

Name :- Midrar Khan

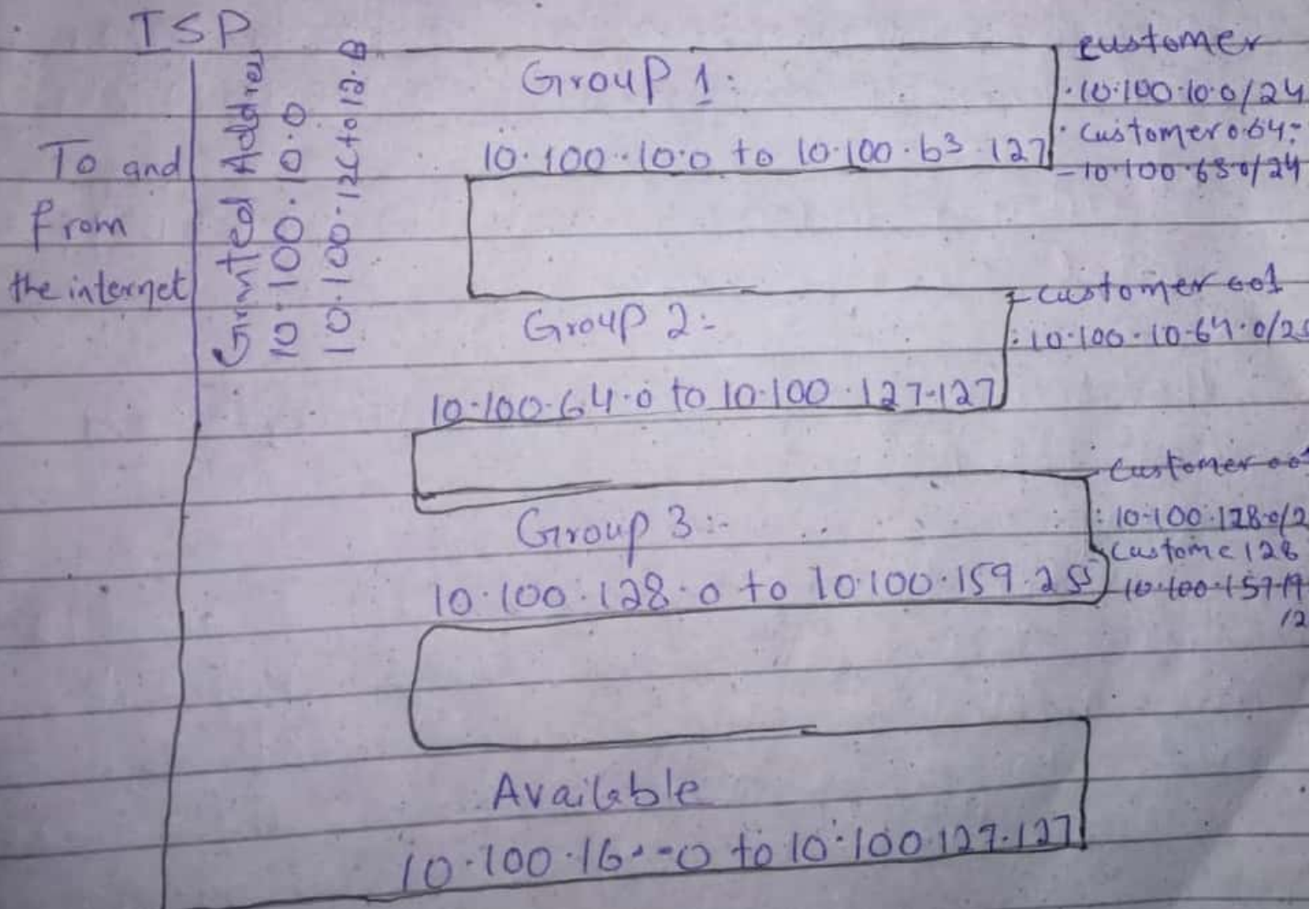
ID :- 12990

Subject :- CCN

Semester :- 8th

Q4 direct Answer
Answer (4)

Ans 4/ Solution



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ID :- 12990. Page (5)

Q4 Ans

- The third group has 128 customers each needed 32 addresses.

3- Group 3.

For this group each customer need 32 addresses. This mean that $\lceil \log_2 32 \rceil$ bits are needed to each host. The perfect length is then $16 - 5 = 11$ The address are

1st customer 10.100.128.0 / 11

2nd customer 10.100.128.32 / 11

128 customer = 10.100.159.192 / 11

Total = $128 \times 32 = 4096$

Number of granted address to the ISP = 65,536

Number of allocated addresses to the ISP = 40960.

Number of Available addressed.

24,576.

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Q4 Ans

- The first group has 64 customers each need 128 address.

1 group 1

To this group each customer need 128 address. This mean that $7(\log_2 128)$ are needed to define each host

The perfect length is then $32 - 7 = 25$

The address are

1st customer: $10.100.10.0/25$ $10.100.10.127/25$

2nd customer: $10.100.11.0/25$ $10.100.11.127/25$

64 customer: $10.100.63.0/25$ $10.100.63.127/25$

Total = $64 \times 128 = 8192$

- The second group has 128 customers, each need 128 Address.

2 group 2

For this group each customer need 128 addresses. This mean that $7(\log_2 128)$ bits are needed to define each host. The

prefix length is then $32 - 7 = 25$. The address

1st customer: $10.100.127.128/25$ are $10.100.127.255/25$

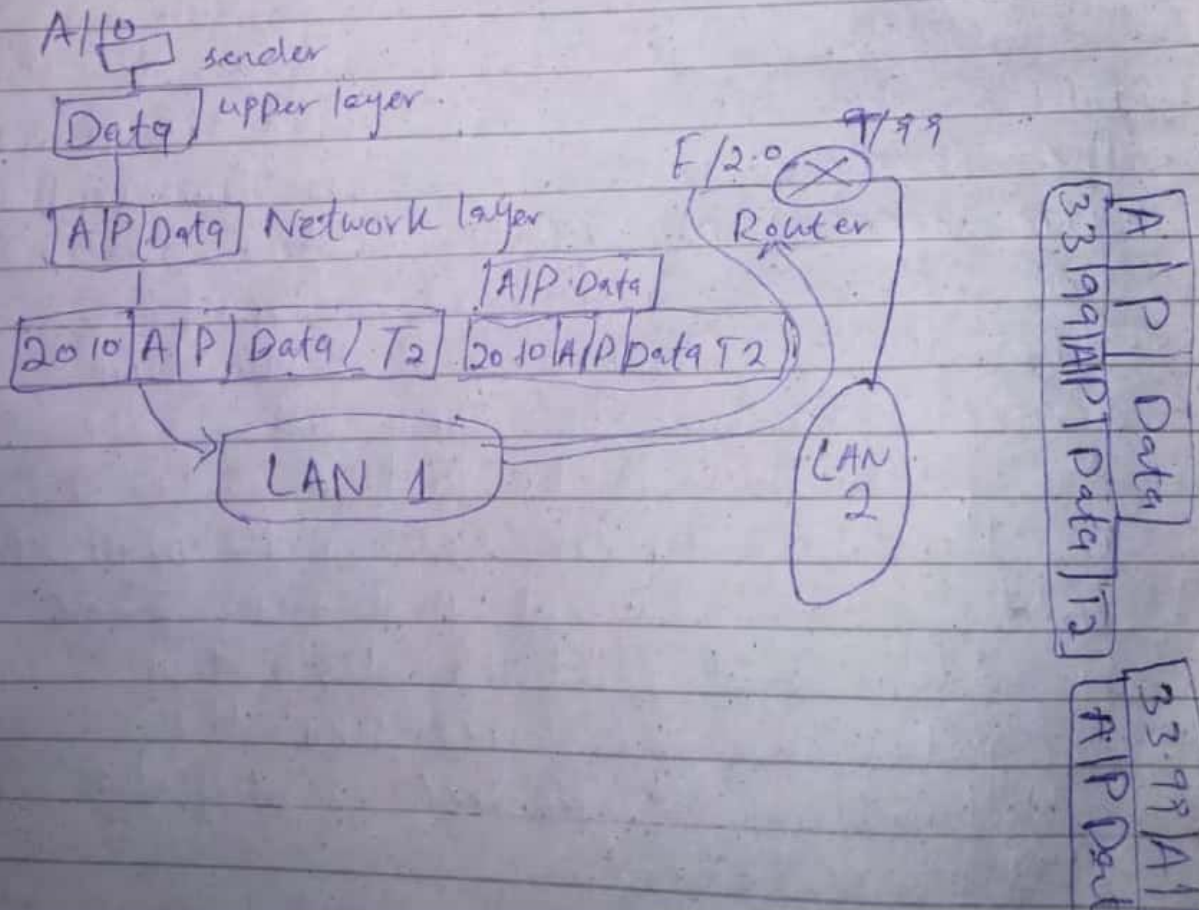
Total = $128 \times 128 = 16384$

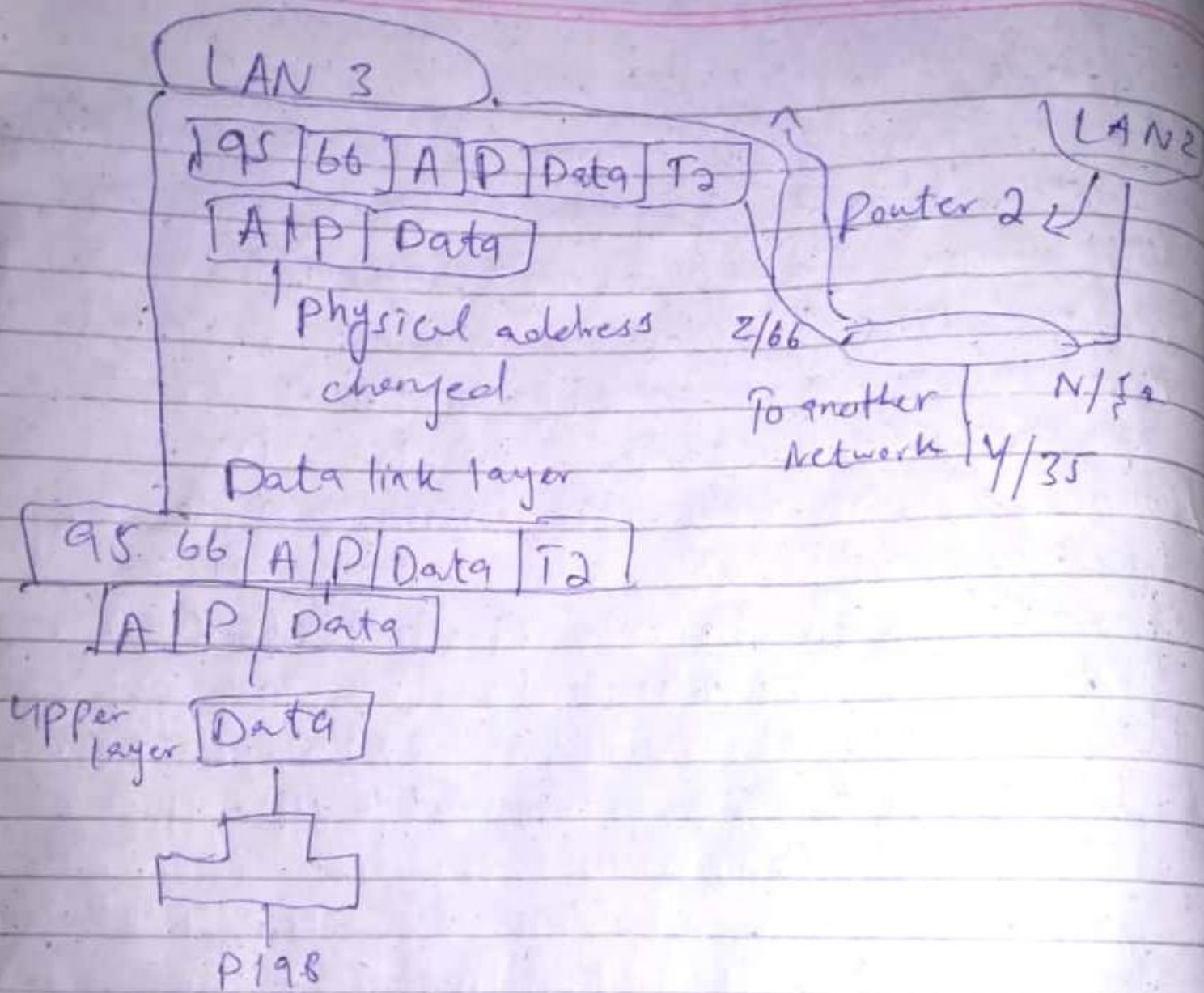
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Q5 Ans

Ans, 5

In the Figure show a part of an internet with the two routers connecting three lans. Each device (computer or router) has a pair of addresses (logical and physical) for each connection. In this case each computer is connected to only one link and therefore has only one pair of addresses. Each router however is connected to ~~three~~ three networks only two are shown in the Figure. so each router has three pairs of addresses one for each connection.



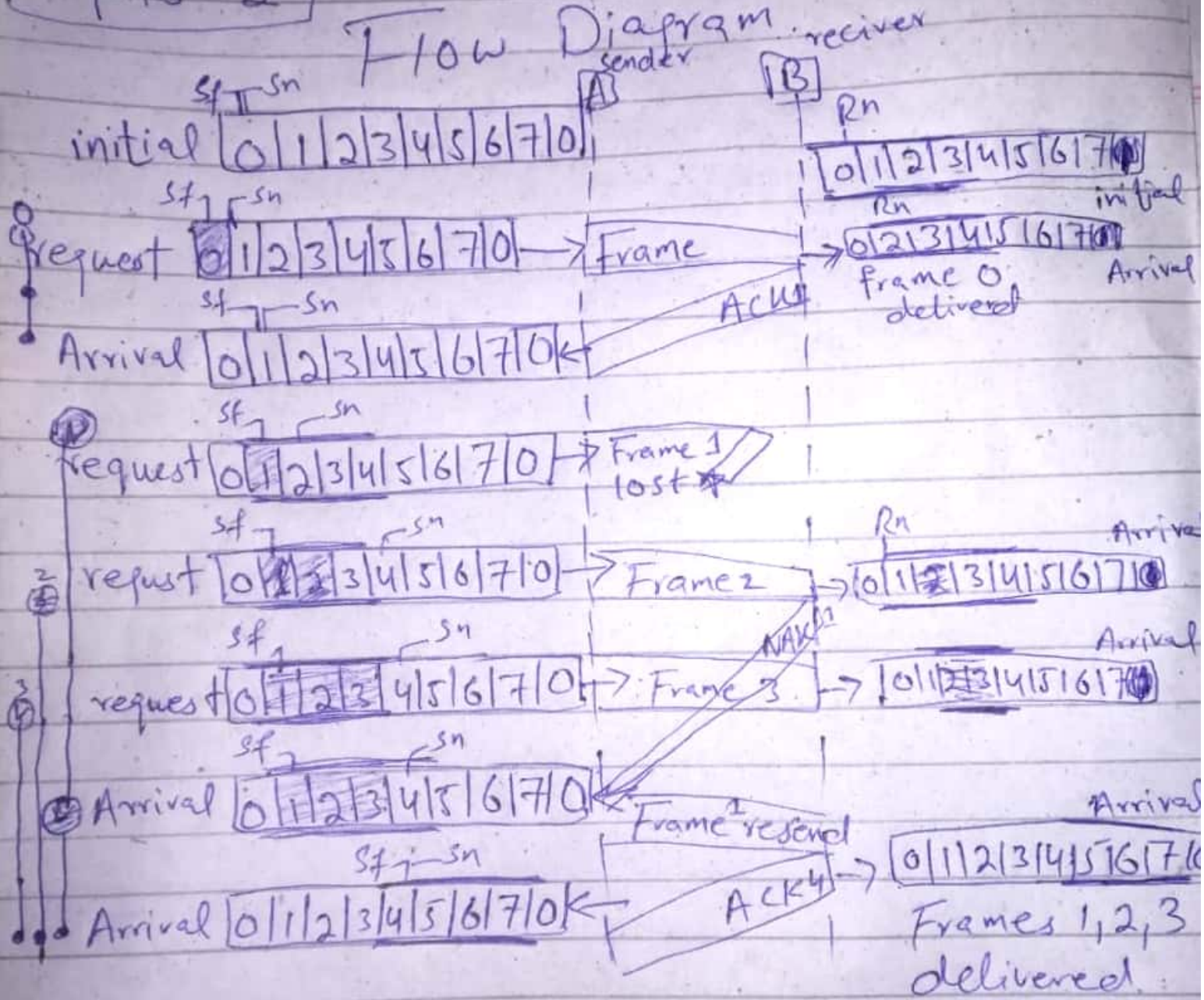


Notes The physical address in the frame
 The source physical address from 10 to 19
 The destination physical address changes
 from 20 (router 2 physical address)
 The logical source and destination
 address router, the same other wise
 the packet will be lost. A router 2
 we have a similar scenario the physical
 address are changed And new frame
 is added and sent to destination
 computer we have reaches the
 destination the packet is dispatch
 decapsulated.

Q2 Ans

Ans 2

Flow Diagram



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Question NO: 2

Solution :

In Selective Repeat
ARQ only the erroneous or
lost frames or 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 frames which is missing or damaged.
- The sender will send retransmit packet for NACK is received.

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(Ans 3)

Q3
Ans

Solution

The required bit rate can be calculated as

$$2 \times 4000 \times 16 = 128,000 \text{ bps} = 128 \text{ kbps}$$

The bandwidth allocation of a telephones voice grade channel which is classified as narrow band, is normally about 4,000 Hz. but the voice channel actually uses frequency from 800 to 3,400 Hz yielding a bandwidth that is 3,100 Hz wide.

The bit rate calculated using the formulae $\text{Frequency} \times \text{bit depth} \times \text{channels} = \text{bit rate}$