Section and Group No:

Name:

Signature:

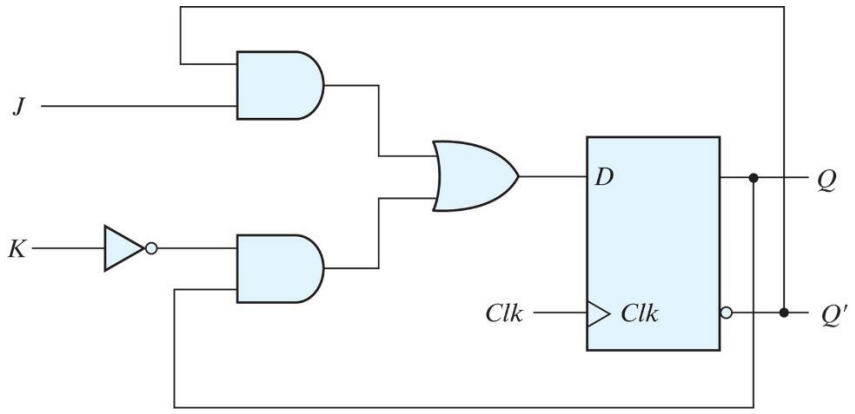
EXP #9: JK FLIP-FLOPS

Components that will be ensured by the students: 7474 D Flip-Flop, 7473 JK flip flop or 74-107 JK flip flop, AND gate, NOT gate, OR gate

Objective(s):
In this experiment, you will construct, test, and investigate the operation of JK Flip-Flops.

Preliminary Work:

1) The binary inputs given in the table below are supplied to the J and K inputs of the JK Flip-Flop and Q_{n-1} given in Figure 1. Determine the states of the output Q_n and Q_n'.



(a) Circuit diagram

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Figure-1

J	**K**	**Q_{n-1}**	**Q_n**	**Q_n'**
0	0	0		
0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		
1	1	1		

Table-1

2) Obtain the function table given in Table-2.

Inputs				**Outputs**	
CLR	**CLK**	**J**	**K**	**Q**	**Q'**

Table-2

3) Find the datasheet or any proper documents which include the pin diagrams and technical features of the component according to JK flip flop type (7473 or 74-107 JK flip flop).

Laboratory Work:

1) Construct the JK Flip-Flop in your preliminary work by using 7474 D Flip-Flop and verify the truth tables with the given inputs.

2) Verify the operation of the 7473 JK flip flop or 74-107 JK flip flop that you've already procured.