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sec: 22

Course: CSE 421

Assignment 01

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Set B

Explain with answers to the question no.1

i) Presentation layer.

ii) Data link layer.

iii) Network layer.

network stack

Answers to the question no.2

The social media platform knew about our choices

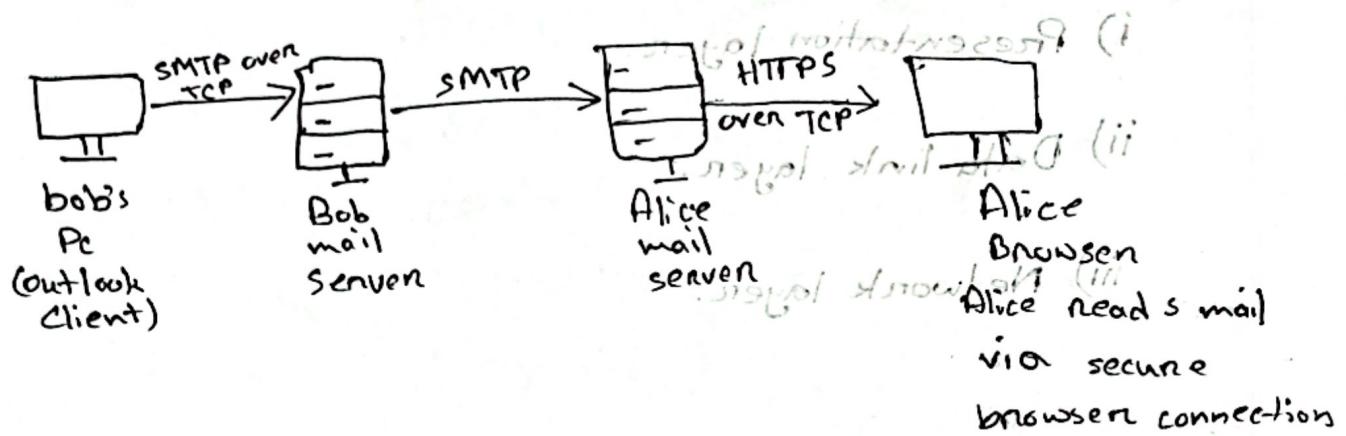
because the online clothing store and the social

media site share user activity data through

cookies, tracking pixels, and ad networks, allowing

targeted advertising based on our
browsing behavior.

Ques no 3 Ans to the question no. 3



Ques no 4 Ans to the question no. 4

various types of records used in DNS Ans to the question no. 4

various types of records used in DNS

Record type	Host/Name	Value/Data	Purpose
A	www.gamingforall.com	200.10.20.7	Maps the web address to the server's IP address so user can visit your website.
A	mail.gamingforall.com	200.10.20.7	Maps the mail server host name to the same IP.
Mx	gamingforall.com	10 mail.gamingforall.com	Defines the mail exchange server responsibility for handling emails for domain.
NS	gamingforall.com	ns.yourispdomain.com	Defines the primary authoritative name server for your domain.

Q. no. 5 Answer to the question no. 5

If two browser tab visit bracu.ac.bd, each tab establishes a separate TCP connection with the bracu web server. Although both requests go to the same server IP and port (80 for HTTP or 443 for HTTPS), the client assigns a different random source port for each tab. The server differentiates the request for using the unique combination of source IP, source port, destination IP and destination port. When sending replies, the server uses its own source port and sends data back to the client's respective source port, which becomes the destination port in each reply.

Q. on network Answer to the question no. 6

i) Given,

$$\text{Total object} = 18$$

size of each object = 12 MB, GFT storage is

server side: server TCP request time = 12 ms

HTTP request + respond time per object = 15 ms

GFT (27 bits for EPN no 42777 and 68) freq b/w 9T and
server speed = 42 Mbps.

now given freq. number freq 72000 implies trials

$$\therefore \text{Total RTT} = 12 + (15 \times 18)$$

now GFT estime = 282 ms b/w GFT and object

IT \Rightarrow for notifications expire after given sec.
File size = $12 \text{ MB} = 12 \times 8 = 96 \text{ Mb per object}$

freq notifications b/w 9T notifications freq 90000

now est. transmission time per object = $\frac{96}{42} \text{ ms}$

total time of 3000 objects b/w = 12.2857 s

$$= 2285.7 \text{ ms}$$

but 96 bits consumed b/w 9T freq 300000 b/w 9T and 9T

$\therefore \text{Total file transmission time} = (2285.7 \times 18)$

$$= 41142.6 \text{ ms}$$

Answer to the question no.7

o base of question has been, starting with

i) Average respond time = $0.50(35) + 0.25(35+50) + 0.25(35+50)$
 $\rightarrow 300 + 200$

o base of question has been, starting with

$$= 0.50(35) + 0.25(85) + 0.25(585)$$
$$\rightarrow 225 + 125 \text{ ms} \quad \text{(ii)}$$
$$= 185.0 \text{ ms}$$

(i) 225 ms and 125 ms both must stay intact benefit

225 ms

125 ms otherwise

ii) Since PC A just visited xyz.com the page is

1105 =

cached in the department proxy. That means
the request is served locally via the ese LAN only

∴ Exact response time for PC A is 35 ms?

∴ 35 ms + 1105 ms = 1140 ms

Answer to the question no.8

i) The server retransmit S1 because it never received ACK for that segment before its

RTO expired. Under Go-Back-N, a sender retransmits the unacknowledged segments when a timeout occurs.

∴ TPD = 0.0001 = browser

Do the diagram shows S1 delivered to the

client, so when duplicate S1 arrives the client drops the duplicate payload and continues to send a cumulative ACK for the next in order byte it still expects.

$$(25.0 + 25.6 + 25.0) =$$

ii) Client ISN = 1455

first data byte from client has sequence number $1455 + 1$
server ISN = 2010

$$= 1456$$

∴ first data byte from server has sequence no. $2010 + 1$

$$= 2011$$

$\therefore C_1 = 320 \text{ bytes} \rightarrow \text{occupies Client bytes seq } 1456 \dots 1456 + 319$

$C_2 = 111 \text{ bytes} \rightarrow \text{occupies next 111 bytes}$

$C_3 = 260 \text{ bytes} \rightarrow \text{next 260 bytes from } 2011 \dots$

$\therefore \text{The sequence number of } C_3 = 1456 + 320 + 111 = 1887$

iii) ACK number carried in $C_3 = 2011 + 220 + 421 = 2652$

iii) Initial advertised received window = 10000 bytes.

→ after 691 bytes from client = $320 + 111 + 260 = 691$

→ current window size decreases by 691 bytes
 $\therefore rwind = 10000 - 691 =$

→ after 9309 bytes = $10000 - 9309 = 691$