

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)

$$\begin{aligned} \text{The total RTT} &= 2 \times (35 + 35) + 20 \times (35 + 35) \\ &= 1540 \text{ ms} \end{aligned}$$

(iii) After fetching IP address,

$$\begin{aligned} \text{Total time} &= \text{Total RTT} + FTT \\ &= 1540 + (21 \times 125) \\ &= 4165 \text{ ms} \\ &\quad \cancel{- 4} \end{aligned}$$

∴ PC A takes to load the webpage = Before fetching + After fetching  
=  $(165 + 4165) \text{ ms}$

$$\begin{aligned} &= 4330 \text{ ms} \\ &= 4.33 \text{ s} \end{aligned}$$

(Ans:)

Ans: No. 2

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
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data can be sent = 100 - 51  
 $\approx 49$

49
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(ii) TCP's reliability mechanism handles lost ACKs automatically through timeouts and retransmissions.

(c) (i)

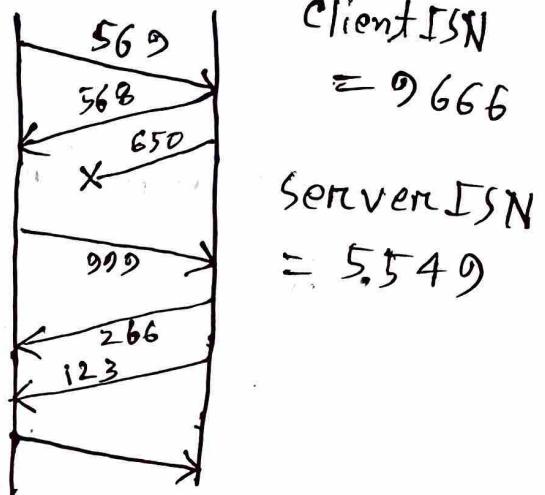
For data segment-1,

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

$$= \boxed{5550}$$

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

$$= \boxed{10236}$$



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

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

$$= \boxed{6118}$$

[Because segment → 2 got corrupted]

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

$$= \boxed{7432}$$

(Ans:)

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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.