

Page NO 1

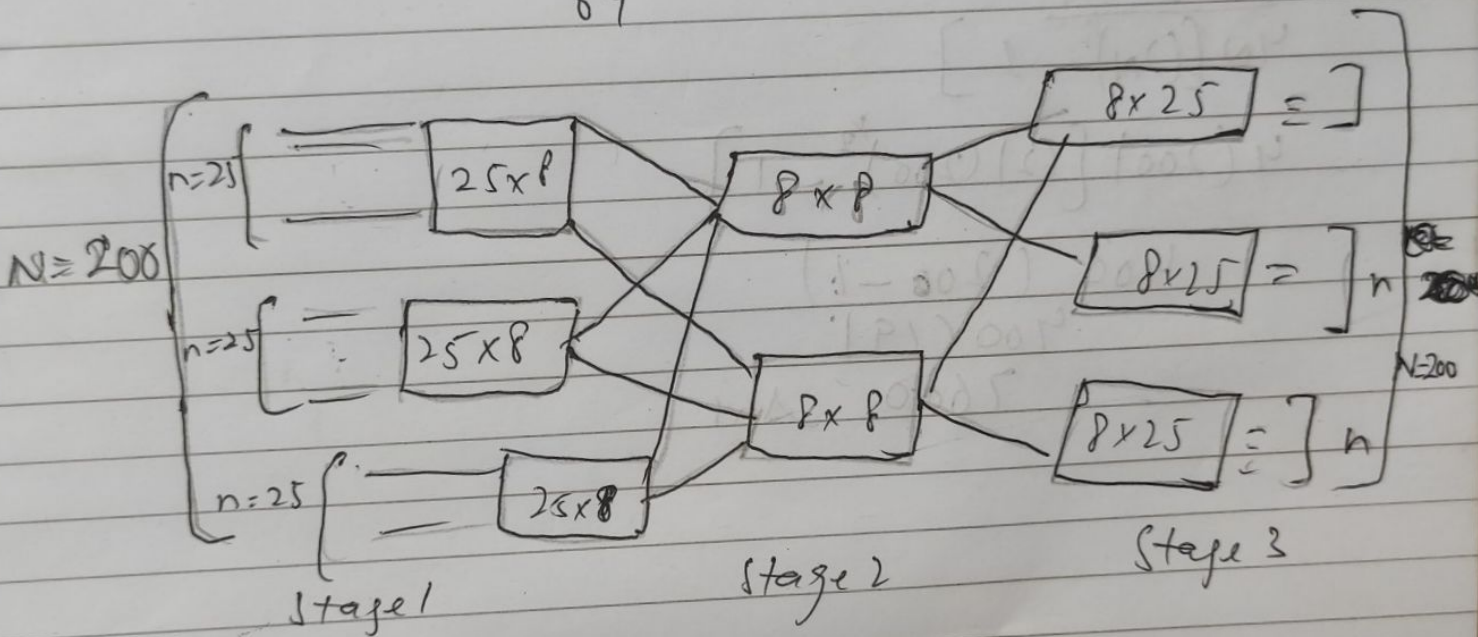
Date:/...../20.....

ID: 14305 Name: M. Omar Masood

QNO1 ANS

Ans a) To find crossbars at middle stage

$$(N/N) \times (N/N)$$
$$= \left(\frac{200}{25}\right) \times \left(\frac{200}{25}\right)$$
$$= 8 \times 8$$
$$= 64$$



b) Total number of cross bars -

$$2KN + K \left(\frac{N}{K}\right)^2$$
$$= 2 \left(\frac{8}{8}\right) (200) + 8 (8^2)$$
$$= 3712$$

c) Finding total number of crossbars using clot criteria

$$n = \left(\frac{n}{2}\right)^k$$

$$n = \left(\frac{200}{2}\right)^k$$

$$n = 10$$

$$k > 20 - 1$$

$$k > 19$$

$$4N \left[(2N)^k - 1 \right]$$

$$4(200) \left[(2)(200)^{19} - 1 \right]$$

$$400 (200 - 1)$$

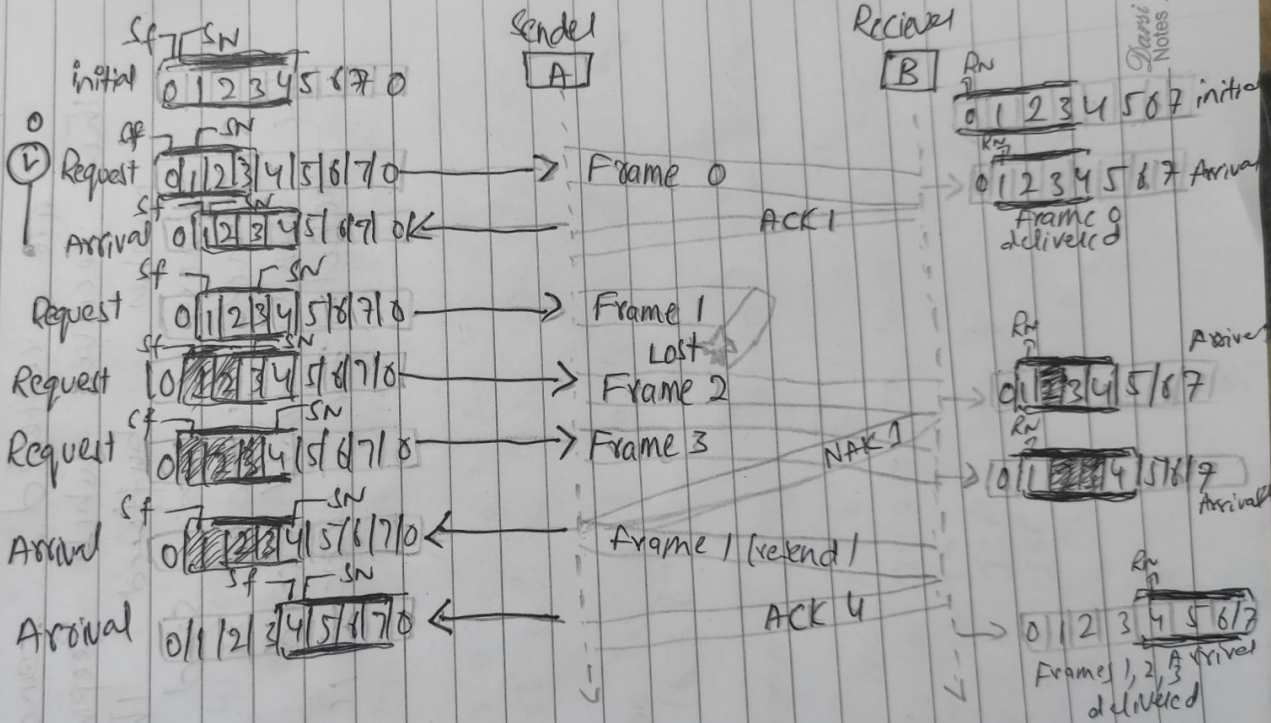
$$400 (19)$$

$$= 7600 \text{ Ans}$$

ID: 14305

(Q No 2 Ans)

Page No 3)

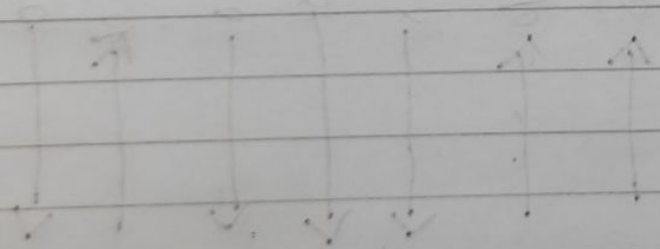


Harvi Notes

QNO2

Explanation

In selective repeat ARQ only the erroneous or lost frames are retransmitted while correct frames are received and buffered at the receiver while keeping track of sequence number, buffered the frame in memory and send nacks for only frame which is missing or damaged. The sender will send and retransmit packet for nack is received.



QNO 4 Ans

10.100.10.0/16

Group 1. 64 customer each need 128 addresses.

1st Customer. 10.100.10.0 to 10.100.10.127

2nd customer. 10.100.10.128 to 10.100.10.255

64th Customer. 10.100.41.128 to 10.100.41.255

Total = 8192

Group 2. 128 customer each need 128 addresses.

1st customer 10.100.42.0 to 10.100.42.127

2nd " 10.100.42.128 to 10.100.42.255

128th customer 10.100.65.128 to 10.100.65.255

Total = 16384

Group 3. 128 customer each needs 32 addresses

1st customer. 10.100.106.0 to 10.100.106.31

2nd " 10.100.121.224 to 10.100.121.255

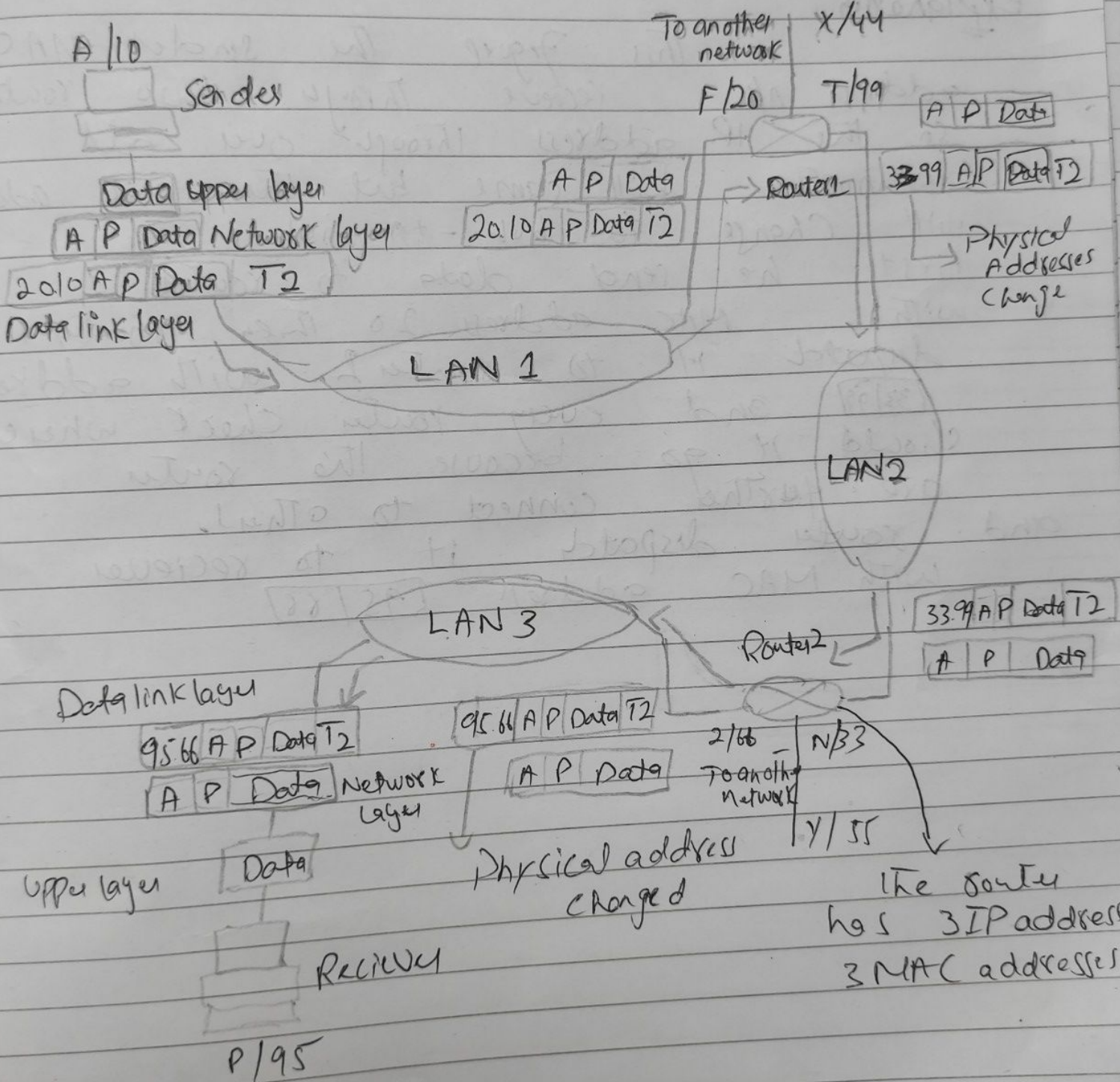
Total = 4096

Number of granted ISP = 65536

Number of allocated ISP = 28672

Number of available ISP = 36864

Q No 5 ANS



QNo 5

explanation

Explanation

in this figure the sender MAC address A/10 receive through two routers so the IP address through out all transmission will same but the mac address will change to hub - to - hub.

First he send data to router 1 with MAC address 20 then router 1 dispatch it to router 2 with address 33/99 and every router check where should it go because the routers are further connect to others.

and router dispatch it to receiver with MAC address 95/88