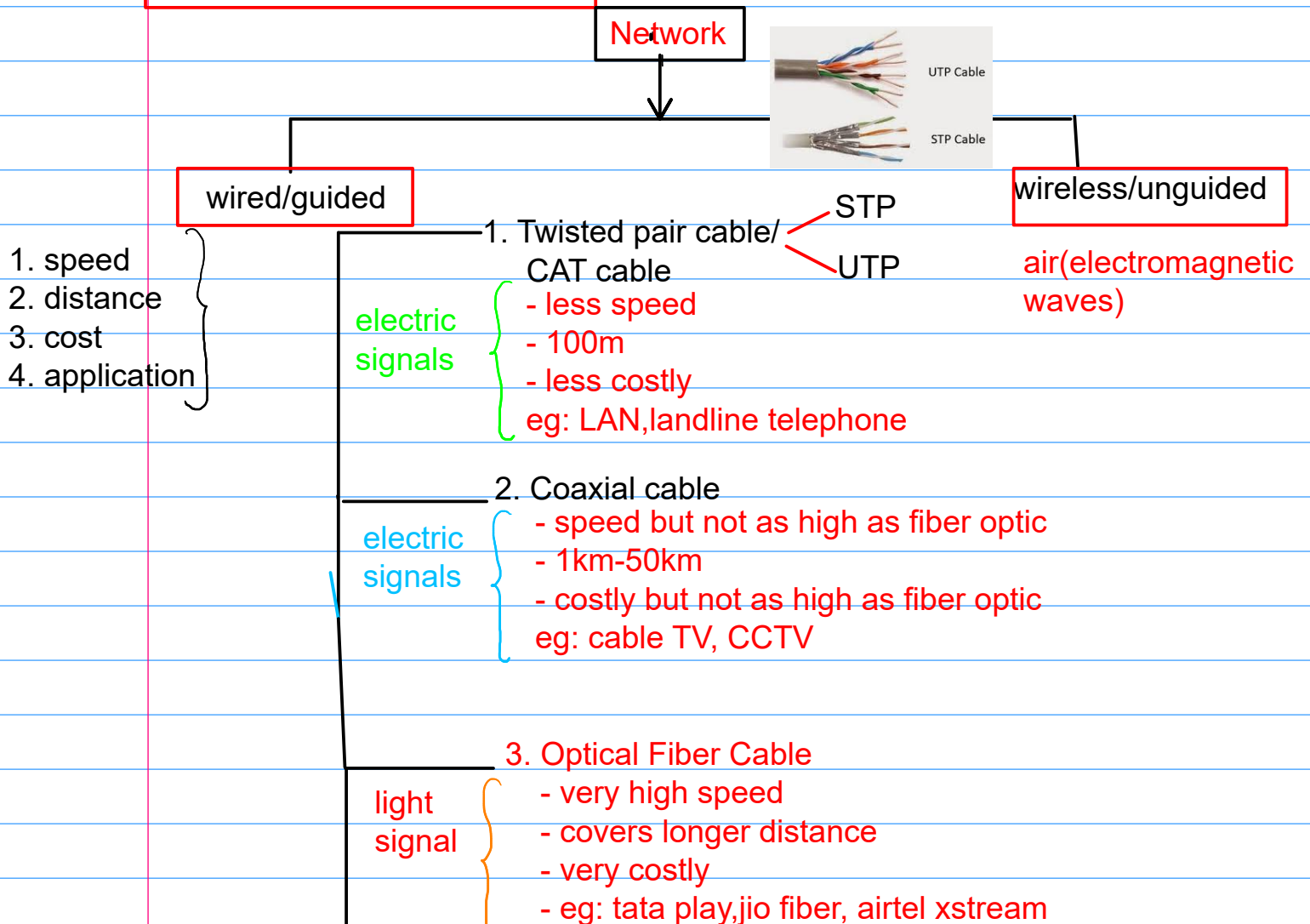


Transmission medium(media)-



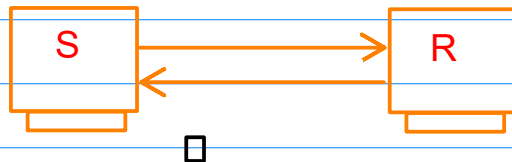
Data flow direction/Transmission Modes-

1. Simplex Mode



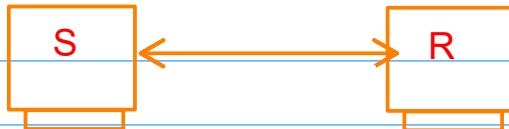
- data flows only in one direction
- radio, keyboard, pager, TV remote

2. Half Duplex Mode-



- Data flows in both direction not simultaneously
- wakie talkie , FAX

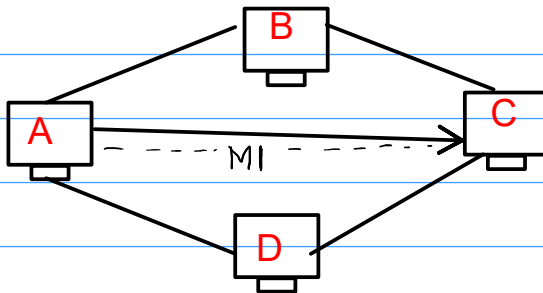
3. Full Duplex Mode -



- data flows in both directions at the same time
- telephone, mobile, chat, video call, etc

Switching(selection of best route to transmit the data)-

1.Circuit switching-



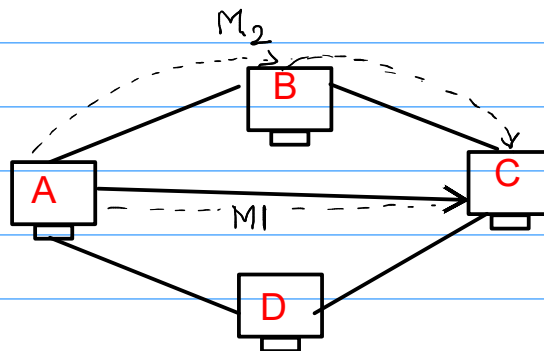
C A M1

C - destination address
A - sender address
M1 - message(data)

1. Connection is established
2. Data transferred
3. Connection terminated

eg: telephone, mobile call

2. Message Switching -



C A M1
C A M2

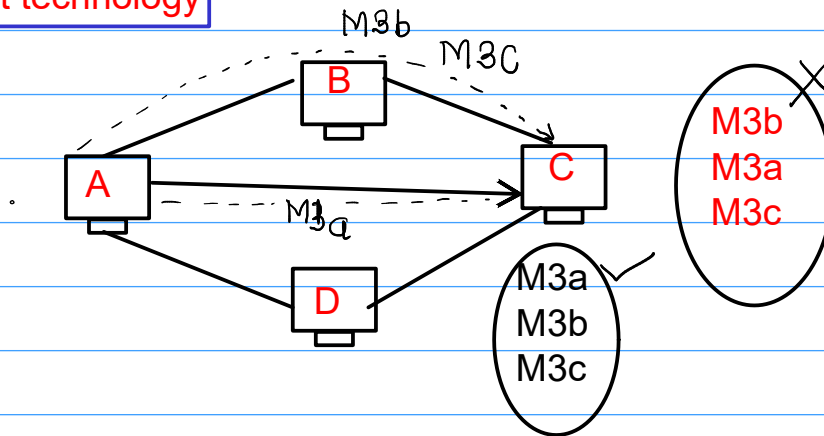


store and forward technique
eg: SMS

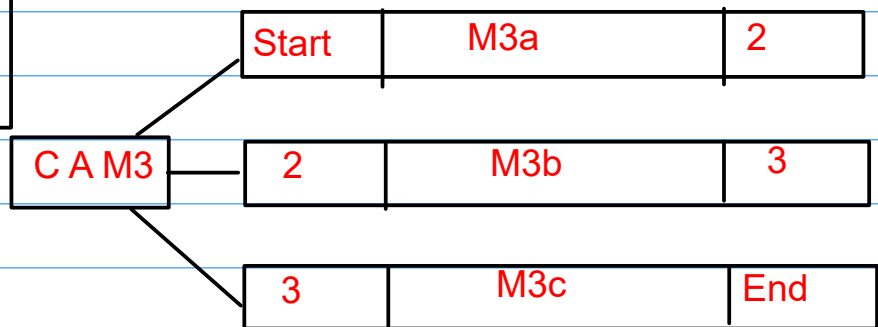
3. Packet Switching-

1 data packet = 1500 bytes

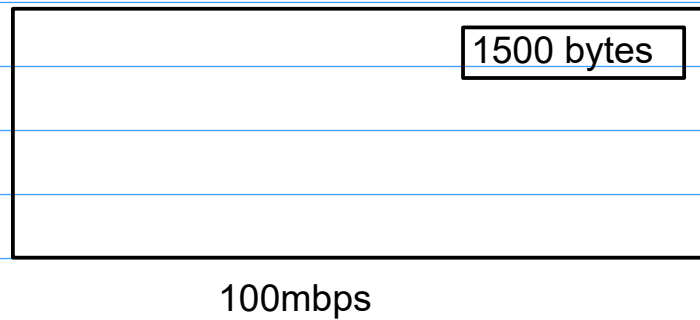
Ethernet technology



M3 = 4000 bytes
M3a = 1500 bytes
M3b = 1500 bytes
M3c = 1000 bytes



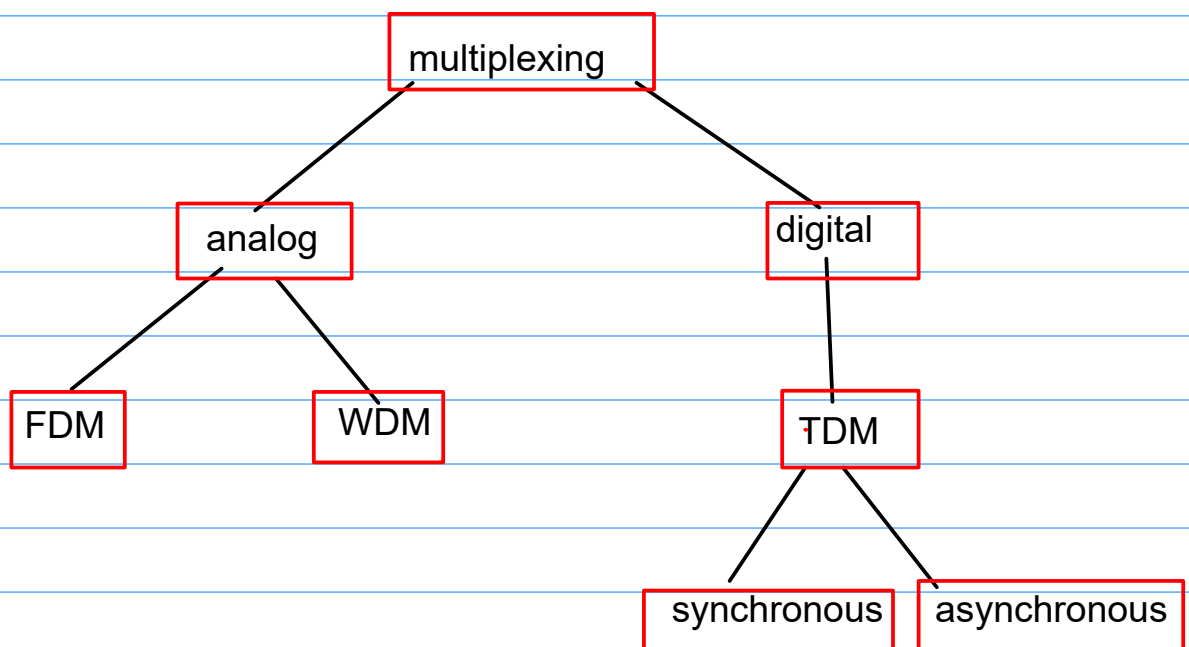
Multiplexing



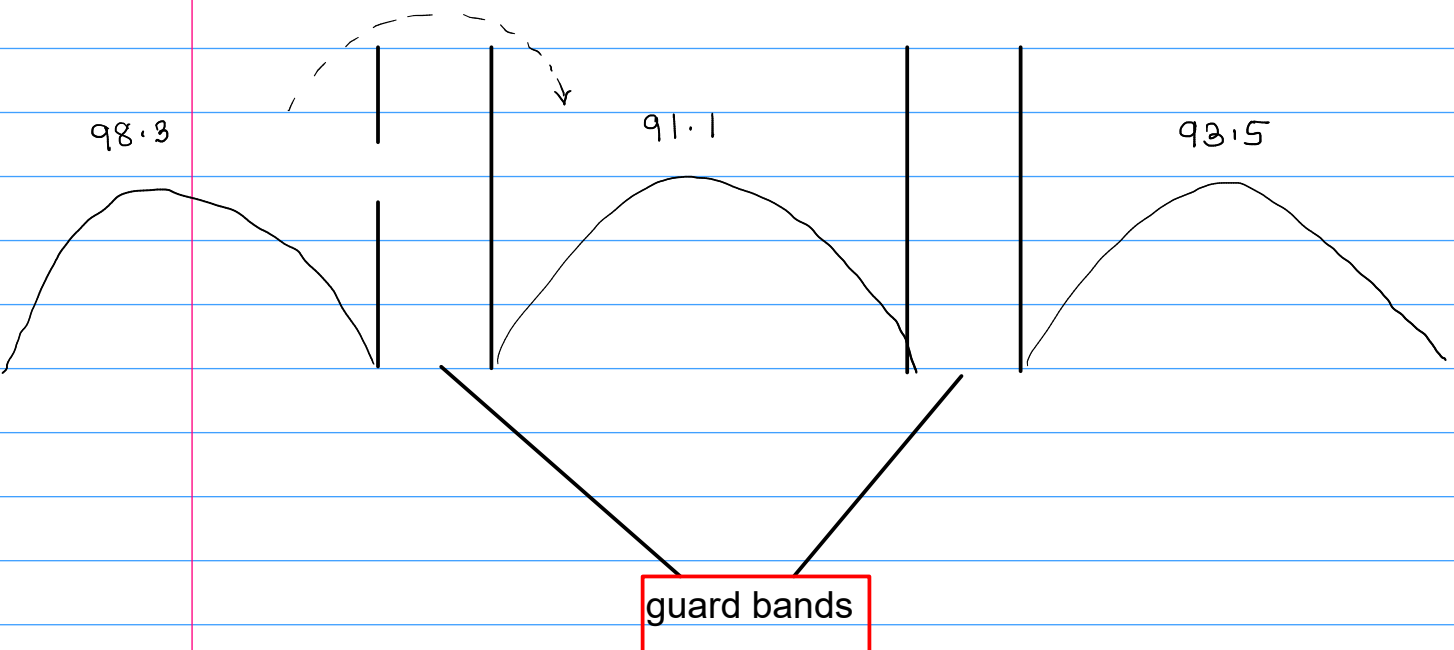
Bandwidth - capacity of wired or wireless medium to transmit maximum data across the network in a given period of time

to avoid this wastage of bandwidth we use MULTIPLEXING

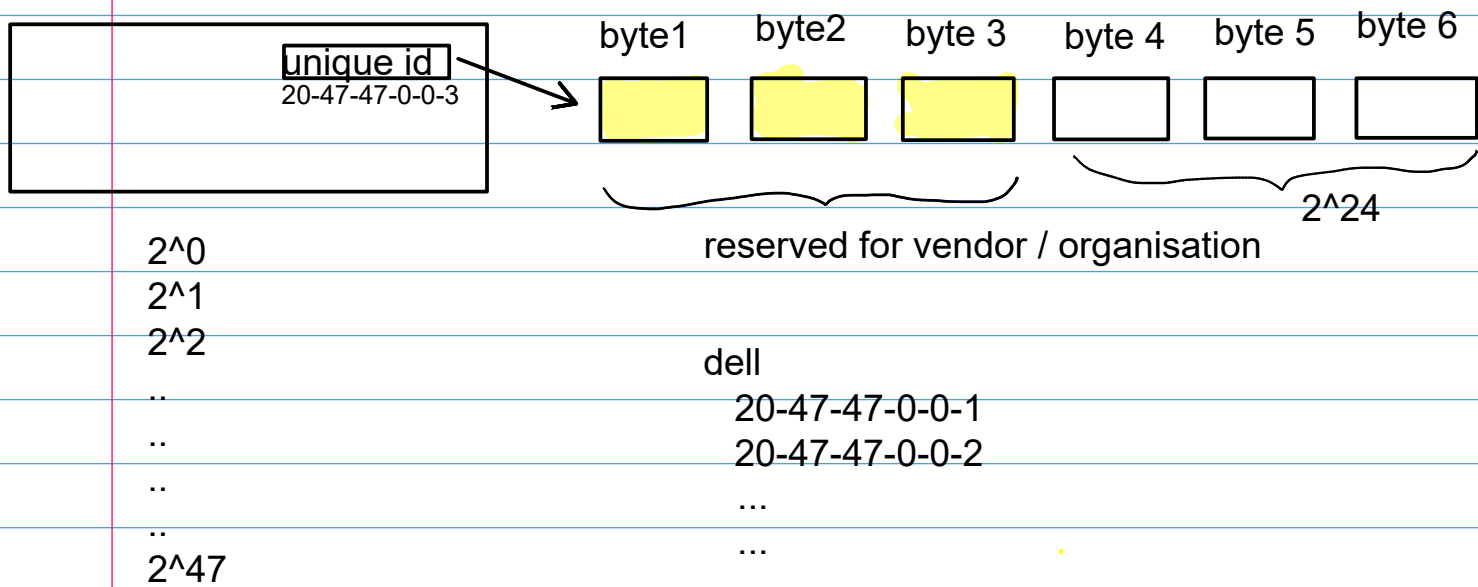
MUX - convert many signals into one signal
DEMUX - convert this one signal into multiple signals



FDM(Frequency Division Multiplexing)-



Ethernet Address(6 bytes = 48 bits long)

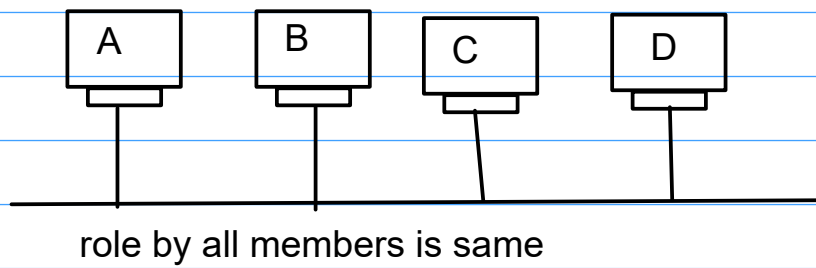


Ethernet Frame Format/MAC frame

Preamble 7 bytes	SFD 1 byte	Destination MAC 6 bytes	Source MAC 6 bytes	Type 2 type	Data and Pad 46-1500bytes	FCS
Start		C	A	IPv4/IPv6/ http/ https	M3a	2

Classification of network --> component role

1. Peer to Peer Network-



2. Client -Server Network

