Timing and Triggering Consideration

→ The timing of the response of a flip-flop to input data and to the clock must be taken into consideration when one is using edge-triggered flip-flops.

→ There is a minimum time called the setup time during which the D input must be maintained at a constant value prior (before) to the occurence of the clock transition.

→ Similarly, there is a minimum time called the hold time during which the D input must not change after the application of the positive transition of the clock.

→ The propogation delay time of the flip-flop is defined as the interval between the trigger edge and the stabilization of the output to the new state.