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Data Communication CS601 Lecture No 15

Lecture Prepared By

Muhammad Abid Ali

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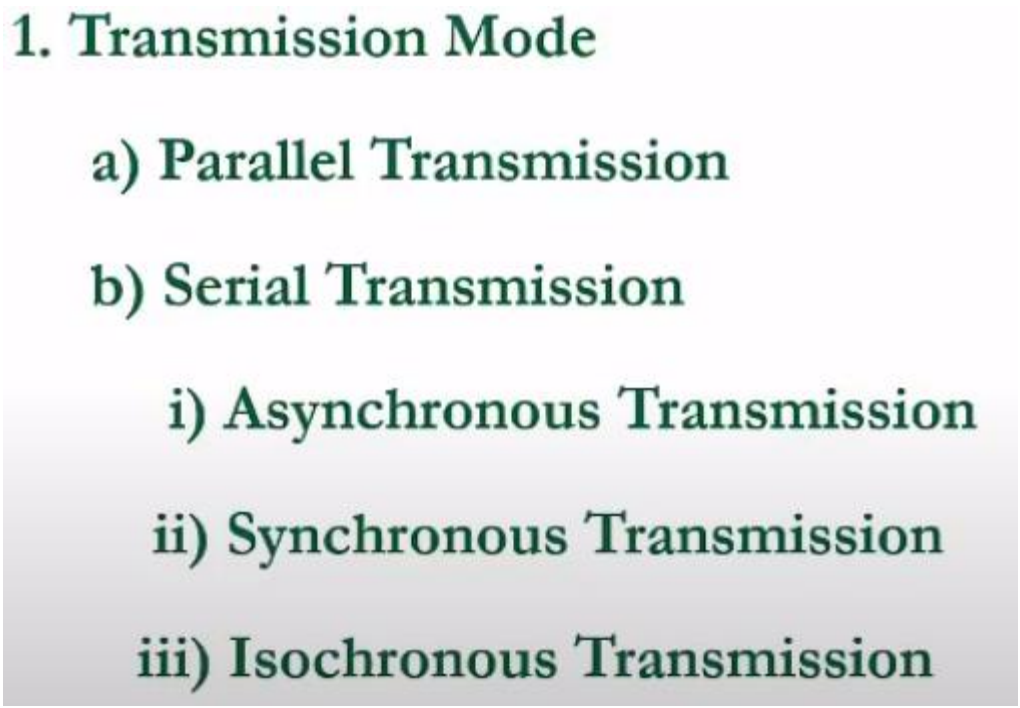
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CS601 Lecture No 15 Topic 72 to 75

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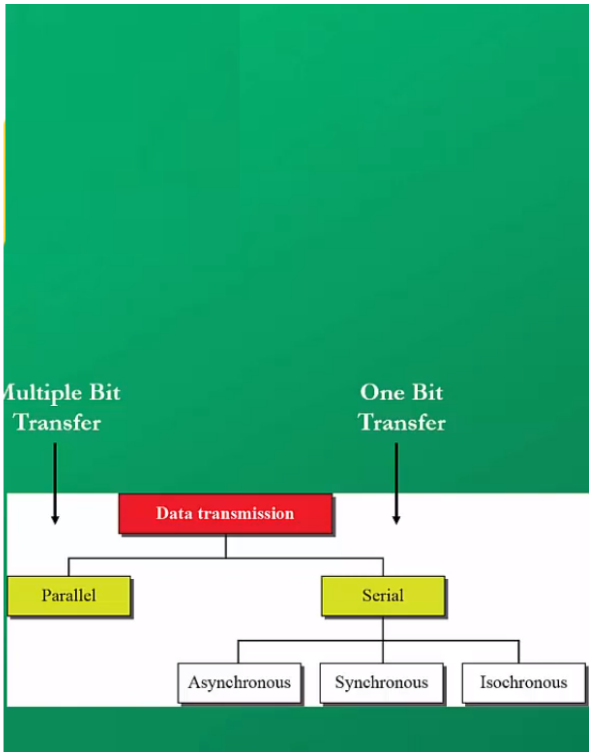


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Transmission Mode

We have convert the data into digital data. Now, the process is to transmission that from source to destination. This data is transmitted through Transmission Mode. One problem is arises before transmitting data that is **"WIRING"**. We have used different types of wires to transmit the data. Its depends on no. of bits to transmit. We have one bit or multiple bits to transmit.

- We have two method to transmit data.
  1. Parallel Transmission
  2. Serial Transmission

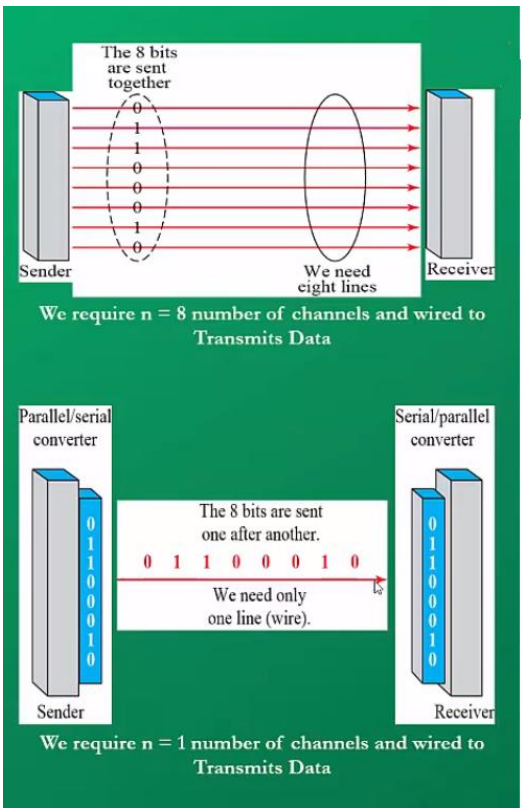


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Parallel Transmission

In this type of Transmission Mode we have Transmit Multiple Bit to the destination at the same time.

Advantages → Speed (Data Transmit Quickly)

Disadvantages → Cost (We Require n[8] Wire)

Serial Transmission

In this type of Transmission Mode we have Transmit Only One Bit to the destination.

Advantages → Cost (We Require n[1] Wire)

Disadvantages → Speed (Data Transmit Slowly)

Serial Transmission: In this type of transmission a single link is used to transmit data bits and only one bit is transferred at a time. Parallel Transmission: In this transmission, data bits are transmitted simultaneously through multiple links, which are placed parallel to each other.

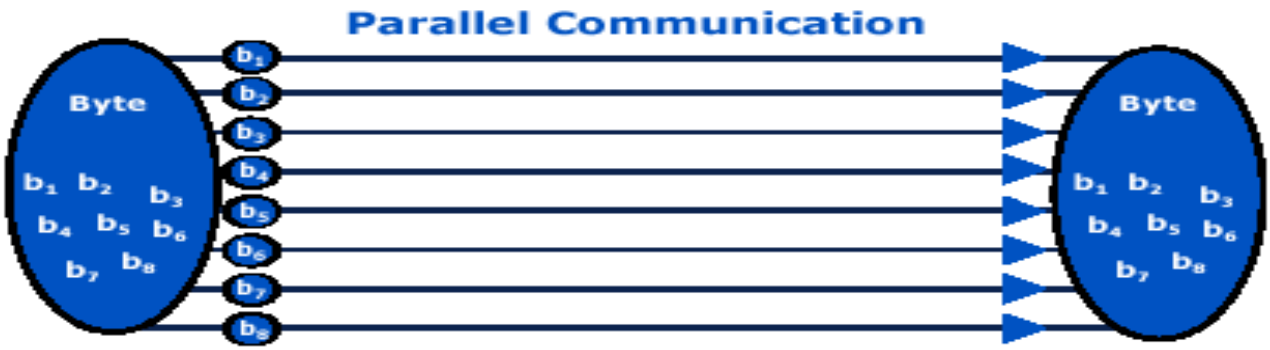
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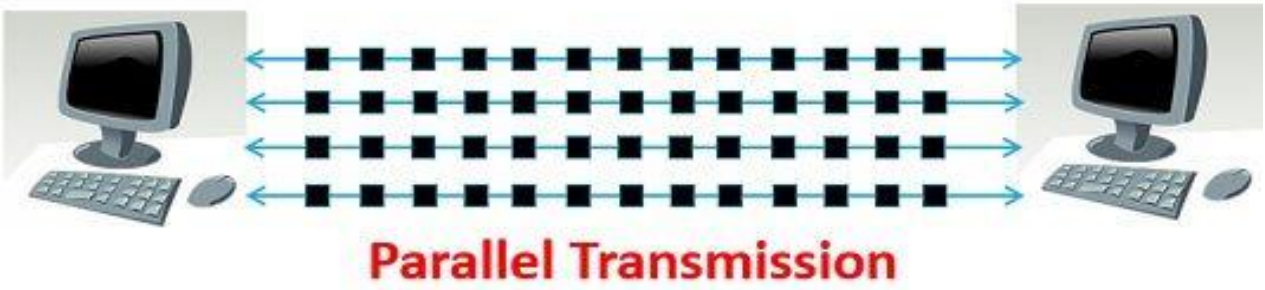
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Asynchronous Transmission

In this type of Transmission Mode we have Transmit Bits on a specific pattern.

Advantages → Cost (Cheap)

Disadvantages → Speed (Slow)

Example → Keyboard input to PC

Synchronous Transmission

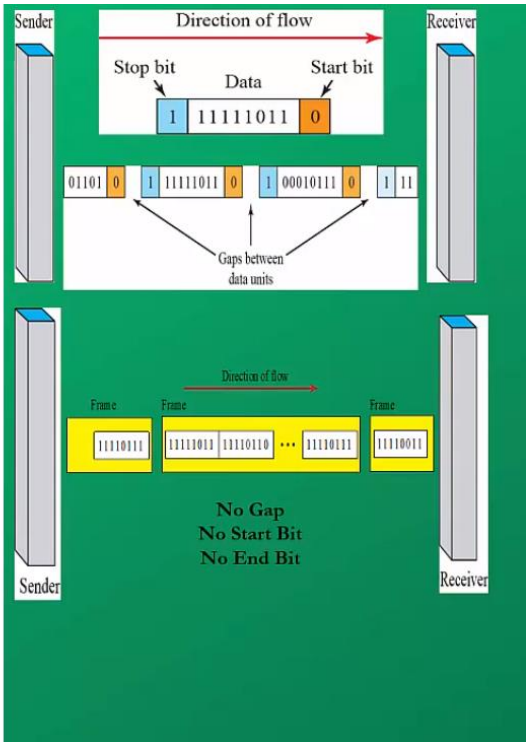
In this type of Transmission Mode we have Transmit data into large units called frame.

Advantages → Speed (No Gap)

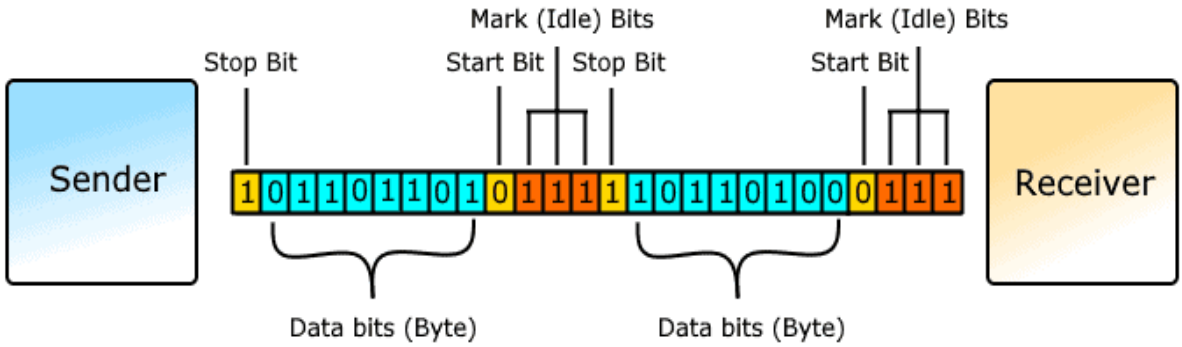
Example → High Speed Application

Isochronous Transmission

In this type of Transmission Mode we have synchronized Entire bit of stream and then Transmit it.



The Isochronous Transmission Format is also known as **START-STOP mode or CHARACTER mode**. Each character or byte is framed as a separate and independent unit of DATA that may be transmitted and received at irregular and independent time intervals.



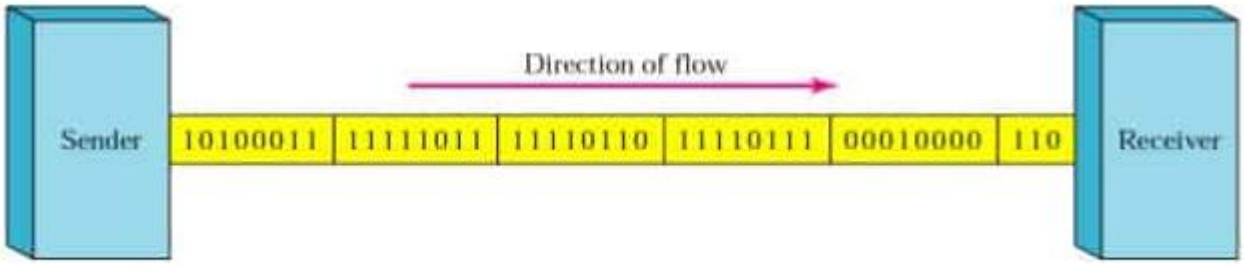
Asynchronous Transmission

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Synchronous Transmission



Synchronous Transmission	Asynchronous Transmission
Transmits data in the form of chunks or frames or blocks	Transmits 1 byte or character at a time
Transmission speed is faster	Transmission speed is slower
Cost is expensive	Cost is economical
Time interval is constant	Time interval is random
There are gaps between the data	There are no gaps between the data
Used in Chat Rooms, Telephonic Conversations, Video Conferencing	Used in Email, Forums, Letters