INFORMATION TECHNOLOGY

Information Technology is a developing technology that aims at obtaining the maximum information with minimum of resources, labour or time. According to the dictionary, Information Technology is "the study or use of electronic equipment especially computers, for storing, analysing and distribution of information of all kinds, including words, numbers and pictures."

Ever since the appearance of Man on the earth, information has been the major cause of his progress and development. But information alone is not enough. Information has to be processed, put to use by logic and reason before it becomes useful knowledge.

Information Technology includes and encompasses within itself the whole technological, social and cultural phenomena that promise an excellent future for mankind. The 21st century is a century of Information Technology. Just as steam engine emerged to be the technology of the 19th century and computer technology enhanced the capacity of human brain in the 20th century, Information Technology is the in-thing in the 21 century.

The technological progress during the past sixty years has brought about an explosion in knowledge. Today we have super computers imitating the human brain and even beating it in various fields like fast data processing, huge memory storage and quick retrieval capacity. These super computers can do as much as Terra (10) floating point operations per second (FLOPS) and have a 128 bit word length. The personal computer is today a part of many urban homes in the country. The computer is changing its capacity so fast that while in the 70s the IC chips were operated with 18MHz clock, today the clock rate is 850MHz. In the near future, we would have computers with a clock speed of 4000 MHz. Similarly, the first microprocessor chip (intel 4004) produced in early seventies had 2500 transistors. We hope to have not in very far distant future, 350 million of these transistors sitting on a tiny little chip. The semiconductor fabrication technology has made a possible for the latest memory devices to have a capacity of one Gigabyte (10 bytes) each, which is equivalent to the information stored in 8000 newspaper pages. A single CD can store in itself the entire works of Shakespeare. The most interesting part of the story of staggering progress is that while the number crunching capacity of the computer is going up in geometrical progression, the price or cost involved is falling down in an almost similar proportion.

This wonder machine called computer has revolutionised life in a big way. With its excellent memory, it has become a source of Internet Information Service. A

fathomless ocean of information is available today on these computers on any subject, any phenomenon, anytime and anywhere in the world. You have only to switch on your computer, press a few buttons and a whole sea of information is available to you on your screen to select and download without spending a single penny on it. Just press a few buttons, you may be a student, a research worker in any field, an industrialist or an inquisitive information gatherer, the floodgates of information are opened on you in no time.

Think of the days when transfer of information was confined to oral transmission or written message only. Today, any amount of information can be conveyed from any corner of the world to any other farthest corner, in a matter of seconds only.   We have satellite communication, optical fibre communication, terrestrial microwave communication, coaxial cable communication and several other advances systems that enable us to transport enormous amounts of data at the huge rate of several gigabytes per second to the farthest points in the world. The data communication capability is increasing every day with the help of various advancing technologies like the video data compression, digital video and audio, HDTV etc.

The global information Infrastructure has established thousands and thousands of servers and multitudes of personal computers in more than 150 countries. All these computers have been networked in the Internet System. The Internet, you will be surprised to learn, has taken five years to reach the first 50 million users. This number is increasing every day. The day is not far when every human individual will have an access to the brain of every other human individual in the world and the two would be able to exchange information on any and every topic under the sun.

The Information Technology today is rightly called the Technology of the Century as it has found its application and use in every walk society of the world. Distances no longer exist and the world appears to have shrunk into a Global Village. The wisdom of the wisest is today available to the stupidest of the person thus ushering in an era of real equality of opportunity to all. It is really a landmark achievement that more than six billion population of the world will soon be living in a virtual village, as compact as any small Indian village of a fun thousand population.

Information Technology, as expected, has brought about a sea change in the functioning of this world. It has proved to be a great boon to industrial productivity. Internet makes all the information available regarding product design, product quality, latest technologies, market survey, financial conditions and the like at any given point of time on a continuous basis at any place in the world. Systems like Supply Chain Management (SCM) and Enterprises

Resources Planning (ERP) and coming up fast to provide mutual help and information to producers, buyers, distributors, and consumers all over the world. Documents transfer has now become a very fast and quick affair. The results are eye-opening. The global market for IT enabled services, starting from 200 billion US dollars in 1998 is growing at the rate of 23 per cent per annum. It is expected to touch the 100 trillion US$ mark by the year 2008. In India alone, the software export industry is expected to touch the 100 billion US dollars mark in the next eight years. Commercial activity through internet not only serves businessmen, consumers, financial institutions and their mutual activities, but also provides advertising facilities on the World Wide Web (WWW) servers and Home Pages. Product specifications, company profiles, catalogues, pricing information etc. are all available on these pages 24 hours a day and seven days per week all over the world. Orders can be placed through E-mail and payments can be made through telebanking facilities and E- currency.

There is a similar revolution in the field of education. No student, anywhere in the world, will now be deprived of the best information available on any subject in any part of the world. The best course material, the best teachers and the best teaching aids and tools will be available to one and all. Education, in fact, is the biggest beneficiary of the Information Technology. Several projects like Wired Class-rooms of the USA, National Grid of the U.K., Operation Knowledge of India, are already under way, to bring internet to the actual class-rooms of every village in every country.

In the field of the social and cultural development also, the Information Technology is fast showing its wonderful impact. Home shopping, Telebanking, Video conferencing, E-mail, Videophones etc. are bringing the peoples of the world closer together and ushering in an era of mutual goodwill, understanding and harmonious relationships. Similarly, E-governance is bringing in well-informed, quick decisions and transparency in administration. No missing files, no red tape, no delay, better records, quick service and no dishonesty or fooling —- this will soon become the order of the day.

In short, every aspect of the human life under the sun will see a vast change. We used to talk of a utopia, a heaven of our dreams. I am sure it is coming. We are soon going to witness an age where every head will be high, where every heart will be happy, where every hand will be busy.