Answer

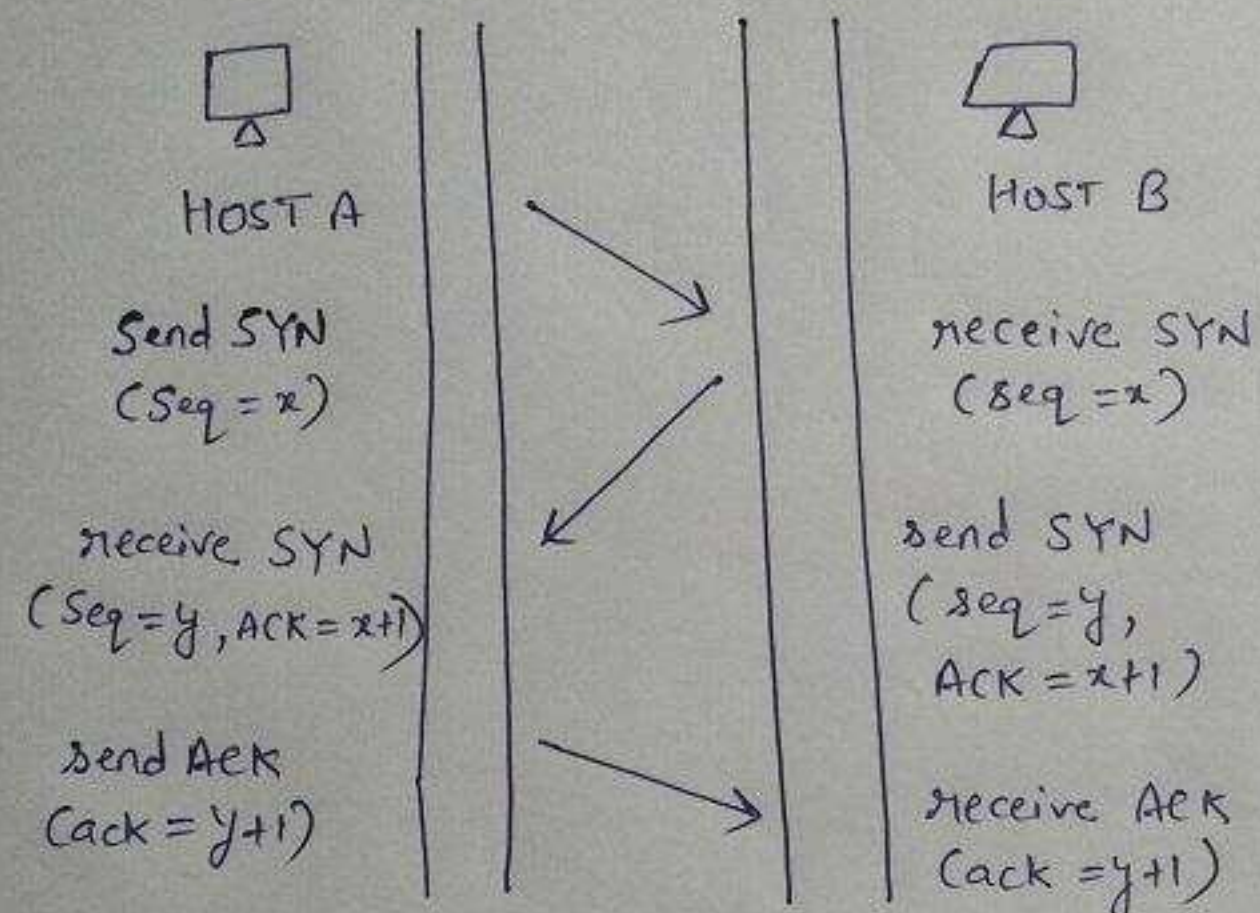**Solution:**

Please find the solution of the above question given below-

Answer:— Three -Way Handshake — A three way handshake is a method used in a TCP/IP network to create a connection between a local host / client and server.

The three steps of a Three-way Handshake —

HOST A   HOST B

Send SYN   receive SYN
(Seq = x)   (seq = x)

receive SYN   send SYN
(Seq = y, ACK = x+1)   (seq = y, ACK = x+1)
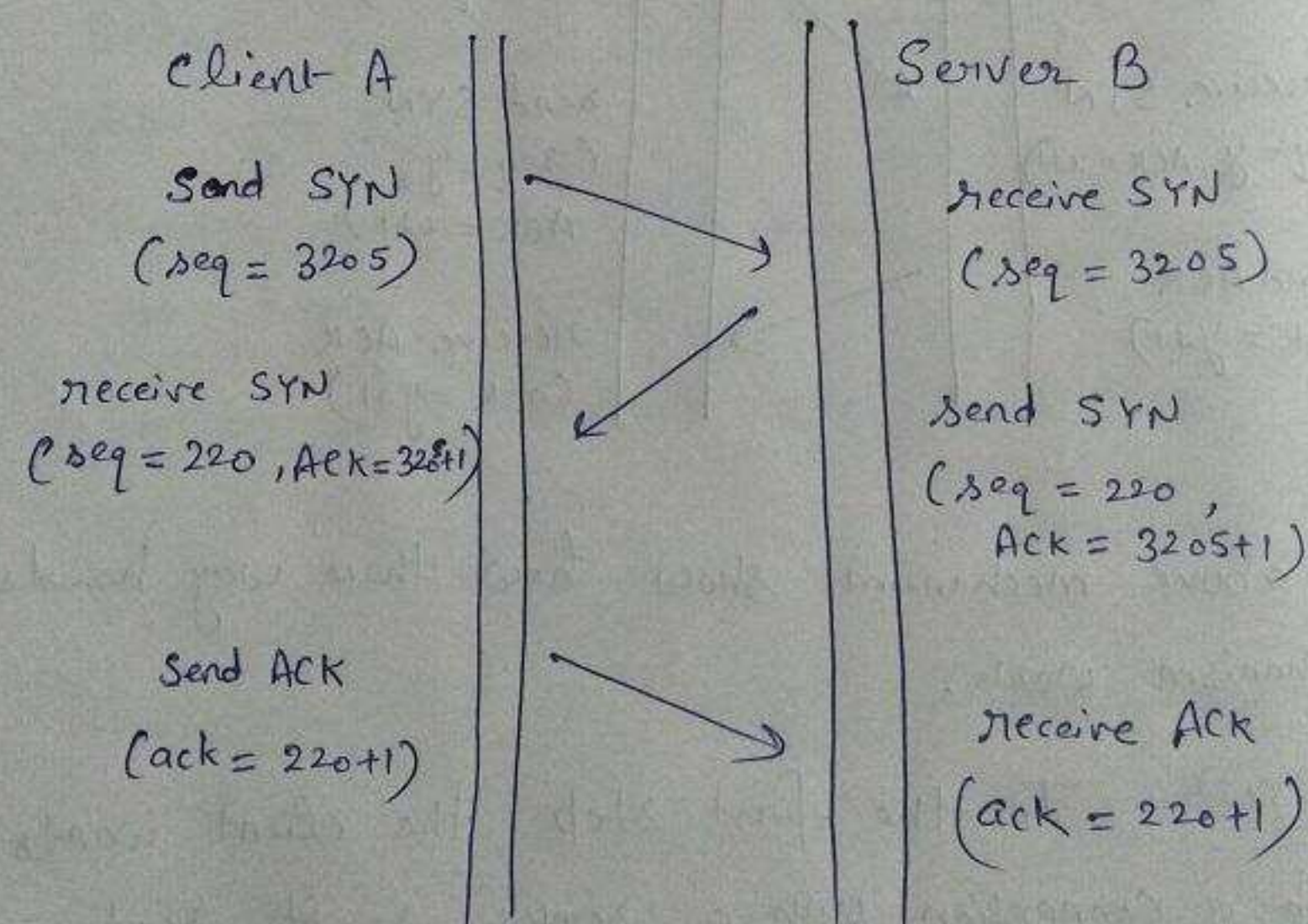
send ACK   receive ACK
(ack = y+1)   (ack = y+1)

The above mechanism show how three way handshake mechanism work.

Step1 (SYN) — In the first step, the client wants to establish a connection with a server, so it sends a segment with SYN (Synchronize Sequence Number) which informs the server that the client is likely to start communication and with what sequence number it starts segments with.

Step2 (SYN + ACK) — Server responds to the client request with SYN-ACK signal. bit set. Acknowledgement (ACK) signifies the response of the segment it received and SYN signifies with what sequence number it is likely to start the segments with.

Step3 (ACK) — In the final part client acknowledges the response of the server and they both establish a reliable connection with which they will start the actual data transfer.

Client A   Server B

Send SYN   receive SYN
(seq = 3205)   (seq = 3205)

receive SYN   send SYN
(seq = 220, ACK = 3241)   (seq = 220, ACK = 3205+1)

Send ACK   receive ACK
(ack = 220+1)   (ack = 220+1)

Solution 1:—

Sequence number of the HTTP GET request segment from client A = 3206

Acknowledge number of the HTTP GET request segment from client A = 221

Solution II—

Given window size of client A = 496 bytes

Window size of server B = 280 bytes

Client A sends the HTTP GET request of the size 120 bytes. Server B answered with 2 segments containing the requested data.

The size of first segment is = 75 bytes.

The size of second segment is = 45 bytes.

the window size of the second acknowledge segment sent by client A is = 90 bytes **Ans.**