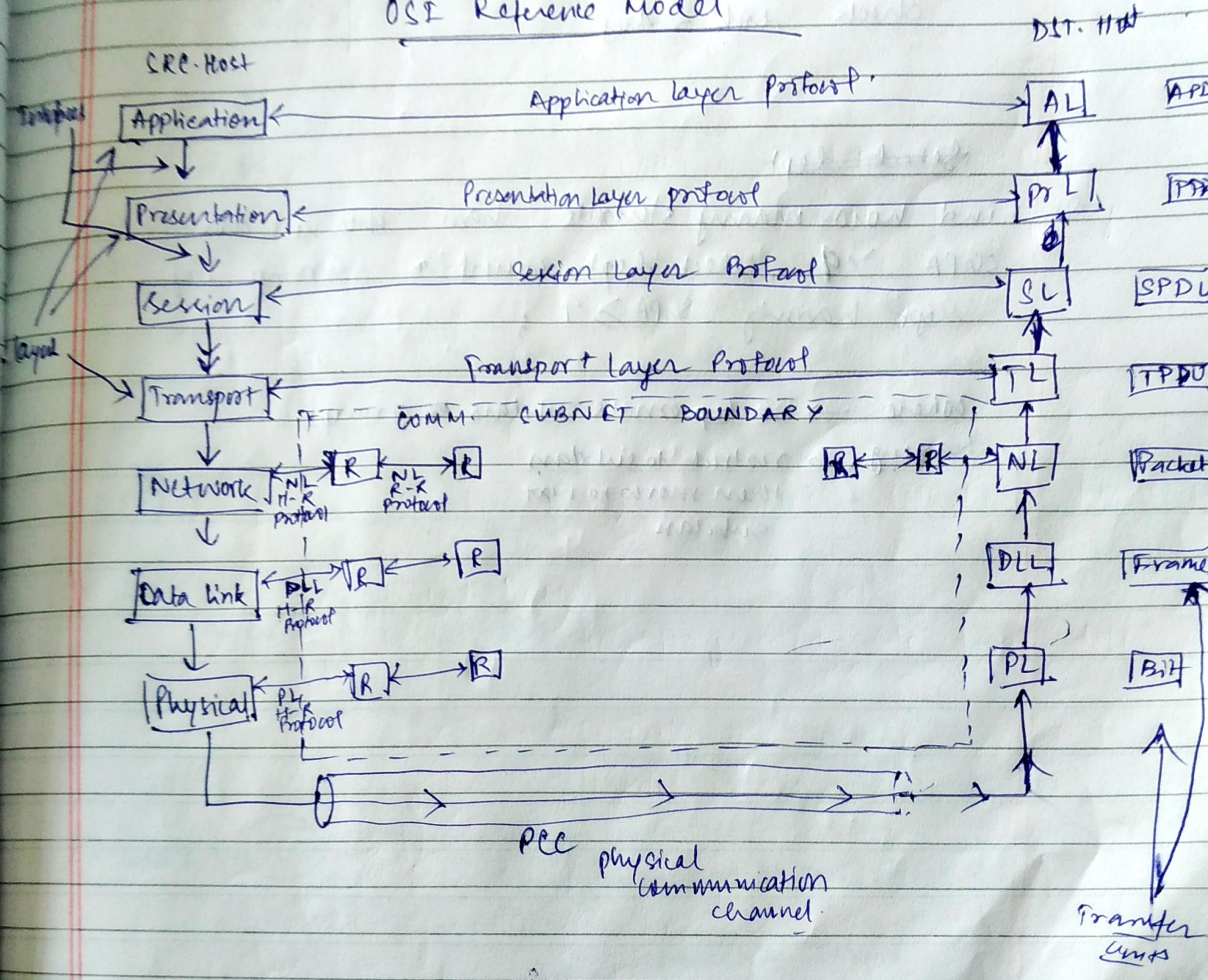
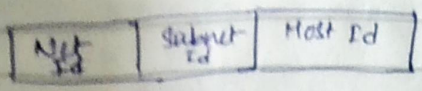
16/1/23

OSI Reference Model



A company is granted a site address 201.70.64.0. The company needs six subnets. Design the subnets.



8 subnets → 3 extra bit

Subnet 1 201.70.64.0 to 201.70.64.31

255.255.255.224

Default mask of class C

255.255.255.0

~~A company requires~~

Problem of Address Space Depletion

solved ↑

classless Addressing

CIDR { Prefix, Suffix }

classless Inter Domain Routing Notation

A.B.C.D/n → prefix.

↓ diff octates / bytes of the IP address.

Prefix = 32 - Suffix

Suffix → 6

→ 2^6 address in range.

70.64.89.(132) → binary

→ make last 6 bits 0 (from RHS)

↓ convert to decimal

Q. What is the network address if one of the addresses is 167.199.170.82/27

prefix = 27
suffix = 32 - 27
= 5

10|10010 → 1000000 (Starting address)
↓
64

N/w address = 167.199.170.64

range = $2^5 = 32$

167.199.170.64 to 167.199.170.95

Q. An organization is granted the block 130.34.12.64/26. The organization needs to have four subnets. Design the subnets.

prefix → 26
suffix → 6

2^6 range.

each subnet $\frac{64}{4}$

= 16

64 →

1st subnet

130.34.12.64/28 to 130.34.12.79/28