CSE - 421

Assignment - 01

Name: Shawfin Alam

ID: 24341282

Sec: 22

Q1] Ans. The TCP/IP model combined the OSI model's Application (Layer 7), Presentation (Layer 6) and Session (Layer 5) layers into its single Application Layer.

Q2] The website uses HTTP cookies.

Thursday: The server saw the absence of a cookie in your request and sent back a header with a unique ID.

Friday: Your browser's request included the header with that unique ID, allowing the server to find your saved cart.

Q3] 4 query-response pairs are involved:

1) Local DNS server → Root DNS server.

2) Local DNS server → TLD server.

3) Local DNS server → Authorative server.

4) Local DNS server → Authorative server.

Q4] Yes, POP3 is more useful for:

* **Offline Access:** It downloads emails to the local device.

* **Limited server Storage:** It removes emails from the server after downloading, freeing up space

Q5] why different: Each tab uses a separate TCP connection. The OS assigns a unique, ephemeral source port to each connection to tell them apart.

Destination port: 80 (for HTTP) or 443 (for HTTPS)

Type: Well known port.

Q6] This is a TCP half-close. The server does not send a FIN if the client sends a FIN, but the server still has data to send to the client. The server sends only an ACK, continues, sending its data, and sends its own FIN only after it is finished.

Q7| $x = 37$ objects

Total RTT = 2.516 sec

Q-8| Ack segment → Seq = 4531
Ack = 9274

Fin segment → Seq = 4722
Ack = 9274

Servers new round (after receiving c1):

13809 bytes.