**Communicating with** is essentially a two-way process that involves exchange of information.

**Illustration:** Sameer is a hacker attempting to steal some information from Sanya's computer. He first remotely scans Sanya's computer using specialised software. The software sends out queries to Sanya's computer which replies to the queries. As a result of this, Sameer obtains details of the operating system installed on Sanya's computer. Sameer has communicated with Sanya's computer.

## 1.4.2 Computer

According to section 2(1)(i) of the IT Act

*"computer" means any electronic, magnetic, optical or other high-speed data processing device or system which performs logical, arithmetic, and memory functions by manipulations of electronic, magnetic or optical impulses, and includes all input, output, processing, storage, computer software, or communication facilities which are connected or related to the computer in a computer system or computer network;*

Simply put, a computer has the following characteristics:

1. It is a high-speed **data processing device** or system.
2. It may be **electronic**, **magnetic**, **optical** etc.
3. It performs **logical**, **arithmetic**, and **memory functions**
4. These functions are performed by manipulations of electronic, magnetic or optical impulses.

Computer includes

1. all input facilities,
2. all output facilities,
3. all processing facilities,
4. all storage facilities,
5. all computer software facilities, and
6. all communication facilities

which are connected or related to the computer in a computer system or network.

Let us examine the important terms used in this definition:

According to American law, **electronic** means relating to technology having electrical, digital, magnetic, wireless, optical, electromagnetic, or similar capabilities. [Title 15, Chapter 96, Sub-chapter I, section 7006(2), US Code].

**Magnetic** means having the properties of a magnet; i.e. of attracting iron or steel e.g. parts of a hard disk are covered with a thin coat of magnetic material.

Simply put, an **optical computer** uses light instead of electricity to manipulate, store and transmit data. Development of this technology is still in a nascent stage.

Optical data processing can perform several operations simultaneously (in parallel) much faster and more easily than electronics.

**Optical fibre** is the medium and the technology associated with the transmission of information as light pulses along a glass or plastic wire or fibre.

Optical fibre carries much more information than conventional copper wire and is in general not subject to electromagnetic interference.

A **data processing device or system** is a mechanism that can perform pre-defined operations upon information.

The following are illustrations of **functions** in relation to a conventional desktop personal computer.

- saving information on a hard disk,
- logging on to the Internet,
- retrieving stored information,
- calculating mathematical formulae.

**Logical functions**, simply put, refer to non-arithmetic processing that arranges numbers or letters according to a pre-defined format e.g. arranging numbers in ascending order, arranging words alphabetically etc.

**Arithmetic functions**, simply put, are operations concerned or involved with mathematics and the addition, subtraction, multiplication and division of numbers.

**Memory functions**, simply put, refer to operations involving storage of data.

**Input facilities** are those which transfer information from the outside world into a computer system. E.g. keyboard, mouse, touch screen, joystick, microphone, scanner etc.

**Output facilities** are those which transfer data out of the computer in the form of text, images, sounds etc to a display screen, printer, storage device etc.

Hard disks, USB disks, floppies act as both input and output facilities.

**Processing facilities** primarily refers to the Central Processing Unit (CPU) of a computer. Referred to as the "brain" of the computer, the CPU processes instructions and data.

**Storage facilities** include hard disks and other data storage facilities. This term would also include the physical cabinet in which a computer is housed.

**Computer software facilities** refer to the operating system and application software that are essential for a computer to function in a useful manner.

**Communication facilities** include the network interface cards, modems and other devices that enable a computer to communicate with other computers.

**Illustrations:** Considering the wide definition given to the term computer by the IT Act the following are examples of "computers":

- desktop personal computers
- mobile phones
- microwave ovens
- computer printers
- scanners

- installed computer software
- Automatic Teller Machine (ATM)
- "smart" homes which can be controlled through the Internet

**Case Law**

In an interesting case, the Karnataka High Court laid down that **ATMs are not computers**, **but are electronic devices under the Karnataka Sales Tax Act, 1957**.

Diebold Systems Pvt Ltd [a manufacturer and supplier of Automated Teller Machines (ATM)] had sought a clarification from the Advance Ruling Authority (ARA) in Karnataka on the rate of tax applicable under the Karnataka Sales Tax Act, 1957 on sale of ATMs.

The majority view of the ARA was to classify ATMs as "**computer terminals**" liable for **4% basic tax** as they would fall under Entry 20(ii)(b) of Part 'C' of Second Schedule to the Karnataka Sales Tax Act.

The Chairman of the ARA dissented from the majority view. In his opinion, ATMs would fit into the description of **electronic goods**, parts and accessories thereof. They would thus attract **12% basic tax** and would fall under Entry 4 of Part 'E' of the Second Schedule to the KST Act.

The Commissioner of Commercial Taxes was of the view that the ARA ruling was erroneous and passed an order that ATMs cannot be classified as computer terminals.

The High Court of Karnataka acknowledged that **the IT Act provided an enlarged definition of "computers"**. However,

the Court held that **such a wide definition could not be used for interpreting a taxation related law** such as the Karnataka Sales Tax Act, 1957.

The High Court also said that an **ATM is not a computer by itself** and **it is connected to a computer** that performs the tasks requested by the persons using the ATM. The computer is connected electronically to many ATMs that may be located at some distance from the computer.

*Diebold Systems Pvt Ltd vs. Commissioner of Commercial Taxes ILR 2005 KAR 2210, [2006] 144 STC 59(Kar)*

### 1.4.3 Data

According to section 2(1)(o) of the IT Act

*"data" means a representation of information, knowledge, facts, concepts or instructions which are being prepared or have been prepared in a formalised manner, and is intended to be processed, is being processed or has been processed in a computer system or computer network, and may be in any form (including computer printouts magnetic or optical storage media, punched cards, punched tapes) or stored internally in the memory of the computer;*

Simply put, data is

1. a representation of information, knowledge, facts, concepts or instructions,

2. prepared or being prepared in a formalized manner,