

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 = (4×55) ms

$$\begin{aligned} &= \cancel{165 \text{ ms}} \\ &= \boxed{220 \text{ ms}} \end{aligned}$$

TOPIC NAME: _____ DAY: _____
 TIME: _____ DATE: / /

(ii) The total RTT = $2 \times (35 + 35) + 20 \times (35 + 35)$
~~for each ACK~~ = 1540 ms

(iii) After fetching IP address,

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

~~4~~

\therefore PC A takes to load the webpage = Before fetching + After fetching
~~good news for speed~~

$$\begin{aligned}&= (\cancel{165} + 4165) \text{ ms} \\ &= 4330 \text{ ms} \quad 4385 \text{ ms} \\ &\quad \cancel{= 4333}\end{aligned}$$

(Ans:)

TOPIC NAME: _____

DAY: _____

TIME: _____ DATE: / /

~~(c)~~

Ques No. 2

Ans: NO. 2

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

$$(b) \text{ (i)} \quad \text{data sent} = 151 - 100 \\ = 51$$

51

$$\text{data can be sent} = 100 - 51 \\ = 49$$

49

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

TOPIC NAME: _____ DAY: _____
 TIME: _____ DATE: / /

(c) (r)

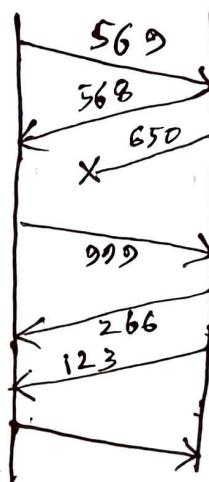
For data segment-1,

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

$$= \boxed{5550}$$

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

$$= \boxed{10236}$$



Client ISN
= 9666

Server ISN
= 5549

(ii) After the 4th 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 1st Data segment]

TOPIC NAME: _____

DAY: _____

TIME: _____

DATE: / /

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 in syllabus.