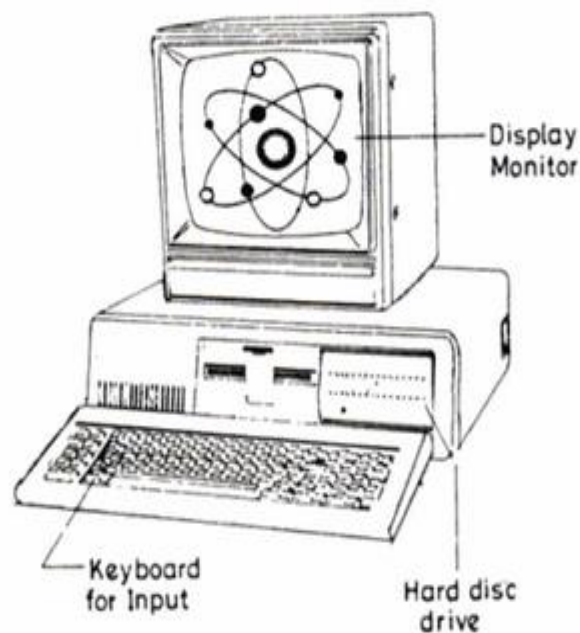


Computers in Education

A glance at the history of development of computer would show that it has taken a very long time to come to the present level of desktop and hand-held electronic computers from the slow and sluggish mechanical machines that occupied many rooms a hundred years ago. It all started with a series of sliding beads for adding and subtracting, called 'Abacus', grew into a wooden machine due to Pascal in France and developed into a bigger machine due to Leibniz in Germany. It could multiply, divide and extract square roots as also add and subtract numbers. It was only in 1945 that the computer went electro mechanical with electrical switching elements and Boolean logic. That was when the first generation present-day computer was born!



Classification of Computers

Computers are classified into following broad categories:

Main-frame Computer: A medium size computer with a word length between 32 and 60 bits, memory 2 to 16 MB and a CPU which can carry 1 to 10 million instructions per second. This is usually accompanied by fast and expensive equipment. It is housed centrally in an organisation. For larger word lengths, greater memory and upto 100 million instructions per second, the computer is said to be Maxi-computer. It costs millions of dollars.

Super-Computer: A computer with word length around 64 bits, CPU speed around 100 million instructions per second and 8 to 84 MB memory with very high-speed peripherals is called a super-computer. It costs 10 to 30 million dollars.

Midi-Computer: A medium sized computer with word length between 32 and 60 bits, memory 2 to 16 MB and a CPU which can carry out 1 to 10 million instructions per second supporting fast expensive peripherals is called a midi-computer.

Mini-Computer: A small size computer which usually has a word length of 16 bits, memory upto 1 MB and a CPU capable of carrying out half a million instructions per second is called a mini-computer.

Microcomputer: A microcomputer is a self-contained integrated circuit (IC) on a single chip of silicon as shown in Fig. 12.3. The silicon chip is the central processing unit (CPU). The chip microprocessor contains an instruction register, an arithmetic logic unit, processing registers as also control and timing circuits. It has input and output units called I/O Interface. It is provided with a Random Access (erasable) Memory, called RAM and a Read Only (permanent) Memory, called ROM. The RAM is normally used to store data and the ROM is normally used to store programmes. It usually has a floppy disc as peripheral memory. It may also have a Winchester disc drive.

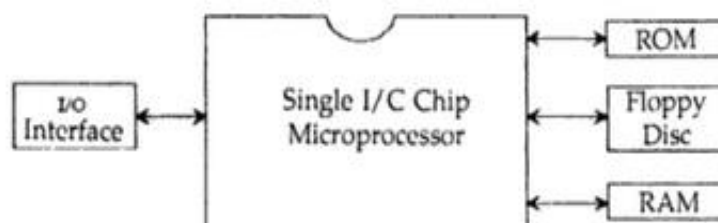


Fig. 12.3 A Typical Microcomputer

