

DCC (Book - Frozen, William)

⇒ characteristics of Data communication

- ① Delivery :- The data should be delivered timely and correct destination. The data is broken down into data packets they contains the address of receiving destination.
- ② Accuracy :- The message that is being delivered must be accurate.
- ③ Timeliness :- The data must be delivered on time.

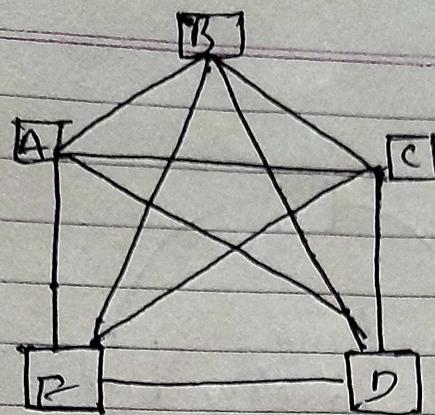
⇒ Components of data communication

- ① Message
- ② Sender
- ③ Receiver
- ④ medium
- ⑤ Protocol

⇒ Types of communication :-

- ① Point - to - Point communication
- ② Multipoint communication

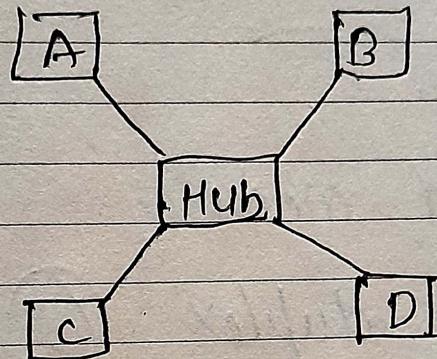
Mesh topology



Date :

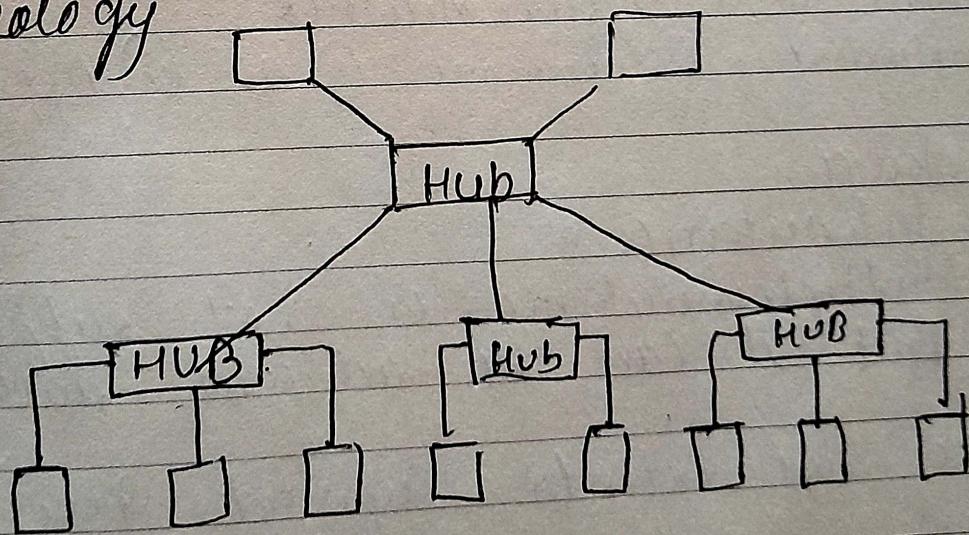
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Star topology :-

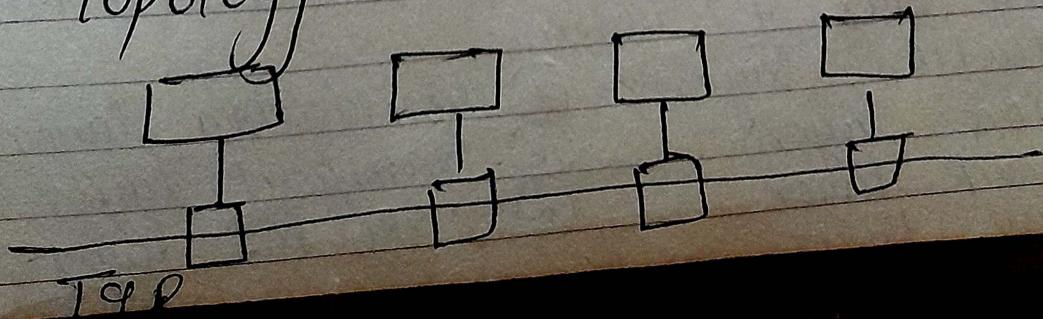


- Advantages :-
- ① All nodes are connected with central hub

Tree topology

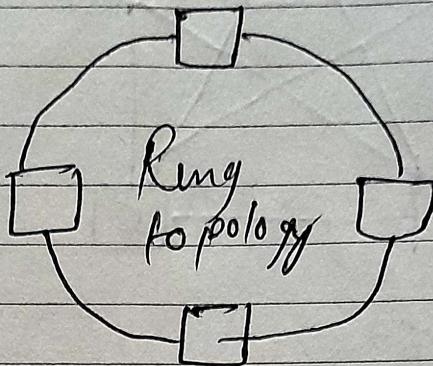


Bus topology



TYP

Ring topology



Hybrid topology

Transmission mode:-

- (1) Simplex (2) Half duplex (3) full duplex
- # CYBER SECURITY

System is a 4 tier network

- (1) Hardware (2) firmware (3) OS (4) Application

Java

Inheritance :-

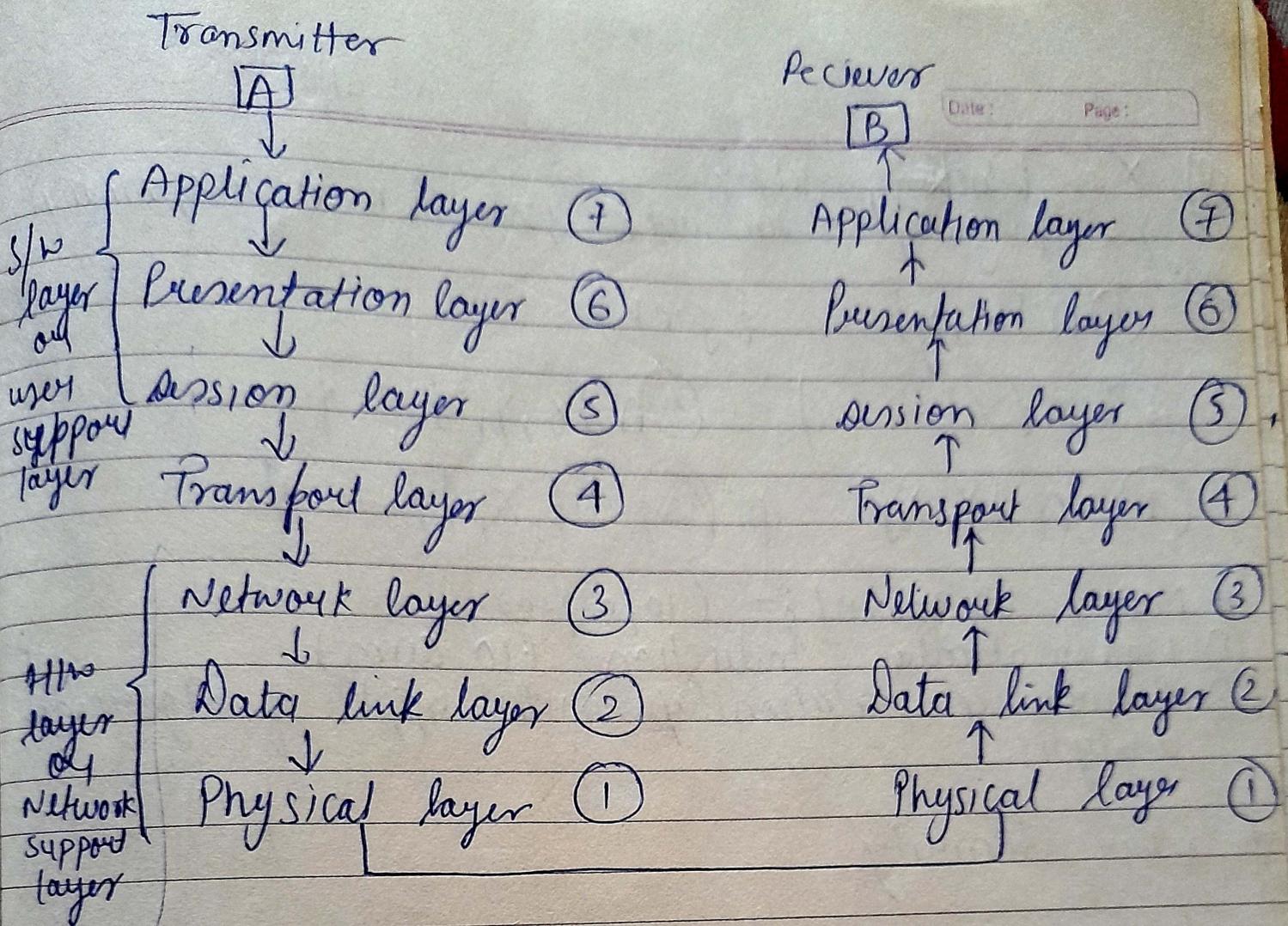
- ⇒ Multiple inheritance is not supported in java
- ⇒ But it can be achieved using interfaces

we use extends keyword for inheritance

OSI Model :- open source interconnection model

There are 7 layers

- (1) Application layer
- (2) Presentation layer
- (3) Session layer
- (4) Transport layer
- (5) Network layer
- (6) Data link layer
- (7) Physical layer



① Physical layer :-

- ⇒ i) Physical characteristics of interface and media
- ⇒ ii) Representation of bits
- iii) Data rate / Transmission rate
- iv) Synchronization of bits
- v) Line configuration
- vi) Physical topology
- vii) Transmission modes

Eship

- Q1) Diff. b/w Creativity & innovation.

ICANN (Internet Corporation for assigned names & number). ICANN manages the Internet formed in 1998

OCS

② Data link layer :- responsibilities are as follows

- ① framing
- ② physical addressing
- ③ flow control
- ④ error control
- ⑤ access control

③ Network layer :- responsibility

- ① logical addressing
- ② routing

④ Transport layer

- ① source point addressing
- ② segmentation and reassembly
- ③ connection control
- ④ flow control
- ⑤ error control

⑤ Session layer :-

- ① synchronization
- ② dialogue control

⑥ Presentation layer :-

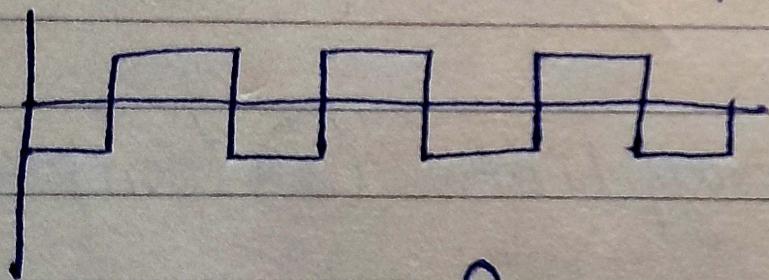
- ① translation
- ② encryption
- ③ compression

⑦ Application layer

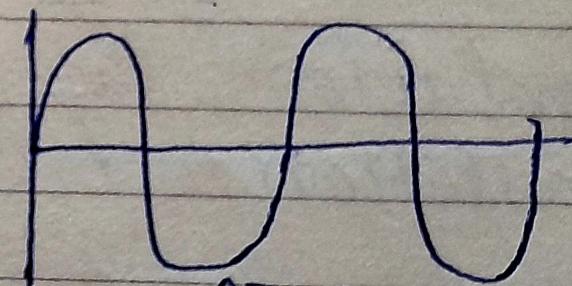
- ① virtual terminal
- ② file transfer, access and management (FTAM)
- ③ mail services

DCC

- Analogy = It set of specific points of data and all possible points b/w
- Digital = It is a set of specific points of data with no other points in b/w



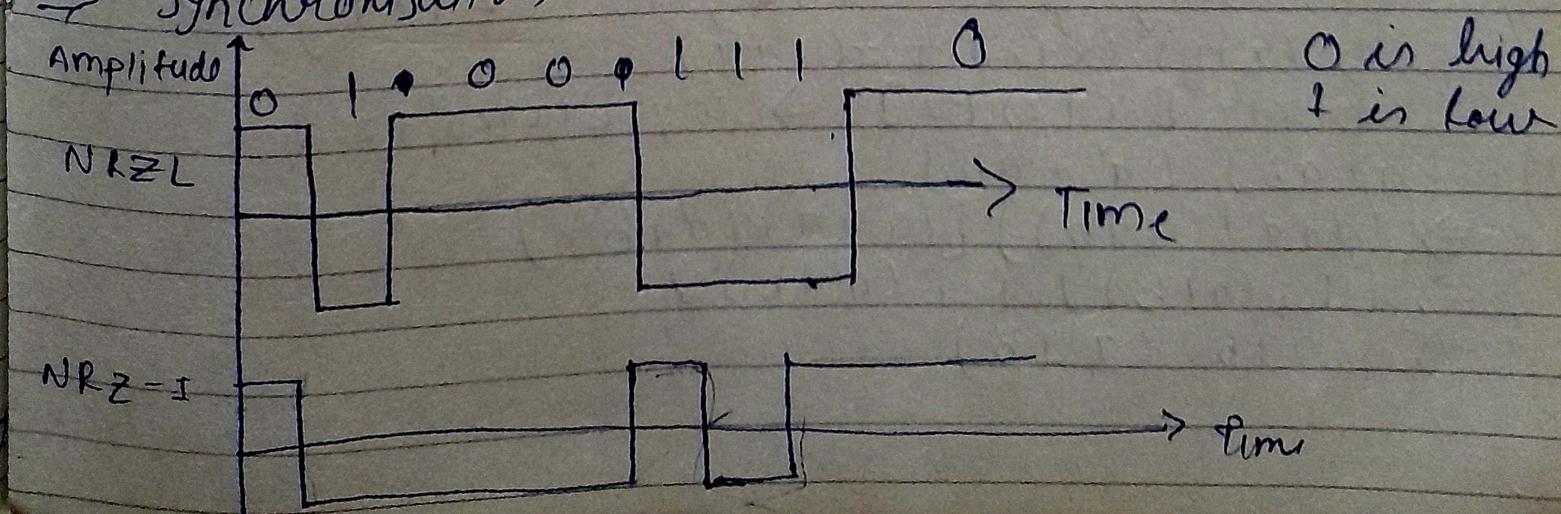
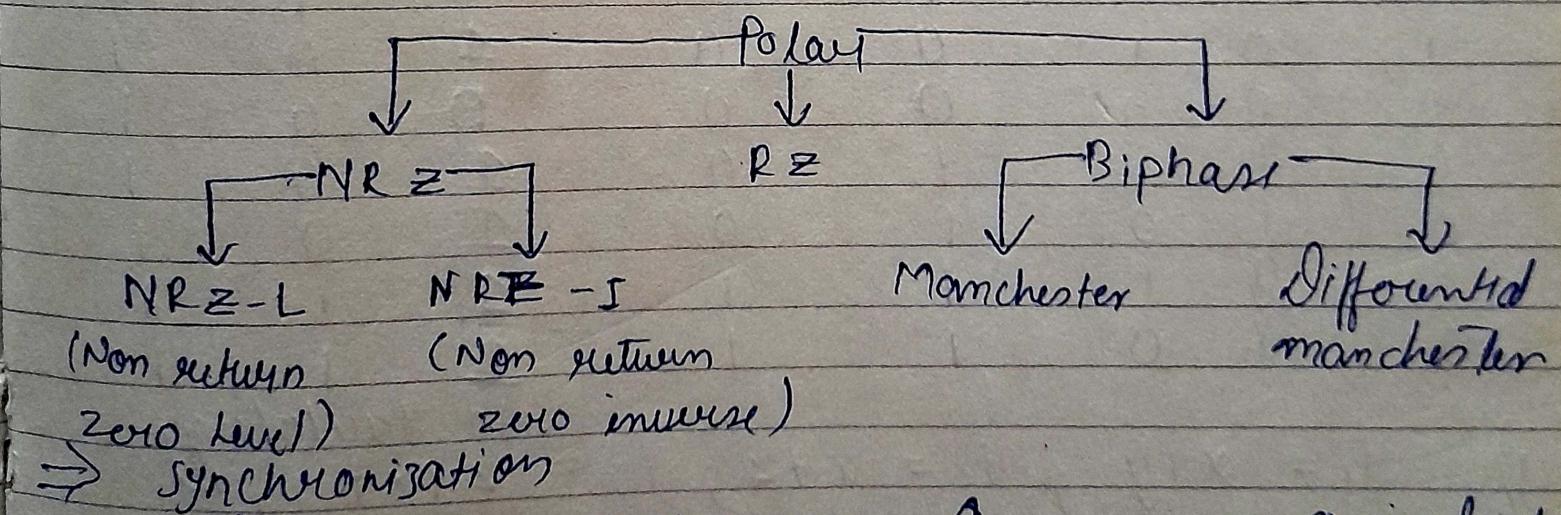
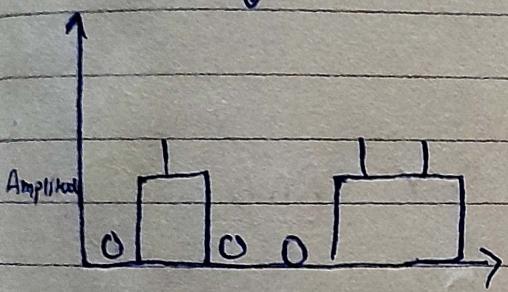
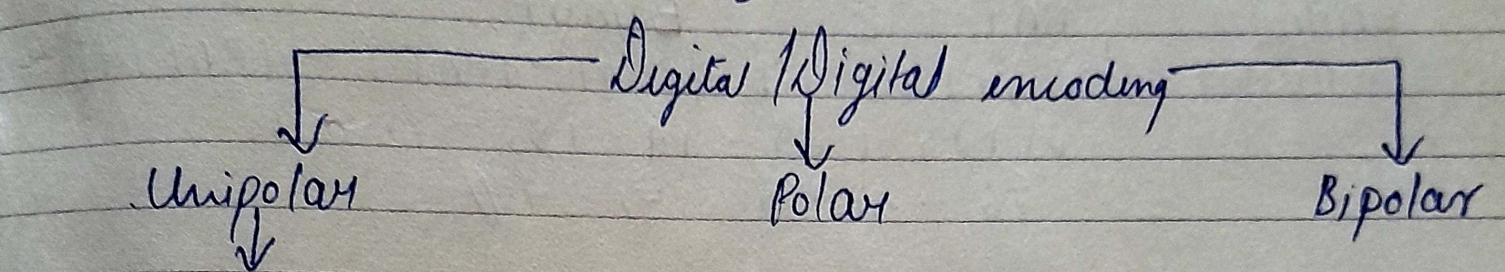
analog



Digital

- amplitude is the maximum value of analog signal
- frequency means No. of cycle per second

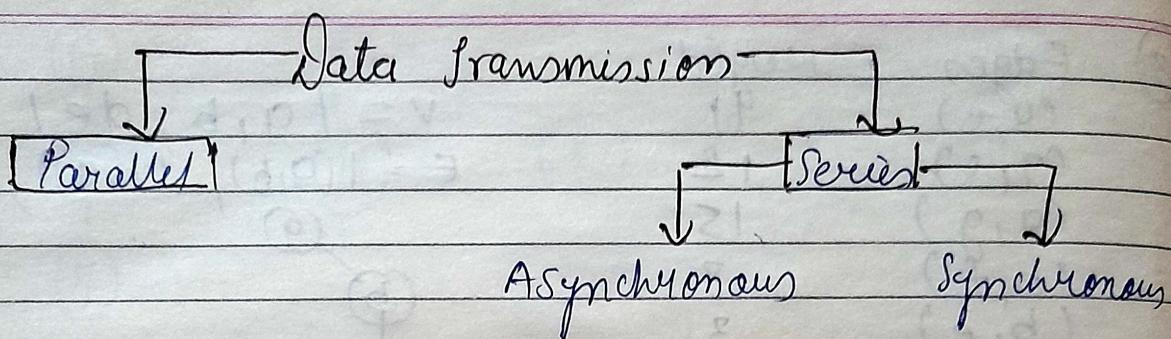
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★ Encoding and modulating



Wednesday

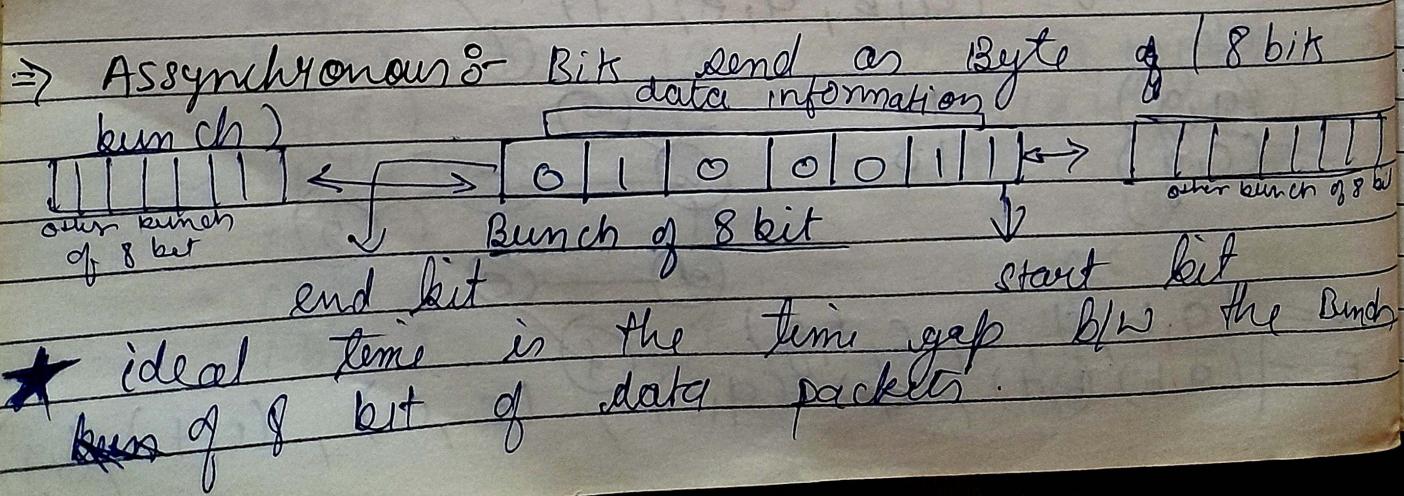
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- ⇒ Parallel transmission is faster than Series
- ⇒ Data bus & address bus is the example of Parallel transmission
- ⇒ Parallel transmission has ~~n~~ ~~8~~ lines for transmission.
- ⇒ It is costlier.
- ⇒ It is used for short distance.
- ⇒ By the use of parallel transmission the speed of system get enhanced.

- Serial :- Transferring the data through single cable one by one.
- ⇒ It is slower ⇒ It is cheap
- ⇒ Example :- Multiplexer, demultiplexer
- ⇒ It can be used for long distance.
- It is divided in two types



- ★ ideal channel is a channel through which we are ~~are~~ transmitting the data
- ⇒ Synchronous :- here there is no ideal channel here the transmission of 8 bits are continuous with clock pulse
- ⇒ Advantage :- ① High speed of transmission.
② No extra bit require like start, end
- # DTE & DCE Interface :- Converts II to serial or vice versa, ex:- MODEM
- ⇒ DTE :- Data terminal equipment, it is an interfacing device we can physically touch them.
- ⇒ DCE :- Data circuit terminating equipment
ex:- Interfacing device in printer

- # Transmission media :-
- Guided media → Unguided media

- # Cyber
- ⇒ UDP = User Datagram protocol.
- ⇒ Hackers mostly attacks on :- protocol, Port no.
- ⇒ IP Logger - to trace someone's location
- ⇒ Phish Tank - to find that is the link is safe or not.

31/03/2023

- # Java
- ★ try with Resources (ARM)
- ⇒ Automatic resource management
- ⇒ Tried ways to close file
 - (1) FileInputStream fin = new FileInputStream("a.txt");
fin.close();

DCC

- ⇒ coaxial { adv. & disadv.
- ⇒ fiber
- ⇒ guided & unguided
- ⇒ Types of connector in coaxial cable
- ⇒ Multislexing application
- ⇒ OSI Model , adv. & disadvantages.

⇒ lusrmgr.msc = local user management
microsoft console, to create a local user

⇒ gpedit.msc = gpedit.m

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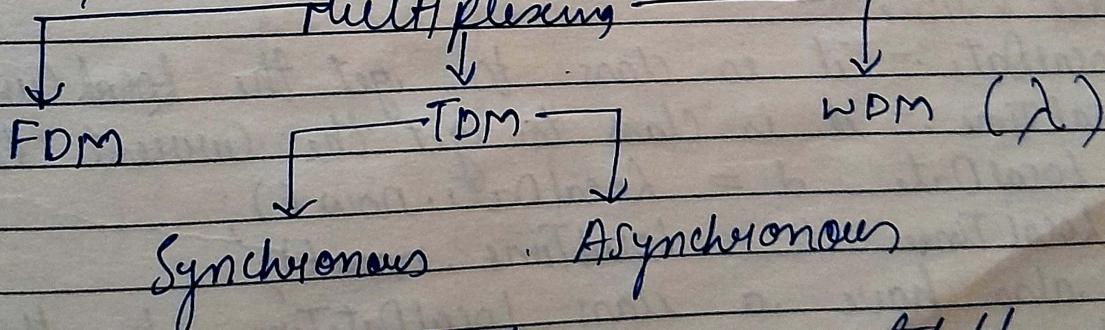
⇒ Propagation speed

⇒ Propagation time

~~Max Max start to measure~~

⇒ UTP

- coaxial, optical fiber (adv & dis adv.)
- Unguided media
- Microwave, satellite, geo synchronous satellite, cellular telephonic
- Noise, distortion, measurement of performance.
- Multiplexing :- Demultiplexing :- frequency division multiplexing, wave division multiplexing, Time division multiplexing.



examples of multiplexing :- telephone line

Date: / / P

