

Assignment-1

Prottag Chatterji

ID-22299441

Sec-23

TOPIC NAME : _____

DAY : _____

TIME : _____

DATE : / /

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.

$\therefore \text{Total RTT for DNS lookup} = (3 \times 55) \text{ ms}$
 $= 165 \text{ ms}.$

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

(iii) After fetching IP address,

$$\begin{aligned}\text{Total time} &= \text{Total RTT} + \text{FTT} \\ &= 1540 + (21 \times 125) \\ &= 4165 \text{ ms} \\ &= \underline{\underline{4.165 \text{ s}}}\end{aligned}$$

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

$$\begin{aligned}&= (165 + 4165) \text{ ms} \\ &= 4330 \text{ ms} \\ &= 4.33 \text{ s}\end{aligned}$$

(Ans.)

Ans: NO. 2

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

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

51

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

49

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

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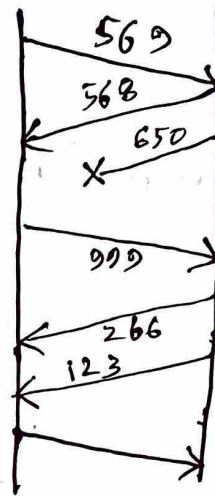
TIME: _____ DATE: / /

(c) (i)

For data segment-1,

$$\text{Sequence number} = 5549 + 1 \\ = \boxed{5550}$$

$$\text{Ack number} = 9666 + 1 + 569 \\ = \boxed{10236}$$



$$\text{Client ISN} \\ = 9666$$

$$\text{Server ISN} \\ = 5549$$

(ii) After the 4th segment,

$$\text{Client sends ACK} = 5549 + 1 + 568 \\ = \boxed{6118}$$

[Because segment-2 got corrupte]

$$\text{RWND} = 8000 - 568 \\ = \boxed{7432}$$

(Ans:)

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.