

# CAD 4: Master-slave Flip Flop

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## Part 6: Additional Questions

$T_{cq}$  vs.  $T_{arrival}$



- a.
- b. 1.2v. Because compared with 0.8v, 1.2v setting has smaller  $T_{cq}$ , which means lower delay, and smaller  $T_{setup}$  and  $T_{hold}$ , which means data can be stable within a shorter time.
- c.  $R+C+CC$ , because it has larger power consumption.
- d.  $R+C+CC$  has larger resistance, larger rise time but smaller fall time. Circuits with or without load can have huge differences.