

Assignment-1

Prottag Chatterji

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Sec-23

Ans: No.1

(a) I disagree.

Formatting the computer would erase local cookie data, so website would treat my computer as a new client.

(b) Not in syllabus.

(c)(i) TTL expired on 18 July, 2022.

∴ Total RTT for DNS lookup =  $(4 \times 55) \text{ ms}$

$$= \cancel{165 \text{ ms}} \\ = \boxed{220 \text{ ms}}$$

TOPIC NAME: \_\_\_\_\_

DAY: \_\_\_\_\_

TIME: \_\_\_\_\_ DATE: / /

(ii) The total RTT =  $2 \times (35 + 35) + 20 \times (35 + 35)$   
 $= 1540 \text{ ms}$

(c)

(iii) After fetching IP address,

$$\begin{aligned}\text{Total time} &= \text{Total RTT} + \text{FTT} \\ &= 1540 + (21 \times 125) \\ &= 4165 \text{ ms} \\ &= \underline{\underline{4165}}\end{aligned}$$

$\therefore$  PC A takes to load the webpage = Before fetching + After fetching

$$= (\overset{220}{\cancel{165}} + 4165) \text{ ms}$$

$$\begin{aligned}&= \cancel{4330} \text{ ms} + 4385 \text{ ms} \\ &= \underline{\underline{4335}}\end{aligned}$$

(Ans.)

TOPIC NAME: \_\_\_\_\_

DAY: \_\_\_\_\_

TIME: \_\_\_\_\_ DATE: / /

~~(c)~~

Ans: NO.2

| a) Destination Port | Source port | Destination Type | Source Type  |
|---------------------|-------------|------------------|--------------|
| (1024-49151)        | 50001       | Registered port  | Dynamic port |

(b)<sup>(i)</sup> data sent = 151 - 100  
= 51

51

data can be sent = 100 - 51  
= 49

49

(ii) TCP's reliability mechanism handles lost ACKs automatically through timeouts and retransmissions.

TOPIC NAME : \_\_\_\_\_

DAY : \_\_\_\_\_

TIME : \_\_\_\_\_

DATE : / /

(c) (i)

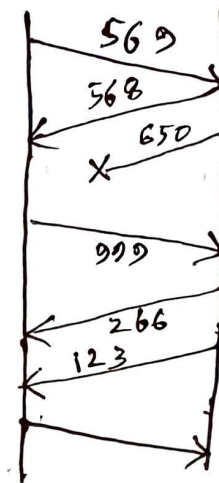
For data segment-1,

$$\text{sequence number} = 5549 + 1$$

$$= \boxed{5550}$$

$$\text{Ack number} = 9666 + 1 + 569$$

$$= \boxed{10236}$$



Client ISN  
= 9666

Server ISN  
= 5549

(ii) After the 4<sup>th</sup> segment,

$$\text{ACK} = \cancel{5549 + 1 + 568} + 9666 + 1 + 569 + 999$$

$$= \boxed{11235}$$

$$\text{RWND} = 8000 - 568 + 568$$

$$= \boxed{8000}$$

(Ans:)

[Because the client processed 1<sup>st</sup> Data segment]

Ans: No. 3

(a)

(i)

1 → Physical

6 → Network

2 → Transport

7 → Data Link

3 → Presentation

4 → Session

5 → Application

∴ Sequence:

1 → 7 → 6 → 2 → 4 → 3 → 5

(ii) MAC Addresses change at each hop.

(b) and (c) not is syllabus.