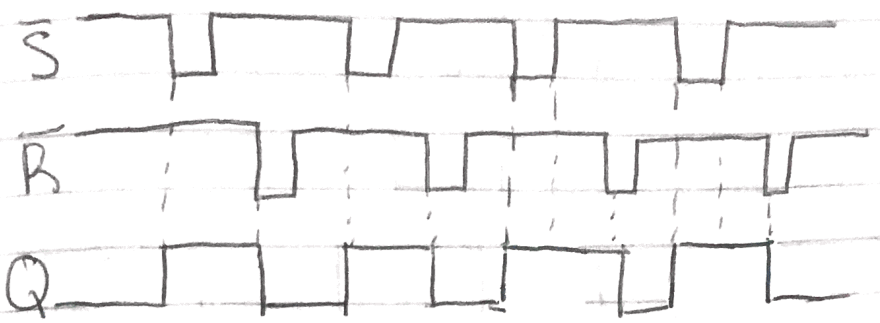
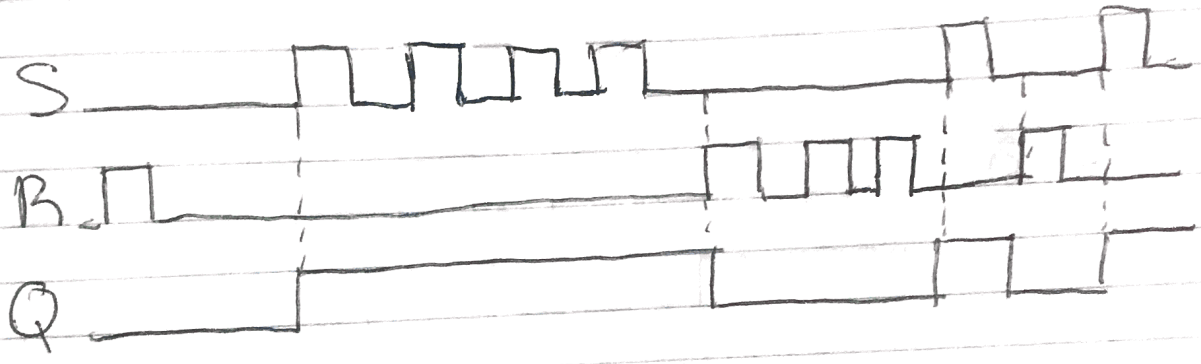
Andy P
PHYS 306

Chapter 7 - HomeWork #5

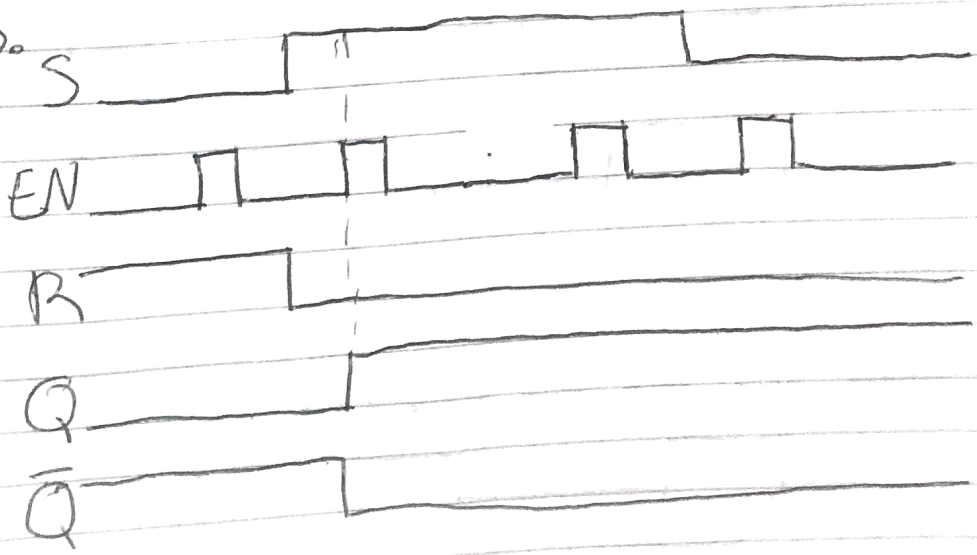
1.



2.

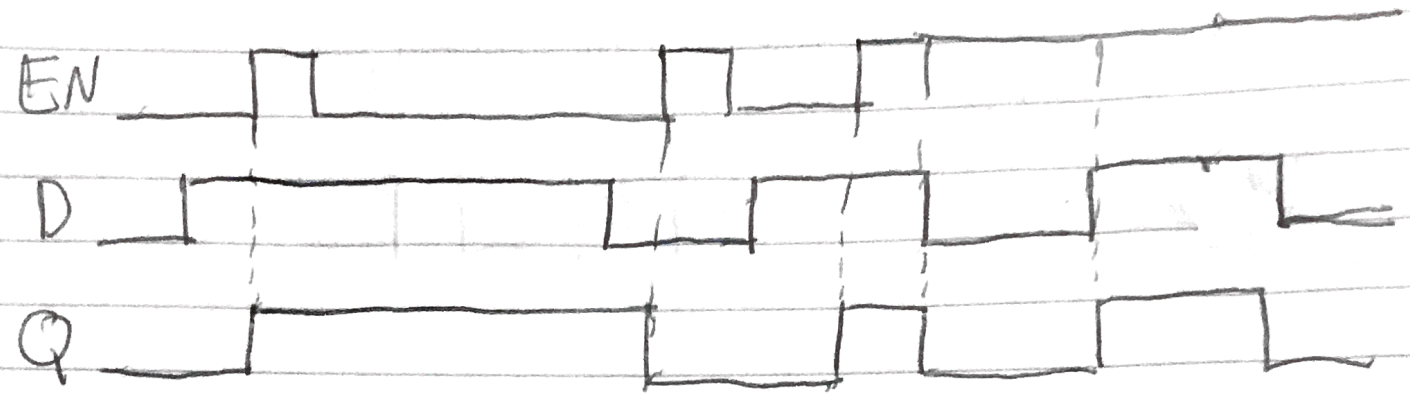


3.

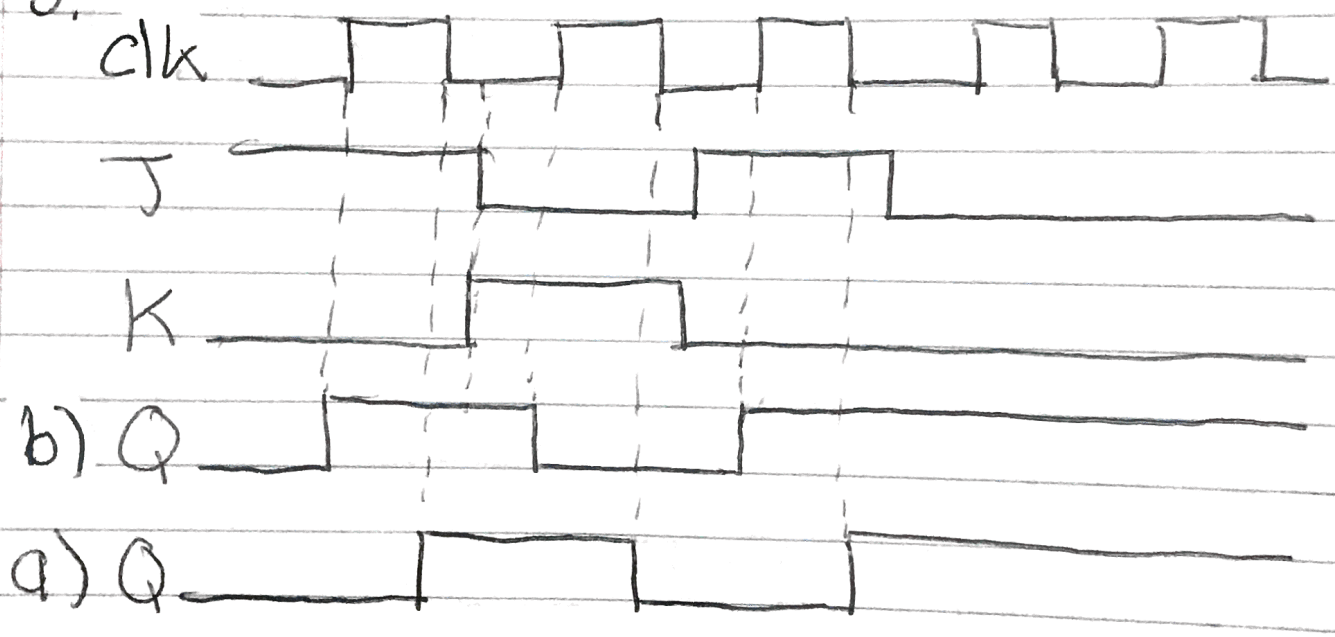


7. D Clock Q $\bar{Q}$

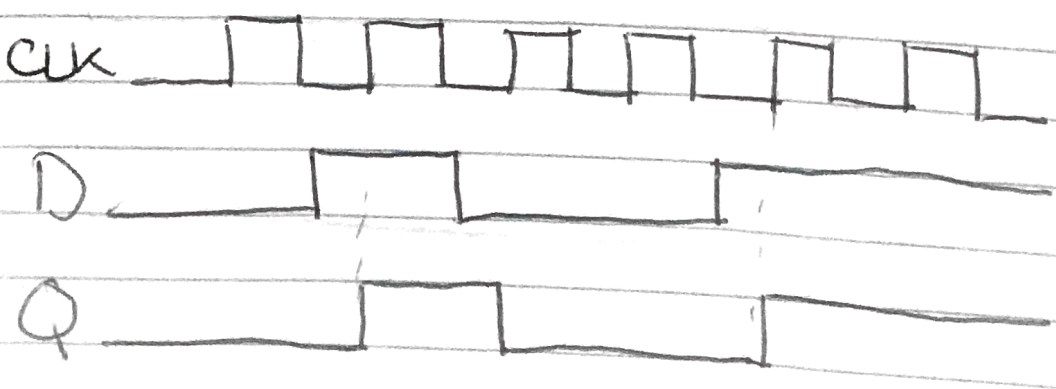
D	Clock	Q	$\bar{Q}$	
1	↑	1	0	→ Set
0	↑	0	1	→ Reset



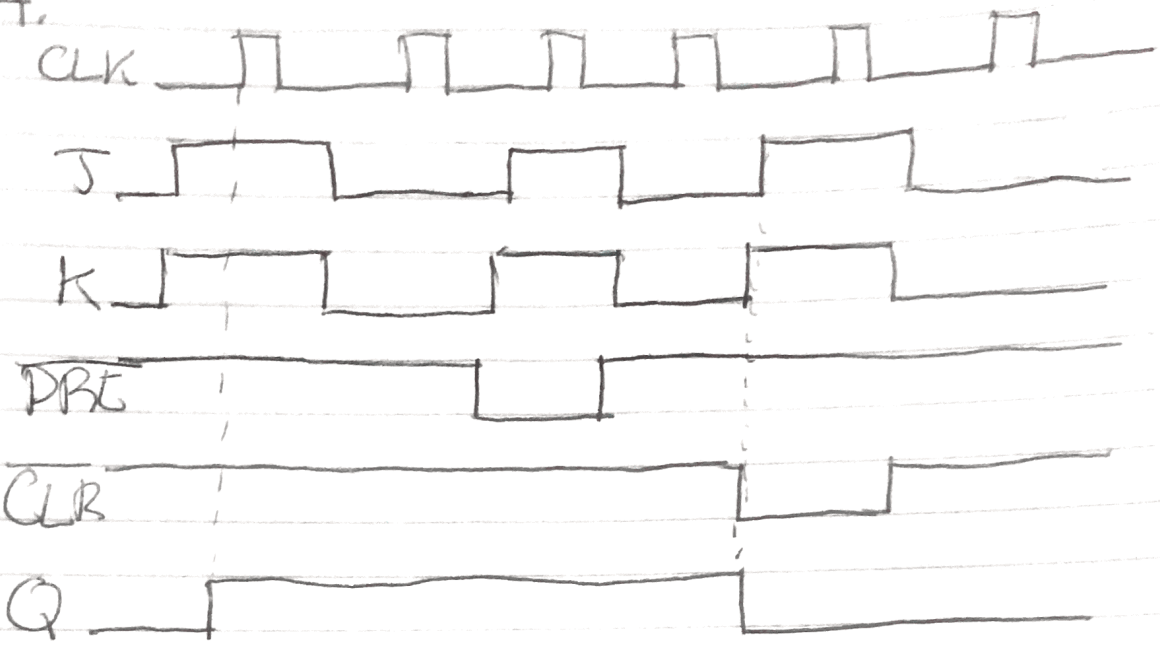
8.



12.



14.

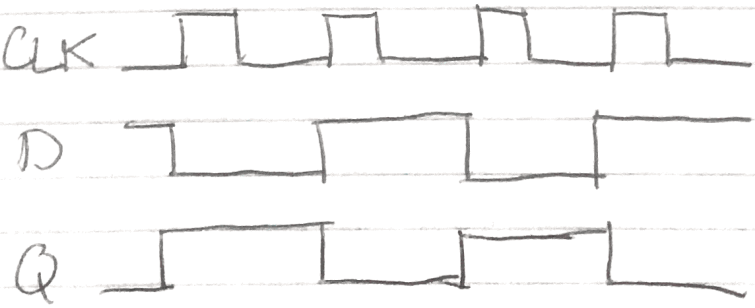


21, $t_w = 67\,ns$

$$f_{max} = \frac{1}{67 \times 10^{-9}\,s} = 0.0149 \times 10^{9}\,Hz$$

$$= \boxed{14.9\ MHz}$$

25.



Since D has half the frequency of the clock signal, this is a divide by 2 frequency divider.