.
3. The file, which is stored in computer, that is commanded by the user to open, searched by operating system and sent to the main memory by which user can perform the desired work on it.
4. After performing the task on the file at the command of close the system operating system moves that file from main memory and takes under control the memory and the file.

Process Management

Operating system completes all types of processing works by the use of computer processor. In process management operating system manages the distribution of process, knowledge of current position of processor and also takes processor under control when the work is computed. At the time of working operating system has to manage that this important resource of computer should not be in idle state. The works done by operating system in process managements are as follows—

1. Operating system decides that processor should be in use when, for which program and for which work. It is called scheduling. Operating system does this work on the basis of two decided methods—First come first serve and time sharing. According to **first come first serve method** operating system prepares a list, by giving serial number to the different processing works and on the basis of the serial number, processor processes the work that has came first and next work would be processed after this work. In time sharing method, the processor is divided between the all processing works that are stored in memory. In this processor processes a programme for some time and then other programme is processed for some time. In this manner all processing works completes.
2. In process management operating system has knowledge about the current stage of processor i.e., which programme is being processed by processor and which would be processed after this programme, which programme is how much processed and how much is remaining.
3. After completing all the processing work, operating takes the control of the processor releasing from all the programmes.



Chapter 6

WORD PROCESSING AND MICROSOFT WORD 2000

"There are sixteen types of tool bars given in Word 2000. As Word is loaded, two toolbars, formatting and standard, display in its window. Other toolbars display according to work automatically. We will discuss different icon firmed on different toolbars later."

Q.1. What do you understand by Word Processing? Explain its characteristics.

Ans.

Word Processing

To present a statement expressively on paper in words is Word Processing i.e. all types of writing is called word processing. The work of word processing can be done by following three types—

- By writing directly on paper by pen, pencil
- By typing on paper by Type Machine
- By using any word processor in computer

The word processing is done in computer by using any word processor program which is called Electronic Word Processing.

Property of Word Processor

Following properties are essential in a good word processor—

1. Text Editing—In word processor with the facility of typing the text, the editing facility, i.e. making desired change or editing or removing the mistake in typed text, is also provided. When any text is typed in word processor, text displays on monitor screen. After editing the text, the print should be taken on paper by printer. To add text in file created in word processor, move cursor at desired place and type the text. The typing can be done in two modes—insert mode and overwrite mode. In insert mode, the text that is typed, the text on right side of cursor will move automatically and new text will take place, but in overwrite mode, typed text will overwrite the text on right side of cursor. If any text is to be deleted from file then choose that press the Del 'Key'. As text is deleted, blank space will be filled automatically by the move of right side text. If in any text file has typed at wrong place then there is no need to type the text again, it can be done by cut the text from here and by pasting it at right place. If any text is needed to be used in file many times then it can do by copy-paste several times. In a good word processor there is also facility of find desired word or words and replace these with any other word or words.

2. Formatting of Page—In any word processor there is facility to decide margins left around the page. Once this is decided then it will work for whole file. In word processor the decision of lines on page is decided once in the file and preserved for whole file. As we type the text after deciding last line, then the text goes automatically on next page. If table is to be used on page then for using of tabs text of tables can be firmed on the desired distance. In starting of each column of table, a tab is set therefore information typed in any column come correspondly. In a good word processor only by one command, the distance between lines of text can be decided. There is also a facility in word processor to display the name or heading of file on page. In each word processor there is facility to print the page number. If the user does not want to print the page number, he also can do it.

3. Formatting of Paragraph—Generally the first line of paragraph is at more left distance than the other lines. This left place is called *indent*. It can also be decided in good word processor. The distance between paragraphs is kept more than distance between lines. The determination of space before and after the paragraph is a special property of good word processor.

4. Formatting of Text—Generally some special text of file is to show different from normal text of file, a good word processor provides a facility to bold and underline the desired text. Some text is to use below the base line of normal text in small size, this is called *subscripting* and some text is to use above the base line of normal text in small size, this is called *superscripting*. Word processor also provides facility of changing the font of text, size of font etc.

5. Saving and Re-using of the Work—It is a necessary property of any word processor. Word processor provides facility to store the work done in word processor in the form of a file in permanent memory of computer and to re-use the stored file.

6. Getting Output—In word processor the output can be gained in two types—visual display on monitor screen and in the form of print on paper with the help of printer. The visual output displays on monitor screen is called soft copy and print is called hard copy.

7. Merging—In word processor to print the information of two files together is called merging. This property of word processor is generally used when we have to send one letter to more than one persons. In this situation in a file, called data source file, has address of persons and in second file, called main document, the letter is prepared. Now by merging of these both files at the place of name and address, data comes from data source file, so it is called mail merging.

8. Spell Check—Each word processor has its own dictionary, which is used to check spelling of text typed in a file. Some words processors check spelling when the command of spell check is executed after typing the text, and some programme checks the spelling of text at the time of typing and displays a red line under the wrong word. For wrong word, word processor also displays a list of some words which have similarity with wrong word. By choosing correct, mistake can be removed. Dictionary can display a proper noun as wrong word. In this situation we can continue our work without any correction. We can also add this word to dictionary.

Q.2. Give a brief introduction of Microsoft Word (M.S. Word) 2000.

Ans. Introduction of Word Processor Microsoft Word 2000

Now-a-days, generally microsoft word is used for word processing. Microsoft word 2000 is a very properous and powerful word processor given in microsoft office 2000. In this we can preapre typical reports decorated with all types of general documents, different tables and charts etc., as well as different letters etc., for daily corresponded.

To Open Word 2000

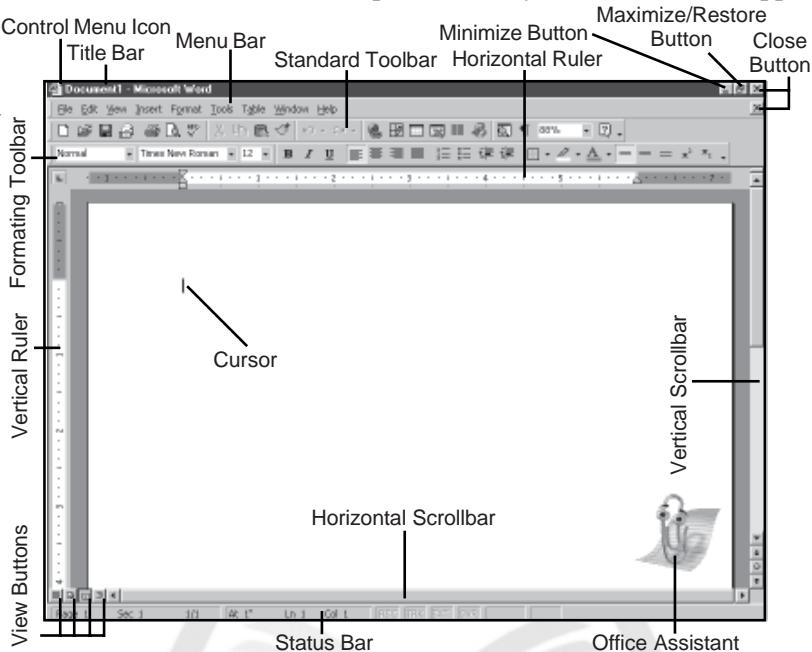
Word 2000 can be opened as follows—

1. After determination of Word 2000 icon on office shortcut bar, by clicking on it;
2. By use of start menu;
3. By use of new office document, and
4. By use of open office document.

By use of first three types, the Application Window of Word 2000 displays on monitor screen, in this window a new blank file opens, named Document1. As open office document is clicked, on shortcut bar of office 2000, a dialog box displays on the monitor screen. In this dialog box choose the desired folder, where the desired file is, click on push button ‘Open’. Now Word 2000 window will appear on the monitor screen with the selected file.

Application Window of Word 2000 and it's Part

The application window of Word 2000 displays according to the figure given on next page. It is as same as general application that works in windows environment. On the top of this window, on title bar, the name of programme the name of file displays. Under the title bar, there is menu bar of Word 2000. On this menu bar, different works can be done in Word 2000, are firmed in the form options of pull-down menus. Under menu bar standard tool bar and formatting bar displays. On these tool bars, there are commands in the form of tool icons, to perform fastly in Word 2000. In application window of



Word 2000, horizontal and vertical scales also displays. It displays merely a page layout view of document. It is used to adjust text and graphics on the page of document. Decided tabs also display on the horizontal scale. Horizontal and vertical scroll bars display in a general application window of Word 2000. These scroll bars have some signs. The four buttons display on left side of horizontal scroll bar are called view button. These are used to decide the display of document file in Word 2000. Three buttons display under vertical scroll bar. First button is used to go to previous page, and third button is used to go to next page from current page. By using second button, select browser object, a menu select browse object displays from this menu, desired item can be selected by clicking on it to browse from current active file. Now from the current state of cursor, the browsed item is up then by click on previous page we reach to that item in document and if it is down then by click on next page we can reach to that item in document. This facility is added in Word 2000, it was not in Word 97. At the bottom of application Window of Word 2000 a status bar displays, on which the current position of cursor and many information display.

Q.3. What is toolbars of Word 2000? Discuss its different Types of Menus.

Ans.

Toolbars of Word 2000

There are sixteen types of tool bars given in Word 2000. As Word is loaded, two toolbars, formatting and standard, display in its window. Other toolbars display according to work automatically. We will discuss different icon firmed on different toolbars later.

Menus of Word 2000

Menu bar, which displays below the title bar, have nine menus—File, Edit, View, Insert, Format, Tool, Table, Window and Help.

A menu also displays by clicking right button of the mouse. This menu is called shortcut menu. In the workplace of Word 2000, the place, where the right button of mouse is clicked, related options displays in this menu. For example. If the right button of mouse is clicked on any paragraph, then in the displayed shortcut menu, there will be option related to paragraph.

File Menu

In this first menu of menu bar of Word 2000, there are options related to file management. This menu is divided in seven parts. In the first part of file menu, there are options to make a new document, to open an existing document file and to close the document after work done. In second part of this menu four save options for document file are given. Fourth option version given in this part is used to save the document in the form of document of earlier version of word. In the third part of this menu there is only one option which used to show the document file in web view. In fourth part of this menu there are three options used for setting the page setup of file, getting the print preview of document on monitor screen and getting the print by printer. In the fifth part of this menu, there are options related to send current document file at any place in office 2000 and to know and edit the properties of current document file. In the sixth part of this menu, the name of four earlier opened files displays. In seventh and last part, the only option to exit from Word 2000 program, is given.

Edit Menu

In this second menu firmed on menu bar of Word 2000, there are options related to editing. This menu is divided in four parts. The first option given in first part is used to cancel earlier work done and second option is used for get back canceled work. First three options given in second part of this menu are used for respectively to cut the selected part from the document and to paste it in clipboard, to copy the selected part in clipboard without cut from document and to paste the copied part from clipboard at cursor position. Residue option is used to paste specially, to paste in form of hyperlink and to delete selected text or object. In the third part of this there are two option to select all object of document and to delete selected objects. Three options, given in forth part, are used to find special text, format, signs, footnote or endnotes, to change a text string with another text string and to go to a special place. Two options, given in the fifth part of this menu, are related to linked files and objects. Link option activates when we have ordained a link between two document files or a link between current document and a file created in any associated program of Office 2000. Object option activates when any object is linked in current document.

View Menu

In this Third menu firmed on menu bar of Word 2000, there are options related to display the document. This menu is divided in four parts. In first part there are four options by which document can be displayed in different ways. In second part there are three options. First option toolbar is used to display toolbars in application window of word 2000. Other option are used to display of ruler and document map in application window of word 2000. The first option from three options given in third part is used for set and display header and footer for pages of document. Other two options are used to display of footnote and comments inserted in document. Two option, given in fourth and last part, are used to display of document file in different sizes and to display the document file on whole monitor screen.

Insert Menu

In this fourth menu firmed on menu bar of Word 2000, given options are used to insert different objects etc., in document. This menu is divided in three parts. In first part the options related to break

page from the cursor position, to insert page number at cursor position, to insert date, time and special sign at cursor position, to format the text automatically by using auto text facility etc. are given. In second part four options to insert footnote, captions, cross reference and index and table in document are given. Third part of this menu have options to insert picture, textbox, file, object, bookmark and hyperlink, etc.

Format Menu

In this Fifth menu firmed on menu bar of Word 2000, there are options related to formatting of text and paragraph. This menu is divided in four parts. In first part options are given to set the font of text and paragraph, to determine the display of bullets serial number before paragraph. In second part the options are given to divide a page in more than one column, to set tabs, to display of first character of paragraph much larger than other text, to determine the flow of this character and to change the case of selected text. In third part of this menu the options related to set the themes, to set style for page of document, to colour the background of page, to work with the inserted frame and to format the current document file according to its attached template are given. In fourth and last part an option is given and it is used for re-determination of inserted object in document.

Tools Menu

In this sixth menu firmed on menu bar of Word 2000, different tools for different works are given as options. This menu is divided in four parts. The options given in first part of this menu are used for checking of spelling and language, to count the words in document, to summarize the document automatically, correct the mistakes automatically which occurred at the time of typing. In second part of this menu, outline collaboration option has a sub menu, in which given three options are used to use current document in net meeting. Three options, given in third part of this menu, are used for mail merging, for preparing the labels and envelope, and to operate letter wizard. In fourth part of this menu, customize options are used for customize toolbars and menus of Word 2000. Using this option we can re-arrange the tools on toolbar and options in menus. Options is used for setting defaults for the work to be done in Word 2000.

Table Menu

In seventh menu firmed on menu bar of Word 2000, there are options related to use the table in document file. This menu is divided in five parts. In first part only one option is given to draw a table in document. Six options given in second part are related to insert a table in document, to insert column or row or cell in table, for cutting, selecting and merging the cells and tables and for splitting merged cells and tables. Options given in third part are related to draw a table on the basis of predefined format, to determine automatically the size of table and if table continues to the next page, then the headings continue with the table. Options given in fourth part of this menu are related to convert the typed text in table, to convert table in text, to hide and unhide the lines that differentiate rows and columns. In fifth part the option table properties is used to get different informations about table.

Window Menu

This menu firmed on menu bar of Word 2000 is divided in two parts. Three options given, in first part, are used to add new window, to arrange all opened document windows and to split window. In second part a list of names of all opened file in Word 2000, displays.

Help Menu

It is nineth and last menu firmed on menu bar of Word 2000. The options given in this are used to get help from Word 2000. This menu is divided in four parts. First option given in first part is used for operating help program of Microsoft Word and second option is used for determination of display of office assistant on monitor screen. First option given in second part is used for gather information about any place and special command in Word 2000. Just like this, we can complete special works with the help of option given in this menu.

Q.4. Explain the working in Word 2000.**Ans.****To Work in Word 2000**

On computer to do any work in any program, first of all a file is to be created. Besides to create a new blank file in Word 2000, we can also create file based of predefined formats in Word.

To Create a New Blank File in Word 2000

Creation of a new blank file in Word 2000 can be done by following different ways—

1. By clicking on first tool icon new office document firmed on shortcut bar of Office 2000, a new office document named dialog box displays here choose the blank document and click the OK button.
2. Click on File menu firmed on menu bar of Word 2000, click on New in the ***pop down list***, now choose blank document option from the displayed New Office Document dialog box and click the OK button.
3. At the time of working in Word 2000, press Ctrl ‘Key’ and N ‘Key’ together from keyboard the dialog box of New displays. Choose blank document from this dialog box, click the OK button.
4. At the time of working in Word 2000, click on New tool icon on standard tool bar of Word 2000.

To Save a New Document File in Word 2000

New document file created in Word 2000 can be saved by following different ways—

1. By clicking on Save icon given on standard toolbar.
2. By selecting Save option from File menu given on menu bar.
3. By selecting Save As option from File menu given on menu bar.
4. By pressing ‘Ctrl’ and ‘S’ Key together on key-board.

By using any of above method, a Save As dialog box displays on monitor screen. Choose the folder, where this document is to be saved, from ***look in list box*** and type a name for this document in file name text box, now click the OK button.

If we have saved any file, and want to save new work on this file with other name then from the above methods only third one can be used and if we want to save it with its early name then all methods except third one, can be used.

To Type Text in Word 2000

At the time of creating of a new document file cursor displays on upper left corner of page i.e. at first row and first column. From this place text can be typed.

If work is being done in any old document file, then where we want to type, move the cursor to that place with the help of mouse and click. Now text can be typed here.

At the time of typing in Word 2000 there is no need to press the Enter key after the line is finished like, type writer, here when the line finished then cursor automatically moves to the next line. If ‘Enter’ Key is pressed in any line, then it can be removed by moving the cursor in the end of this line and pressing ‘Del’ Key. This work can be done by moving cursor at the starting of new line and pressing Backspace Key. While working in Word 2000 ‘Enter’ key is used only to change the paragraph. The work of typing the text can be done in two modes—Insert Mode and Over type Mode.

Insert Mode

Generally insert mode is used for typing in Word 2000. The purport of Insert Mode is—to add text in between. It can be understood as, if we forgot some matter at the time of typing, then we can move mouse cursor to that place and type the text. In Insert Mode, the text right side of cursor moves to right with the typed new text. In this mode the option on status bar OVR becomes inactive.

Over type Mode

If cursor is firmed in between text and we want to type text on pre-typed text, then for this we type the text after double click in OVR on status bar of Word 2000 or type the text after pressing Insert Key on key-board. Now the new typed text overwrites on the pre-typed text, since it is called over type.

Cursor Movement

Generally mouse is used to move cursor. But at the time of typing user has both hands on the key-board so use of mouse makes difficulty. In Word 2000, following key-board shortcut are used to move cursor—

→	To move cursor one character to right side
←	To move cursor to one character left side.
↑	To move cursor to one line is upper side.
↓	To move cursor to one time to down.
Ctrl →	To move cursor to one word in right side.
Ctrl ←	To move cursor to one word in left side.
Ctrl ↑	To move cursor in first line of paragraph.
Ctrl ↓	To move cursor after the last word of last line a paragraph.
End	To move cursor in end of current line.
Home	To move cursor in starting of current line.
Ctrl & End	To move cursor in end of document
Ctrl & Home	To move cursor in starting of document.
PgUp	To move cursor 12-13 lines up from the current line of displaying page of document.
PgDn	To move the cursor 12-13 lines down from the current line of displaying page of document.

Q.5. Explain the selection of text in Word 2000.

Ans.

To Select Text in Word 2000

Selection of any part of text is an important step to work on text in Word 2000. By selection of text, cutting of text. Formating of text, insertion of text etc., can be done.

In Word 2000, by use of mouse and different keys from key-board the text can be selected.

To Select the Text with the help of Mouse

To select any part of text with the help of mouse click on the place from where text is to be selected and drag the mouse to place till where text is to be selected. As mouse is dragged, text would be selected. Selected text displays in a black strip written in white. Besides this with the help of mouse, text can be selected by following methods—

1. By double clicking on any word, it can be selected.
2. By triple clicking at any palce in a paragraph, whole paragraph can be selected.
3. By clicking with Ctrl key pressed on keyboard at any place in text, whole sentence can be selected.
4. By moving the mouse pointer in starting of any line and as the cursor converts in arrow sign, then click, now the whole line can be selected.

To Select the Text with the help of Keyboard

To select any part of text with the help of keyboard shift, Ctrl and cursor movement keys are used. For example, to select any word press the → key with pressing shift key until the whole word is

selected and if cursor is in end of word then use ← key. In this manner we can select the lines with ↑, ↓ keys. If at the time of selection, Ctrl ‘Key’ with shift ‘Key’ is pressed then by one click whole word is selected.

To Delete Text

Generally to delete unnecessary or wrong text from file, ***Del or Backspace key*** is used. Del key is used to delete the text right side of cursor and Backspace key is used to delete the text left side of cursor.

To delete more than one character or lines Del and Backspace keys are used after selection of desired text. To delete the selected text, clear option given in Edit menu of Word 2000 can be used.

To Cut, Copy and Paste or Insert the Text

In Word 2000 a new facility of twelve clipboards is incorporated. To cut the selected text i.e., to copy the text on clipboard and remove from its place, tool icon cut, firmed on standard toolbar of Word 2000, is used or on key-board shift and Del key both are pressed together. To copy the selected text i.e. to copy the text on clipboard without removing from its place tool icon copy, firmed on standard toolbar of Word 2000, is used or on keyboard Ctrl and Insert both keys are pressed together. To paste the copied text from clipboard to the document tool icon paste, given on standard toolbar of Word 2000, is used or on keyboard shift and Insert both keys are pressed together. In this way pasted or inserted matter is the matter which was copied just earlier. If we have copied more than one text on clipboard then by click on desired clipboard firmed on clipboard toolbar can be pasted at the cursor position.

Checking of Spelling and Grammar in Text

In Word 2000, the checking of spelling and grammar or removing of these mistakes, can be done in typed text in english. This can be done by two methods—with the help of shortcut menu and by use of option spelling and grammar given in tools menu.

At the time of typing in Word 2000 if a red coloured wavy line displays under any word, then it means that the spelling of word is wrong and green wavy line means the mistake in grammar. Typist can remove these mistakes by his own knowledge or by the help of Word 2000 also. At this time to get the help of Word 2000, click the right button of mouse at the word under which red wavy line is displaying, now a shortcut menu displays. In this shortcut menu at upper side some options are given to remove the mistake. By choosing appropriate option from this shortcut menu, the mistake can be removed. Under proper noun, a red wavy line also displays. Proper nouns does not exist in dictionary so here spelling is correct but the red wavy line displays.

But this process becomes so irritating so to overcome this irritation in Word 2000, facility called spelling and grammar is assembled. By clicking on spelling and grammar icon on standard toolbar or by selecting first option, spelling and grammar, of Tools menu or by pressing function key F7 checking of spelling and grammar can be done.

Formatting of Text and Paragraph

In Word 2000, text box is used for special messages or notes with paragraph. Formatting of text covers formating of font; formating of paragraph; formating of tabs; use of border and shading; use of number and bullets; use of drop cap; formating of case of text; formating of background of text; use of autoformat and style. The formating of text or paragraph can be done by using option, font and paragraph, of format menu of by using standard toolbar or by using key-board shortcut commands. The work of formating of tabs can be done by tabs option of format menu and by using of tab button firmed on left side of horizontal ruler. For border and shading paragraph text, border and shading option of format menu is used, bullets and numbers can be effected by using bullets and numbers option of format menu. Drop cap facility, useful to make the document attractive, can be used with the help of Drop Caps option

of format menu. For determination of background of text in document background option of format menu is used. For automatic formating in document according to given template file, Auto Format option, given in format menu, is used. In Word 2000 to use or to define different format is called use or definition of style. Style, option given in format menu of Word 2000, is used to apply pre-defined style for selected text in Word 2000 or for determination of a new style. Pre-defined style can be used by some changes also.

Q.6. Explain the making drawing in Word 2000.

Ans.

Drawing in Word 2000

To draw any drawing in Word 2000, tools firmed on drawing tool bar are used. These tools are used to draw a drawing in document and to edit the drawingm, etc.

Line Tool

This tool is used to draw a line. By selecting this tool, the shape of mouse pointer converts in +. Click at the place from where the line is to be started and drag the mouse to the place where the line is to be finished. Now a straight line will be drawn on the monitor screen and mouse pointer will be in its actual shape. To use this icon again, user has to click on this icon again.

Rectangle Tool

This tool is used to draw a rectangle. By selecting this tool also shape of mouse pointer converts in +. Rectangle can be drawn, same as the line. If at the time of draging, shift key is pressed then the rectangle would be square.

Oval Tool

This tool is used to draw an oval shape. At the selection of this tool also the shape of mouse pointer converts in +. By clicking on this tool the oval can be drawn same as the rectangle was drawn. If at the time of dragging, shift key is pressed then the oval shape would be circle.

Text Box Tool

It is used to draw a box in which text can be typed. At the selection of this tool the shape of mouse pointer converts in +. By click on this we can draw text box of desired size by dragging. In this text box, typed text does not come out from the box.

Auto Shapes Tool

It is used to draw some special shapes. As this tool is clicked, a list of different catagories of autoshapes displays on the monitor screen. When mouse pointer comes on any category, then the shapes in this category displays on the monitor screen. Desired shape can be selected here. At the selection of desired shape, the shape of mouse pointer converts in +. Now by dragging of mouse, the shape can be drawn.

Fill Color Tool

It is used to fill colour in close shapes. Decided colours to fill in shape, displays under this tool icon. By clicking on down arrow given on right side of this tool, icon a box of different colors displays on monitor screen, desired colour can be selected from this box.

Line Color Tool

It is used to set colour of line of shapes. Different colours for line, displays under this tool icon. By clicking on down arrow given on right side of this tool a box of different colors displays on monitor screen, desired colour can be selected in this box.

Font Color Tool

It is used to set colour of text. Decided colour for text displays under this tool icon. By clicking on down arrow given on right side of this tool a box of different colors displays on monitor screen, desired colour can be selected in this box.

Line Style Tool

It is used to set line's thickness etc. By clicking on this, a list of different line thicknesses and types, displays, from this we can choose desired thicknesses and type for line.

Dash Style

It is used to display the outlines of selected shape or diagram in dashes etc. From different dotted lines displays when this tool icon is clicked, desired line can be set for the selected shape.

Arrow Style

It is used to display the end of a open shape in arrow form. From different arrow heads displays when this tool icon is clicked, desired arrow can be decided for the selected shape.

Shadow

It is used to display of shadow of selected shape. By selecting desired shadow from different shadow displays when this icon is clicked, shape display congruent to shadow.

3-D

It is used to decide three dimensional effect for selected shape. Select any shape and choose desired effect the list of 3-D effects which displays when this icon is clicked. Now choose 3-D effect will be effective to the selected shape.

Draw

It is used to do special work on any selected graphics. By click on it, a menu displays on the screen. Option of menu and their uses are as follows—

1. **Group**—To group of more than one graphics
2. **Ungroup**—To ungroup the grouped graphics
3. **Regroup**—To regroup any ungrouped graphics
4. **Order**—To display the selected graphic either under or over the text and other graphics.
5. **Grid**—To display monitor screen as graph paper in document, to set scroll shape according to grid, to decide horizontal and vertical minimum distance of grid etc.
6. **Nudge** —Scroll a selected graphic a pixel up, down, left or right respectively.
7. **Align or Distribute**—To align the graphic to left, middle or right horizontally, to align the graphic to up, middle or down vertically, to move more than one selected graphics with same horizontal or vertical distance etc.
8. **Rotate or Flip**—To rotate one or more selected graphics or to get these mirror image.
9. **Text Wrapping**—To use one or more selected graphics with text.
10. **Edit points**—To re-arrange a graphic.
11. **Change Auto Shape**—To change the shape which is drawn by using Autoshape.
12. **Set AutoShape Defaults**—To set any shape drawn in document as default shape in autoshape.

Select Objects

It is used to select any drawing. By clicking on this, the shape of mouse pointer converts into the shape of this tool icon. Now to select any drawing, click it.

Free Rotate

It is used to rotate any drawing at any angle. After clicking on this tool, when any drawing is clicked, then nodes displays around the drawing. By clicking these nodes, it can be rotated at any angle by dragging.

Q.7. Explain the use of table in Word 2000.

Ans.

Use of Table in Word 2000

To create table in Word 2000, draw table option, given in table menu, is used. By clicking this option, table and border toolbar displays on the monitor screen and the shape of mouse pointer converts as a pencil. By dragging the mouse pointer in document a rectangle shape is drawn, which can be used as a table.

To merge informations stored in a table, by removing the lines which divides the cells of a table, **Erase Table** tool, given on tables and borders toolbar is used. To decide the pattern of border line of table or cell **Line Style** tool on table and borders toolbar is used. To decide the thickness of border line of table or cell **Line Height** tool, on tables and borders toolbar is used. To decided the colour of border line of table or cell **Borders Colour** tool, on Table and Borders toolbar is used. To decide the type of border line of table or cell **Border Type** tool on, Tables and Borders is used. To decide the colour of table or its selected cells **Shading Color** tool, on Tables and Borders tollbar is used. To merge more than one selected cells in table, **Merge Cell** tool, on tables and borders toolbar is used. To divide selected cells of table **Split Cell** tool, on Table and Borders toolbar is used. To decide the alignment of the text which is to be typed in cell of table **Align** tool, on Tables and Borders toolbar is used. In a table to set same size to more than one selected rows of different sizes, **Distribute Rows Evenly** tool, on tables and Borders toolbar is used. In a table to set same size to more than one selected columns of different sizes **Distribute Column Evenly** tool, on table and borders toolbar is used. To format table according to pre-set formats of Word 2000, **Table Auto Format** tool, on tables and borders toolbar is used. To set the direction of data in cell of tables **Change Text Direction** tool, on tables and borders toolbar is used. To arrange stored information in ascending order **Sort Ascending** tool, and to arrange stored information in descending order **Sort Descending** tool, on tables and borders toolbar is used. In current cell of table, to display the addition of above cells and if there is no number in above cells then of the left cells **Auto Sum** tool is given.

Use of WordArt in Word 2000

In Word 2000, to display the words in drawing form, there are thirty types of WordArts. Desired WordArt can be used by clicking on Insert WordArt tool icon given on drawing toolbar or by clicking on WordArt option from displayed sub-menu, by using picture option of Insert menu.

To Print Document

In Word 2000, to print document, print option given in file menu or print tool icon given on its standard toolbar is used. By selection of print option given in file menu of Word 2000, a print dialog box displays on monitor screen. In this infront of printer, the name of connected default pointer displays. In this dialog box different settings related to the printer can be done by clicking on push button properties. Generally each printer has its own properties. If print tool icon given on standard toolbar is used, then the print of document is got directly from printer. By using this tool icon print dialog box does not display.



Chapter 7

MICROSOFT EXCEL 2000

“Software packages used to process, information stored in a table form, and to work on it, can be called electronic spread sheet.”

Q.1. Give a brief introduction of MS Excel-2000.

Ans.

Introduction of MS Excel-2000

MS Excel 2000 is an associated program of Office 2000 in which electronic spread sheet, database or graphics can be used effectively.

In Excel 2000 a large spread sheet is available, in which in each cell data can be input and all works, which had done in software Lotus of DOS environment, done. It can be called the described, facilitated and improved version of Lotus. In spreadsheet of Excel 2000 because of facility of mouse, formatting can be done much easily.

To Load Excel

Microsoft Excel also exists in sub-menu programs of Start menu of Windows. By clicking on it, MS Excel 2000 can be loaded. Excel 2000 also can be loaded by a procedure clicking on tool icon New Office Document given on shortcut bar of Office 2000, choose Blank Work Book from New Office Document dialog box and click on OK button.

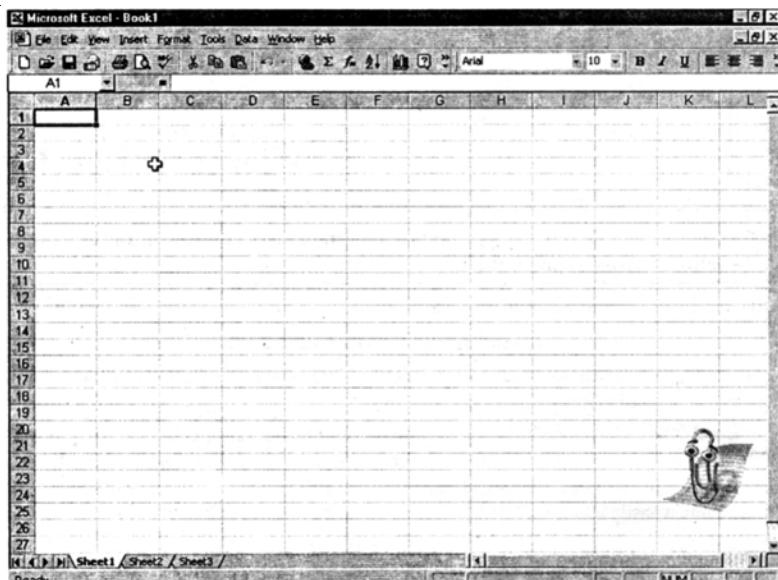
Parts of Application Window of Excel 2000

As Excel 2000 is loaded, the application window of Excel 2000 displays on monitor screen according to the figure, given on next page, main parts of it are as following—

Spreadsheet or Worksheet

It is the main and largest part of Excel 2000. In general language spreadsheet can be called worksheet. The architecture of this working area of Excel 2000 is as same as large graph, which is divided in rows and columns. Since the size of spread sheet is too large, hence it is impossible to display whole spreadsheet on monitor screen, but its upper left corner displays on screen form where we can start input data. In this spreadsheet or worksheet, there display totals 9 columns from A to I and total 27 rows from 1 to 27. There are total 256 columns in whole spread sheet or worksheet of Excel 2000 and there columns are labelled by A, B, C, Z, AA, BB, BC.... In this manner there are 65536 rows in whole spreadsheet or worksheet of excel and these row are labelled by 1, 2, 3 In this manner there are $256 \times 65536 = 16777216$ cells in a whole spreadsheet or worksheet. Because of its large size it; neither display on monitor screen nor its print can be obtained on one page. So, we can see its little part by scrolling on monitor screen and in this manner we can get its print in pieces.

Each block of spreadsheet is called cell. Its size can be changed according to data. In each cell of spreadsheet we store data in table form and according to need we can copy, move data etc. We can calculate this data by applying formula according to our need. When we load Excel 2000 then upper left corner displays selected. This corner is a cell made by assembly of first column & first row, in Excel 2000 cursor is called cell pointer, the naming of cells is done by labelling of rows and columns i.e., cell



of first column and first row is called A1 and cell of second column and seventh row is called B7. Exist worksheets in a workbook of Excel 2000. After loading first worksheet displays on monitor screen. In this window these worksheet can be displayed on screen by clicking on buttons sheet 1, sheet 2, and sheet 3 given on its horizontal scroll bar.

Formula Bar

In formula bar of excel, contents of selected cell displays in their actual form i.e., in from of formula if any formula is used, whenever generally in cell in place of formula calculated result displays.

Column Label

In spreadsheet above columns A, B, C etc., alphabets displays. These alphabets are called column label of related column.

Row Label

In spreadsheet, in ascending order up to down 1, 2, 3 etc., number displays. These number are called row label of related row.

Scrollbar

There are two scrollbars, horizontal and vertical scrollbar, in spreadsheet of Excel 2000. Vertical scrollbar is used to scroll screen up or down and horizontal scrollbar is used to scroll screen left or right. Indeed on horizontal scrollbar, buttons for selection of desired worksheet are given.

What is Work-Book?

Work-book is such file in which many spreadsheet and charts etc., related to one work can be stored.

What is Cell-Pointer?

At loading of Excel 2000 program, a rectangle highlights on upper left corner of displayed spreadsheet or worksheet. This highlighted rectangle block is called cell pointer, which represent the current active cell. With the help of key-board, typed data, would go in that cell, on which cell pointer is exist.

To Move Cell-Pointer from One Place to Another Place in Worksheet

In worksheet of Excel to type data or to edit it, we need to go from one cell to another cell. If don't want to type data in current highlight cell then we have to go in another cell by help of arrow 'Key' or by mouse pointer. This work is called movement of cell pointer. Shortcuts used to move cell pointer from one cell to another are given below—

→	to move cell pointer one column right.
←	to move cell pointer one column left.
↑	to move cell pointer one row up.
↓	to move cell pointer one row down.
Ctrl + ↑	to move cell pointer data filled row up.
Ctrl + ↓	to move cell pointer data filled row down.
Ctrl + →	to move cell pointer whole page left.
Ctrl + ←	to move cell pointer whole page right.
Home	to move cell pointer to first column of first page.
End Mode	to set End Mode.
PgUp	to move whole page up.
PgDn	to move whole page down.
Ctrl + Home	to move cell pointer to the first cell.
Ctrl + End	to move cell pointer to last filled cell.
Alt + PgUp	to move whole displaying page to left.
Alt + PgDn	to move whole displaying page to right.

Q.2. Discuss in brief the data in Excel 2000.

Ans.

Data in Excel 2000

In Excel 2000 following data types can be used—

Number

Different numbers are used in this data type. Decimal can be used in this data type. This data type is used for different calculations.

Date

This data type is used to display the date in selected cell. In Excel 2000 date can be display in four formats—MM/DD/YY, MMM-YY, DD-MMM-YY and DD-MMM. In this, M represents month, D represents date and Y represents year.

Time

This data type is used to display the time in selected cell. In Excel 2000, time also can be displayed in four formats—HH:MM, HH:MM:SS, HH:MM AM/PM and HH:MM:SS AM/PM. In this H represents hours. M represents minute and S represents second.

Formula

This data type is used to mathematical formula for different calculations; such—if we want to display in current cell the addition of number firmed in cell A1 and A2 then we have to type =A1 + A2 in the current cell. After typing this as we move to any another cell, the addition of number firmed in cell A1 and A2 will display in it.

Text

This data type is used to enter different information in cell; such as name, address etc., In this data type, those numerical data also comes, which cannot be used in any calculation, such as—telephone no.

Menu of Excel 2000

On menu bar of Excel 2000, there are 9 different menus given for different purposes. In these menus, different options are given related to these purposes. These options can be called commands of Excel 2000. These menus are—File, Edit, View, Insert, Format, Tools, Data, Window and Help.

To Create a New File in Excel 2000

To create a new file in Excel 2000, click on tool icon New given on its standard toolbar or press Ctrl and N both keys together. By doing this a new worksheet opens in Excel 2000. As in Word 2000 file is called document, in Excel 2000 file is called workbook.

To Open a Workbook in Excel 2000

To open a workbook in Excel 2000, the second option open of file menu or tool icon open of its standard toolbar is used. On key-board by press Ctrl and O keys together worksheet of Excel 2000 can be opened.

To Save Work Done in Workbook

To save work done in workbook, Save option of file menu is used. While working in workbook, we should save the work done time-to-time regularly. If we are using this option to save work done in a new workbook, then this option works as next option Save As. This option also can be used by clicking on save tool icon, on standard toolbar of Excel 2000 or by pressing Ctrl key and S key together on keyboard. To save the current workbook with another name Save As option of file menu is used.

To Save Workspace

In Excel 2000, sometimes we have to use more than one file at a time for a special work. In such a situation to do this special work, we have to find and open that file again. To sort out this problem in Excel 2000 save workspace facility is given. If at the time of last working, thus files saved in from of a workspace file, which has .XLW extension, can be opened. When workspace is opened then all related worksheets open. To save workbook as workspace, Save Workspace option of file menu is used. This option can also be used by pressing Alt and W key together on key-board.

Q.3. Explain in brief the print area of Work-book.

Ans.

Print Area of Workbook

To use any special part i.e. selected cells of workbook as print area, Set Print Area, an option of a sub-menu, which displays by clicking on Print Area option of File menu, is used. Now when this worksheet is commanded to print, then only this area will be printed. Clear Print Area option, given in this submenu is used to remove the set print area.

To Know the Properties of Workbook in Excel 2000

In Excel 2000 to get some information about workbook, Properties option of File menu is used. By using this option all file related information displays in form of Properties dialog box. In this dialog box, information's related to title of file (remember that file title can be different from file name), subject of file, writer of file etc., displays. In these information's we can make changes according to need.

To Paste Special in Workbook

To paste any special type object, copied on clipboard, at the place of cell pointer, Paste Special option of Edit menu is used. By using this option, Paste Special dialog box displays on monitor screen. In this dialog box, a list of objects on clipboard displays under the As. Here the information, in which form the object can be pasted in Excel 2000, also displays.

From this list choose the form of object, which is to be paste of cell pointer and click push button OK.

To Copy the Value of a Cell in another Cell

To copy the value of a cell in another cell fill option, of Edit menu of Excel 2000, is used. A sub-menu displays when mouse pointer comes on it. By using these options it is decided, that the cell value from which side will be copied in current cell. In this sub-menu across worksheet option activate only when we have selected a group of sheets. By using Series option from this sub-menu in selected range, of cells, the value of first cell is used as initial value and rest cell would be entered the value according to given interval automatically.

To Convert Cell Width according to its Text

Generally when we enter data in any cell, then large size data comes out from the width of cell. To convert cell width according to its text the option justify, given in sub-menu displays when fill option is selected from Edit menu of Excel 2000, is used and the text, out of this cell, comes in its below cell.

If we want to increase the width of cell, then click, the line separating current column with the next column, on the column label, the shape of mouse pointer converts in now drag to the right to increase the size of column.

As we enter the text in a cell, and it is so long that cannot be fit in the cell, then click on this cell and use the column option of Format menu, a sub-menu displays on monitor screen, click on AutoFit Selection option.

To Delete the Cell Value, Cell Format, Contents and Comments

To delete value, format, contents and comments of cell, clear option given in Edit menu of Excel 2000, is used. By using this option a sub-menu displays. By using four options given in this sub-menu, entered value in cell, its format, contents of cell or notes can be removed.

To Delete Rows and Columns of Worksheet

To delete rows and columns of worksheet of Excel 2000, Delete option of Edit menu is used. By using this any one option can be chosen from the displayed delete dialog box. By using first option shift cell left, the value of selected cells removes and value of right side cells comes in it. By using shift cell up the value of selected cells removes and value of cells comes in it. Entire row and entire column is used for remove selected row or column from the worksheet. The label of deleted row or column also deleted from worksheet.

To Delete Worksheet

To delete current worksheet of opened workbook permanently, Delete Sheet option of Edit menu of Excel 2000 is used. By using this option, Excel 2000 displays a message on monitor screen that we want to delete the current worksheet or not. If we want to delete current sheet permanently, then click OK and if not then click Cancel.

To Copy the Values of Selected Cell to another Worksheet

To copy the worksheet to another worksheet or to copy the values of selected cells to another worksheet, move or copy sheet options given on Edit menu is used.

To Find and Replace any Digit or Word

To find any digit or word in whole worksheet of Excel 2000, Find option given in its Edit menu is used. By using this option a Find dialog displays on monitor screen, type the desired text or digit in text box given under Find What. Now the direction of this search is decided by choosing any option from the list displays by click on down arrow given on right to Search. Desired word or digit is to be

found where, it is decided by choosing any option from the list displays by click on down arrow given in front of Look in. Now by clicking on push button Find Next, if desired word or digit exists in current worksheet, then the cell pointer go in that cell, where desired word or digit exists. This option can be used by pressing Ctrl key and F key together. Push button replace is used to change the desired word or digit with any word or digit. In dialog box displays by clicking on this push button, type the desired text or digit in the text box given under the Find What and then type the text or digit by which we want to replace the searched text or digit, in text box given under the Replace With. By clicking on find next the cell pointer go to the cell where the desired word or digit exists and then by clicking on Replace, current data would be changed with new. By clicking on push button Replace All, we can change in whole worksheet or in selected Cell range.

To Move Cell Pointer to any Special Place in Worksheet

In Excel 2000 to move cell pointer to any special place from current cell GoTo option, of its Edit menu, is used. By using this option a dialog box displays on monitor screen. Type the address of that cell, where we want to go, in the text box given in front of Reference. Now click on push button OK or press Enter, cursor will move to the desired cell.

To Insert Cell in Worksheet

In Excel 2000 to insert cell in worksheet, Cell option given in insert menu, is used. Using this option a Insert dialog box displays on monitor screen. First option shift cells right of this dialog box is used to insert a cell and to move current cell to right side and shift cells down is used to insert a cell and to move current cell down.

To Insert Row, Column in Worksheet or a New Worksheet in Workbook

In Excel 2000 a new row and column can be inserted in worksheet by using Row and Column options given in Insert menu. To insert a new worksheet in workbook, worksheet option of Insert menu is used.

To Insert a Chart in Worksheet

To insert a chart in worksheet, Chart option of Insert menu is used. Using this option, first step of Chart Wizard displays on monitor screen. Using four steps of this wizard, chart can be inserted in current worksheet or workbook. As a chart is inserted, chart toolbar also displays on the monitor screen.

To Insert Different Functions in Worksheet

To insert different functions in worksheet, Function option of Insert menu is used. Using this option, first window of Function Wizard displays on monitor screen. In this the list of different functions that can be used in Excel 2000, displays under function category and the list of different functions of selected category displays under function name. Brief knowledge about the functions of these groups is as following—

- **Most Recently Used**—This category has generally used functions.
- **All**—This category has all functions of Excel 2000.
- **Financial**—This category has function used to calculate interest etc.
- **Date & Time**—This category has functions related to date and time.
- **Math & Trig**—This category has functions used in mathematical and trigonometrically calculations.
- **Statistical**—This category has statistical functions.
- **Lookup & Reference**—This category has functions used to find anything in reference of text.
- **Database**—This category has database functions.

- **Text**—This category has text related functions.
- **Logical**—This category has logical functions come.
- **Information's**—This category has information related functions.

To Decide the Name of Cell or Cell Range in Worksheet

In Excel 2000 to use any cell or cell range at the time of working, there is a facility to give a name to it. Using name option of Insert menu there are five options in displayed sub-menu. If we have already created or defined name, then its all options become active, otherwise only define, create and label activates. From this sub-menu define option is used to define the name. Paste option is used to paste the defined name at the place of cell pointer. Create option is used to create a new name according to worksheet. Apply option is used to apply a defined name. By using fifth and last option Label of this sub-menu, Label Ranges dialog box displays on monitor screen. By using options given in this dialog box, label of row or column can be used in desired formula.

To Format Cells

In worksheet of Excel 2000 for formatting of cells, Cell option of Format menu is used. Using this option Format Cell dialog box displays on monitor screen, which have main options—Number, Alignment, Font, Border, Patterns and Protection. Type of digits and numbers can be decided by selecting main option Number of this dialog box. Second option Alignment of this dialog box, is used to decide the entered information's in cells. Third main option Font, is used to decide the font type and size of text of cells. Border option is used to decide the type and size of border line of cells. Fifth main option Patterns of this dialog box is used to decide the colours and patterns of cell. Protection option of this dialog box is used to determine the security of cells. This security can be determined by locked or hidden or both locked and hidden. By locking the cell, none can make any change in setting of cell and by hidden option, cell can be invisible.

Formatting of Row

In worksheet of Excel 2000, formatting of row can be done by using Row option of Format menu. Using this option a sub-menu displays. There are four options—Height, AutoFit, Hide and Unhide in this sub-menu. First option Height, is used to change the height of selected rows. The maximum height of any row can be 409 point. Second option AutoFit, is used to increase the height of row according to text. Third option Hide is used to hide the selected row. Last option Unhide is used to make visible the hidden row.

Formatting of Column

In worksheet of Excel 2000, formatting of column can be done by using Column option of Format menu. Using this sub-menu is displayed. There are five options—Width, Autofit Selection, Hide, Unhide and Standard width in this sub-menu. Width option is used to make change in column width. The maximum width of a column can be 255 points. When the width of text is more than width of cell then to change width of column according to text, AutoFit Selection option, of this sub-menu, is used. Hide option is used to hide the selected column. Unhide option is used to again display the hidden column. Last option standard width of this sub-menu is used to increase the width of all columns of worksheet.

Formatting of Worksheet in Excel 2000

To format worksheet of Excel 2000, Sheet option of format menu is used. Using this option a submenu displays on monitor screen. There are four options in this sub-menu—Rename, Hide, Unhide and Background. Rename option is used to change the name of worksheet. Hide is used to hide worksheet. Unhide is used to display again the hidden worksheet. Using the last option Background, a Sheet Background dialog box displays on the monitor screen. Any picture file can be used as background of current worksheet by selecting in this dialog box.

To Use the Formula Given in Cell in another Cell

In Excel 2000, to present the result in cell according to used formula in any other cell, Goal Seek option of Tools menu is used. Using this option Goal Seek dialog box displays on monitor screen. In this dialog box in front of Set Cell the address of that cell is typed in which formula is used. Now, what do we want the maximum value in this cell, is to be given in text box of Value. After this the effect of current calculation will occur in which cell, its information is to be typed against Changing Cell. Now by click on OK button, according result can be got accordingly.

Auditing

In Tools menu of Excel 2000, auditing option is used to check and correct the mistakes in worksheet. Auditing is to know mistakes in formula or to know cell range in which formula is used or to know the range of dependent values or to find the cell having wrong value come.

Sorting of Data

In Excel 2000 to set order of the entered data in worksheet, Sort option of Data menu is used. After selecting the range of columns which are to be sorted, sort option is to be used. First of all it is be decided that the sorting of data is to be done on which data heading. Now order ascending or descending can be chosen. Sorting can be done on more than one data headings.

To Filter Data

In Excel 2000 to see filtered data according to need, Filter option of Data menu is used. Using this option its sub-menu displays on monitor screen. Auto filter option of this sub-menu is used to filter data automatically. The second option of this sub-menu activates when we have filtered the data. This option is used to display the filtered data with all data.

To Make Table

In Excel 2000 to make table on the basis of cell, Table option of Data menu is used. Using this option, Table dialog box displays on monitor screen. In this dialog box, after deciding the range in front of Row input cell and Column input cell, click on push button OK. Now a table will be created in worksheet.



Chapter 8

MICROSOFT POWERPOINT

"Microsoft PowerPoint 2003, part of the Office 2003 suite, is a presentation graphics application. A presentation is a combination of slides, handouts, notes, and outlines all in one file. You can add text, graphics, photos, clip art, sound and video to your slides. PowerPoint 2003 can help you present a topic at work, home, or school."

"The PowerPoint 2003 Task Pane is located on the right side of the screen. The down-pointing arrow in the top, right corner of the pane allows you to select different menus and tools. By default, the Task Pane appears when PowerPoint 2003 is launched."

Q.1. Give a brief introduction of MS PowerPoint.

Ans. Introduction of MS PowerPoint

Microsoft PowerPoint 2003, part of the Office 2003 suite, is a presentation graphics application. A presentation is a combination of slides, handouts, notes, and outlines all in one file. You can add text, graphics, photos, clip art, sound and video to your slides. PowerPoint 2003 can help you present a topic at work, home, or school.

Parts of the PowerPoint Window

The PowerPoint Window has toolbars and panes to help you quickly create presentations. Most of the toolbars are common in Office applications but may feature options unique to PowerPoint.

- **Title Bar**—displays the document name followed by a program name.
- **Menu Bar**—contains a list of options to manage and customize documents.

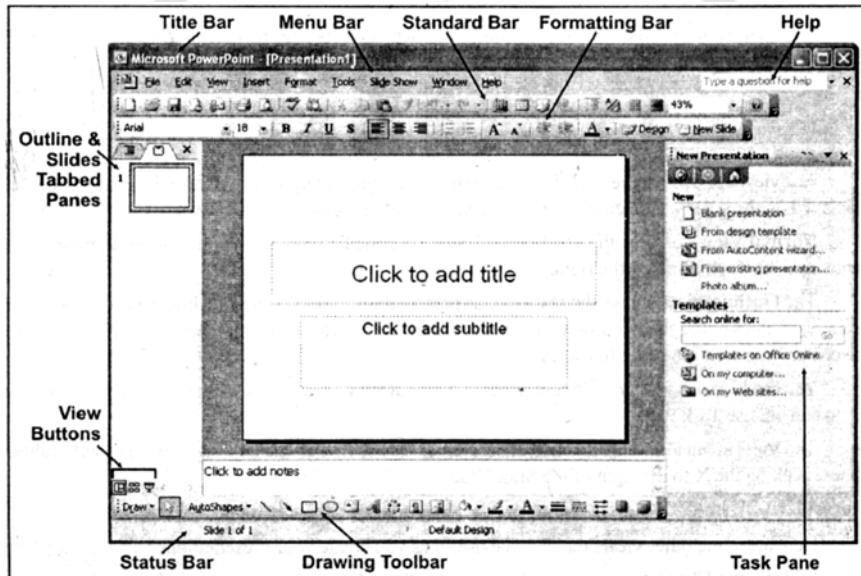


Fig. : PowerPoint Window

- **Standard Toolbar**—contains shortcut buttons for the most popular commands.
- **Formatting Toolbar**—contains buttons used for formatting,
- **Status Bar**—displays slide position and the type of design in PowerPoint.
- **Drawing Toolbar**—contains tools for drawing lines, shapes and objects.
- **Task Pane**—located on the right side of the computer screen, this pane allows you to select tasks in different categories and allows you to quickly enhance your slides in a few steps. It provides quick access to the most common actions and features in PowerPoint.
- **Outline and Slides Tabbed Pane**—allows the user to easily view the presentation in outline format (text), as well as a list of all the slides in the presentation (with visuals).
The **Outline and Slides Tabbed Panes** are located on the left side of the screen. Click on the tabs to view an outline or a slide of your presentation. The tabs render differently based on the size of the pane.
- **Help**—provides quick access to Help topics.

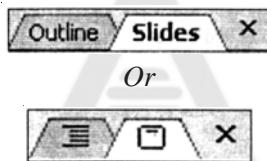


Fig. Outline and Slides Tab Panes

The default view for PowerPoint 2003 is the **Tri-Pane View**. This view, which opens when you launch PowerPoint, allows you to see multiple parts of a presentation at once.

You can show or hide PowerPoint's toolbars. Click on the View menu and choose Toolbar. Decide which ones you want to show or hide.

View Buttons and Slide Views

The **view buttons** at the left bottom corner of the screen allow three slide views: **Normal View**, **Slide Sorter View** and **Slide Show**.



The view buttons can be useful as you prepare your presentation. They control the way slides are displayed on the screen. Click a view button to see a different view.

Normal View contains the **Outline and Slides Tabbed Panes** on the left, the **Slide pane** in the center and the **Task Pane** on the right.

The **Outline View** shows the text of your presentation for easy editing while **Slides View** shows text and graphics of the slide you're working on. Click on the tabs to switch between the two views. Under the center slide area is a place for notes.

You can hide or show the different panes in **Normal View**. To hide the Task Pane, click on the View menu and choose Task Pane.

The View menu also allows you to choose other views. To hide the Outline View and Slide Tabbed Panes, click on the X to the right of the Slides Tab.

More Views

Here are some other views that may be useful as you create your presentations—

Slide Sorter View lets you see small versions of all the slides you have created. You can delete, copy, and move slides in this view.

Slide Show lets you see your presentation electronically as it will appear to an audience.

Task Pane

The PowerPoint 2003 **Task Pane** is located on the right side of the screen. The down-pointing arrow in the top, right corner of the pane allows you to select different menus and tools. By default, the Task Pane appears when PowerPoint 2003 is launched.

The **Slide Layout** and **Slide Design** panes within the Task Pane help organize layouts, design templates, and colour schemes. When you select a design option, your slides are quickly updated with the new look.

Using the Task Pane

If you do not see the Task Pane on the right side of the PowerPoint window, you can easily access it. To open the task pane click **View → Task Pane**.

To close the task pane click the **x** on the right corner of the bar. You can hide or view the Task Pane by clicking on **View → Task Pane**.

To View Different Panes

- Click on the **down-pointing arrow** next to **New Presentation** and select different panes.

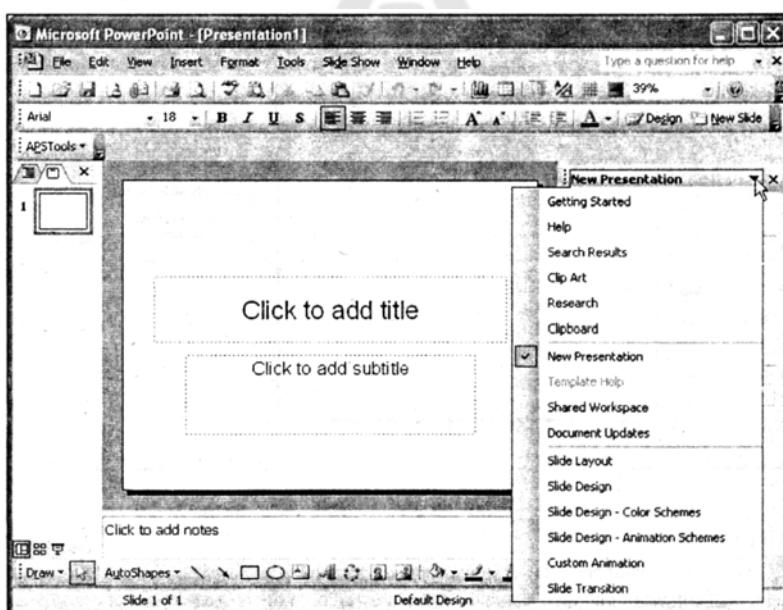


Fig.

- Once you open different panes, you can move through them by clicking on the backward and forward arrow buttons at the top of the task pane.

Pull-Down Menus

PowerPoint 2003's menu bar initially displays commands that you most often use. To view infrequently used commands from a menu, use **pull-down menus**.

To View Commands in a Pull-Down Menu—

- Click on a menu in the menu bar. (File, Edit, View, Insert, etc.)
- Move your mouse pointer over the double arrows at the bottom of the pull-down menu.

Notice that some menus have black arrows to the right. Slide your mouse pointer over the arrow to view more options. These are called **cascading menus**.

Creating a Blank Presentation

PowerPoint offers three ways to create a presentation: **Blank presentation**, **From Design Template** or **From AutoContent Wizard**. The Blank presentation option is one of the more commonly used methods. It offers several blank slides with layouts for text and graphics.

To Create a Blank Presentation—

- Open PowerPoint.
- A slide featuring a place for a title and subtitle appears by default. You may begin your presentation with this slide or choose a different slide layout.
- The **New Presentation Pane** appears on the right side of the screen.
- Under **New**, click **Blank Presentation**.
- A list appears.

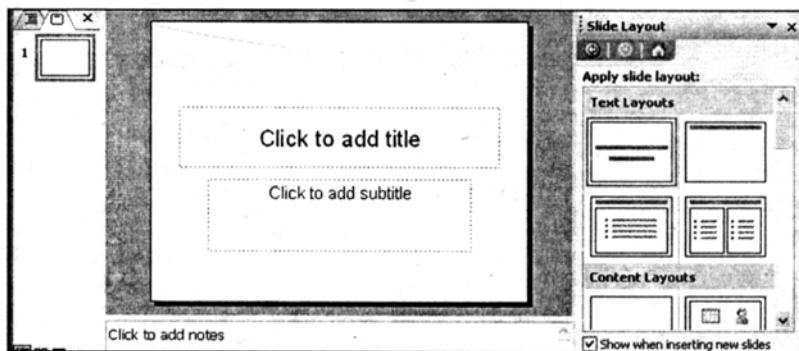


Fig.

Choosing a Slide Layout

As you work on your presentation, think about the type of layout you want. Do you want a slide with text and lots of clip art or one with text and a chart? PowerPoint offers many layout options.

To Choose a Slide Layout—

- Move your arrow pointer over the layouts or use the scroll bar in the **Slide Layout Pane**.
- A gray bar appears on the right of each layout.
- When you find a layout that you like, click the down-pointing arrow and choose **Apply to Selected Slide**.

You can also click on the slide layout to apply it. Notice that the slide you are currently working on has a dark border in the Outline Pane.

Placeholders

Once you choose a layout for your slides, you can begin adding text, graphics or other items. You do this with placeholders. Placeholders are special places of dotted line box in which **Click to add** is written. As you click in this box, you can add content.

To Add Text to a Placeholder—

- Click on the placeholder.
- Start typing.

Saving a Presentation

You can save, close, and exit presentations in PowerPoint just as you would while using other Microsoft applications.

To Save a Presentation—

- Click on **File → Save.** (Ctrl + S)
- Choose the location where you want to save your presentation.
- Type a name in the **File Name** box or keep the one that PowerPoint has provided.

Closing a Presentation and Exiting PowerPoint

Once you've finishing working on your presentation, you can quickly close it.

To Close a Presentation

- Click the × at the right side of menu bar in the PowerPoint presentation window or Choose **File → Close.** (Ctrl + W)
- The PowerPoint application remains open and you can start a new presentation.

To Exit PowerPoint—

- Click the × in the far right top corner.
OR
- Choose **File → Exit.** (Alt + F4)

Before you exit PowerPoint, make sure that you save any work that you want to keep.

Creating a New Presentation Using the Traditional Method

Remember, after you have closed one presentation, you can easily start a new one while PowerPoint is still open by using the traditional new file creation method.

To Start a New Presentation—

- Click on **File → New.** (Ctrl + N)
- In the **New Presentation Pane**, under **New** chooses **Blank Presentation.**
- Choose the design layout that you want.

Opening a Presentation

You can quickly open a presentation that you've previously saved by using the Task Pane.

To Open a Presentation—

- Start PowerPoint.
- In the **Task Pane**, click on **From existing presentation** and select the presentation that you want to open.
OR
- Choose **File → Open.**
- Navigate to the file you want to open.

Inserting a New Slide

Once you've created your opening slide, you'll want to add more slides to your presentation.

To Insert a New Slide—

- Click on **Insert → New Slide.** (Ctrl + M)
- Move your arrow pointer over layouts or use the scroll bar and choose a slide layout.
- A gray bar appears on the right.
- Click the down-pointing arrow and choose **Insert New Slide.**
OR
- Click the **New Slide** button at the top of the screen.
- Move your arrow pointer over layouts or use the scroll bar and choose a design layout.
- A gray bar appears on the right.
- Click the down-pointing arrow and choose **Insert New Slide.**

Copying a Slide

Copying is another technique that you may use as you work on your slide presentation. For example, you may want to repeat a slide later in the presentation or copy a slide and make slight changes to it to make a different point.

To Copy a Slide—

- Click the slide you want to copy in the pane on the left.
- Click on the **Copy Button** on the Standard Toolbar. (Ctrl + C)
- Move the arrow pointer to where you want the copied slide to appear.
OR
- Right click the slide you want to copy in the pane on the left.
- Move the arrow pointer to where you want the copied slide to appear.
- A horizontal cursor appears.
- Click the **Paste** Button on the Standard Toolbar or **right click → Paste**. (Ctrl + V)

Deleting a Slide

Sometimes you may want to take one or more slides out of your presentation.

To Delete a Slide—

- Click the slide.
- Press **Delete** on your keyboard.
OR
- Right click the slide you want to delete in the pane to the left **Delete Slide**.

Slide Sorter View

As you are working on your presentation, you may want to change the order of your slides. You can rearrange slides in Slide Sorter View. It allows you to view miniature slides that you can drag and drop.

To Move Slides in Slide Sorter View—

- Click on the **Slide Sorter View** button in the left bottom corner of the page.
- Click the slide you want to move.
- Hold down the left mouse button and drag the slide to its new location. A pointer with a box appears as you drag the slide.
- Click on the **Normal View button** to return to Normal View.

Working with Slides in Normal View

You can also easily move slides in **Normal View**. Remember, this is the Tri-Pane View that shows small slides on the left, a slide in the center and the Task Pane on the right.

To Move Slides in Normal View—

- Click on the Normal View button.
- Click a slide in the left pane and drag and drop it to its new location.
- Hold down the left mouse button and drag the slide to its new location. A pointer with a box appears as you drag the slide.

To toggle between the different views in PowerPoint 2003, click on the **View buttons** or click on **View Slide Sorter, Normal or Slide Show**.

Changing and Viewing Slides in Outline View

Outline View also allows you to make changes to slides. While you can drag and drop slides in this view, it's also useful for making changes to the text of your slides or for viewing multiple slides.

To View or Make Changes to Text in Outline View—

- Click the Outline View tab in the left pane.
- An outline view of your slides appears with text.
- Click on the small gray slide you want to make changes to.
- Scroll through the slides in outline view.
- Select the slide in the outline and then type changes directly onto the center slide.
- You can view the text of all of your slides in this view.
- Return to **Normal View** by clicking the **Slides tab** in the left pane.

Viewing Slides in Slide Show View

After you have made some changes to your PowerPoint presentation, you can get an idea of how it will look as a slide show.

To View Slides in Slide Show View—

- Click on the **Slide Show button** at the bottom left corner of the screen.
- OR
- Click on **View → Slide Show**.
- Click on each slide until you reach the end of the slide show, (black screen)
- Click to exit and return to **Normal View**.

Applying A Design Template

PowerPoint offers Design Templates to make it easy to create an attractive presentation. These templates come in a variety of colours and styles. You can apply a design to existing slides or begin a new presentation with a template.

To Begin a New Presentation with a Design Template—

- Open PowerPoint.
- In the **Task Pane** under **New**, click on **From Design Template**.
- A list of templates appears.
- Move your mouse pointer through the different designs or use the scroll bar.
- Click on the down-pointing arrow in the gray box next to the template that you like.
- Choose **Apply to All Slides**.

Adding a Design to an Existing Presentation

Do you have an existing presentation that you want to add a design to? PowerPoint makes it easy to enhance existing slides with a design template.

To Apply a Design to an Existing Presentation—

- Open PowerPoint.
- In the **Getting Started Task Pane**, under **Open**, click on the presentation you want or select **More** to browse through the files.
- Click on the down-pointing arrow in the **Getting Started pane** and choose **Slide Design - Design Templates**.
- A list of templates appears.
- Move your mouse pointer through the different designs or use the scroll bar.
- Click on the down-pointing arrow in the gray box next to the template that you like.
- Choose **Apply to All Slides**.

Applying a Design Template to Selected Slides

As you are working on your presentation, you can choose **Apply to Selected Slides** if you want one or more slides to have a different look.

Choosing A Color Scheme

PowerPoint's Design Templates have pre-selected colors but you can choose your own **color scheme**. A color scheme is a combination of colors for the text and background of your slides,

To Choose a Different Color Scheme—

- In the **Task Pane**, click on the down-pointing arrow in the gray bar next and choose **Slide Design - Color Schemes**.
- A list of color schemes appears.
- Move your arrow pointer through the different color scheme options or use the scroll bar.
- When you find a color scheme that you like, click on the down-pointing arrow in the gray box and choose **Apply to All Slides**.

AutoContent Wizard

PowerPoint has an AutoContent Wizard to help you create a presentation. This wizard provides several slides with different content guides. Presentation guides are available in several areas including General, Corporate, and Sales/Marketing.

To Use the AutoContent Wizard—

- In the **Task Pane** under **New Presentation**, choose **From AutoContent Wizard**.

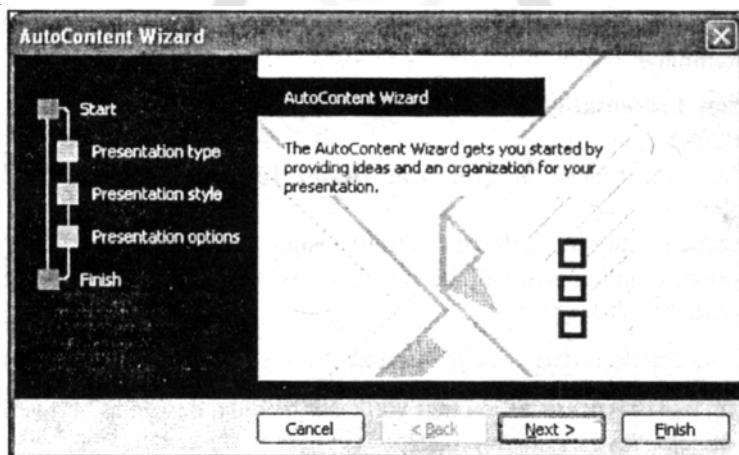


Fig.

- Click **Next** to see the different presentation options that are available

As you continue working in the Wizard, think about what your presentation best fits your needs. If you're not sure which choice to make, try **General - Generic**.

- Click **Next** after you have chosen a presentation type.

The next screen asks, What type of output will you use?

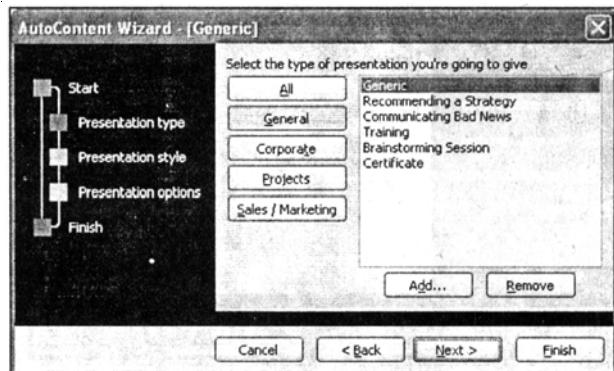


Fig.

- Since you will likely be doing an **On-screen presentation**, click inside the circle next to On-screen presentation. Or, choose another presentation type.

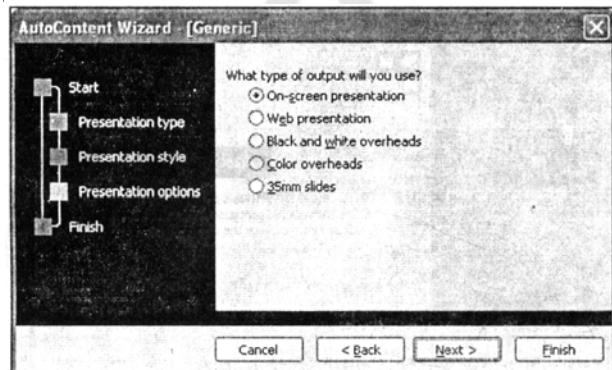


Fig.

- Click next.
- On the next screen, you can type in your **Presentation Title**. Add a footer, if necessary.

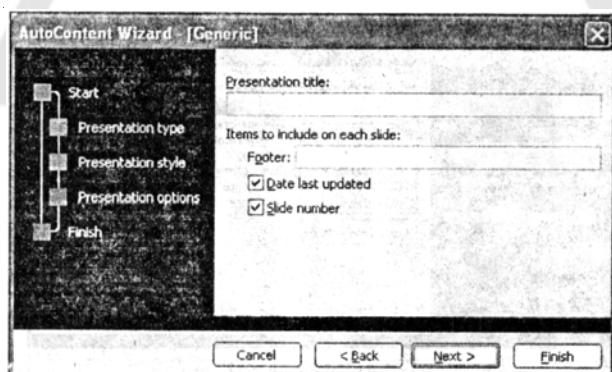
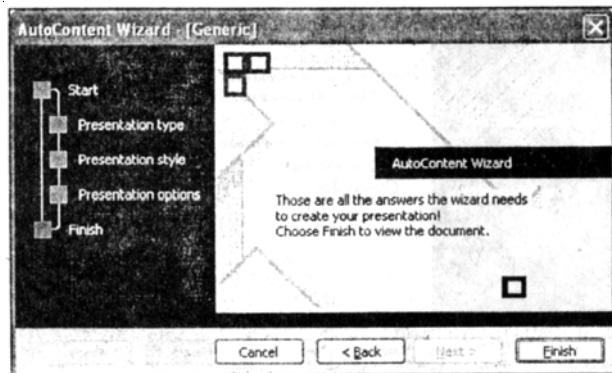


Fig.

- Click Next.
- The last AutoContent Wizard dialog box appears as shown in Fig. on the next page.
- **Click Finish.**

Your slides will appear and you can go through each one and make changes to the content. Edit the slides in Outline View in the left pane or type directly onto the slides in the center pane.

*Fig.*

When you use the AutoContent Wizard, the slides that result are a guide for your actual content. Make the changes necessary to fit your presentation. You may add or delete some of the slides based on your content or add a different design or color scheme.

Adding Text to an Original Slide

Many of PowerPoint's slides have text boxes already included and ready for you to add information. However, if you create an original slide you'll need to add a text box or two.

To Add Text to an Original Slide—

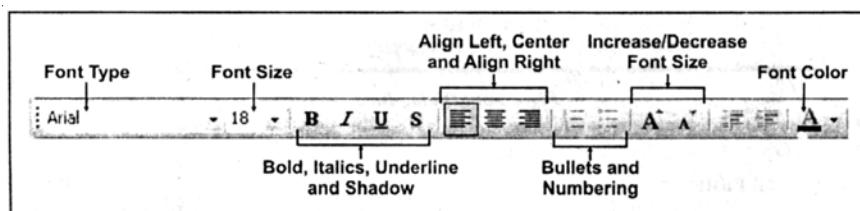
- Insert a **blank New Slide**.
- Click on the **Text Box** button in the **Drawing Toolbar**.
- Click and drag your mouse pointer to create a text box on the slide.
OR
- Click on **Insert Text Box**.
- Click and drag your mouse pointer to create a text box.

Formatting Toolbar

PowerPoint's default font or text type is Arial. However, you may want to change the font type, font size and more. Use the **Formatting Toolbar** to set the color, size, and overall look of your text. It doesn't matter whether the text is an original slide or is in a preset layout.

Here are some of the formatting options—

1. Font type
2. Font size
3. Bold, Italics, Underline and Shadow
4. Center, Align Left, and Align Right
5. Bullets and Numbering
6. Increase/Decrease Font Size

*Fig. Formatting Toolbar*

7. Increase/Decrease Indent
8. Font color

For more formatting buttons, click on the down-pointing arrow at the end of the toolbar. Choose **Add or Remove Buttons - Formatting**. Choose any additional options you want on the Formatting Toolbar. You can also choose **Show Buttons on Two Rows**.

Formatting Text

The Formatting Toolbar allows you to make many changes to your text to give it the look you want for your presentation.

To Format Text—

- In the Formatting Toolbar, click on the down-pointing arrow OR button for the item you want to format.
- For example, to set the font size for text you haven't typed yet, click on the down-pointing arrow next to the number and choose the font size. To change the font color, click on the down-pointing arrow next to the “underlined” A.
- To make formatting changes to existing text, highlight the text and click on the down-pointing arrow OR button for the formatting change.

The Format Menu

You can also use the Format menu to make formatting changes to the text in your presentation.

To Use the Format Menu—

- Click on **Format → Font**.
- Font dialog box opens.

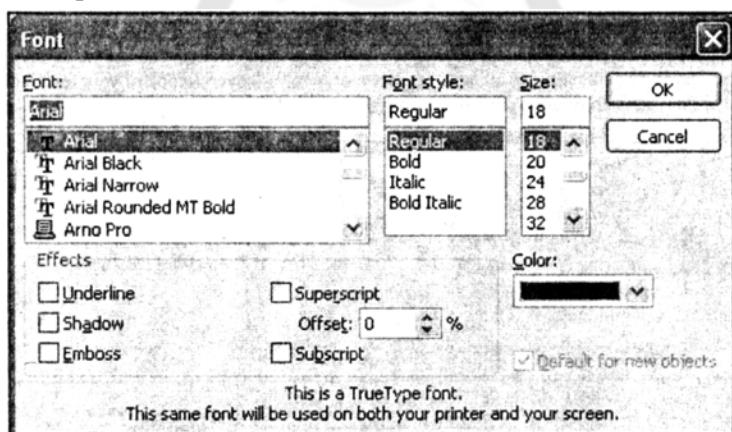


Fig. Font Dialog Box

- Choose the font, font style, and/or size.
- Click OK

Cut, Copy, and Paste

Once you've determined how your text will appear in your slides, you may need to cut copy or paste some information.

To Copy and Paste—

- Select the text you want to copy.
- Click the **copy button** on the **Standard Toolbar**. (Ctrl + C)
- Move your mouse pointer to the location on the slide where you want the text to appear.
- Click the **paste button** on the **Standard Toolbar**. (Ctrl + V)

To Cut and Paste—

- Select the text you want to cut.
- Click the **cut button** on the **Standard Toolbar**. (Ctrl + X)
- Move your mouse pointer to the location on the slide where you want the text to appear,
- Click the **paste button** on the **Standard Toolbar**. (Ctrl + V)

The keyboard shortcuts - **Ctrl + X**, **Ctrl + C**, and **Ctrl + V** - can help make cutting, copying and pasting faster. If you don't already know them, learn these shortcuts.

Bulleted Lists

PowerPoint provides several **bulleted lists** slides for you to choose from for your presentation. You can use these slides or create bulleted list slides of your own. Bullets can be dots, check marks, arrows, squares and more. **Picture bullets** - colorful bullets in various shapes - are also available.

Formatting a Bulleted List

You can format the look of bullets from the Format menu.

To Format a Bulleted List—

- Place your cursor in the section of the slide you want your bullet or bulleted list. Click on **Format → Bullets and Numbering**.
- **Bullets and Numbering** dialog box opens. Make sure the **Bulleted tab** is selected.

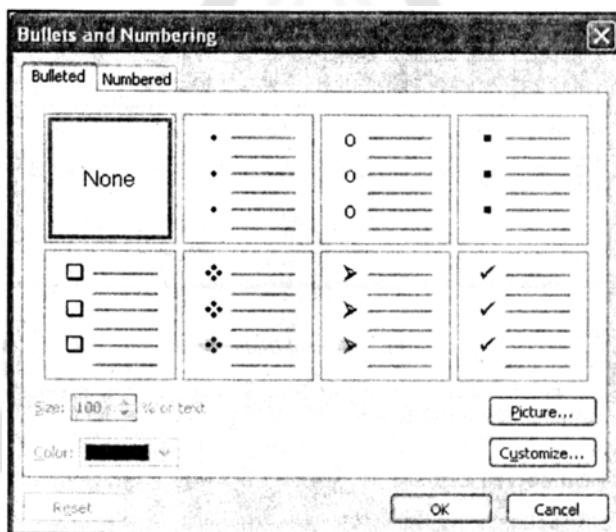


Fig. Bullets and Numbering Dialog Box

- Choose the **bullet style** that you want from the examples that appear on the screen or click **Picture** and choose a style from the bullets that appear. (You can also choose size and color).
- Click **OK**.

Customizing a Bulleted List

If you don't like the traditional bullets or the picture bullets that PowerPoint offers, you can customize your own.

To Customize a Bulleted List—

- Place your cursor in the section of the slide you want your bullet or bulleted list. Click on **Format → Bullets and Numbering**.
- **Bullets and Numbering** dialog box opens. Make sure the **Bulleted tab** is selected.

- Click on **Customize** near the bottom right corner of the dialog box.
- **Symbol** dialog box appears.

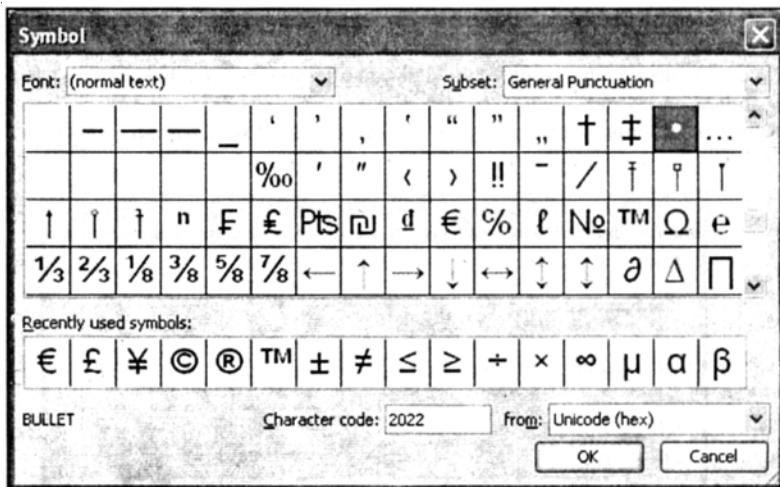


Fig. Symbol Dialog Box

- Choose a symbol from the list that appears. Note that you can change the font by clicking on font in the upper left corner of the dialog box.
- Click **OK**.

Formatting a Numbered List

PowerPoint also gives you different options for formatting a **numbered list**.

To Format a Numbered List—

- Place your cursor in the section of the slide you want your numbered or bulleted list. Click on **Format → Bullets and Numbering**.
- **Bullets and Numbering** dialog box opens. Make sure the **Numbered** tab is selected.

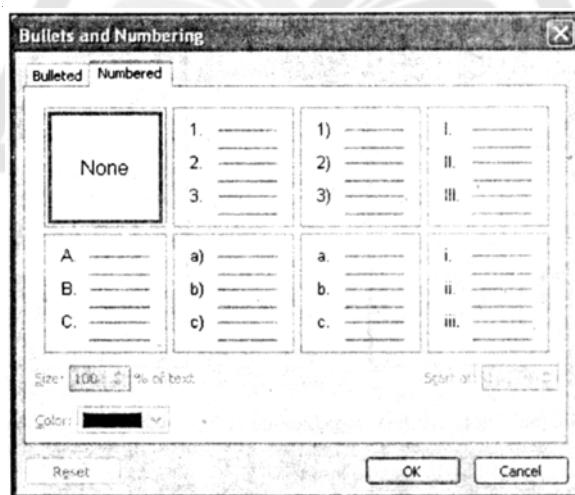


Fig.

- Choose the **number style** that you want. (You can also choose size, color, and the number you wish to start from).
- Click **OK**.

Inserting Clip Art into a Slide

Clip art is a collection of graphical images. You can easily enhance your presentation with clip art in a few easy steps.

To Insert Clip Art into a Slide—

- In the **Outline view** in the left pane, select the slide in which you want the clip art to appear.
- Click the **Clip Art** button on the **Drawing Toolbar**.
- OR
- Select the slide you want to work on.
- Click on the down-pointing arrow in the **Task Pane → Clip Art**.

If you are working with a slide that has an icon for clip art, click on the icon. You'll learn more about this later in this lesson.

Searching for Clip Art

Once you activate the **Clip Art** option, a search menu appears on the screen.

To Search for Clip Art—

- With the **Search dialog box** open, type the name of the image that you are looking for. For example, people.

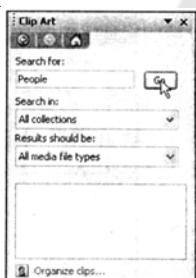


Fig.

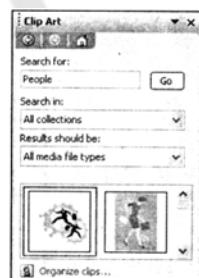


Fig.

- Click on **Go**. [See Fig.] After few seconds desired clip art will be displayed in this task pane. [See Fig.]
- Click on the clip art that you want to insert.
- Click **OK**.
- The clip art appears in your slide.

Searching for Clip Art on the Web

To find a larger selection of clip art, you can browse for clip art on the Web. To begin, make sure that you are logged onto the Internet.

To Search for Clip Art on the Web—

- With the **Search dialog box** open, type the name of what you are looking for. For example, people, buildings, winter.
- Under **Search in:** click the down-pointing arrow next to **Selected collections** and check the box next to **Web Collections**.
- Browse through the different clip art options.
- Click on the clip art that you want to insert.



Fig.

Inserting Pictures from File

Adding pictures to your presentation may also help engage the audience's attention. You can insert pictures that you have on file on your computer.

To Insert a Picture from File—

- Click on **Insert → Picture → From File**.
- Navigate to the folder where you've saved your picture.
- Click on the picture you want to insert into the slide.



Fig.

OR

- Click the **Insert Picture button** on the **Drawing Toolbar**.
- Navigate to the picture that you want to use.
- Select the picture and click **Insert**.

Inserting Pictures or Clip Art Using a Slide Design Layout

Some slide layouts already have icons for clip art and pictures. PowerPoint allows you to insert pictures through these **slide design layouts**.

To Insert Pictures Using a Slide Design Layout—

- Browse the slide design layouts to find one with an icon for a picture.
- Click on the picture icon.



Fig.

- Navigate to the picture you want to insert.
- Select the picture and click **Insert**.

Resizing Pictures and Clip Art

Once you insert clip art or a picture, you may need to resize it to better fit your slide.

To Resize Pictures or Clip Art—

- Click the cursor on the edge of the graphic and a **resizing handle** appears. A resizing handle is a black, \leftrightarrow double-headed arrow that changes to a “plus sign”, +, once you start resizing the image.
- Drag the graphic to the size that you want.

Inserting A Chart

PowerPoint allows you to insert charts into your slide presentation to display different types of information to your audience.

To Insert a Chart—

- Insert a new slide with a **title and a chart icon**.
- When the slide appears, double click the **Insert Chart icon**. [See Fig.]

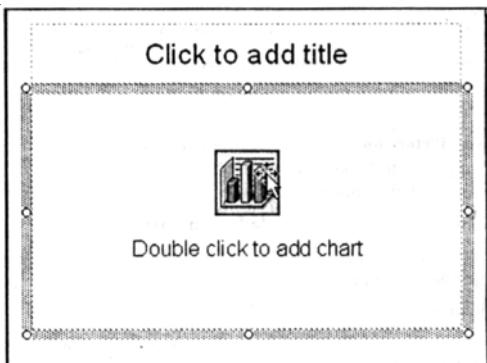


Fig.

- A chart appears with a **data sheet** and **sample data**. [See Fig. on the next page]
- Replace the **sample data** in the **data sheet** with **actual data** that you want to present. The **Y axis** is for values or numbers.

For example, number of hours worked or amount of money earned. The **X axis** is the label for the information. It now reads **East, West, North**.

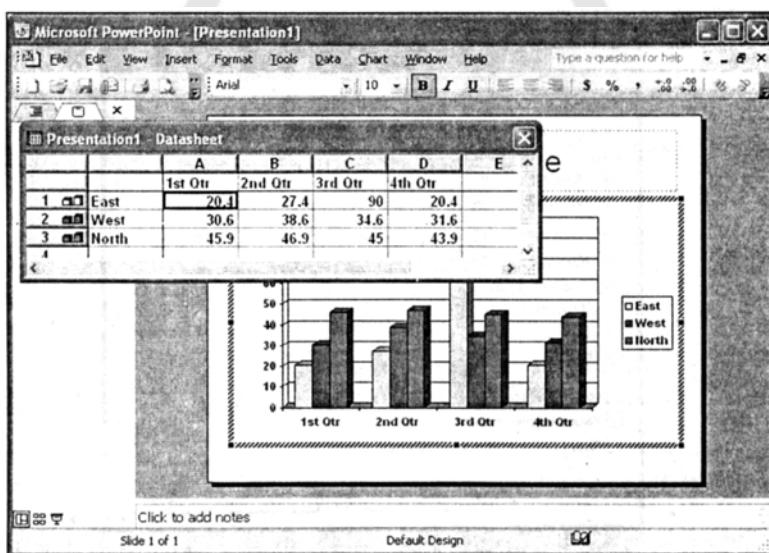


Fig.

- You can delete some information in columns or rows of the sheet. Right click on the row or column and choose **Cut, Delete or Clear Contents**.

Note : You can expand the chart columns to fit your data or titles. Place your mouse pointer over the end of the column in the gray heading. A **black cross with double arrows** appears. Right click and drag the columns to the size you want.

- To format column width, click on **Format Column width**.
 - Notice that as you enter the new data and titles etc., the chart on the slide changes to show this new information.
- If the datasheet disappears, right click on the chart and choose **View Datasheet**.

Setting a Maximum Value for a Chart

As you enter numbers in your chart, a **maximum value** for your chart will automatically be set, or you can set a maximum value of your own. The top value will automatically round up from the top value of the data that you are entering. So, depending on your data, it will be rounded to the nearest ten, hundred or thousand.

To Set a Maximum Value—

- Double click on a value on the side of the chart.
- The **Format Axis dialog box** appears. [See Fig.]
- Click on the **Scale** tab.

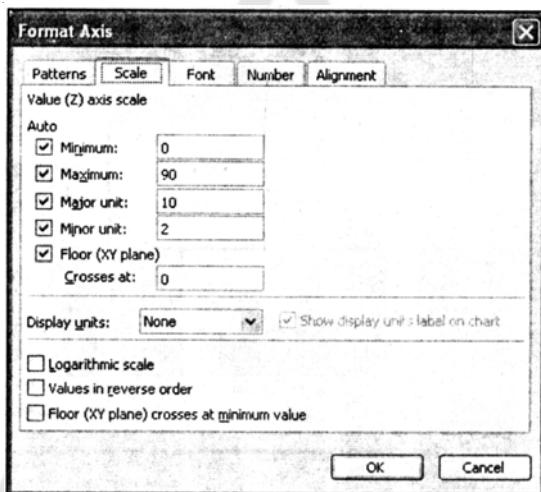


Fig. Format Axis Dialog Box

- Change the number for **Maximum** to the maximum number in your presentation.
- Click **OK**.

Choosing a Different Chart Type

If you don't want to use the chart that automatically appears when you double click the chart icon in a slide, you can choose a different chart type

To Choose a Different Chart Option—

- Click on **Chart → Chart Type**.
- Chart Type dialog box appears on the monitor screen as shown in **Fig.** on the next page.
- In this dialog box, a list of different charts displays under **Chart type**, including **Column**, **Bar**, **Line**, **Pie**, and **Pyramid**.
- Choose the best chart type for your presentation.
- Click **OK**.

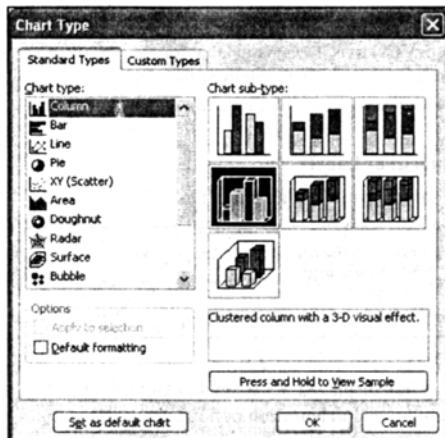


Fig. : Chart Type Dialog Box

Labelling a Chart

You may also want to label your chart with such information as the title and what the X and Y axes represent. In the default chart, the X axis is the horizontal information while the Y axis is the vertical information.

To Label a Chart—

- Click on **Chart → Chart Options**.
- **Chart Options** dialog box appears. Click on the **Titles** tab (if it is not already selected).

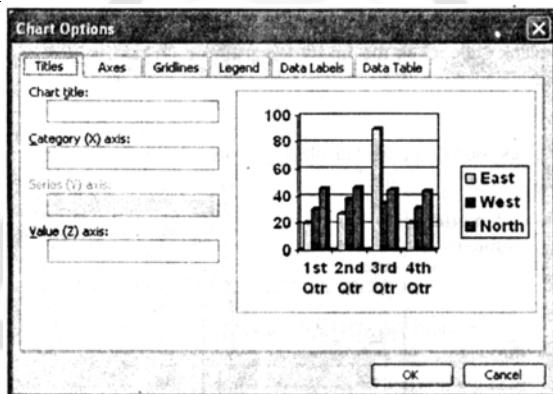


Fig. Chart Options Dialog Box

- In the box below **Chart Title**, type in the title.
- In the box below **Category (X) axis**, type in the label for this information. It appears in the rows on the left of the datasheet and in a box on the right of the chart.
- In the box below **Value (Y) axis**, type in the label for this information.
- Click **OK**.

To Change Text Alignment of Label—

- Right click on the text and choose **Format Axis...**

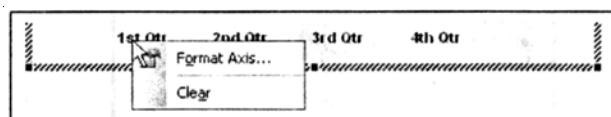


Fig.

- Format Axis title dialog box displayed. Click on the **Alignment tab**.
- Choose your **text alignment** and **orientation** options.
- Click **OK**.

Inserting a Diagram or Organization Chart

Does your presentation require a diagram or organization chart? An **organization chart** shows hierachal relationships in a company or organization such as president, vice president etc. **Diagrams** are used to show relationships between various elements.

To Insert a Diagram or Organization Chart—

- Insert a new slide with a **Diagram or Organization Chart** icon.
- Click on the **Insert Diagram or Organization Chart** icon.
- When the **Diagram Gallery** dialog box appears, select a diagram or chart type,
- Click **OK**.
- OR
- If working in a blank slide, click the **Insert Diagram or Organization Chart** button on the **Drawing Toolbar**.

Inserting A Table

PowerPoint also gives you the option of displaying information within your presentation in a table.

To Insert a Table—

- Insert a new slide with a **table** icon.
- Click on the **Insert Table** icon.

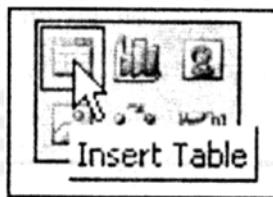


Fig.

- When the **Insert Table** dialog box appears, set the **number of columns and rows** for your table.

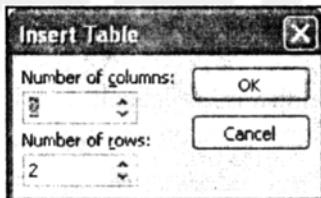


Fig.

- Click **OK**.
- Enter the data for your table.
- To format the table, choose **Format → Table**.
- Click on the tabs and make any necessary changes.
- Click **OK**.

Inserting an AutoShape

PowerPoint provides many different items that you can use to enhance your slides. For example, an AutoShape can be a useful graphical element. **AutoShapes** include lines, arrows, banners, stars and other shapes that you can add to your presentation.

To Insert an AutoShape—

- Click **Insert → Pictures → AutoShapes**.
- A small AutoShapes toolbar appears.

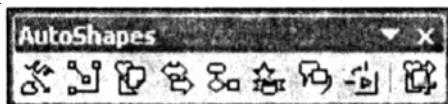


Fig.

- Click on the various options and a list of AutoShapes appears.
- Choose the one for your presentation.
- To format an AutoShape, right click on it and choose **Format AutoShape**.
- A dialog box appears with various formatting options.
- OR
- Insert **AutoShapes** by clicking on the **Drawing Toolbar** at the bottom of the PowerPoint screen. A list of categories of AutoShapes appears.

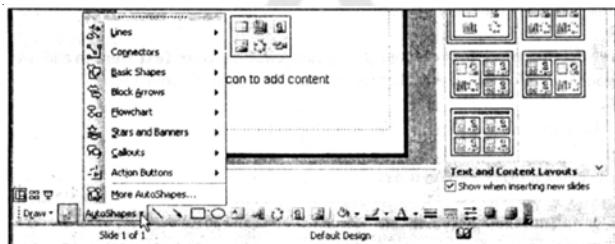


Fig.

As you click on the right arrow of desired category, a list of AutoShapes appears. You can insert any shape by selecting the shape. You can click and drag an AutoShape to increase its size.

Inserting WordArt

WordArt is colorful and artful text that is available in a variety of styles. It allows you to create interesting titles, logos and text in your PowerPoint presentation.

To Insert Word Art—

- Click the **WordArt button** on the **Drawing Toolbar**.

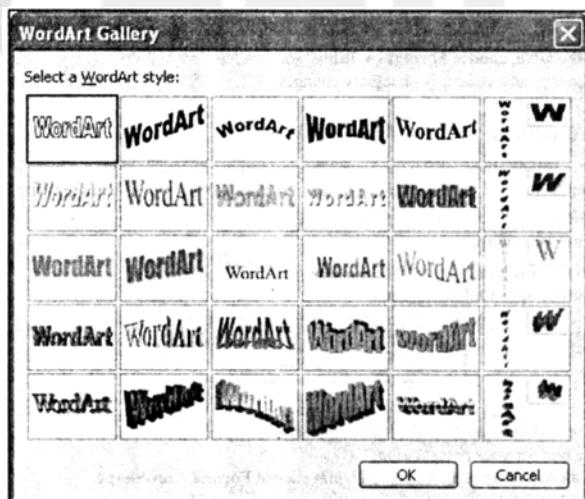


Fig.

- The **WordArt Gallery** appears. [See Fig.]
- Choose the **WordArt** that best fits your slide presentation.
- Click **OK**.
- When the **Edit WordArt Text dialog box** appears, click on **Your Text Here** to add text. Type the text for your slide. You can also make any formatting changes to your font.
- Click **OK**.
- The **WordArt** appears in your slide. You may drag it to where you want it to appear on your slide.
OR
- Click **Insert → Pictures → Word Art**.
OR
- Click **View → Toolbars → WordArt**.

Animating Slides

Animating slides involves adding movement and sometimes sound to text or to the slides in a presentation. Animation can help create a livelier and more interesting slide show. PowerPoint provides some preset animation or allows you to customize the animation to fit your needs.

To Animate Slides using Animation Schemes—

- Open the PowerPoint presentation that you want to work on.
- Select the slide that you want to animate.
- In the **Task Pane**, click the down-pointing arrow and select **Slide Design - Animation Schemes**.

Choosing Animation for Your Slides

PowerPoint offers several options for animating your slides.

- Once you click on **Slide Design - Animation Schemes**, the **Slide Design pane** appears with a list of options. [See Fig. on the next page]
- Click on an **Animation Scheme** that you think might work well in your presentation. (To preview your choice, make sure that the AutoPreview option is checked).

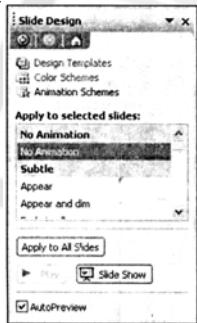


Fig.

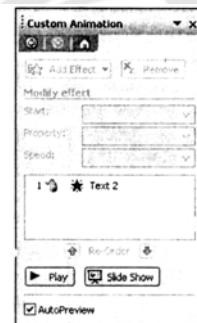


Fig.

- Preview different schemes to see which one best fits your slides.
- You can apply different animation to each individual slide or click on **APPLY TO ALL SLIDES**.
- Once you have applied your animation you can click on **Play** or **Slide Show** to view it.
- Remove animation by selecting **No Animation** in the white box.

Adding Custom Animation

You can also decide how text and other slide element ‘perform’ by losing custom animation. You can add effect, set speed and direction, and animate text on your own.

For example, you can decide how words or graphics enter or exit a slide. You may want to begin by adding effect to the titles in your presentation.

To Add Effect to Text—

- Open the presentation you want to add an effect to.
- Click on the down-pointing arrow in the Task Pane → Custom Animation.
- Click the text that you want to add an effect to.
- The Add Effect button will be activated. (Note the button is inactive until you select a part of the slide to work on) [See Fig.]
- Click on Add Effect → Entrance.
- A list of options appears for the entrance including Blinds, Box, Checkboard, and Fly In.
- Decide how your text will appear on the screen and choose an option.
- You can easily remove the effect by clicking Remove. Or, you can modify it by setting direction and speed underneath Modify.

Emphasis and Exit

If you want to add an effect to make text or graphics grow, shrink, or change in another way, click on Add Effect → Emphasis.

Choose an effect. If you want to add an effect to have text or graphics exit the slide, click on Add Effect → Exit. Choose the effect.

Setting Direction and Speed

Once you choose an effect, decide the **direction** for that effect. For example, you may want text to Fly In **from the bottom**.

Make sure your animation doesn't cross important graphics or text in your presentation.

To Set Direction

- Underneath Modify in the Custom Animation pane, click on the down pointing arrow beneath **Direction**. (Note that direction options vary depending on the type of effect).
- Choose the side of the slide from which you want the title to enter.

Decide the speed at which you want effects to happen in your slides. You can choose very slow, slow, medium, fast or very fast to fit the rhythm of your presentation.

To Set Speed

- Click on the down-pointing arrow underneath **Speed** and choose an option

Animating a Bulleted List

A bulleted list may be another area that you might want to animate.

To Add Animation to a Bulleted List—

- Open the slide with the bulleted list you want to animate.
- Click on the text box that contains the text you want to animate.
- Click on the down-pointing arrow in the Task Pane → Custom Animation.
- The Add Effect button is now active.

Controlling Your Text

With the Add Effect button active, you can control the text in your bulleted list—

To Set Animation in a Bulleted List—

- Select the line of text you want to animate,



Fig.



Fig.

- Once a line is selected, the **Add Effect** button becomes active.
- Select whether you would like to add **Entrance**, **Emphasis**, **Exit**, and/or **Motion Paths**.
- Using the downward pointing arrow to the right of each category :
- Decide if you want this animation to occur **On the Click**, **With Previous**, or **After Previous**.
- Select the **Direction** the animation will occur (direction options will differ depending on the animation).
- Choose a **Speed** for the animation.
- To make changes to an animation, simply locate the number of the animation you wish to change and use the downward pointing arrow to the right of that numbered animation.
- To set the direction/timing, you can select **Effect Options** from the menu.
- A dialog box appears.
- Click on the **Text Animation** tab.
- The default option is **By 1st level paragraphs**. This is the level for the main bullet points. Bullets points will enter one at a time on the slide.
- If you want the bullet points to enter as a group, choose **As one object**.

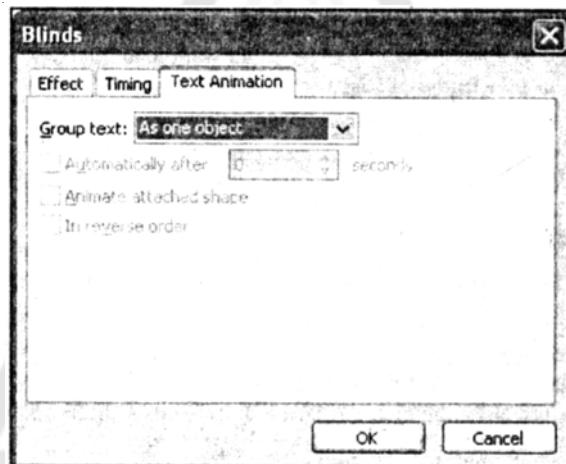
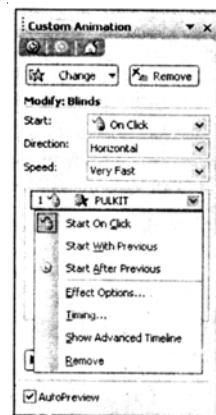


Fig.

Slide Master

If you work for a company, you may be asked to prepare long presentations. Or, you may want to prepare slides about a special event or occasion. A **Slide Master** allows you to create a presentation with different types of slides but enable them to all have the same “look”.

The elements that you add to the Slide Master - such as a company logo, background, and font color – will be applied to all of your slides.

Creating a Slide Master

If you have a Slide Master, you don't have to format every single slide in a presentation with the same basic design and text.

To Create a Slide Master—

- Start a new presentation or open an existing one.
- Click on **View → Master → Slide Master**.

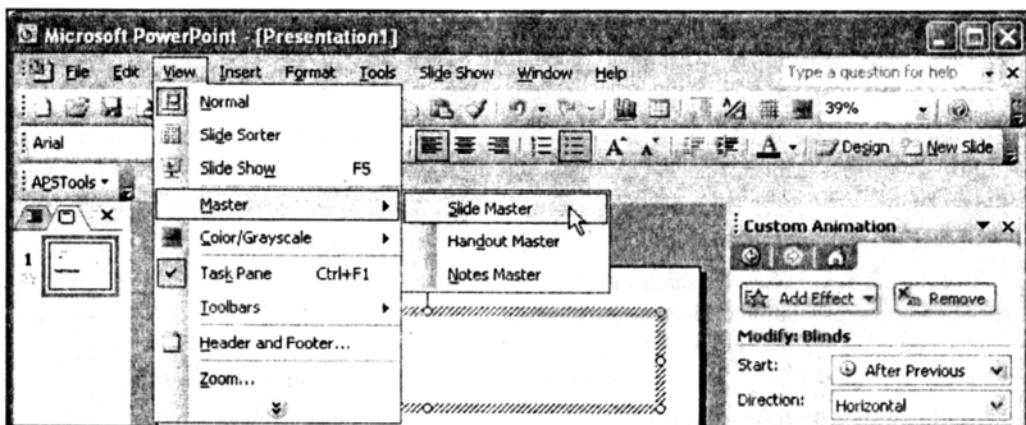


Fig.

- A slide with placeholders appears. [See Fig.]
- Click on Format → Background.
- Background dialog box appears. [See Fig.]

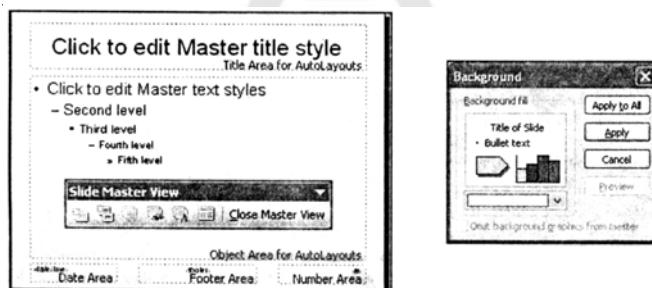


Fig.

- Choose a background color. For more Colors, click on **More Colors**.
- Select the text in the **Master title style placeholder**.
- Click on the down-pointing arrow next to the font in the Formatting toolbar.
OR
- Choose **Format → Font** and choose a font, font color and font style.
Close Master View to save changes.

Choosing Fonts for Levels of the Slide Master

As you continue working on your Slide Master, notice that the Master text styles placeholder contains a model of up to five bullets in which the text gets smaller for each level.

In the Slide Master, the font sizes are pre-selected. The sizes are based on what a normal person is able to read from a reasonable distance. You can change the font size, but this is fine-tuning that you might want to do later.

Generally, you should keep the text the same color for the title and all text levels.

To Edit the Text Styles for Each Level—

- Start a new presentation or open an existing one.
- Click on **View → Master → Slide Master**.
- Select the text and then choose a font and font color in the Formatting Toolbar.

Viewing the Slide Master Elements

After creating or making changes to your Slide Master, you can view all of the basic design elements in your presentation.

To See the Slide Master Elements Applied—

- Click on **View Normal**.
- OR
- Click the **Normal View button**.
- A slide or slide appears with the design elements of the **Slide Master**.

Using Spell Check

The **Spell Check tool** allows you to check your entire presentation for spelling errors. PowerPoint has a dictionary that you can customize with words typically not included in a standard dictionary.

To Use the Spell Check Tool—

- Click on **Tools → Spelling**.
- OR
- Click the **Spelling button** on the **Standard Toolbar**.

Scanning for Errors

Once you launch the Spell Check tool, a couple of scenarios can occur :

- PowerPoint quickly scans your presentation, searching for words that aren't in its dictionary. If there are no recognizable errors, a dialog box will appear stating that the **spelling check is complete**.
- If there are possible spelling errors, the Spelling dialog box opens and offers you a number of options. Any unrecognized word appears in the **Not in Dictionary** box.

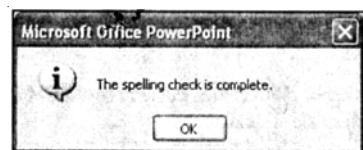


Fig.

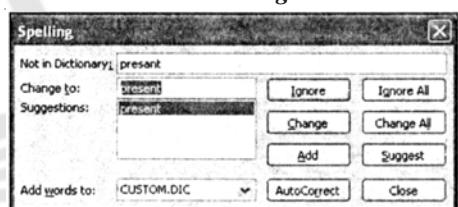


Fig.

Spell Check Options

You can choose from one of the options in the Spelling dialog box—

- **Ignore** - the word is correct and does not need to be added to the custom dictionary.
- **Ignore All** - ignore all occurrences of the word.
- **Change** - correct the word.
- **Change All** - change all occurrences of the spelling of a word.
- **Add** - add a word to the custom dictionary,
- **Suggest** - PowerPoint suggests possible correct spellings of a word. Scroll through the list to find the correct spelling. Select the appropriate one and click the Change button.
- **AutoCorrect** - automatically corrects many common spelling, typing, and grammatical errors.

Once the entire presentation has been checked for spelling errors, and you have made your corrections or changes, click **Close**.

The Spell Check tool does not catch all errors. Be sure to read through your text carefully to find any typographical errors.

Previewing and Printing

Once you've corrected any errors in your document, it's time to print. PowerPoint 2003 allows you to preview your presentation before you print. You can preview and print slides, handouts, notes pages and outlines.

To Preview and Print a Presentation—

- Click on **File → Print Preview**.
- OR
- Click the **Print Preview button** on the **Standard Toolbar**.
- On the Print Preview Toolbar, click the down-pointing arrow next to the **Print What** box.
- Select the layout that you want to preview and/or print.
- Click the **Close button** to return to the presentation or choose **Print** to print the layout.

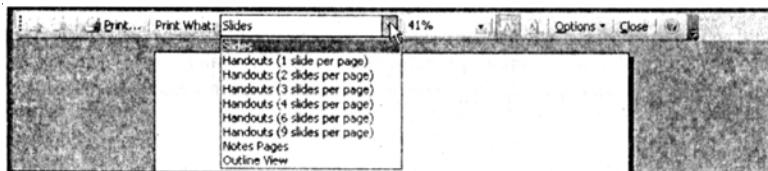


Fig.

Printing a Slide Presentation

If you don't want to preview your presentation in the various formats, you can simply print it.

To Print a Presentation—

- Click on **File → Print**.
- The Print dialog box opens. [Fig.]

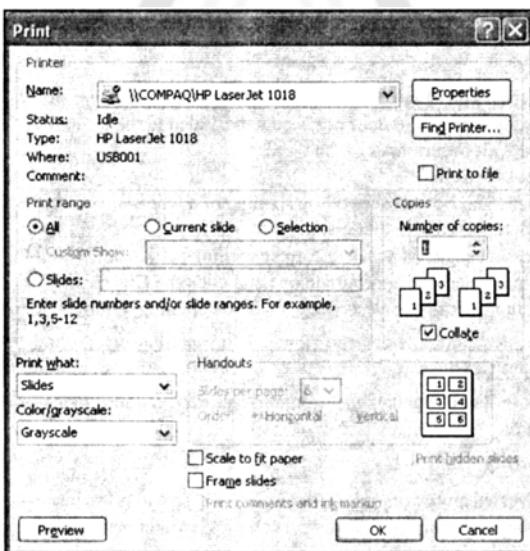


Fig.

- Click the down-pointing arrow next to the **Print What box**.
- Choose **Slides**, **Notes**, **Handouts**, or **Outline**.
- Select the **print range** and **number of copies**.
- Click **OK**.

Adding Transition

Once you've completed all of your slides, create a cohesive presentation by adding transition. You can move from slide to slide with interesting transitions that affect the timing, entrance and exit of your slides. A transition is an effect that is applied to some or all of the slides in a presentation.

To Make Transitions from Slide to Slide—

- Click on **Slide Show → Slide Transition**.
- OR
- In the **Task Pane**, click on the down-pointing arrow and select **Slide Transition**.
- In the **Slide Transition pane**, choose the **effect**, you want from the drop-down menu. Ex. Blinds Horizontal, Blinds Vertical, Box In and Box Out.
- Automatically **preview** each transition by clicking on it. (AutoPreview has to be selected).
- Click **Apply to All** when you have chosen an effect.

*Fig.*

- Choose to advance from slide to slide **on mouse click** or **automatically** after the number of seconds that you select.

Some transitions work well with effects that have been added to text and graphics. Others do not. Preview a variety of transitions before finalizing your slide presentation.

Previewing a Slide Show

If you want to get an idea of what your completed show will look like to an audience, preview it. PowerPoint allows you to view your show in slide show format

To Preview a Slide Show—

- Click on **View → Slide Show**. (F5)
- OR
- Click on **Slide Show → View Show**.
- OR
- Click on the **Slide Show button** to start the presentation.
- To move to the next slide, click the mouse. (Space bar or Enter).
- When the screen goes dark, click the screen to return to the PowerPoint screen.
- You can exit the slide show by pressing **ESC** on the keyboard at any time.

If you have set the slides to **advance automatically**, you don't need to click through the slides. Just sit back and enjoy the show. At the end of the show, click the left mouse button to return to the PowerPoint Screen.

Setting Up a Slide Show

Once you have added created a presentation and previewed it, set up a show. Take the necessary steps to make sure your slides are ready for a real audience.

To Set Up a Slide Show—

- Click on **Slide Show Set Up Show**.
- The **Set Up Show** dialog box appears.

- Choose your **show type**. Typically, it's **presented by a speaker**.
- Choose which **slides you will show**. For example, all or slides 3-12.
- Choose **show options**. You can leave these blank unless you're planning to run a show continuously on a kiosk or want to show it without animation, etc.

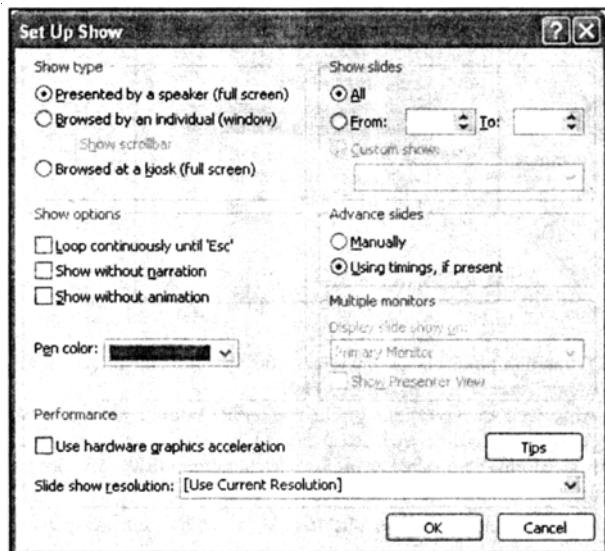


Fig.

- Next, decide how you plan to **advance your slides**.
- Click OK.

•••

Chapter 9

COMPUTER NETWORK

"A network, in which large computer is connected to many such computers, that user can do the work on his computer as well as can take help from the large computer also, is called computer network."

Q.1. Give a brief introduction of computer network and describe in brief its parts.

Ans. In this many information's and data are stored in the large computer and many other computers are connected to this computer. Now connected computer can share the data with large computer as well as can share the data with other connected computers too. The benefit of this method is that everybody can do his work speedily and total data and information are stored at a place.

Work does not effect in the absence of a user, and also there is no much pressure on secondary memory of computer.

Data Types

There are four types of data that can be accepted by modern computer—written, visual, audio and in the form of human experiences and exercises.

1. Written—In written data, all the characters of English language in upper and lower letters, numbers and special symbols, may be used.

2. Visual—In visual data, different picture and films etc., can be used. These are used by scanner and C.D. or video cameras. Now-a-days to use special effects in films, these are being entered in the form of visual data and after the work is taken out in the movie which have special effects. Now video films are edited on computers also.

3. Audio—The data which can be listened, is an audio data. To enter this type of data in computer, microphone is required.

4. In the form of Human Experience and Exercise—Generally, this type of data is used in the medial and criminal science.

Type of Network

LAN

LAN stands for Local Area Network. It is a private network, used in a building or in a campus of schools and colleges. This networking is used for personal computer and large computer with output devices situated in any office or in any industry. In all connected computer only one computer works as master computer. In this networking all computers are connected by a large cable. Every computer of this network has a LAN card. Cable is connected to the socket in LAN card. A device Hub is required to connect all computers. This hub connects all computers in such manner that any computer can transfer data to any computer. In this networking the flow of data is more than 10 to 100 MBPS (Mega Byte per Second) and the possibility of delay in flow becomes trite.

MAN

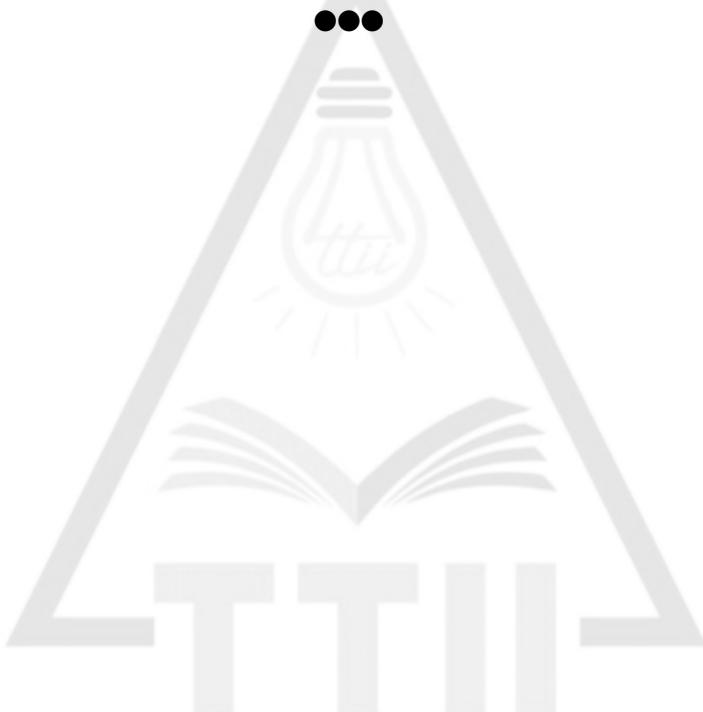
MAN stands for Metropolitan Area Network. This type of network is same as LAN but the area of this network much wider than LAN. If any network is established in whole city, then it is called

MAN. In this network all computers are also connected by cable, but in some where amplifiers are used therefore data cannot be dentate. It can be a personal network. Now-a-days cable internet facility is the latest example of this network.

WAN

WAN stands for Wide Area Network. For this type of network, a much broad area such as a country or a continent is used. In this many large computer machines are attached. These computer machines are called host. These hosts are connected with some small network. The work of this machine is to transfer data from one machine to another machine.

There are two main agents of Wide Area Network (WAN)—cables and switches for data flow. Switch is one type of trend computer that is attached in between two or more cables. When data comes from the cable then switch chooses that cable for flow of data where the data has to go. Generally these switching computer are called Routers. In WAN satellite is also used. Each Router has one antenna by which it can send and receive the data.



Chapter 10

INTERNET

"Internet is network of many networks to which every network is connected with a medium which can exchange data and information with another network. These mediums are in control of Internet Service Provider."

Q.1. Give a brief introduction of internet and describe its development.

Ans.

Internet

World's main Internet Service Providers are—GTI, MCI, Sprint, Usenet and ANS of America Online. In the dictionary of Internet, these mediums are called Back Bone.

There is at least one point in each back bone by which it can exchange data from another backbone. So, when any network is attached to a back bone then the user of this network is attached to whole system automatically. Now the user is attached with any other computer that is availing services of internet service provider and can send the message to it and also can receive message.

Meaning of 'Protocol' in the Reference of Internet

There are some pre-defined rules, processes and agreements used to exchange information and data on internet, these are called Protocol. Transmission Control Protocol (TCP) and Internet Protocol (IP) are used currently. These both together make the language of internet that is called Esperanto. Each computer, connected to internet understands these both Protocols and uses this to send and receive data or information from another connected computer. TCP divides information and data in small pieces that is called Packets. Every packet has the name and address of sender. Now IP sends these packets from different possible ways to their target.

Domain Name System—DNS

Any internet connected computer can be accessed because it has a special name. It is in the form of www.name.com. Really it is the address of this computer. This system of addressing is called Domain Name System (DNS). Each DNS address has at least two parts which are differentiated by a dot (.). In this name first of all two-three characters show name of domain or two characters of geographical code. On right side of dot there is name of company which uses this address or agency or organization.

Master Name Server

Keep in mind the expansion of internet, to develop it, the Internet Society was formed. This society divided all computers in eight different classes. For these classes, eight different DNS, called Master Name Server, are linked with internet. Master Name Server maintains data of computer's name and IP addresses. It converts the name into IP address and connects that computer. These eight classes are as following—

1. .com—This is the most prevailing DNS. It is used for industrial field *i.e.*, if any address has .COM extension then it is the address of any industrial organization; such as—www.microsoft.com.

2. .edu—This DNS is decided for educational institution *i.e.*, if any address has .edu extension then it is an address of any educational institution; such as—www.oxford.edu.

3. **.mil**—This DNS is decided for military.
4. **.gov**—This DNS is decided for government.
5. **.org**—This DNS is decided for an organization that is not industrial i.e. if any address has .org extension then it means it is address of an organisation which does not trade; such as www.ilo.org, it is the address of International labour organisation which comes under USA.
6. **.net**—This DNS is decided for networks *i.e.* if any address has .net extension then it is address of a network such as—www.internic.net or www.domen.net.
7. **.int**—This DNS is decided for international organization such as—www.tpc.int.
8. **.in, .uk, .au etc.**—This type of DNS is decided for different countries. Generally in this DNS two characters are used; such as—.in for India, .uk for Britain, .au for Australia etc. Hence, we see extension of two alphabets then it is should be understood, that this is DNS of a specific country.

Working of Internet

Internet is a world wide web on which no body has ownership. Internet Control Organization has appointed some Internet Service Provider (ISP) in each country to give Internet connections. Main ISP of India is Videsh Sanchar Nigam Limited (VSNL). VSNL provides connection to different telephone departments and other private companies which provide connections to Internet users.

User is facilitated by two types of Internet connections—Dial-up and lease line.

In dial-up connection user has to dial a special number, given by his ISP. When this number is connected then the computer and ISP are connected and users computer is connected to internet. Now user can perform all activities which he can do on internet. For dial-up connection different ISP have decided different fees. These are decided for a year or for some hours whichever is earlier. Whenever user is connected to internet then with local call charges also are to be paid by user with internet charges.

Lease line type connections are too costly because a fiber cable is to be maintained. In this users computer is always connected to Internet and he does not have to dial any number. ●

Q.2. Describe in brief the services available on internet and describe the hardware and software required for internet.

Ans.

Services available on Internet

e-mail

The full form of e-mail is electronic mail. To transfer the mail from one computer to another computer is called electronic mail. It is very important and famous facility provided by internet. Internet user uses this facility mostly.

When any user requests to e-mail service provider for this facility, e-mail service provider allot some space on the disk firmed in central computer, where users e-mail are stored. This place is called mail box. Each mail box has a address which is called e-mail address, If user want to send e-mail to anyone then he has to know his e-mail address.

Hotmail, Yahoo, Rediffmail etc., are such e-mail service provider, which provides the facility to send and receive e-mail without any charge.

On-Line Communication

When two internets users are exchanging their data at a time, then is called on-line communication. We can say that e-mail is an off-line communication. In e-mail we send the mail to anybody on his address to his mail box. We have to send the e-mail to someone and he will read this mail whenever he wants to read. So both do not exchange message at same time. In on-line communication message sender and message receiver both users are connected to internet at a time and message sender types his message and it shows on monitor on receiver's computer. This type of facility is called dialling. With the help of on-line communication, the meetings can be done from different cities, countries, etc.

World Wide Web

To publish different information's about someone, his profession and facilities provided by him, on internet, a website is designed. To use the provided service by internet, user had to take some place on server. For this user has to pay some fees per year. Some server provides this facility free of cost. This place is called Website. Each website has an address. Website information can be only read. Today many news papers and magazines are being published on websites through internet, surfing them we can gather much information.

Hardware and Software required for Internet

As popularity of internet is increasing, now it has become necessary that there should be Internet connection in our computer. Hence at the time of purchasing computer, it should be known that can this computer handle internet or not? For this, computer should contain following hardware and software—

1. Micro processor : Minimum 486 or high capacity
2. RAM (Memory) : Minimum 32 MB
3. Hard Disk : Minimum 200 MB blank space
4. Monitor : Colour monitor with MPEG display Card
5. Multimedia Kit : CD-ROM drive, speaker and mike
6. Modem : Having 50 kilobytes per second speed
7. Pointing Device : Scroll mouse
8. Software : Internet explorer of Windows Operating System or any other browser

Internet Tools

Softwares, that are used to travel from one website to another website at the time of surfing on Internet and to use other facilities of Internet, are called Internet Tools.

Browser

Browser is such a medium, which connects computer to the Internet; We can say that browser is a software, which helps to computer to connect Internet. In the absence of Browser, imagination to see and listen pictures, text, music, graphics etc., from Internet is impossible. Netscape Navigator and Internet Explorer are two browsers which are developed by respectively Netscape and Microsoft Corporation. The work of these both browser is to connect computer with Internet. With the development of Internet, these both browsers are developing. Today's browser programs are much advance and faster than earlier browsers. In earlier browsers image, animation etc., could not be used. These were called Text Browser but as windows operating system came in practice, the browser also developed for Window environment i.e., in this pictures etc., it can be used.

Search Engine

An application firmed on any website of Internet by its help, a user can get the address of another website, which is called search engine. If the user knows a part of website name, any related keyword, then by the help of



search engine, he can know the real address of that website. google.com and yahoo.com are main search engines providers on Internet.

Setting up Dial-Up Networking

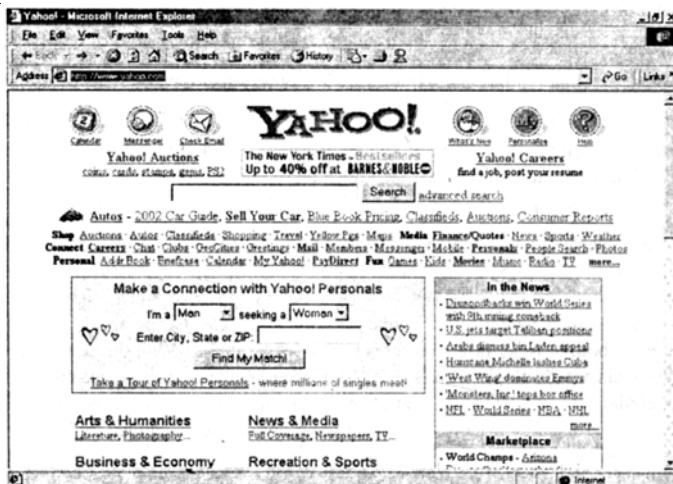


Fig.

To connect with internet, user has to dial phone number of internet service provider. For this first of all we have to decide Dial-Up Network Profile. When windows are installed in computer then dial-up networking automatically transfers in computer. By the help of dial-up networking many connection profiles can be created, by which the telephone of ISP can be dialled, To do so first of all click on My Computer icon firmed on Desktop. Now a Window like the picture, shown on the previous page, appears on the monitor screen.

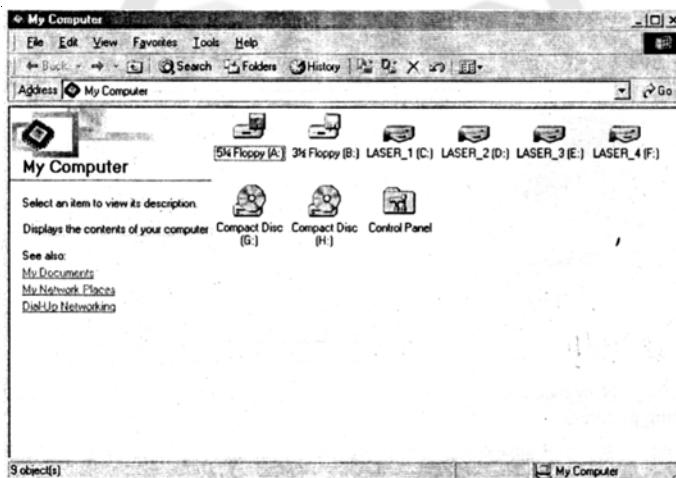


Fig.

Above picture is of Windows Me, if we are using Windows 98 then as Control Panel icon is displaying in the window, dial-up Networking, icon also displays. By clicking on this icon a Window displays, in this window click on make new connection, a dialog box with name displays on the monitor screen, as shown in given picture—

In first text box of this dialog box, the name of computer and in second box the name of modem is typed. Now by clicking on the Next button this dialog box will appear in new form, as shown in following picture—

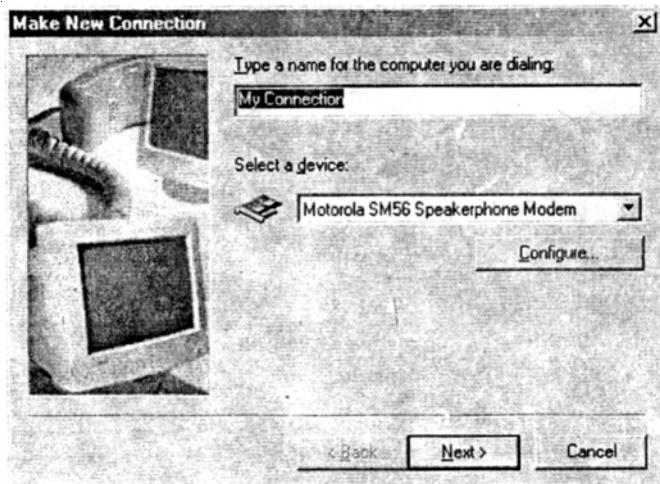


Fig.

In this dialog box ISP's, STD code, telephone number is typed and from second list box we choose our country code. Now by clicking on the 'Next' button this dialog box will appear in new form, as shown in following picture—

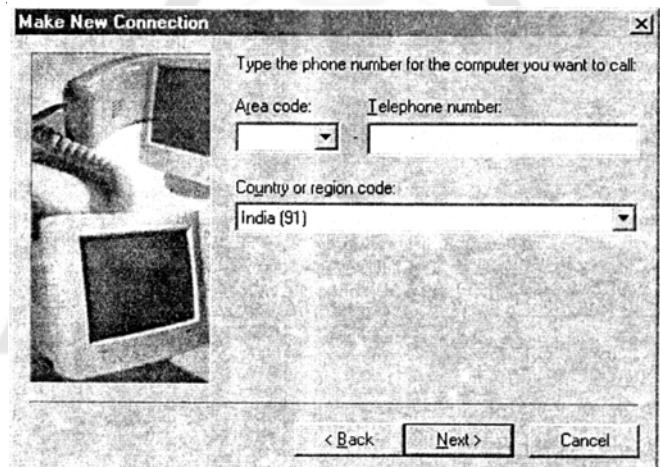


Fig.

Here by giving the name of new connection profile, click on 'Finish' button of this dialog box, now a new connection will be created in dial-up networking. To use this connection in the form of short cut icon on the desktop, drag it by clicking left button of mouse to desktop and then leave it. This process is called drag and drop.

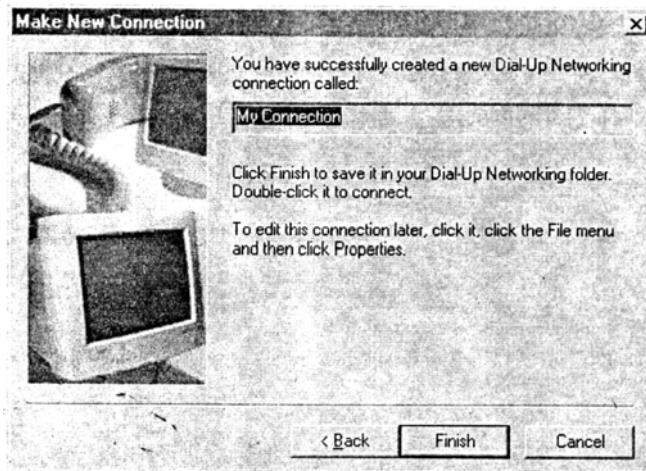


Fig.

Connecting to Internet

To connect the computer to internet, a special number of ISP has to dial. For this, by double clicking on My Computer icon by mouse a window appears now double clicks on dial-up Network icon. After this by double clicking on My Connection in displaying window, Connect To dialog box displays as shown in following picture—

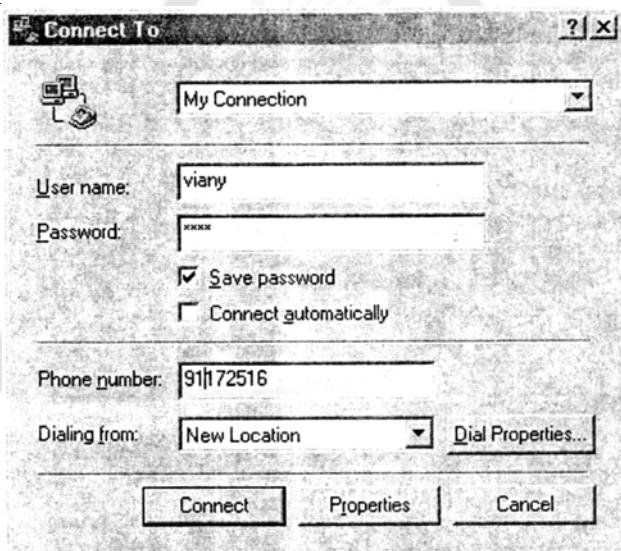


Fig.

In this dialog box, type the name, from which you have taken the internet connection, in the text box in front of user name. At the time of taking connection from ISP, a password is also decided. This password is typed in the password text. The number of ISP displays itself in front of phone number, because it has been decided at the time of dial-up networking. Now by clicking on ‘Connect’ push button, computer attached modem will dial this telephone number. As it is connected, user name and password would be verified. If ISP got correct user name and password then the computer connects with Internet and its indicator displays in right side of task bar.

Now by activating any browser installed in computer, we can surf any website. To do work on more than one website, we can activate a browser more than one time.

Disconnecting from Internet

To disconnect computer from internet, click the right button of mouse on the indicator of internet displaying on right side of task bar. Now click on disconnect option from the displayed shortcut menu. This work also can be done by double clicking on this indicator, a dialog box “Connected to My Connecting” displays on the monitor screen. Now click on disconnect.

Internet Address

Internet is a wide network of many computers spread in whole the world, in which each computer can be connected with other computers. Millions of computers being connected with this network daily. After connection the computer becomes a part of this network. As connected to the network, activate the browser and type the address of website, what you want to visit in address text box. This address is in following format—

<http://www.techtv.eom/webshots/story/0,24131.html>

In above address http is server protocol. www is website, techtv is sub domain name, com is domain, webshots/story are folder and sub-folder and 0.24131.html is document name.

www uses TCP/IP protocols to receive or send document. TCP/IP is a special type of coding on any website, that is called Universal Resource Locator (URL).



Chapter 11

DATABASE MANAGEMENT SYSTEM

“In a good database there should be coordination between stored information in form of data. If any record of any table of database is changed then in all table where this record is used, there it will change automatically.”

“In a good database there should be facility to secure data of database from unwanted person. The security of data is done by saving password.”

Q.1. What is the purport of DBMS? Describe data, database and characteristics of database.

Or

What do you mean by Database Model? Describe various models.

Or

Describe different types of DBMS files and differentiate between general program file system and DBMS.

Ans. Introduction to Database Management System-DBMS

Data is needed in each field of life, either in any government office, in any organisation or in any industry, In the absence of data, it is impossible to process a work continuously. How much employees are working in an office, what work is given to employee, from the given work how much he has completed, whether work done by him is according to expectations or not, what is salary and other allowances of each employee, whether its disbursement is possible, disbursement came or not etc., information are stored in form of data.

Data

Such unarrange grouped information, that can be used in true meaning after its arrangement and analisation, this arranged and analised information should be easy to understand and use, called Data.

Database

Embodiment of informations/data related to any particular work in a arranged manner is called Database.

Database is a group of data files, which is in the mode of Integrated File System and reduces duplication of files and as well as access desired information easily. In an Integrated File System, even much file having connection together but still each file given fantasm of repletion. Telephone directory is a good example of it.

Characteristics of Database

When any change or editing is done in any item of database, then it is necessary that this change or editing should be effected in all that data files, in which data item is stored. If in one data file of database this change occurs, but in another data file, that data item does not change, then it produces confusion. Whenever from the reports created from these files will not be true and trustable. Consequently there should be co-ordination between all data files of database, therefore, uniformity can be maintained in same data items.

Excess fault of data is such a condition, in which same data repeats regularly without any reason in data files of database. It increases the size of database as well as produces impediment to manage it.

For the change in physical appearance of data, we do not have to make any change in our programme. This characteristic of database is called Independency of data.

In a good database there should be facility to provide desired information quick, true and accurate. It can be done only by a non-procedural language; such as—SQL language.

There should not be repetition of data in good database.

In a good database there should be coordination between stored information in form of data. If any record of any table of database is changed then in all table where this record is used, there it will change automatically.

In a good database there should be facility to secure data of database from unwanted person. The security of data is done by saving password.

Database Management System—DBMS

A group of such programs, that is used to store and retrieval of data in database, is called Database Management System (DBMS). It is such software that is used for management, maintenance of data and at need for retrieving data. It can be defined as, DBMS is the grouped form of many programmes, which provides a centrally managed system to an organisation with its all capacities.

DBMS uses two types of languages for its all works—Data Definition Language (DDL) and Data Manipulation Language (DML).

DDL is used to define physical description of record such as size, name, fields name, data type etc.

DML is used for processing of database such as retrieval of records for any work, its processing, arrangement of them in an order, deletion of them, etc.

DBMS software facilitated in market is dbase, FoxBase, FoxPro etc.

A database Management System mainly, completes following works—

1. If any programme is processing and programme needs some data of database, then it requests for data to DBMS.
2. DBMS decides that requested data is defined already or not and wherever user can use this.
3. DBMS requests to Operating System to provide this data from database.
4. DBMS sends processed data from Operating System to programme.

Database Models

Database Model is a method used to show architecture of database and internal processing. Main models used for database management are—Hierarchical Model, Network Model and Relational Model.

Hierarchical Model

In this model data is shown in form of a reverse tree which is divided in branches and nodes. There is parent-child relationship in architecture of data elements. As a parent can have many children but a child cannot have many parents, as a parent node can have many child nodes but a child node cannot have many parent nodes. In this model on top large and important nodes exist and coming to down the small nodes having less importance exist. The meaning of delete the top most nodes is to delete its down nodes automatically, because that node is the only link of down nodes. This model of DBMS is used in two database system IMS's Information Management System (IMS) and system 2000.

Network Model

This model of DBMS is improved form of hierarchical model. This model permits multiple parent-child relationship in records. These relationships are called sets. This model is more simple and easy in comparison of hierarchical model, because a record can have more than one upper records and a upper record can have link with more than one lower records. *For example* there are three students and five subjects. The relationship between students and subjects is that any student can have how many subjects and there can be how many students in a subject. This relationship is called many to many relationship or multiple parent-child relationship. This model of DBMS is used in two database system Total and IBMS (Integrated Data Management System).

Relational Model

Relational Model was firstly suggested by Dr. E. F. Codd of IBM in 1970. The data related to this model is stored in logical units which are called table. In this model typical hierarchical and network model also can be shown in form of two-dimensional table which is called relational. Data is stored in form of rows and columns in a table.

Difference between Relational Database Model and other Model

In relational Database Model, the relation is established by value of data whereas in hierarchical and network database, the relation is established by different data structure such as—Index, linked lists etc.

For relational database model non-procedural and set-a-time type programming language is used, whereas the programming language used for hierarchical and networking database model is procedural and record-at-time type.

Relational database model provides Automatic Navigation, which is provided by neither hierarchical database model nor network database model.

Elements of Database

1. Field—The smallest element of any database is felled. If displays any one information's such as—name of any person or his salary or his surname, etc.

2. Record—The set of many data field is called a record. It is a group of different information's such as—name of any person, his salary and his surname, etc.

3. File—The group of many related record is stored in the form of a file in computer. In this file other records can be added and useless records can be deleted.

File of DBMS

In any Database Management System for different motives, different files are constructed. There are following six types of these files—

Database Files

The file of DBMS, where records are stored, is called Database Files. In this file data can be seen in form rows and columns, where rows represents records and columns represents fields. The extension name of their files is .DBF.

Database Memo Files

The file of DBMS, where value of memo field of database file is stored, is called Database Memo Files. It is an associated files of database. The extension name of this is .DBT.

Index Files

The file of DBMS, where records of database arranged in special order in logical form are stored, is called Index File. The extension name of this file is .IDX.

Programme Files

The file of DBMS, on which programme is written, is called programme file. The extension name of this file is .PRO.

Report File

The file of DBMS, in which reports made by help of records are stored, is called Report File. The extension name of this file is .FRX.

Label File

The file of DBMS, in which mailing labels made by help of records of database file are stored, is called Label File. The extension name of this file is .LBL,

Difference in General Programme File System and DBMS

In general programme file system definition and application of data exist together whereas in DBMS these both are peculiar. In a general programme file data is to be defined in Application codes such as—Programming Language C, C++, COBOL etc., where as in DBMS definition part of data and application are peculiar.

