

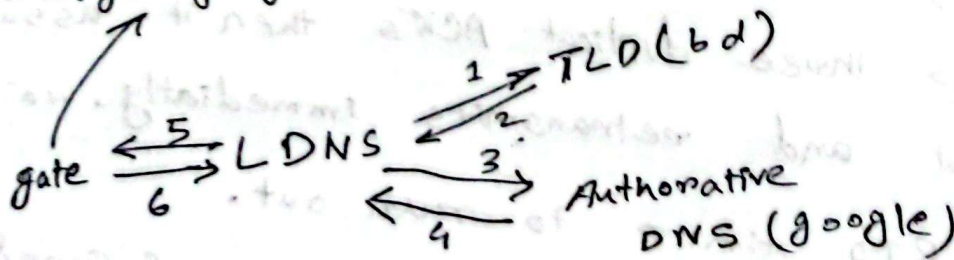
Assignment-01
Summer-24 (B)

1) Standards are endorsed by the networking industry and approved by a standards organization. There are some benefits of it. They are- It helps to create and maintain an open and competitive market. Ensure greater compatibility and interoperability. That's why all manufacturers of networking products should follow standards.

2) HTTP/1.1 handles requests one after another, with limited simultaneous connections. If one request is slow, everything else waits.

HTTP/2.0 sends multiple requests together in parallel over the same connection, with compressed headers and prioritization. As a result, pages load much faster.

3) `www.gate.google.bd`



4) IMAP lets a user only to download email partially.

This scenario is helpful when there is low-bandwidth or unstable internet connection, Accessing email from multiple devices or large attachments. IMAP improves efficiency, especially where bandwidth, time or storage is limited.

5) TCP will be suitable for Dipu as it provides reliable, ordered and error-free data delivery. It ensures acknowledgment, retransmission and flow control. It is ideal when accuracy matters more than speed. As Dipu prioritizes correct data transmission TCP is the best choice.

6) This happens in Fast Retransmission. If a sender receives three duplicate ACK's then it assumes a packet is lost and retransmits immediately, waiting for the RTO timer to run out.

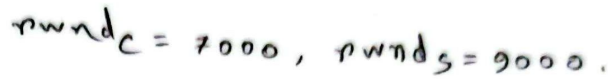
7) i) Total RTT = $0.054 + (24 \times 0.054) = 1.35$ Seconds

ii) $4.345 = (23 \times 0.054) + \left(\frac{x \times 24}{25}\right) + 1.35$

$\therefore x = 3 \text{ Mb (Ans.)}$

$$\begin{aligned} \text{objects} &= 24 \\ \text{RTT} &= 24 \times 2 \\ &= 54 \text{ ms} \\ &= 0.054 \text{ s} \end{aligned}$$

8)


$$S_1 = 232$$
$$S_3 = 421 \quad \sim$$

- Acknowledgement $n \times n \times n \times n = 1532 + 144 = 1676$

- Acknowledgement " " " " " " = 19 10 1232
= 2 142

- iii) Rwnd of the client while sending $\text{Fin segment} = 7000 - 421$
 $= 6579$