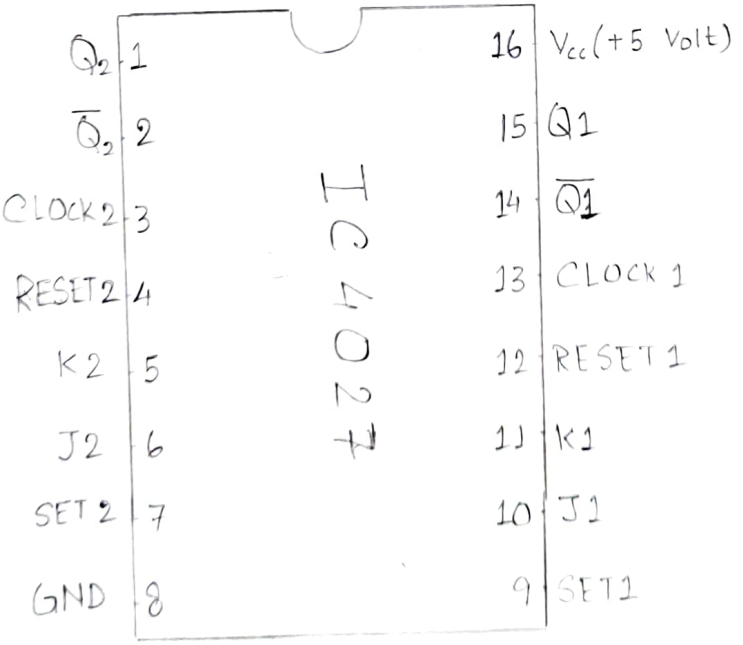
Experiment 11

Aim: Design a asynchronous Mod 8 up counters.

Theory: A mod 8 counts stores an integer value and increaments that value (say) on each clock tick and wraps around to 0 if the previous stored value was 7. The modulus of a counter is given as 2^n where n = numbers of flipflops. So a 3 flip-flop counter will have a maximum count of $2^3 = 8$ counting states and would be called MOD 8 counter.

Apparatus Required: IC4027 (JK flipflop), Digital trainer kit, wires

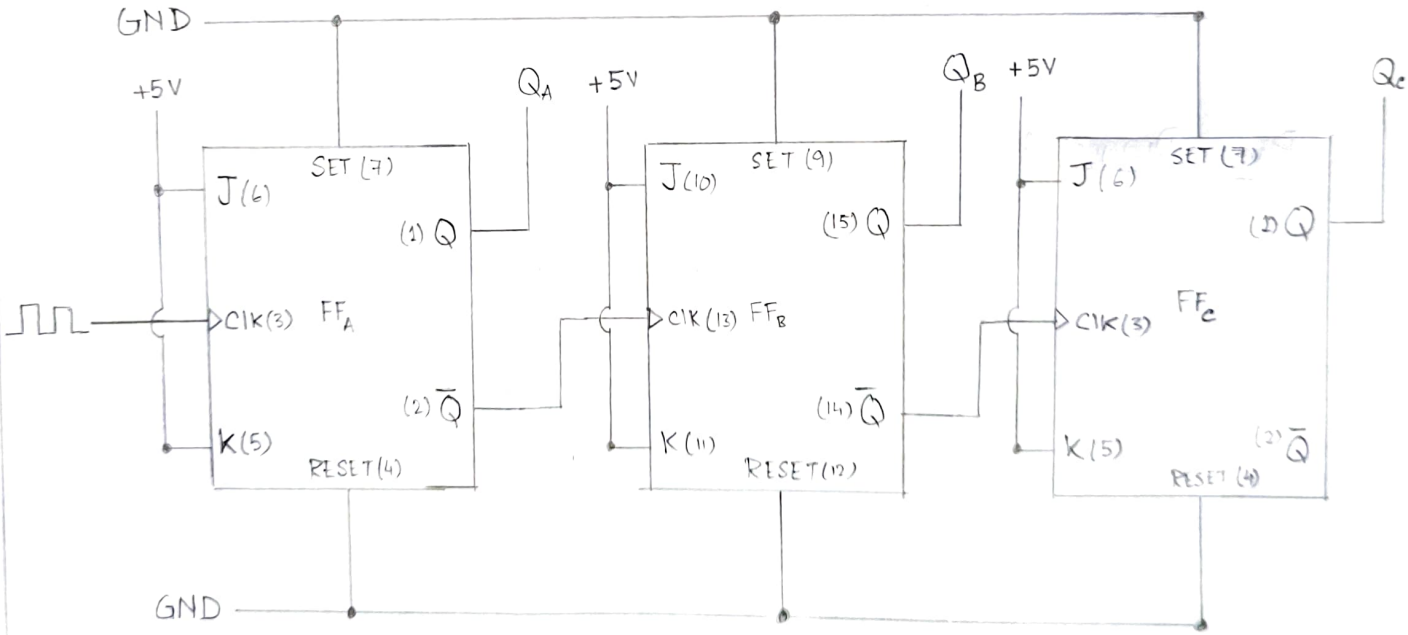
Pin Diagram:



Truth Table:

State	Q_C	Q_B	Q_A
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

Circuit Diagram:



Result:

Thus we constructed this circuit and verified the truth table using logic gates.