Modern Communication technologies

21st century is the age of computer and due to this, Information Revolution has begun. In this age of Information Revolution a new image of "Cyber Space" came in light. Cyber Space is a virtual space which includes computers and their feed up data and the transmission system of these data which is called Information Highway. New communication technologies such as computer, microcomputers, cable TV, Teleconferencing, teletext and desktop publishing are all examples of advances in communication technology.

Computer

Computer is a wonderful contribution of the modern science. In the present times it is very necessary and useful in every field of life. In the field of science and technology no any invention is so much useful among the various inventions which has affected the human life to this extent as computer has influenced the life. Along with the science and technology its use is being done commonly in the various fields of which relation is with the daily routine works of the common people as train, industry, commerce, transport, hospitals, banks, government and semi-government departments, electricity, telephone, various educational centres etc. For fulfilling all these works computer is playing an important role. Computer has two significant characteristics- (i) the capacity to collect the enormous data, (ii) the capacity to regain the selected data from the collected data of necessary information. On the basis of both characteristics, if computer is called the information manager rather than the mathematical machine, it will not be hyperbole.

What is Computer ?

(1) Computer is an electronic machine of general use which is based upon the automatic technology and is capable for doing those works whose software is collected or stored in it.
(2) Computer is a mechanical instrument.
(3) The information are collected by the computer, stored in the determined process and then the results are presented.
(4) Computer is a machine that collects the information, data and after modifying them, these data are presented in the definite process.
(5) Computer is such an electronic machine in which the data is stored after the necessary change is done and there is capacity to regain them.

On the above basis there are the following characteristics in the computer:
(i) It has more speed of doing works.
(ii) There is more accuracy in the results.
(iii) It has the capacity to revise the works.
(iv) It has the ample capacity to store the data/information.
(v) The computer has the capacity of doing the works automatically.

Types of Computer: Computer can be classified into three categories according to its functions.

(i) Analog computer: In these computers, similarities are established in the form of current or voltage signal. They operate by measuring an electrical signal produced analogous to the variable of physical system. An analog computer operates on data in the form of continuously varying quantities such as temperature or pressure. Example of analog device is computer used for measuring a patient's heart function, temperature and other vital signs.

(ii) Digital computer: A computer which operates essentially on digits is known as digital computers. It manipulates discrete data and performs arithmetic and logic operations on these data. It uses information including letters and other symbols, in coded form represented by two state electric components. It can store different programs and can thus be used in numerous applications.

(iii) Hybrid computer- Hybrid Computer is a combination of computer having desirable features of analog and digital computers. In such a computer, some calculations are done in analog portion and some are done in the digital portion of the same computer. These computers are used in most sophisticated areas such as space flights, dropping of bombs on the targets, monitoring the space activities etc.

What is networking?

A network is the means by which computers share and exchange information and resources across either short distances (Local Area Networks) or globally (wide Area Networks). Making the best use of networking technology is about optimum use of business resources, enhancing productivity and efficiency, reducing costs and gaining competitive advantage. Networking enables everyone in an organisation to communicate with and share resources with everyone else giving them access to data held in individual PC's, by remote office sites or external suppliers and giving users the ability to share printers, fax, CD ROM and modem etc. Networks can be designed for organisations of all sizes from the small office with between two and ten work stations to the largest international corporations linking thousands of work stations.

Internet

Internet is the wonderful chain of the information revolution in the modern times. With the development of Internet, the age of information revolution has begun. Today, while staying at home we can connect with the whole world, the information can be sent, received and mutual communication can take place. Internet is the brief name of Internet Work System. In it, there are connected a number of network systems (more than 50 thousands) of different types which can be used through Internet.

What is Internet?

Computer network is such a group of computers that is connected to each other in such a way that they exchange the information among themselves. All these computers are connected jointly with the telegram, telephone and satellite, etc. According to Leaner (1994), Internet is the network of an international networks i.e. a very big network in which there are connected 31000 network systems of about 100 nations and 20 million people belonging to diversified fields such as education, science, government and business. Internet has the capacity to exchange the information inside and outside of the organization.

Internet is a worldwide network of computer networks. It is an open inter connection of networks that enables connected computers to communicate with each other. These networks are scattered over the globe, yet are inter connected making it possible to communicate with each other in a few seconds. Internet is not owned by any individual organization or the country; it is a free for all open service facility. It is governed by INTERNIC (Internet Network Information Centre).

On Internet, the available information are being used in various forms. It is used in various activities such as agriculture, science, commerce, games, art, literature and medicines etc. The improved techniques of agriculture, fertilizers, and improved varieties of seeds, designing of spacecrafts and rockets, discovery of new planets and stars and a constellation of stars, medicines and medical technology, literature and literary attitudes of the whole world, shares of various companies and Share Index in the chief metropolitan cities along with all the other acknowledgements and data are available on the screen of computer through the medium of Internet which are useful for the mankind in all way. The history of Internet is about three decade old, but in the early nineties, the Internet was not used for the business works. But when, in 1993, World Wide Web (W.W.W.) started, there came a sudden change in the situation. W.W.W. originally, was not a new technology but with it Archy, Gopher and WAIS etc. technologies had been associated. In these technologies there is the capacity of information storing and transmission. Thus there came new enlargement in the use of Internet.

The farmers and extension functionaries are browsing the Internet to find the recommended "package of practices", best prices and markets for their produce and also meteorological data to take advance actions. The farmers' are searching for the potential markets and customers for their produce not only in India but also overseas. Internet is thus emerging as one of the most important tools to search for Agricultural Information. At the same time almost all the Agricultural Research and training institutions have started to host and enrich their web-sites with farmer-friendly information. For example, the website of Department of Agriculture, Maharashtra www.agri.mah.nic.in is extremely farmer-friendly and provides information on issue related to Government support to agriculture with complete information on Development schemes, Department Plans, meteorological forecast and advisory to the farmers. The information is available in English and Marathi languages. On the research side, almost all the ICAR Institutions have hosted their web-sites and are in process of putting their farmer-centric information on the sites.

The demand for "prices" information for the agricultural produce has been growing, as more and farmers are asking for the prices of their produce in near-by markets. A number of web-sites are providing the Agricultural produce prices on on-line basis. The important websites giving the agricultural market price information are: www.agmarnet.nic.in, www.agriwatch.com, market.ap.nic.in, emandi.mla.iitk.ac.in etc. Web-browsing for finding the required information is growing at rural information kiosks as well. In remote villages of Pondicherry, MSSRF has reported that a number of farmers visit the Village Information Kiosks to find see and read the Newspapers on-line.

Tele-Conferencing

The new integrated digital communication system is being used. This technique will add new dimensions of control, timing and flexibility to communication. Instead of travelling miles for a meeting, conference rooms will be wired and cameras will be used to carry images and visuals. The time and cost for traditional day-to-day communication will thus be reduced. It also paved way for international integration. Thus it supports to provide/exchange latest agricultural technologies available in different countries for the farming communities. Advancement in telecommunication and computer have made it possible to hold meetings without travelling to long distances.

With the advancement of electronic and tele communication voice message system, voice answering system etc. can be used with your telephone system. Under this method tele conference can be held. A voice message can be recorded and sent to more than one person at a time. Under this system persons at different places can join together by telephone at a particular time. They can hear and talk with each other during this period. It has two types.

(i) Audio-conferencing

In this system through telephone the persons sitting at two places or more than two places, can talk with each other. High quality audio-reception and transmission can be achieved. Audio conferencing is linked by several sites through a common frequency on a satellite audio channel. Audio conferencing can be used for electronic meetings for project administration and planning, training field staff and distance education. During the programmed act (Audio Conference), the farmers can raise their questions and get their doubts cleared. It emphasis the direct audio contact, thereby it reduces/cuts the time and cost of travel.

(ii) Video-conferencing -

It is an emerging service on the internet. It allows the group of users located around the globe to talk and interact with each other, as if they are sitting and discussing in a single room. The parties interacting can see each other talking on their computer screens and can hear each other's voice through a special audio device fixed in their computers.

Video conferencing means adding video channels to an audio link between two (or) many groups. Experts sitting in the studios listen to the questions and answers live on television. The system reduces the need for travel and is of much help to the farming community of different products in remote are