3) What is delay uncertainty and what causes it?

Delay uncertainty is maximum difference between maximum and minimum victim line delay over all possible cases of switching activity on neighboring aggressor lines. Caused by crosstalk between victim and aggressor switching simultaneously

Maximum delay by best case -Aggressor and victim switching in opposite directions

Minimum delay by best case -Aggressor and victim switching in same direction

5) name the three different skew scenarios for a sequentially adjacent pair of resisters and explain what the y mean.

Zero Skew- This clock skew refers to the arrival of the clock tick simultaneously at transmitting and receiving register.

Positive Skew-This clock skew occurs when the transmitting register receives the clock earlier that the receiving register.

Negative Skew- This clock skew occurs when the receiving register gets the clock earlier than the sending register.

6) What is repeater staggering and why is the technique used?

Repeater staggering is when repeaters in adjacent wires are interleaved and placed in the middle of the two repeaters. This technique is used to reduce worse-case delay and crosstalk noise.