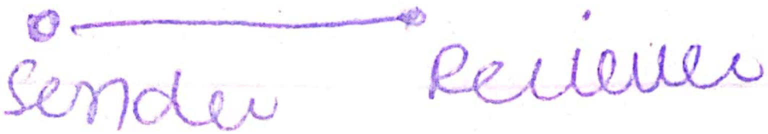
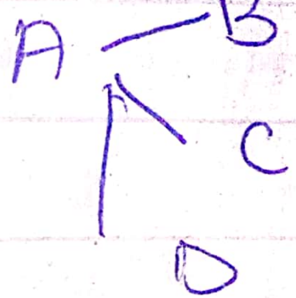
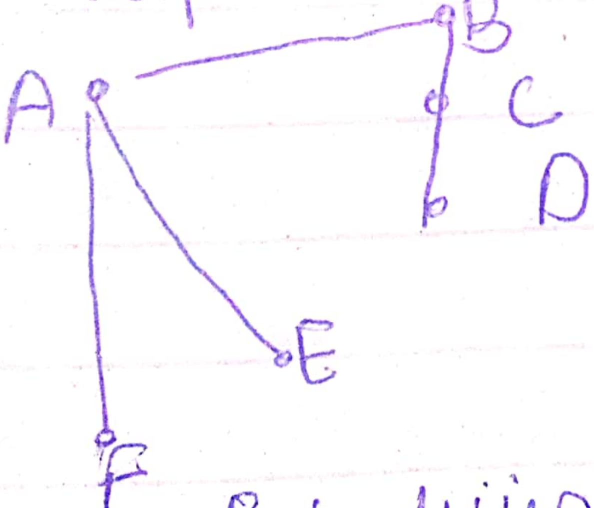
Unicast (one sender, Many Recievers)





Broadcast subset is
Multicast ~~tone~~
multiple multicast transition runs together.



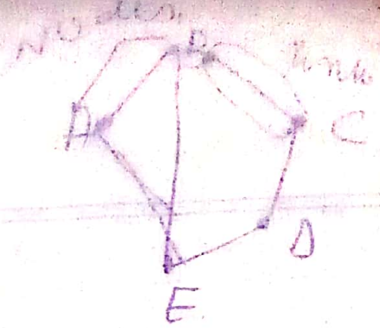
Bht sari
multicast chal
rhi hain.

Cluster: Job division ek node krti hai
called masternode-

Recap

- commmodels
- Tasks for N/w

communication patterns
- Broadcast
- Unicast
- Multicast



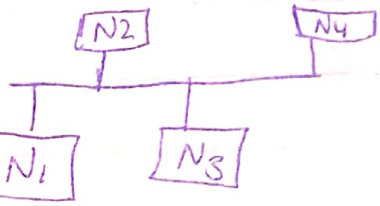
common communication models.

connect kaisy hongi nodes ye hai network topology

Network Topology

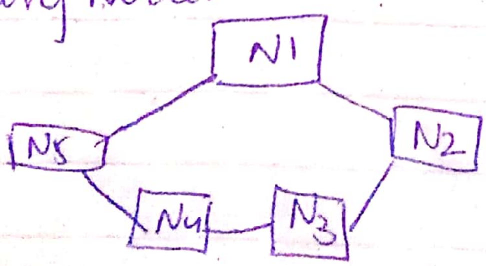
① Bus

single communication link, all devices connected together.



- Not ~~much~~ much reliable
- conjustion chances.
- Trasmission drop zyada.
- used for small scale.
- ek link break poora network down
- Easy broadcast.

② Ring topology: Every node connected to neighbouring Node.

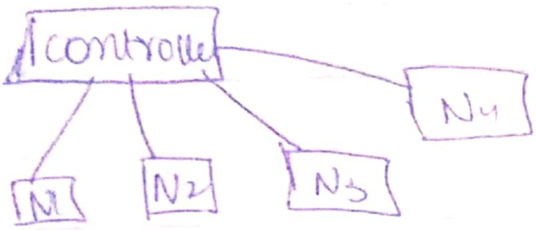


2 ways hai clockwise comm / anticlockwise

- scalability mushkil hai
- jitni nodes add kreingy utna masla barhega.

③ Star

har node apas mai directly connect nahi hogi bal k ek central sey hogi connect.

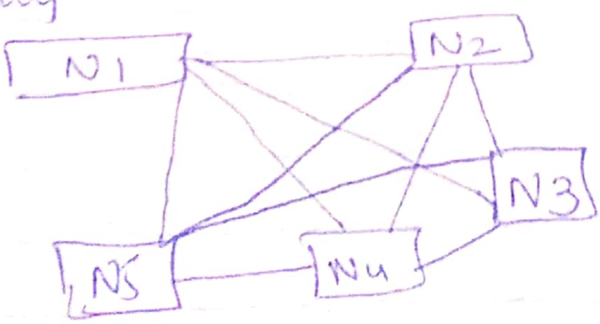


- star mai scalability asan hai
- Ek controller k band krney sy sb kharab hojayega.

No. of nodes = No. of links.

④ Mesh

Every node is connected to every other node directly.



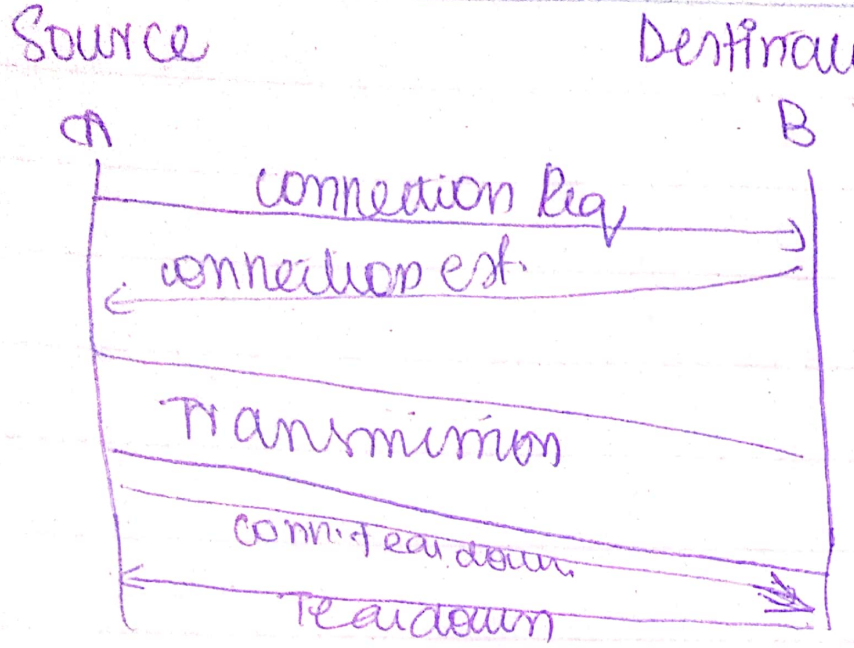
$$\text{No. of links} = \frac{n(n-1)}{2}$$

scalable nahi kyu k ek node add krt sari links add hongi

→ source find krega destination available hai ya nahi

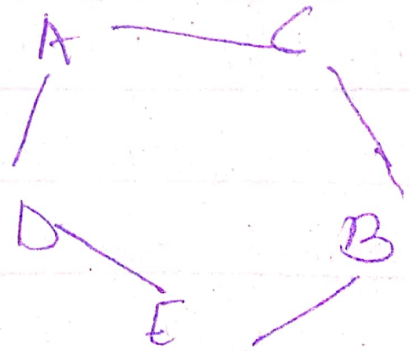
Circuit Switching vs Packet Switching

→ Phy connection establish hoga.



Connection Req mai route decide hoga

beech mai sey node hati alternation route opt krega



hati alternation
route opt krega

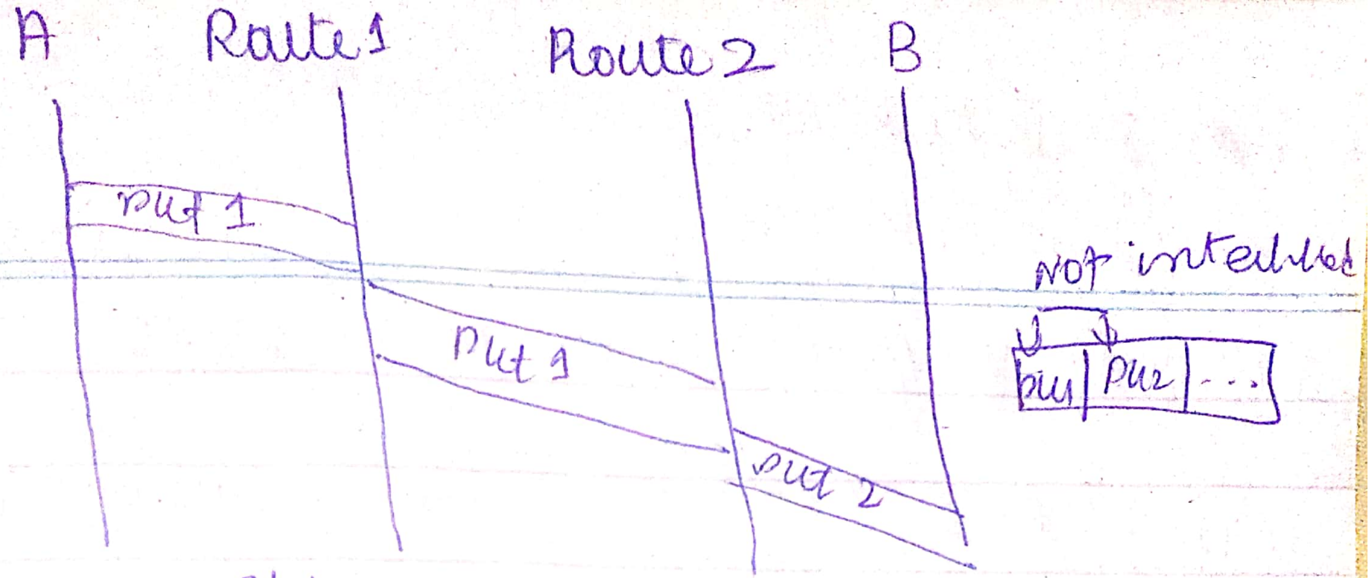
E

complete transmission hogi circuit switching mai

Packet switching:

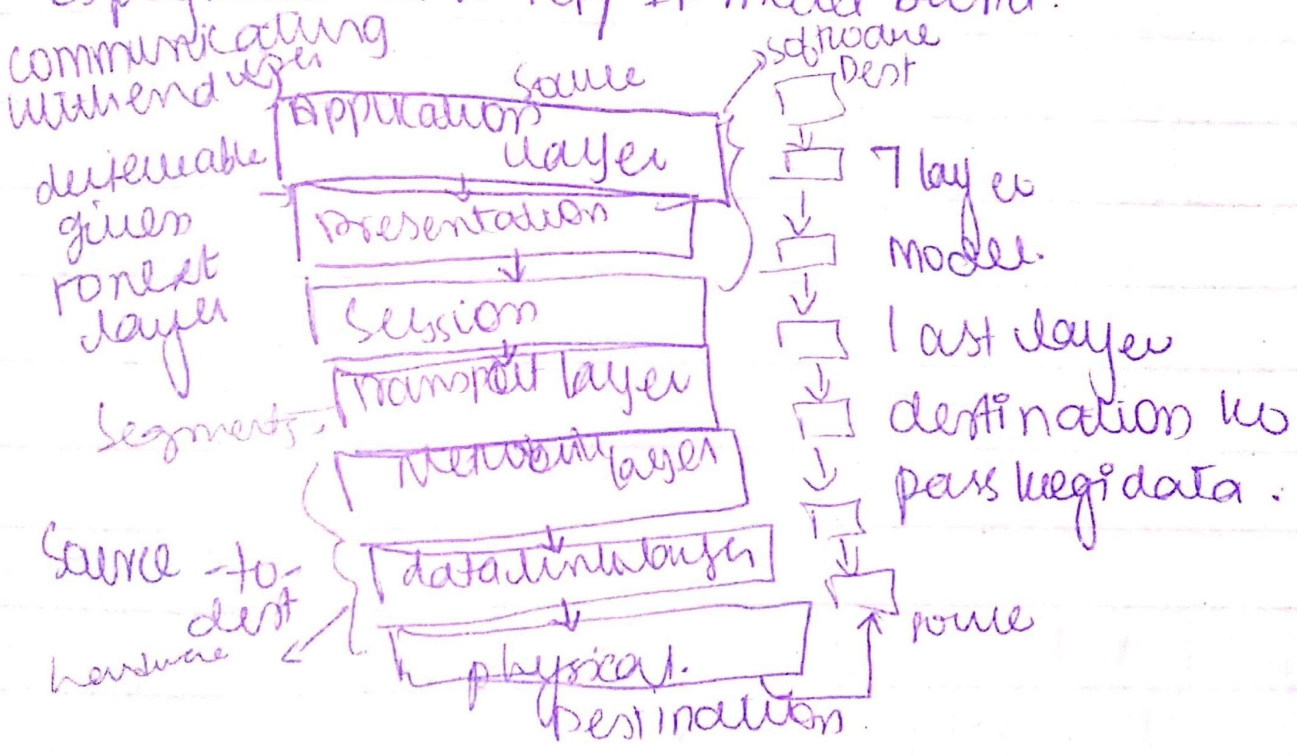
Source sey destination pey bhij dia abhi destina-
tion pey nahi pohncha still wapis transfer
hosakta hai

message in Packets. Ek packet dusrey
pey dependent nahi hai. No connection
establishment required
• har packet koi path follow krega koi dusra
path follow krega.
- Sequential delivery of packets.
• packet loss if connection breaks.
like whatsapp



Circuit switching reliable hai msg jayega he
ye ensure hai packet fast hai kyu ki
Circuit mai phy connection establish hoga
then route free hoga tab transmit.
UDP - fast, video → acha content load hota.
Youtube use TCP protocol.
→ layered struc.
OSI Reference Model (1986) — ISO.
layered se steps pe chalgaye for transmission
open system interconnection.
Mean by reference model?

Youtube use TCP ... jayga content load hota
→ layered struc. protocol.
OSI Reference Model (1986) — ISO.
layered seysteps pe chalgaye for transmission
open system interconnection.
Mean by reference model?
Never practically implemented.
Espeybase ki k TCP/IP model bana.



Jikin dest to source mai lower layer to higher layer pey jaiega.

hardware and software no transport layer support provide data &

provides interface to hardware & software

ALL PEOPLE SEEMS TO NEED DATA PROCESSING.

Presentation layer: Formatting karti hai.
Sahi tarah sey organise karta
~~Formatting~~ Session → create karta hai
jab tak transmission complete nahi hojata.

Transport: division in chunks and then sequencing.
network layer: name (IP) assign karti hai hei chunk ko.
(2) networks ki same IP nahi hoti.

datalink → koi corruption na ho data mai data sahi bhejagaya ho.

physical layer → actual transmission ki hoti hai.

Project Read kr nao
Turn sey kun hardware ka use hona.
- SDN →
- NFV → Network function virtualization
- Intent based Networking → M/L → machine lang policies
konsa packet kis route ko follow karty huye jaraha hai