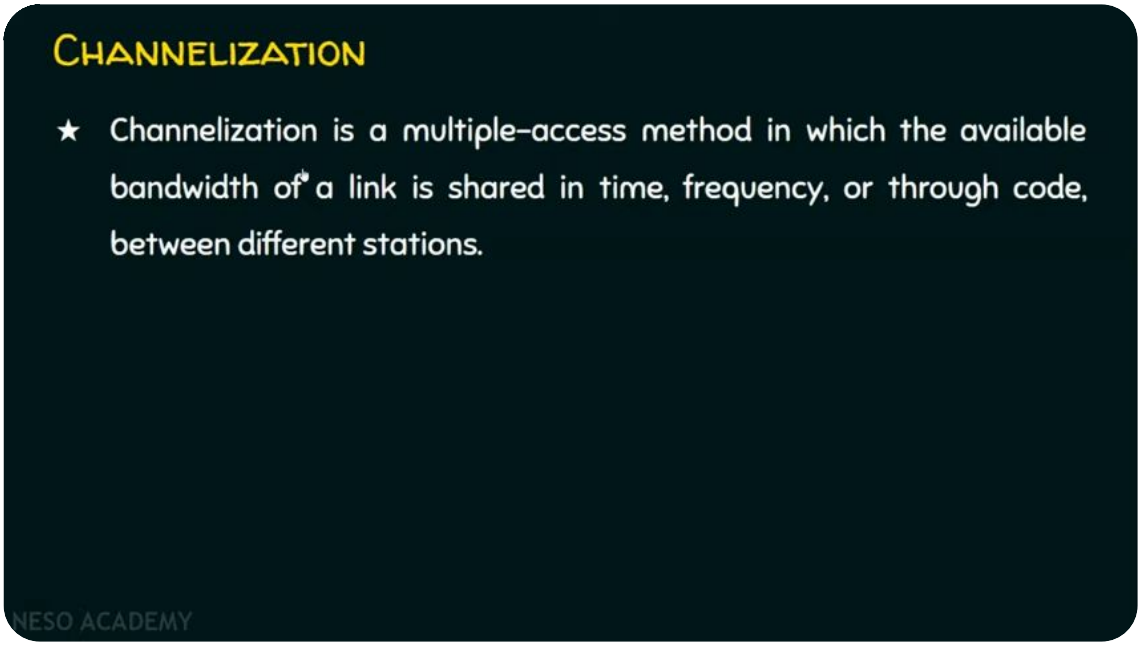
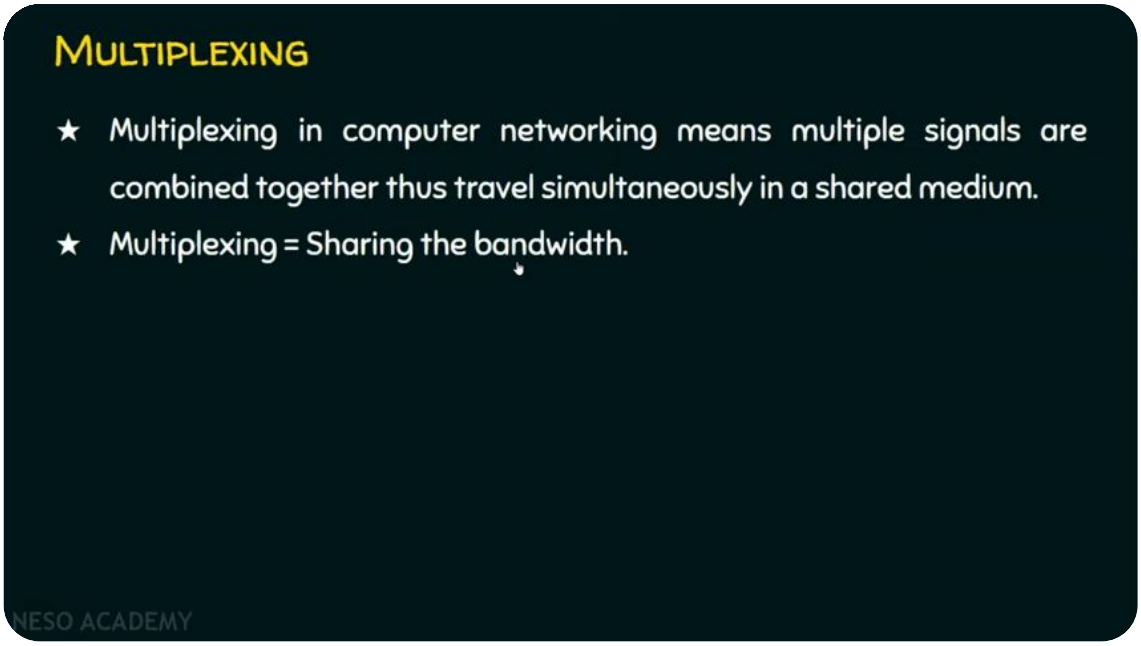
01:43



02:21



02:38

VARIOUS MULTIPLE ACCESS METHODS

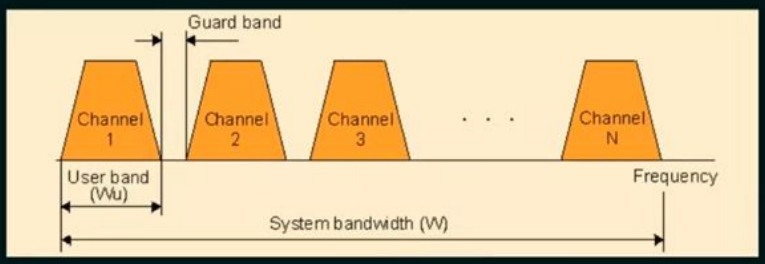
- ★ Frequency Division Multiple Access (FDMA)
- ★ Time Division Multiple Access (TDMA)
- ★ Code Division Multiple Access (CDMA)

NESO ACADEMY

04:41

FDMA

- ★ In FDMA, the available bandwidth of the common channel is divided into bands that are separated by guard bands.
- ★ The available bandwidth is shared by all stations.
- ★ The FDMA is a data link layer protocol that uses FDM at the physical layer.



NESO ACADEMY

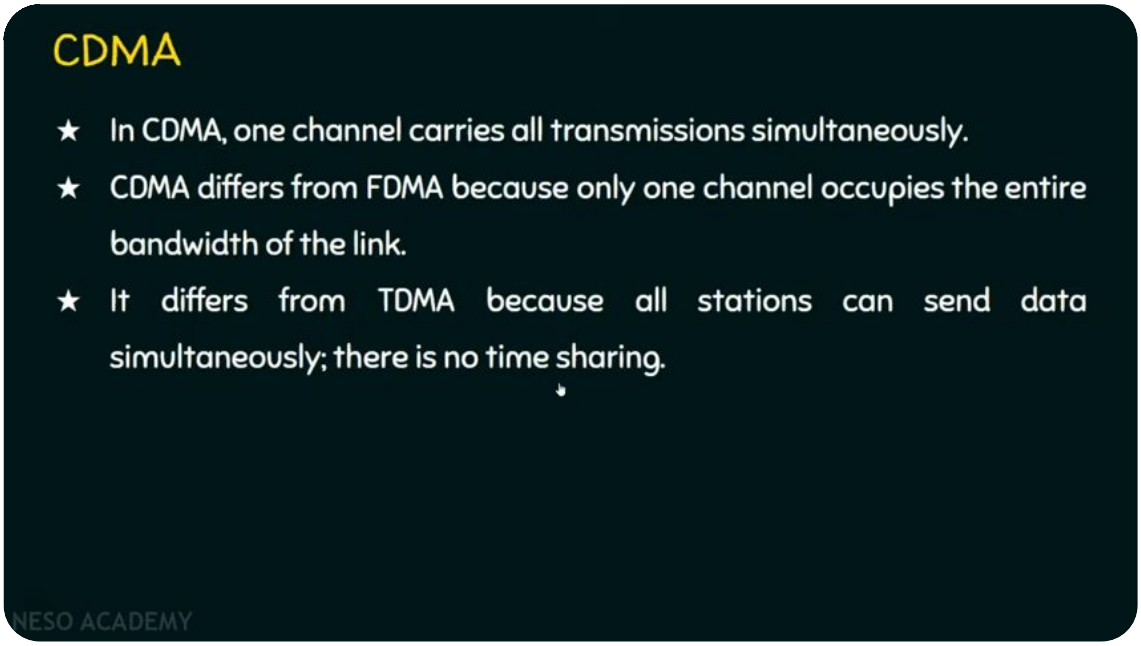
06:37

TDMA

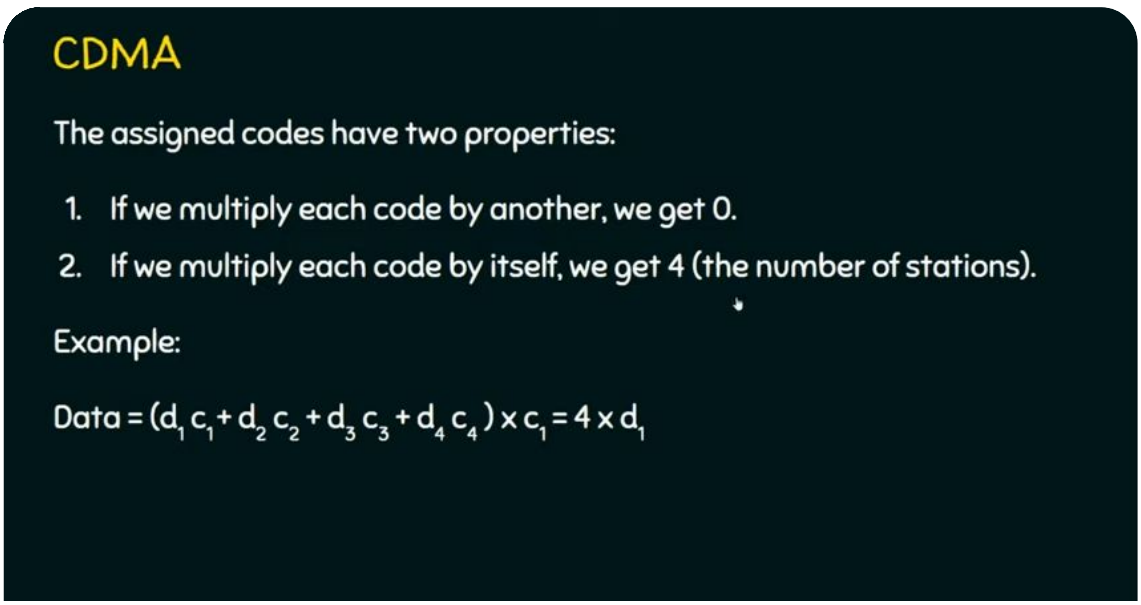
- ★ In TDMA, the bandwidth is just one channel that is time shared between different stations.
- ★ The entire bandwidth is just one channel.
- ★ Stations share the capacity of the channel in time.


NESO ACADEMY

08:16


CDMA
★ In CDMA, one channel carries all transmissions simultaneously.
★ CDMA differs from FDMA because only one channel occupies the entire bandwidth of the link.
★ It differs from TDMA because all stations can send data simultaneously; there is no time sharing.
NESO ACADEMY

10:15


CDMA
The assigned codes have two properties:
1. If we multiply each code by another, we get 0.
2. If we multiply each code by itself, we get 4 (the number of stations).
Example:
Data = $(d_1 c_1 + d_2 c_2 + d_3 c_3 + d_4 c_4) \times c_1 = 4 \times d_1$