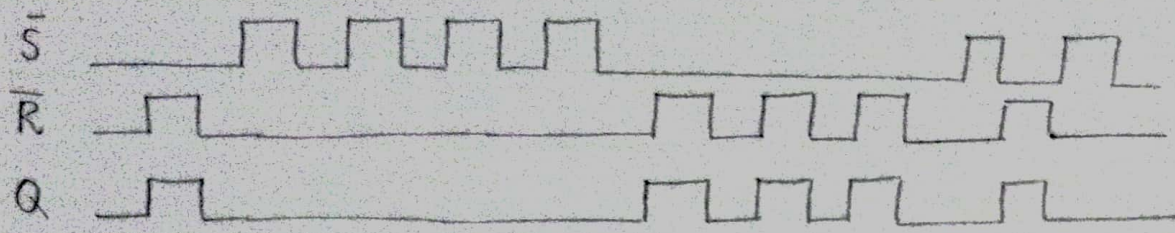


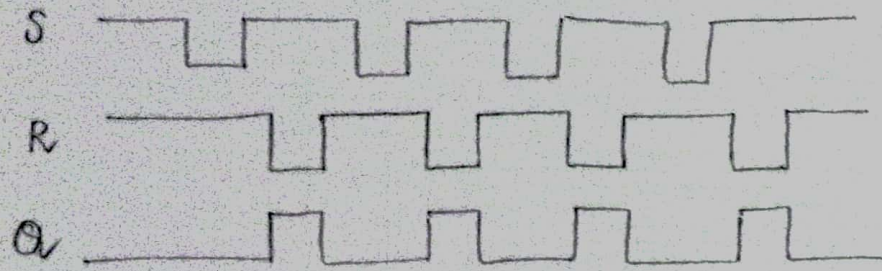
1:-

Zain ul Abidin  
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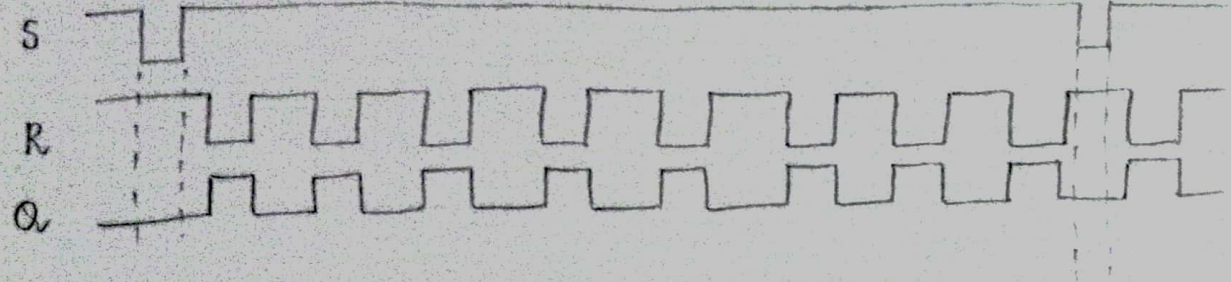


→ 0 is used for invalid state

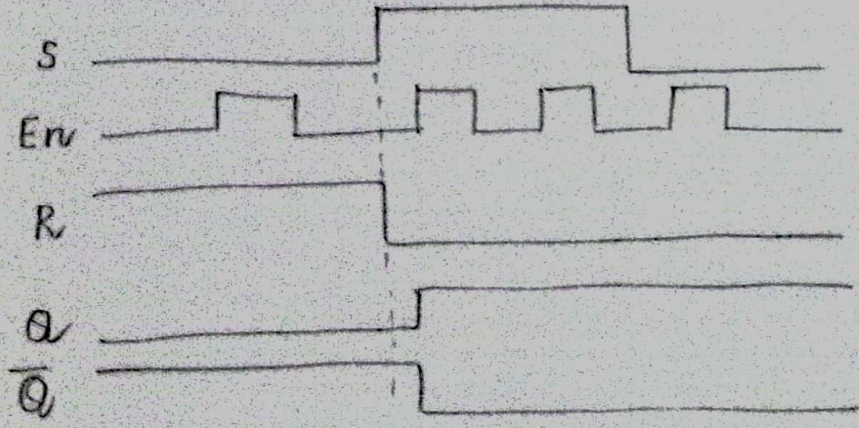
2:-



3:-



4:-





5):-

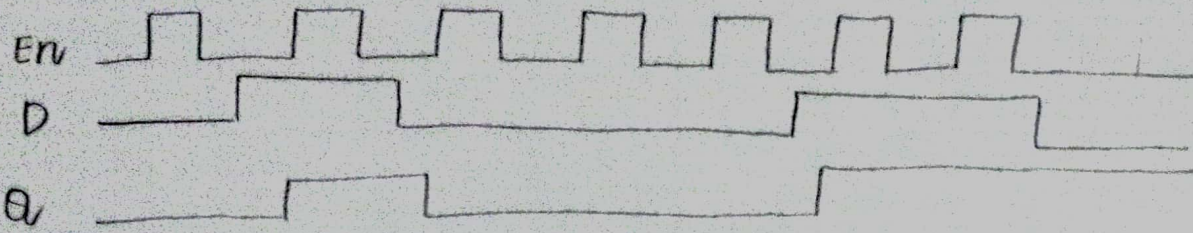


Figure 5

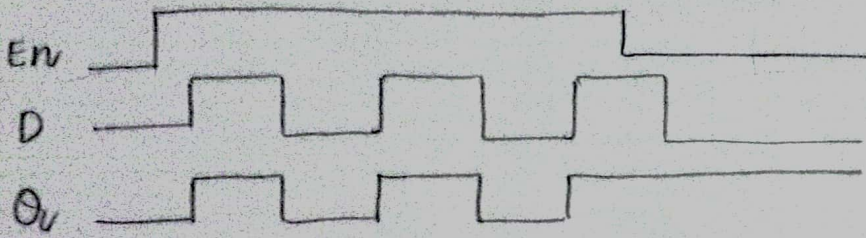
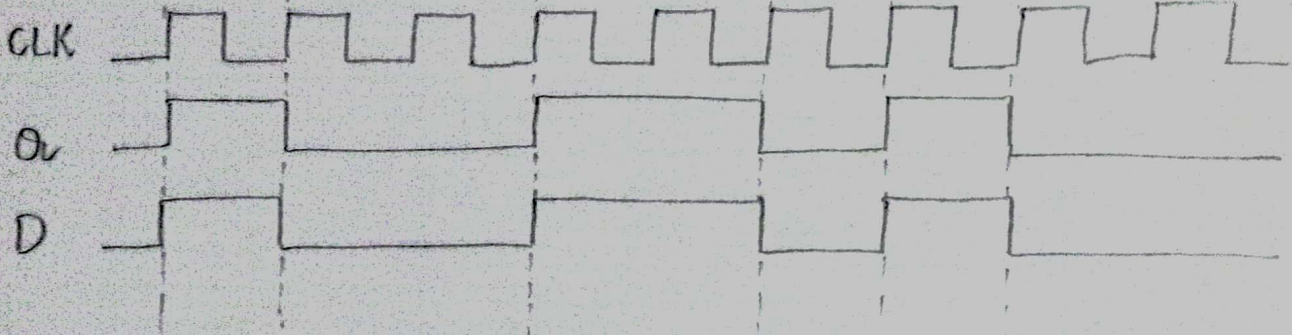
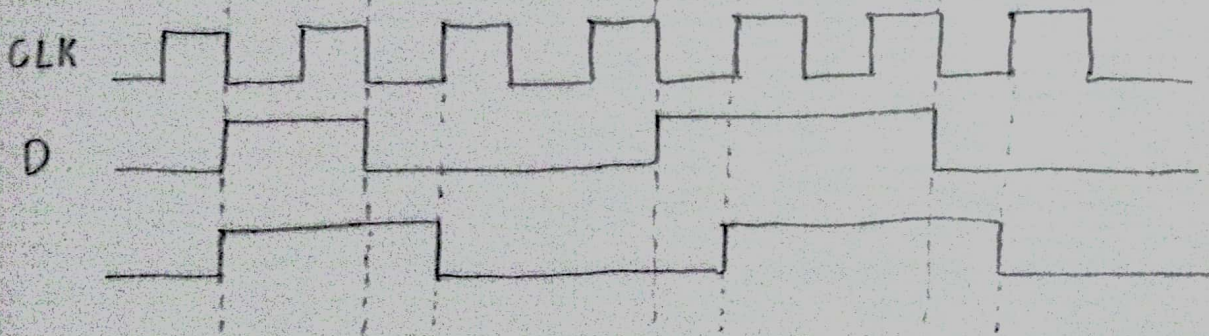


Figure 6

6):-

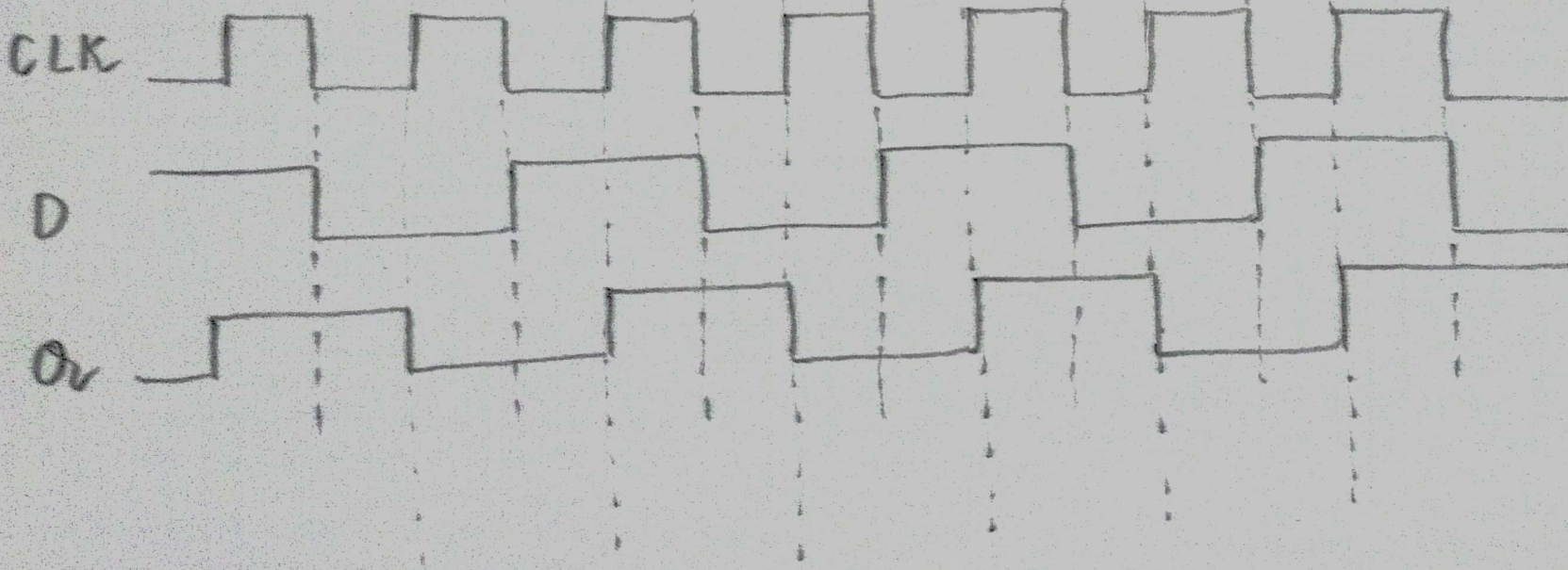


7):-





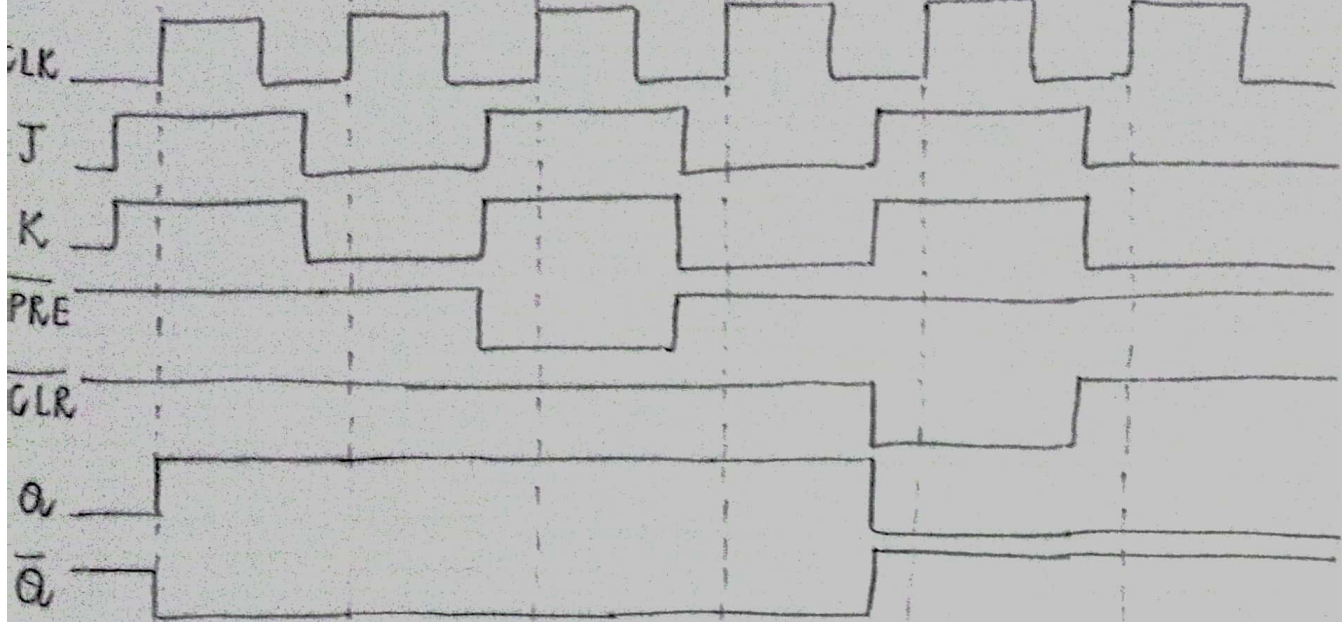
Q:-



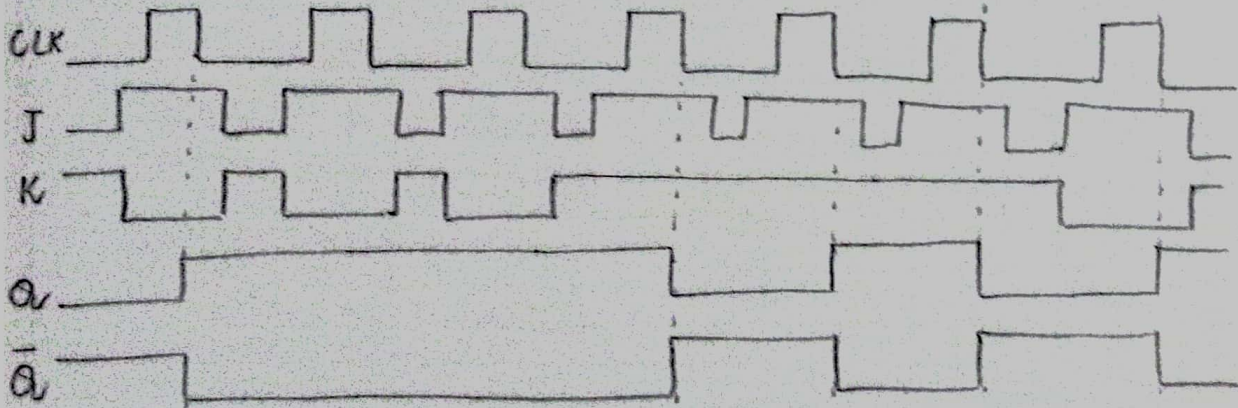
Assuming  
 $Q_r$  starts  
Low



9:-

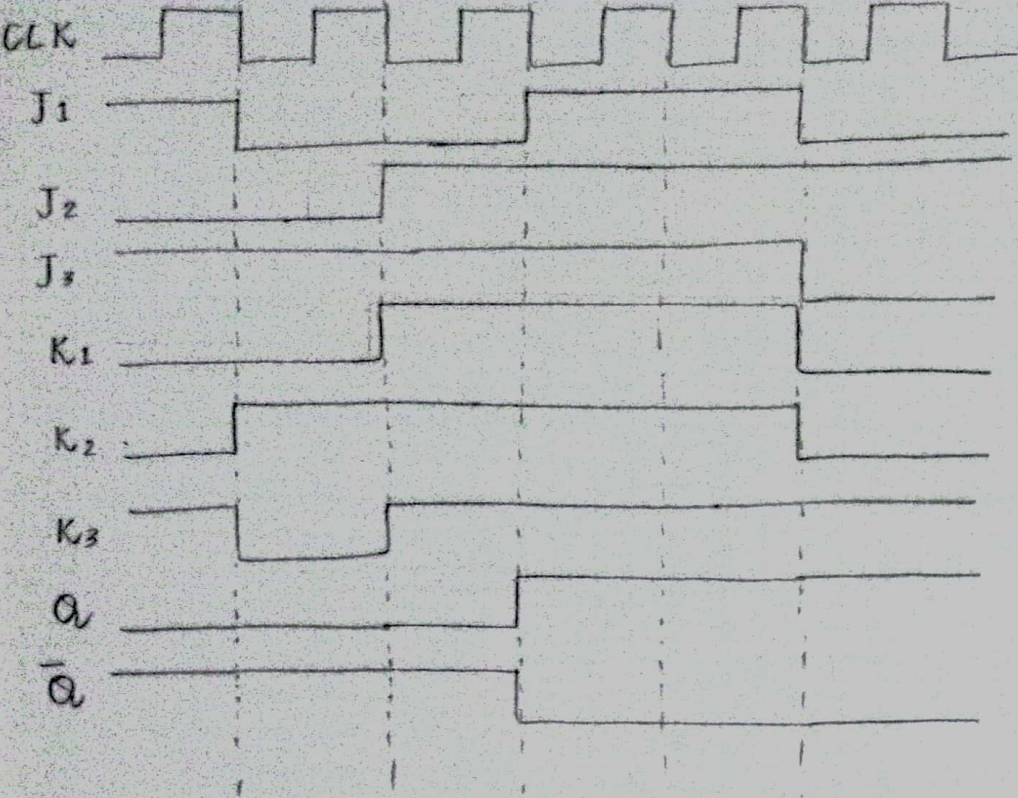


10:-

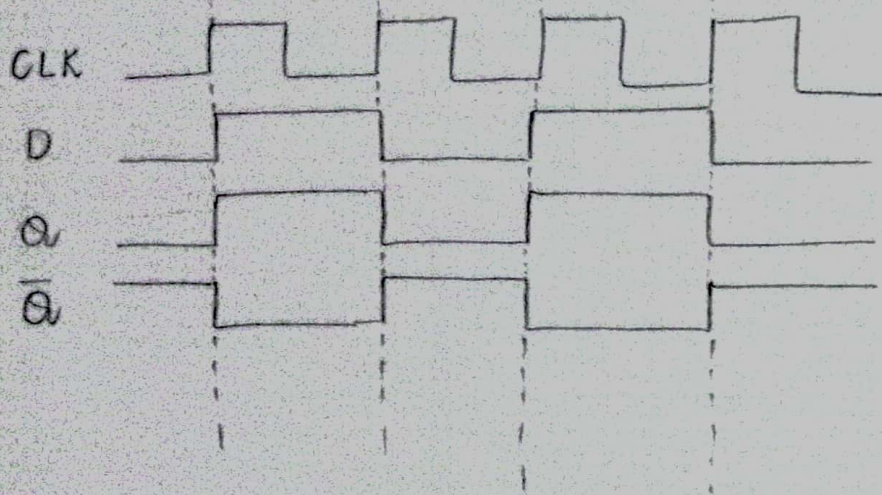




11):-



12:-



NOTE:- Assuming initial value of D to be zero

This flip flop produces a toggle effect at every positive edge of the clock

13:-

