# COMPUTER FUNDAMENTALS

1. Introduction to Computers

1.1 Introduction

A computer is a machine which is being used in almost all spheres of life of every human being. Due to advancements in development of computer machines, the computer has become pervasive and is being used in all areas of our lives. With regular research and developments going on it is sure that we will continue to experience new things as time passes.

Personal Computers are being used by the students, engineers, creative writers for calculations, designing and publishing purposes. Computers have also enhanced the learning processes. A student can learn his/her lesson not only in the classroom but also while travelling, or by sitting at

Figure: 1.1 Personal Computer
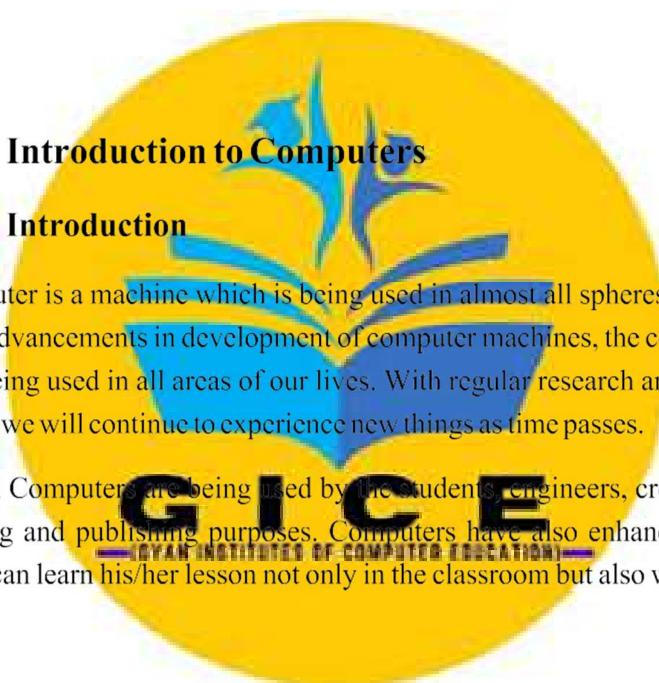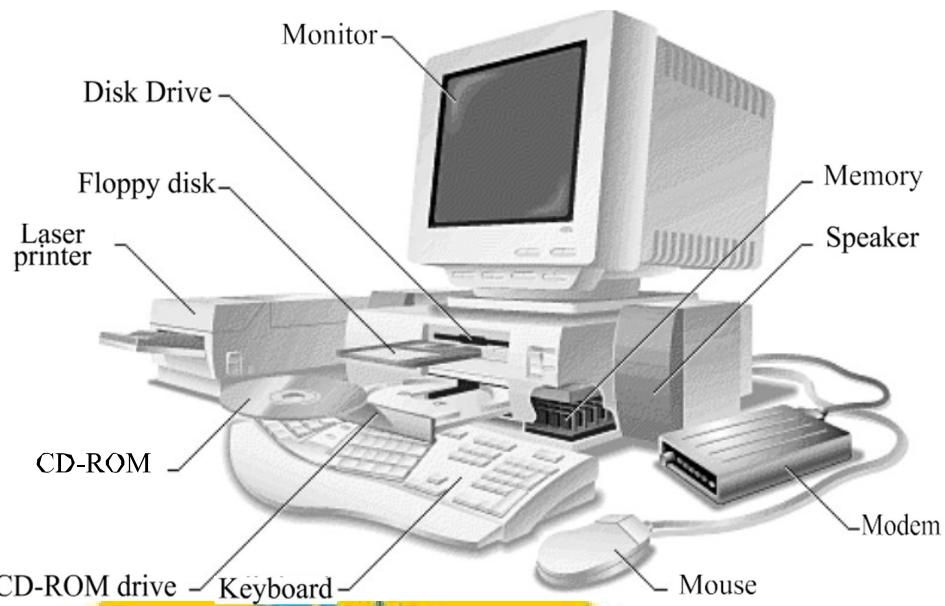
home with a PC. The internet technology made it possible to bring all the information on the doorsteps of every individual. People are now using computers for enquiries, banking, shopping and many more purposes. We are now passing through an era of information superhighway where all types of information are available just by clicking a button of the computer.

Chapter 1 | | Computer Fundamentals

Generation	Device	Hardware feature	Characteristics	System Names
First (1942-1956)		▶ Vacuum Tubes ▶ Punch Cards	▶ Support machine laguage only ▶ Very costly ▶ Generate lot of heat ▶ Hhuge size ▶ Consumed lot of electricity	▶ ENIAC ▶ EDVAC ▶ TBM 701
Second (1956-1965)		▶ Transistors ▶ Magnetic Tapes	▶ Batch operating system ▶ Faster, smaller and reliable than previous generation ▶ Costly	▶ Honeywell 400 ▶ CDC 1604 ▶ IBM 7030
Third (1965-1975)		▶ ICs ▶ Large capacity disk and Magnetic Tapes	▶ Time Sharing OS ▶ Faster, smaller and reliable cheaper ▶ Easier to update	▶ IBM 360/370 ▶ CDC 6600 ▶ PDP 8/11
Fourth (1975-1988)		▶ Ics with VLSI Technology ▶ Semiconductor Memory ▶ Magnetic tapes and floppy as portable	▶ Multiprocessing & GUI OS ▶ Object oriented programs ▶ Small, affordable, easy to use ▶ Easier to update	▶ Apple II ▶ VAX 9000 ▶ CRAY 1/2
Fifth (1988-Present)		▶ Ics with ULSI Technology ▶ Large capacity hard disk with RAID Support ▶ Optical disks as portable read-only storage media ▶ powerful servers, internet Cluster computing	▶ Powerful, cheaper, reliable easy to use, portable ▶ Rapid software development possible	▶ IBM ▶ Pentium ▶ PARAM
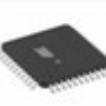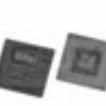
Figure: 1.2 Computer Generations

Figure 1.3: EDVAC

Chapter 1 | Computer Fundamentals