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Types of Multiplexing Techniques for Competitive Exams 2021

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Topics

FDM (Frequency Division Multiplexing)

WDM (Wavelength Division Multiplexing)

TDM (Time Division Multiplexing)

a. Synchronuous TDM

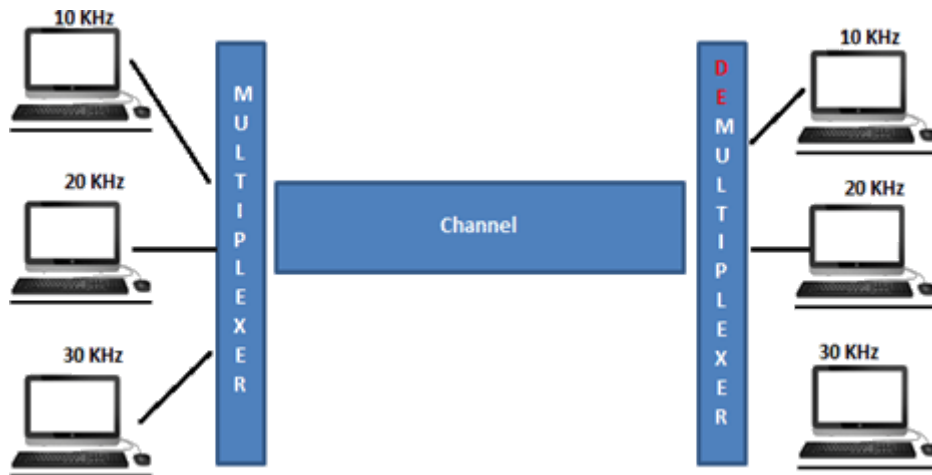
b. Asynchronuous TDM

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FDM

- FDM stand for Frequency Division Multiplexing Technique.
- In FDM, different frequencies will be combined as the one frequency and transmitted in the channel and at the receiver end again it will be separated as it was.
- It is totally based upon the frequency combining and division

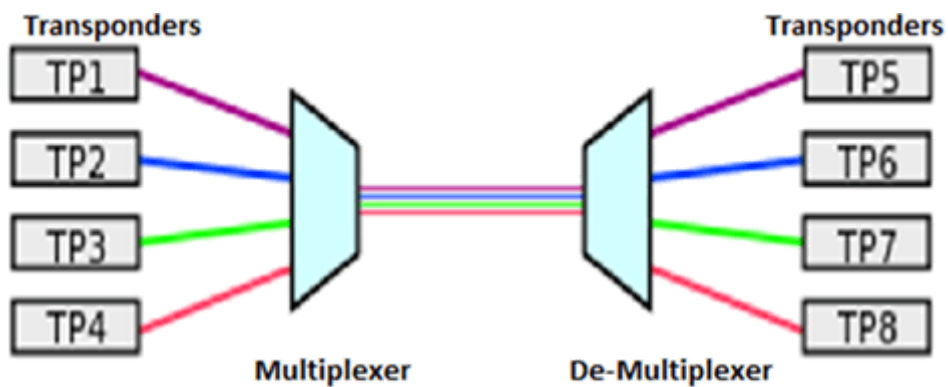
Working of FDM



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WDM

- WDM stands for wavelength Division Multiplexing Technique.
- It multiplexes the optical carrier signals into a single optical fibre signal and transmit it further to the channel.
- It is widely used in **SONET** (Synchronous Optical Network) with high efficiency.



Transponder: A device for receiving a radio signal and automatically transmitting a different signals

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The best example of WDM is prism through which lights gets scattered into multiple colours.

Working of WDM

TDM

- It stands for Time Division Multiplexing Technique of Multiplexing.
- Each frame or packet of data will be allotted the time slot.
- It transmits the digital signals over the transmission network.
- It is used for high speed transmission
- It can be of two types:
 - Synchronous TDM (with common clock signal sharing)
 - Asynchronous TDM (without sharing common clock)

MCQ

Q1. Which type of multiplexing technique is used in SONET?

Options:

- A. Asynchronous TDM
- B. FDM
- C. WDM
- D. Synchronous TDM

Answer: C

Q2. SONET is:

Options:

1. Synchronous Optical Network
2. Simultaneous Optical Network
3. Synchronous Optimized Network
4. Structural Optical Network

Answer: A

• We learnt about:

Frequency Division Multiplexing

Wavelength Division Multiplexing

Time Division Multiplexing

Synchronous Time Division Multiplexing

Asynchronous Time Division Multiplexing

-Mayank

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