

UNIT-1 :- Topics:-

- Network hardware & Software
- OSI Reference model
- TCP/IP Reference model
- ARPANET, Internet
- Guided Transmission media:-

twisted pairs

Coaxial cable

fibre optics

Wireless transmission.

PART -1

PART-2

Network Hardware

• The basic Hardware components in a Network are:-

→ Network cables:- Network cables are the transmission media to transfer data from one device to another

→ Routers:- Router is a connecting device which transfers Data packets between different Computer Networks.

→ Repeaters:- A repeater receives signal and regenerates it before re-transmitting so that it can travel longer

→ Hubs:- A Hub is a multi-port repeater

→ Bridge:- A Bridge connects two separate Ethernet network

→ Gateways:- A gateway connects entirely different networks that work upon completely different protocols.

Network Software

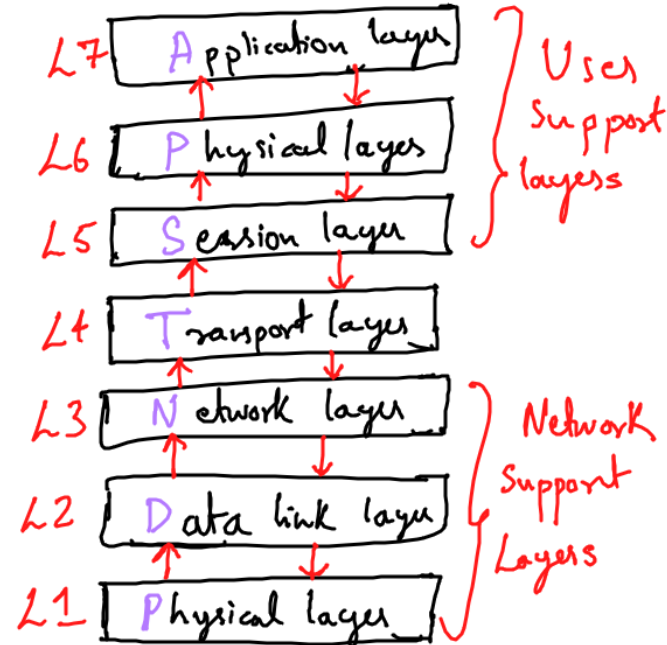
- Network Software comprises a broad range of software used for design, implementation, operation and monitoring of Computer Networks.

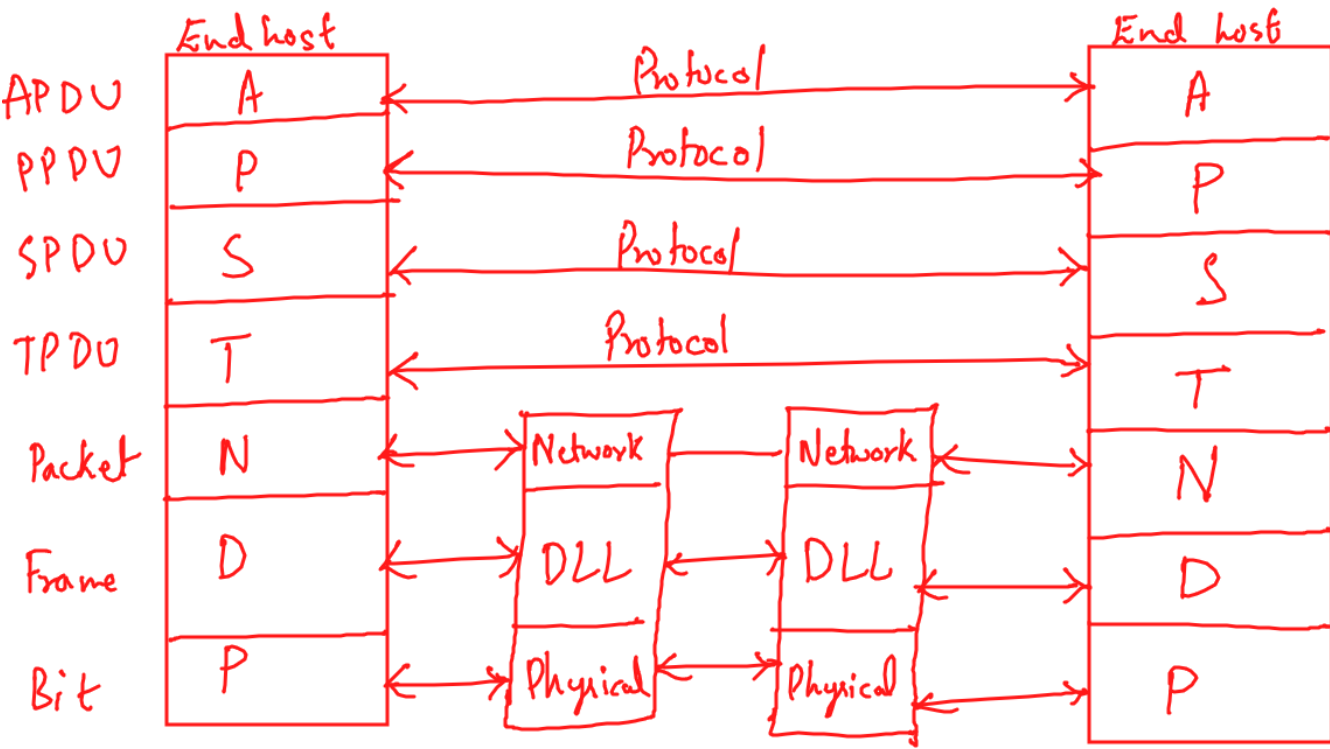
OSI:- • OSI stands for Open Standard Interconnection

- The OSI model does not specify the communication standard or protocols to be used to perform networking tasks
- It defines point of interconnection for the exchange of information between system.
- It has 7 interconnected layers
- The 7 layer are:- Application layer
Presentation layer
Session layer
Transport layer

→ Network layer
Data link layer
Physical layer.

OSI Reference Model





1. Physical layer :- It is the Lowest layer in OSI Reference Model.
 - Its function is to transmit individual bits from one node to another over a physical medium.

2. Data link layer :- It transforms the physical layer to a reliable link making it an error free link to upper layer.
3. Network layer :- It is responsible for the delivery of packets from the source to the destination.
4. Transport layer :- It is responsible for delivery of the entire message from the source host to destination host.
5. Session layer :- It establishes sessions between users and offers services like dialog control & synchronization.

