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section: 23

1 NO Ans

i) Presentation layer → encryption

ii) Physical layer → synchronization

iii) Data link layer → error control

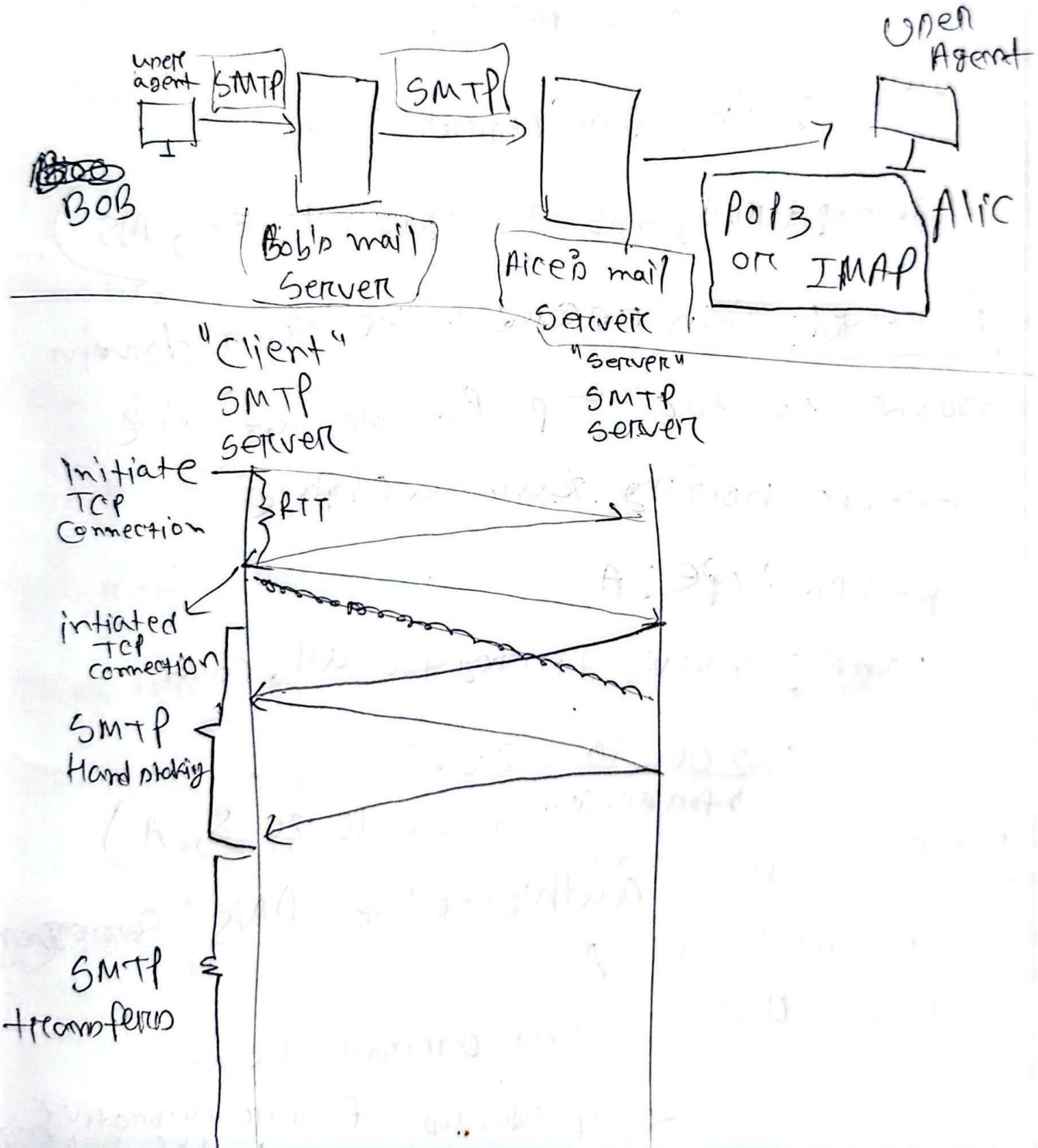
2 NO Ans

Browser specific cookies.

When a user visits www.news.com using Google Chrome and accept cookies, the website stores a small file containing data like user preferences and a unique ID. This allows the site to display personalized content. However, when the user later visit same thing with other browser, the cookies from Chrome aren't accessible. Cookies are stored separately for each

browsers and aren't ~~to~~ phase a account them. So, in" internet explorer the web couldn't recognize the user.

Question 3



Question 4

NS Record: This record identified your authrative dns server.

Record tipe: NS

Name: gaming-forall.com

Value: dns.gamingforall.com

(gamingforall, dns.gamingforall.com, NS)

A record: This record map your domain name to the ip Address of the server hosting your webpage

Record type: A

Name: www.gaming-forall.com

Value: 200.10.20.8

(gamingforall.com, 200.10.20.8, A)

A Record: for authritative DNS server

Record type: A

Name: dns.gamingforall.com

Value: <Ip address of your authrative dns server>

(dns. garnir & forall. com, <ip add. of authoritative dns

A)

Question-5

* UDP (User Datagram protocol)
* Dyramic port
* The Socket

Even trough multiple requests have the same source port number (6007), the server can differentiate between them using a combination of source IP address and source port number. This combination creates a unique tupple for each server - client communication.

- Source IP Address
- Source port number
- Destination IP address
- Destination port nuber.

Question - 6

i

RTT = 35 ms

including HTML total object → 35

RTT per object = (35 + 30) ms

= 65 ms

Total RTT = 65 × 35 = 2275 ms

ii

Total file transmission Time ?

1 object size = 4 × 8 = 32 Mb

server speed = 64 Mbps

time to transmit one object = $\frac{32}{64}$ = 0.5

= 500 ms

total for 35 objects = 500 × 35

= 17500 ms

Question 7

i

average time = $0.4 \times 15 + 0.3 \times (15+30) + 0.3(15+30+100+200)$

$= 105$ ms

ii

The content will be found in BRACU Proxy (not in CSE Proxy)

∴ CSE LAN + BRACU Lan Delay + Air

time = $(15+30)$ ms

exact response = 45 ms

Question - 8

i

The server retransmits S1 because its retransmission timer (RTO) expired before it received an acknowledgment for the bytes in S1. That indicated the server didn't see an ACK for that sequence range, so it retransmits.

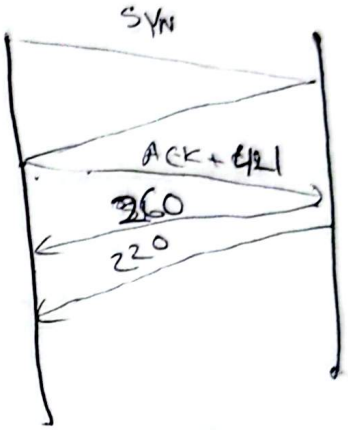
With selective repeat, if the client had already received the original S1, the client will discard the duplicate and resend ACK for the highest contiguous byte received.

ii

* Client ISN = 1910

for SYN = 1910 + 1 = 1911

set after C1 = 1911 + 421 = 2332



* server ISN = 1532

= 1532 + 1 = 1533

after S1 and S2

1533 + 260 + 220 = 2013

∴ ACK = 2013 SQL = 2332

iii

initial
Server rwnd = 12000 bytes

C3 = 1111 bytes

C1 = 427 bytes

New reward = Initial reward − Size of C3
− Size of C4

= 12000 − 111 − 427

= 11468 bytes