

# Introduction to Computers

**Dr.S.Narayanan<sup>1</sup>, Dr.C.Sabarigirinathan<sup>2</sup>, Dr.K.Vinayagavel<sup>3</sup>, Dr.D.Deepiha<sup>4</sup>**

<sup>1</sup>(PhD student)

<sup>2</sup>(Professor and HOD, Dept of Prosthodontics, Tamilnadu Govt Dental College & Hospital, Chennai, India)

<sup>3</sup>(Professor, Dept of Prosthodontics, Tamilnadu Govt Dental College & Hospital, Chennai, India)

<sup>4</sup>(Post Graduate Student, Dept of Prosthodontics, Tamilnadu Govt Dental College & Hospital, Chennai, India)

## Abstract :

A computer is a truly amazing machine that performs a specified sequence of operations as per the set of instructions (known as programs) given on a set of data (input) to generate desired informations (output). This article provides the basic setup and introduction to computers.

## Definition :

A computer is a programmable machine designed to perform arithmetic and logical operations automatically and sequentially on the input given by the user and gives the desired output after processing. Computer components are divided into two major categories namely hardware and software.

## Characteristics :

The characteristics of computers that have made them so powerful and universally useful are

- Speed
- Accuracy
- Diligence
- Versatility
- Storage capacity

## Analog Computer and Digital Computer :

The following table highlights the basic differences between analog and digital

–

### Analog

Its functions on physical analog system.

The calculations in this system are primarily converted to equations and later converted into electrical signals.

To function, it requires physical analog.

It gives output in the form of 'graph'.

Accuracy comparatively is less.

Performs at a low speed.

Difficult to make changes, as it is less flexible.

It has memory of low capacity.

Its application is limited to certain applications.

It is hardly applicable for the business applications.

It cannot process alpha-numeric data.

It requires RF technology.

Static channel assignment.

### Digital

It functions on discrete numbers system.

The calculations in this system are converted into binary numbers (i.e., 1s and 0s).

To function, it requires discrete numbers.

It gives output in the form of discrete values.

Accuracy is very high.

It performs at a very high speed.

It is highly flexible.

It has memory of high capacity.

Its application is applicable to a number of applications.

It is very much suitable for the business applications.

It can process alpha-numeric data.

It requires IP networking.

Automatic channels exist as required.

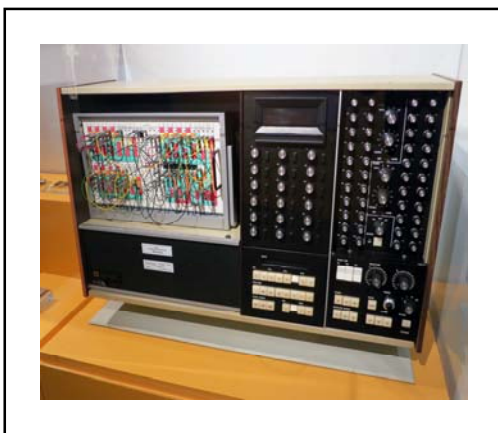


Fig – 1.1  
Analog Computer



Fig – 1.2  
Digital Computer

## Types of Computer :

All the computers that are developed are not alike rather they have different designs and features. Some computers have very high capacity as well as working speed; however, some are slow. Depending upon the requirements, computers are being developed.

Types of Computer

Depending upon the internal structure and subsequent features and applicability, computer system is categorized as follows –

- **Mainframe Computer**

It is high capacity and costly computer. It is largely used by big organizations where many people can use it simultaneously.

Super Computer

This category of computer is the fastest and also very expensive. A typical supercomputer can solve up to ten trillion individual calculations per second.

- **Workstation Computer**

The computer of this category is a high-end and expensive one. It is exclusively made for complex work purpose.

- **Personal Computer (PC)**

It is a low capacity computer developed for single users.

Apple Macintosh (Mac)

It is a sort of personal computer manufactured by Apple company.

- **Laptop computer (notebook)**

It is a handy computer that can be easily carried anywhere.

Laptop

Tablet and Smartphone

Modern technology has advanced further. It has helped develop computers that are pocket-friendly. Tablets and smartphones are the best examples of such computer.

## Mobile Computers :

Mobile computers are the systems, which are physically not remain connected to specific place rather these are mobile in nature, as one can carry anywhere anytime.

The mobile computer technology carries battery back; therefore, it does not require consistent electric power.

Mobile computers can be connected with Internet through wire or the connection can be wireless as well through Wi-Fi or Bluetooth technology. Likewise, it is portable, self-powered (because of inbuilt battery), and infused with wireless technology computing device.

### **Types of Mobile Computing Device**

Following are the popular mobile computing devices –

#### **Laptop**

A laptop is a portable version of desktop computer. It is equally competent to do any computing work.

#### **Notebook**

It is a light weight portable personal computer.

#### **Tablet**

It is comparatively handier slate-shaped mobile computer.

#### **Smart Phone**

A smart phone is a fully equipped cell phone with most of the computing features.

#### **Personal Digital Assistant (PDA)**

It is a computer device more popular as pocket computer. It is largely used in calculation, accessing the Internet, sending and receiving E-mails, scanning bar codes, use as a radio or stereo, playing computer games, video recording, typewriting and word processing, use as an address book, making and writing on spreadsheets, Global Positioning System (GPS), as a clock and calendar, etc.

#### **Portable Data Terminal (PDT)**

It is a computer device, which is largely used to enter or retrieve data through wireless transmission (i.e., WLAN or WWAN).

#### **Mobile Data Terminal(MDT)**

It is a computer device, which is used in police cars, taxi-cabs, military logistics, service trucks, commercial trucking fleets, courier vehicles, fishing fleets, etc.

#### **Ultra-mobile Personal Computer (UMPC)**

It is small form of tablet PC.

## Conclusion :

Computers have become a common tool for the enhancement of ones thinking, communication and collaboration skills. It has become an integral component and not a mere machine. Henceforth it is very important to know the very basic computer setup first to further progress in learning the fundamentals of computer concepts.

### Reference:

1. Computer Awareness program Version 1.0, NIIT
2. Absolute Beginner's Guide to Computer Basics, Second Edition, By Michael Miller
3. Basics of Computer Science, Rajiv Khanna
4. The complete guide to Computer basics, Joe Kraynak
5. Computers Thinking and Learning, David Nettelbeck