

## Communication System

Communication system is a system model describes a communication exchanges between two stations, transmitter and receiver. Signals or information passes from source to destination through what is called channel, which represents a way that signal use it to move from source toward destination.

### Elements of Communication system :-

Primarily communication system consists of three main parts :-

- I> A Transmitter
- II> A communication channel and
- III> A receiver

The transmitter is located at one place, the receiver is located at some other place (far or near) separate from the transmitter , while the channel is the physical medium that connects them.

Example :- when a person talks with another person directly, then the speaker is the transmitter conveying the information in the form of sound waves through a communication channel, the intervening air and the listener is the receiver.

### Types of Communication system :-

There are three types of Communication system

#### **1> Optical Communication system :-**

The word 'optical' stands for light. As the name itself suggests, optical communication system depends on light as the medium for communication. In an optical communication system the transmitter converts the information into an optical signal and finally the signal then reaches the recipient. The recipient then decodes the signal and responds accordingly. The safe landing of helicopters and aeroplanes work on the above principle.

#### **2> Radio Communication system :-**

In the radio Communication system the information flows with the help of a radio, Radio Communication system works with the aid of a transmitter and a receiver both equipped with an antenna. The transmitter with the help of an antenna produces signals which are carried through radio carrier wave. The receiver also with the help of an antenna receives the signal.

#### **3> Duplex Communication system :-**

In duplex Communication system two equipments can communicate with each other in both the directions simultaneously and hence the name Duplex. When you interact with your friend over the Telephone, both of you can listen to each other at the same time. The sender sends the signals to the receiver who receives it then and there and also gives his valuable

feedback to the speaker for him to respond. Hence the communication actually takes place between the speaker and the receiver simultaneously. In the Duplex communication system, two devices can communicate with each other at the same time.

4> **Tactical Communication System:-**

Another mode of communication is the tactical mode of communication. In this mode of communication, communication varies according to the changes in the environmental conditions and other situations.