

NAME

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ID

13124

Subject

Computer Communication
and network

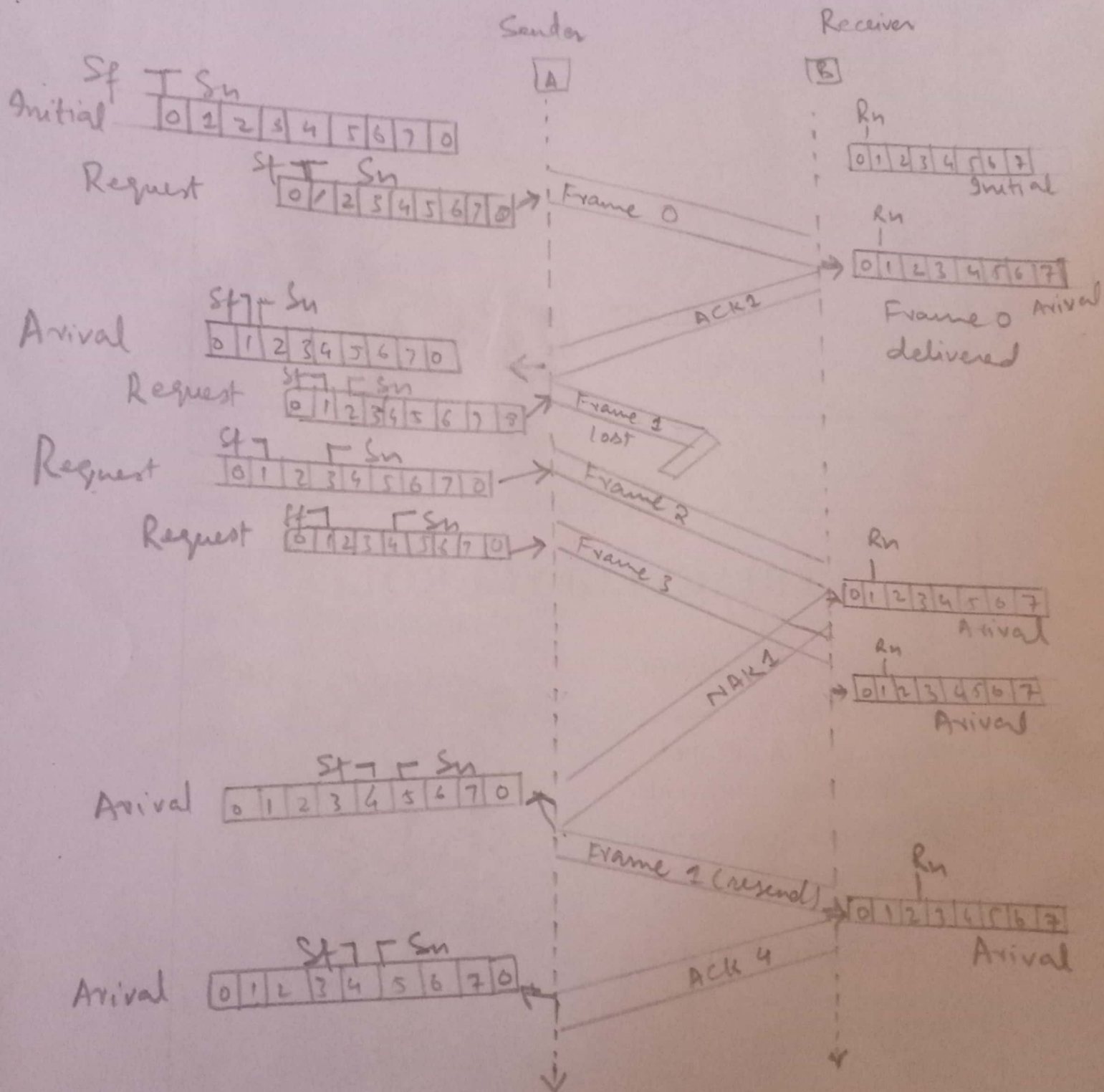
Date

28-9-2020

QNO2

Solution

- In selective Repeat ARQ, only the erroneous or lost frames are retransmitted, while correct frames are received and buffered.
- The receiver while keeping track of sequence number, buffers the frames in memory and sends NACK for only frame which is missing or damaged.
- The sender will send/retransmit packet for NACK is received.



Q No 3

$$\text{bandwidth} = 4 \text{ kHz}$$

$$f_{\text{req}} = 16$$

$$\text{bit rate} = ?$$

Solution

The bit rate can be

$$\begin{aligned} 2 \times 4000 \times 16 &= 128000 \text{ bps} \\ &= 128 \text{ kbps.} \end{aligned}$$

Q No 4

⇒ Part (A)

$$10.100.10.0/16$$

⇒ 64 customers, each needs 128 addresses.

1st customer #

$$10.100.41.128 \text{ to } 10.100.41.255$$

2nd customer #

$$10.100.41.128 \text{ to } 10.100.41.255$$

//

//

64th customer

$$10.100.41.128 \text{ to } 10.100.41.255$$

$$\text{Total} = 8192$$

⇒ part (B)

128 customers, each need 128 add

1st customer

$$10.100.42.0 \text{ to } 10.100.42.127$$

2nd customer

$$10.100.42.128 \text{ to } 10.100.42.255$$

//

//

128th customers (105)

$$10.100.105.128 \text{ to } 10.100.105.255$$

$$\text{Total} = 16384$$

Date: _____

⇒ Part (C)

3rd group 128 customer each need 32 add.

1st customer :

10.100.106.0 to 10.100.106.31

2nd customer :

10.100.106.32 to 10.100.106.63

128th customer:

10.100.106.32 to 10.100.121.255

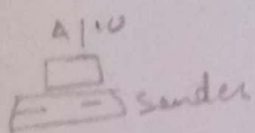
total = 4096

Number of granted ISP
65536

Number of allocated ISP
28672

Number of available ISP
36864

Q5:-



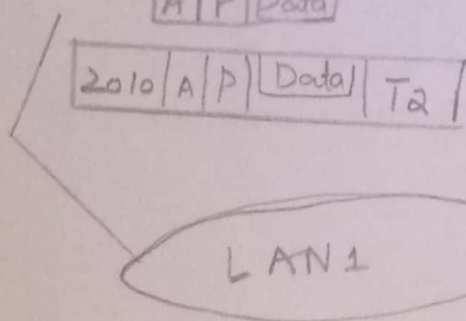
Upper layer
Data

A/P | Data | Network layer

2010 | A/P | Data | T2
Data link layer

A/P | Data

2010 | A/P | Data | T2



To another network X/44

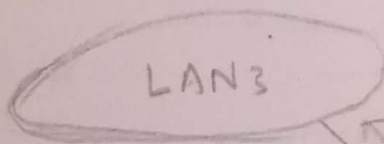
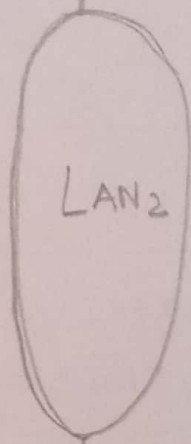
F/20

T/99

Router 1

A/P | Data
33 99 | A/P | Data | T2

Physical Address change



95 66 | A/P | Data | T2

Physical Address changed

Router 2

Z/66

N/33

To another network

Y/55

33 99 | A/P | Data | T2
A/P | Data

⇒ Middle Stage

$$= \frac{N}{n} \times \frac{N}{n}$$

$$= \frac{200}{25} \times \frac{200}{25}$$

64

⇒ total no of cross bar

$$2KN \times k \left(\frac{N}{n} \right)$$

$$= 2(8)(200) \times (8)^2$$

$$= 2(1600) \times 64$$

$$= 3712$$

⇒ ~~total~~ total no of cross bar

$$n = \left(\frac{N}{2} \right)^{\frac{1}{2}}$$

$$n = \left(\frac{200}{2} \right)^{\frac{1}{2}}$$

$$n = 10$$

$$k > 2n - 1$$

$$k > 19$$

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

$$400 \times (20 - 1)$$

$$= 400 \times 19$$

$$= 7600$$

