

# Difference Between Synchronous and Asynchronous Transmission

The key difference between Synchronous and Asynchronous transmission is that during the transmission via synchronous method, gap between the data is absent whereas in asynchronous transmission the gap is present. Both synchronous and Asynchronous transmission are mentioned in the official [GATE CSE syllabus](#). Let us explore other difference between the two based on various aspects.

## Synchronous Vs. Asynchronous Transmission

### Synchronous Transmission

Synchronous Transmission is a fast mode of transmission.

In this mode of transmission, the data is transmitted in blocks.

It is a costly mode of transmission.

Synchronous Transmission is a fast mode of transmission with constant time intervals.

The response from the server is received after the complete transmission.

Data transmission in synchronous transmission does not require the bits such as stop and start.

### Asynchronous Transmission

Asynchronous Transmission is a slower mode of transmission.

In this mode of transmission, the data is transmitted in the form of bytes.

It is an economic mode of transmission.

Asynchronous Transmission is a mode of transmission where the time interval of transmission is not fixed and keeps varying.

Responses are received even during the processing of the transmission.

Data transmission in asynchronous transmission requires the bits such as stop and start.

## What is Synchronous Transmission?

Synchronous Transmission is the transmission method of Data. In this method, data transmission in continuous stream with periodic timing signals occur. Synchronous transmission required the external clocking system and essential for the [GATE exam](#) as well. The constant or predetermined intervals is one of the important aspects of the synchronous transmission.

In Synchronous Transmission, data is transmitted in big blocks. The data transferred by this is generally consistent and reliable data. Whenever volumes of data is heavy, then synchronous transmission is preferred.

## What is Asynchronous Transmission?

The Asynchronous transmission is also another method to transmit data as the synchronous transmission. In this method, start/stop transmission occur which means the data transmission starts or stops at unpredictable time with some delay. The stop and start bits are used for the beginning and ending bits.

Unlike the synchronous transmission, data is transmitted in packets. Responses during the processing are received in this. The characteristics of the Asynchronous transmission are:

- The Start bit is always leading and more than one stop bit may be present.
- The transmission is slow.

