# EXPERIMENT 10 : ASYNCHRONOUS COUNTER

**AIM:** Implementation of asynchronous counter using flip-flop

**LEARNING OBJECTIVE:**

To design & implement Asynchronous counter using IC 7476

Objective is to learn about Asynchronous, Synchronous Up, Down Counter and its application.

**COMPONENTS REQUIRED:** IC 7476,IC 7404, LED's ,resistors(180 ohms)

**PROBLEM STATEMENT:**

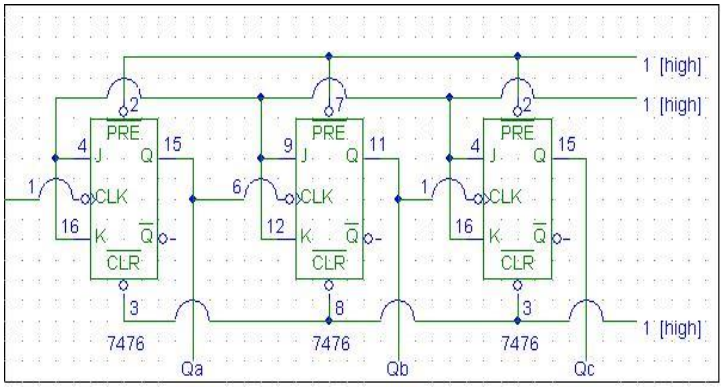
Design a 3 bit asynchronous counter using IC 7476.

**THEORY:**

Counters are the sequential circuits which change the state in particular sequence. They have cyclic state diagram..these circuits can be realized using JK or T flipflop.

In Asynchronous counter, all the flipflops are not triggered by common system clock but transition in one flipflop state triggers the next flipflop and with n number of flipflop counter can give upto s number of states

**3- Bit Asynchronous Counter.**




**Experimental Procedure**

1. Make the connections as per the logic diagram.

2. Observe the output of the circuit.

**POST LAB QUESTIONS:**

**1.**What is an asynchronous counter?
2.How is it different from a synchronous counter?
3.Explain glitch problem in Asynchronous counter.

Post