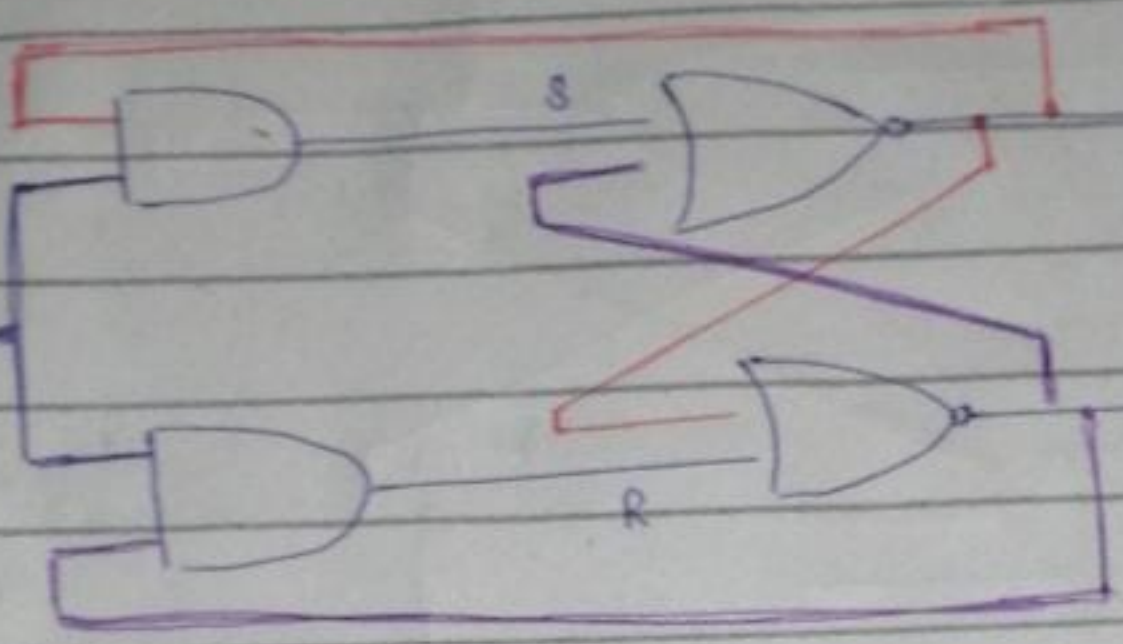
Assignment 5

a.

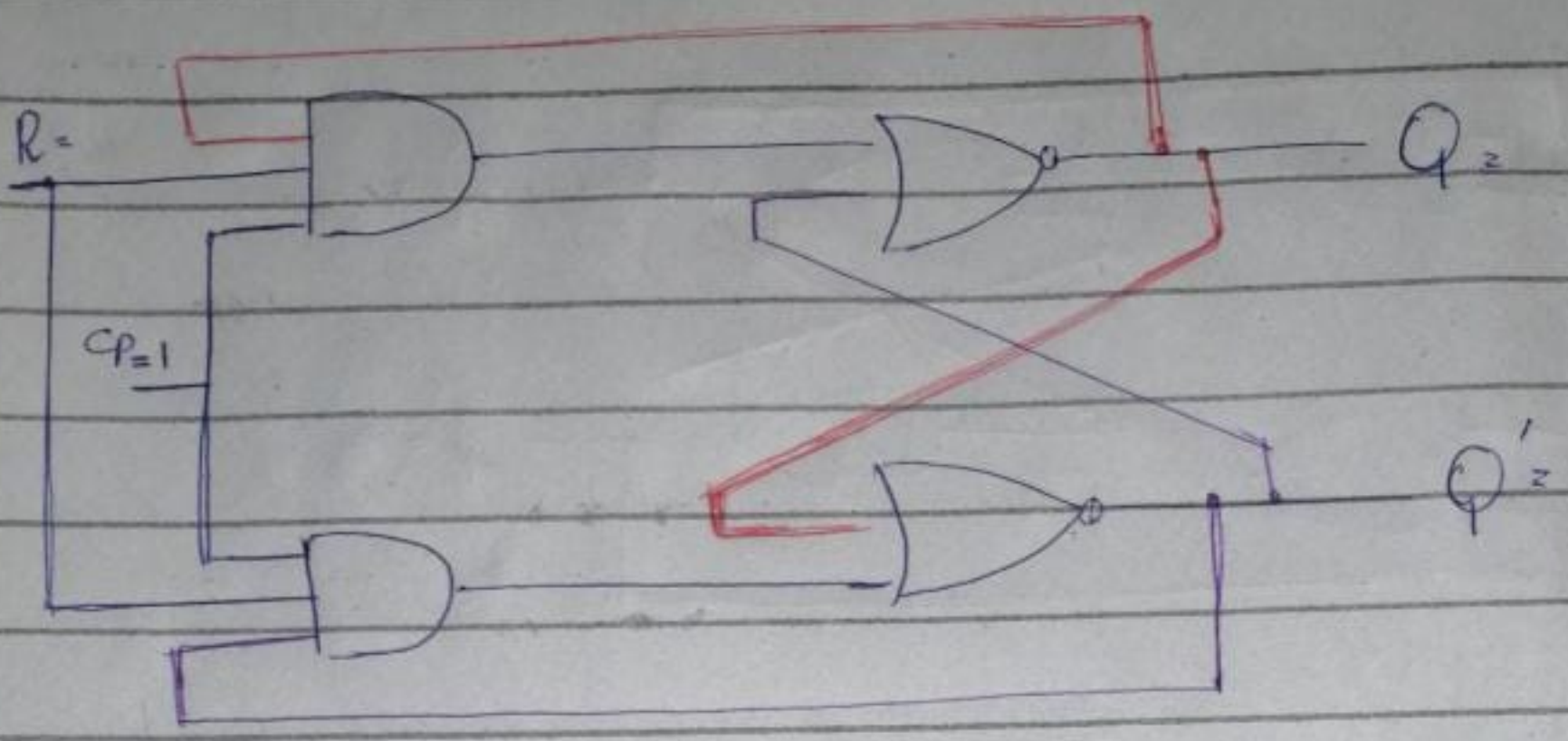


Q	T	Q(t+1)
0	0	0
0	1	1
1	0	1
1	1	0

Q \ T	0	1
0		1
1	1	

$$Q(t+1) = Q'T + QT'$$

b.



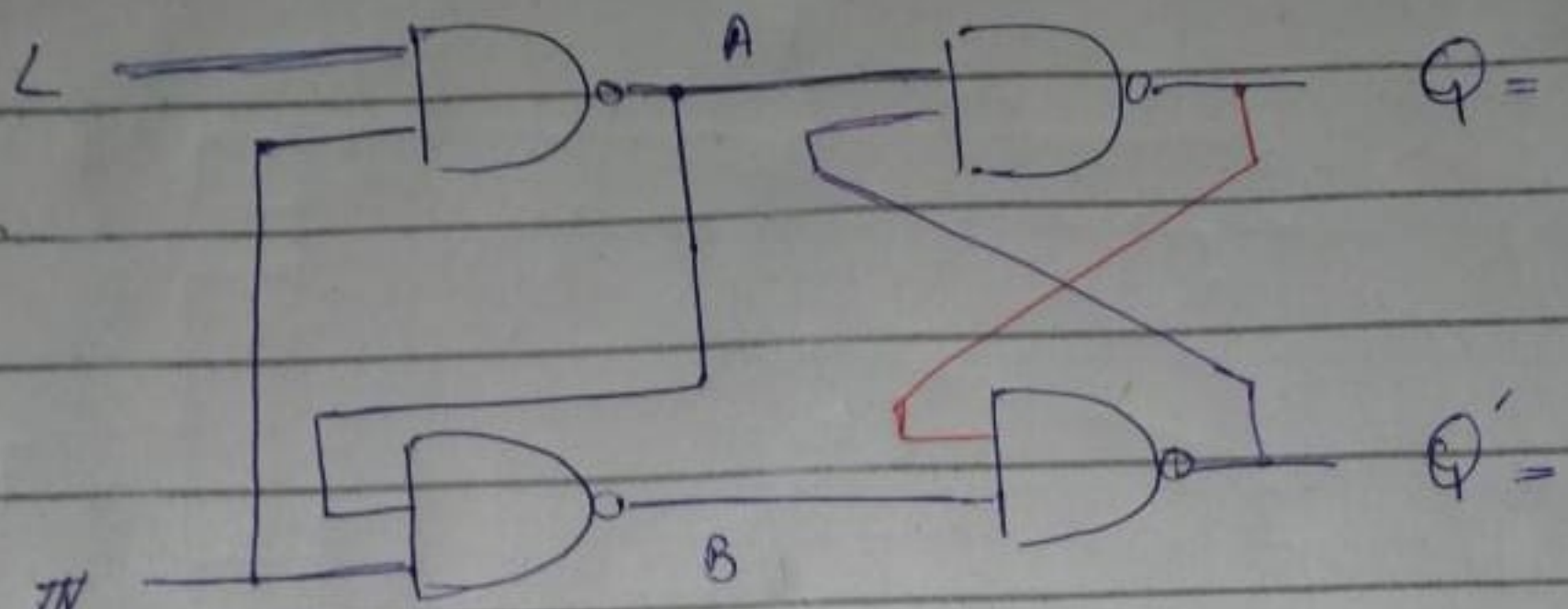
Q	R	Q(t+1)
0	0	0
0	1	1
1	0	1
1	1	0

* We assume, CP to always be = 1

$Q(t+1) = Q'R + QR'$

- Both circuits operate in the same way. Except for the use of CP(control pulse) in circuit, b. CP = 1, to allow input R to go through.
- When R/T is high, it gives the complement of the previous state. Otherwise it retains, its current state.

Q2)



Q	L	G	Q(t+1)
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1