ISTM 214 Homework 8   (Due day: 12/13)
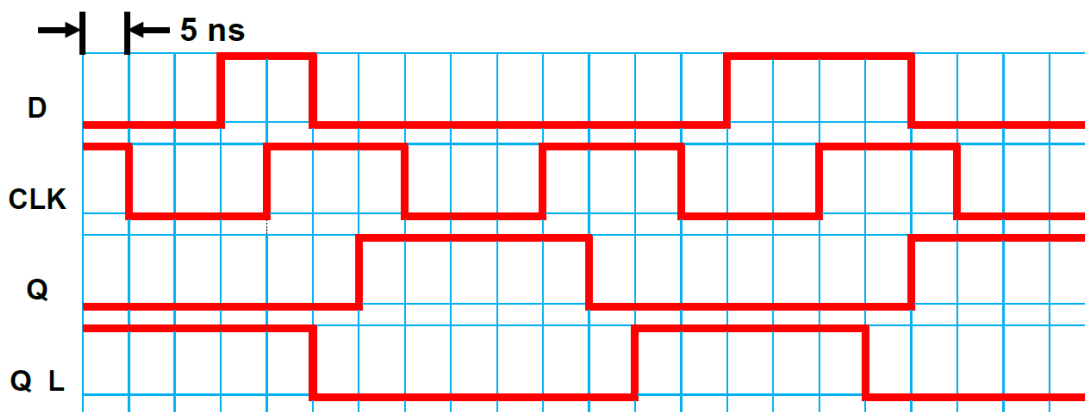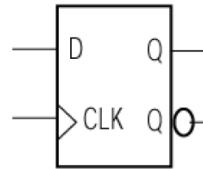
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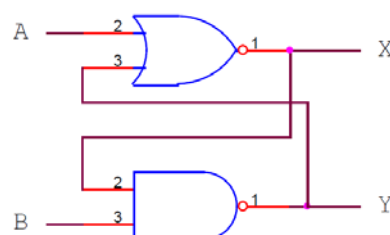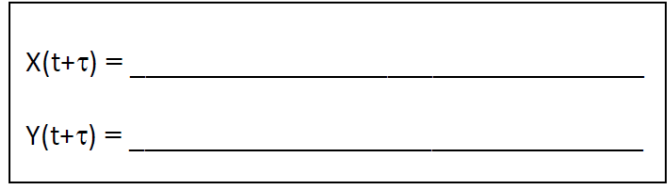
1. Given the following timing chart for an edge-triggered D flip-flop, determine the following parameters based on the excitation signals (D and CLK) depicted:

(a) The nominal setup time provided for the D flip-flop
(b) The nominal hold time provided for the D flip-flop
(c) The nominal clock pulse width provided for the D flip-flop
(d) The $t_{PHL(C \to Q)}$ of the D flip-flop
(e) The $t_{PLH(C \to Q)}$ of the D flip-flop

2. What Given the following circuit diagram, determine the next state equations it realizes in minimum sum-of-products form.

X(t)	Y(t)	A(t)	B(t)	X(t+τ)	Y(t+τ)
0	0	0	0		
0	0	0	1		
0	0	1	0		
0	0	1	1		
0	1	0	0		
0	1	0	1		
0	1	1	0		
0	1	1	1		
1	0	0	0		
1	0	0	1		
1	0	1	0		
1	0	1	1		
1	1	0	0		
1	1	0	1		
1	1	1	0		
1	1	1	1		

$$X(t+\tau) = \underline{\hspace{3cm}}$$

$$Y(t+\tau) = \underline{\hspace{3cm}}$$

3. Given the following state transition diagram, complete the timing chart below.