

Answer to the question no. 3

(a) Given that,

Transmitting starts at - 2:00 pm

Propagation time = 10 minutes

In 10 minutes it moves a bit from A to D.

So, for selecting collision, we need to wait for another 10 minutes to check if any bit comes from D to A.

So, for worst case scenario, the transmission time has to be 20 minutes to detect the collision.

So, the time in my clock after completing the transmission of the frames if I want to detect the possible collision in the worst case scenario is 20 minutes on 2:20:00 pm

Ans: 20 minutes.

(b) If I have stopped transmitting before the time that I have calculated, a collision will occur at Station D or near Station D and station-A will be unaware of it. This can lead to data loss or corrupted frames.

Now, let's assume the transmission stops at 2:16:00 pm and a collision occurs at 2:19:00 pm

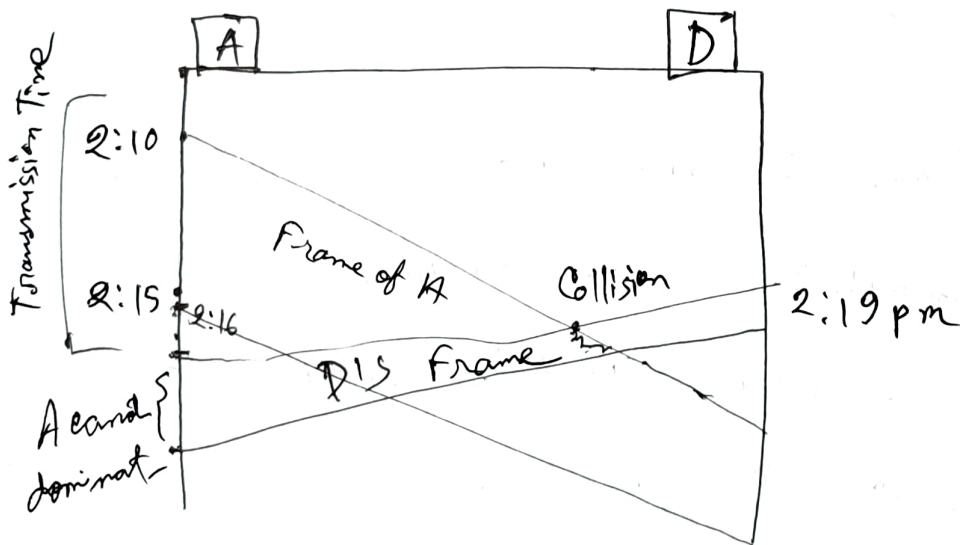


Fig.: CSMA/CD