

IT applications

In technologically developed nations, Information Technology has become a part of everyday life. For a user, computer is a tool that provides the desired information, whenever needed. The use of computer and Information Technology can be observed at home, workplace, in the modern service industry and in all aspects of our life. It includes listening to music, watching movies, playing games, doing office work, chatting and sending messages, managing daily planner, reading books, paying utility bills, booking ticket to travel, bank operations, etc. Computers and ICT is used in industries, in offices, and in house also. The various application areas are business, banking, insurance, education, marketing, health care, engineering design, military, communication, animation, research, agriculture and government.

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Fig. 1.1: IT applications

IT in home computing

A personal computer (PC) is used to work at home, to do household accounts, play games, surf the web, use

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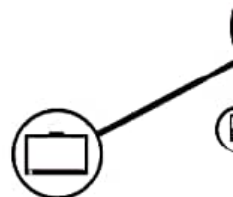




Fig. 1.2: IT in home computing



Fig. 1.3: IT in everyday life



Fig. 1.5: IT in library

IT in everyday life

In our daily life, we use washing machines, microwave oven and many other products using which have embedded software. We can store all the information about our important work, appointments schedules and list of contacts in a computer. Computer is, therefore, playing a very important role in our lives and now we cannot imagine the world without computers.

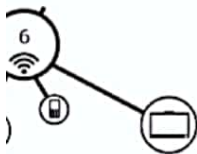
IT in library

Nowadays many libraries are computerised. Each book has a barcode associated with it. This makes it easier for the library to keep track of books and the availability of a specific book. Computer software is used to issue and return the book. Each book in the library has a magnetic strip attached to it that is deactivated before the book can be borrowed.

IT at workplace

In the office environment, computers and computer applications are used to perform office work more effectively.

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In assembly-line industries, where attention to detail, speed and efficiency are important, automation is becoming more and more common. Internet and Office applications form the basis of modern business.

IT in education

Computers and Information Technology are extensively used in education for teaching-learning and assessment.

The software and hardware technology is used for creation and transmission of information in various forms including still pictures, audio, video and animation to the learners. The learning becomes easy and accessible through IT. A lot of teaching resources are available for teachers to teach in a better way. Online assessment



Fig. 1.4: IT at workplace



(a) ICT in the classroom

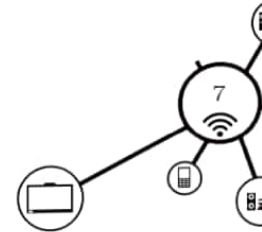
There are many ways in which the ICT is used for education in the classroom, such as

- e-learning classrooms;
- smart-board presentations;
- videos on experiments;
- creation of images and video;
- desktop publishing of magazines, letters and documents;
- educational games;
- learning using the CD-ROM media; and
- gathering educational information on the Internet.

(b) Education — anywhere anytime

Any student in India can access the NCERT book online through the website www.epathshala.nic.in or mobile app.

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Apart from this there are a variety of websites and mobile apps to access educational resources on any topic.

You can also contact a teacher or a trainer via Internet to use WBT (Web-based Training). In this way education has reached the far flung areas by reaching the unreached.

(c) Teaching aids and media

ICT is used mostly as a teaching aid in schools to

- use pictures, animations and audio-visuals to explain subjects that are difficult to explain.
- make the lessons interesting using presentations.
- organise lessons using the computer.
- obtain the information relevant to the subjects.

(d) Learning Management System (LMS)

A Learning Management System (LMS) is being used by many countries to manage school systems. A student or teacher can register himself/herself on the official website to access LMS and can get many services from LMS. The student can be benefited by using LMS, as it can be used to

- learn lessons anytime and anywhere.
- submit queries, getting replies and submit comments through forums.
- participate in the co-curricular activities via video.
- monitor the progress of their children (by parents).



IT in entertainment

Information Technology has had a major

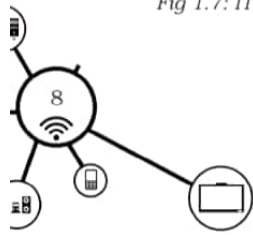
IT in entertainment



Fig 1.7: IT in entertainment

Information Technology has had a major impact on the entertainment industry. Internet is a major source of entertainment. One can download and view movies, play games, chat, use multimedia, incorporate visual and sound effects using computers, etc. Digital broadcasting has changed the way we experience television, with more interactive programming and participation.

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IT in communication

Communication is used to convey messages and ideas, pictures, or speeches. A person who receives this must understand clearly and correctly. Modern communication makes use of the computer system. We use computers for email, chatting, FTP, telnet and video conferencing.



Fig. 1.8: IT in Communication

IT in business

Computers are used in business organisations for payroll calculation, budgeting, sales analysis, financial forecasting, managing and maintaining stocks. A lot of business transactions happen through Internet called e-commerce. IT facilitates marketing, customer visit, product browsing, shopping basket checkout, tax and shopping, receipt and process order. E-commerce offers services pertaining to processing inventory management, transactions, documentation, presentations, and gathering product information. Smart cards, such as credit cards and debit cards are used in shops. These cards have a metallic strip on which the user's Personal Identification Number (PIN), and account number is stored and can be read when it is passed through a special reader. Airlines use large-scale computer applications for their reservations system, both in the airports and in central reservations call-centers. Other businesses that have large-scale computing requirements are insurance claims systems and online banking, which both have large numbers of users and operators interacting across one system.

IT in science and engineering

Scientists and engineers use computers for performing complex scientific calculations, Computer Aided Design (CAD) or Computer Aided Manufacturing (CAM) applications are used for drawing designing and



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3-dimensional objects. Complex scientific applications like rocket launching, space exploration, etc., are not possible without the computers.

IT in banking

Computer is an essential part of the modern banking system. Every activity of a bank is now online. The customer's data and transactions are recorded by computers. Recurring deposits (e-RD), Fixed deposits (e-FD), money transfer from one account to another (NEFT, RTGS), online transactions are done using Internet. Capital market transactions, financial analysis and related services are available in online platforms. Bank customers use Automated Teller Machines (ATM) for cash deposits and withdrawal, or to view current balance.

IT in insurance

Insurance companies keep all records up to date with the help of computer database. Procedures for continuation of policies, starting date, date of next installment, maturity date, interest dues, survival benefits, and bonus are declared by using computers in insurance companies. Many online policies are also available which can be purchased by using the website of insurance companies.

IT in marketing

In marketing, computers are used for advertising of products, by using arts and graphics facility it is possible to create interesting advertisements of various products so that the goal of selling can be achieved. Using e-commerce websites, people can purchase items even sitting at home.

IT in health care

ICT is used in the health sector in numerous ways. Hospital Management System is used to maintain and manage patients' records as well as various activities pertaining to hospital administration. The computerised