SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.
An Autonomous Institution

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

COURSE NAME : **19CSB302 COMPUTER NETWORKS**

III YEAR/ V SEMESTER

UNIT – **FUNDAMENTALS AND PHYSICAL LAYER**

Topic: Data communication Components

Data Communications must be

➢ **Delivery.** The system must deliver data to the correct destination. Data must be received by the intended device or user and only by that device or user.

➢ **Accuracy.** The system must deliver the data accurately. Data that have been altered in transmission and left uncorrected are unusable.

➢ **Timeliness**. The system must deliver data in a timely manner. Data delivered late are useless. In the case of video and audio, timely delivery means delivering data as they are produced, in the same order that they are produced, and without significant delay. This kind of delivery is called *real-time* transmission.

➢ **Jitter**. Jitter refers to the variation in the packet arrival time. It is the uneven delay in the delivery of audio or video packets. For example, let us assume that video packets are sent every 30 ms. If some of the packets arrive with 30-ms delay and others with 40-ms delay, an uneven quality in the video is the result

Data communication components

1. **Message**. The message is the information (data) to be communicated. Popular forms of information include text, numbers, pictures, audio, and video.

2 **Sender**. The sender is the device that sends the data message. It can be a computer, workstation, telephone handset, video camera, and so on.

3. **Receiver.** The receiver is the device that receives the message. It can be a computer, workstation, telephone handset, television, and so on.

4. **Transmission medium**. The transmission medium is the physical path by which a message travels from sender to receiver. Some examples of transmission media include twisted-pair wire, coaxial cable, fiber-optic cable, and radio waves.

5. **Protocol.** A protocol is a set of rules that govern data communications. It represents an agreement between the communicating devices. Without a protocol, two devices may be connected but not communicating, just as a person speaking French cannot be understood by a person who speaks only Japanese.

Data communication components