**Operating System and Design (19CS2106S)**

**Lab- 11**

**Pre-Lab:**

Creating and Destroying Mutexes: pthread\_mutex\_init (mutex,attr) pthread\_mutex\_destroy (mutex)

Locking and Unlocking Mutexes: pthread\_mutex\_lock (mutex) pthread\_mutex\_trylock (mutex)

Synchronizing Threads with POSIX Semaphores: sem\_init, sem\_open sem\_wait sem\_post sem\_getvalue sem\_destroy

**In-Lab:**

1. Illustrate how mutex is used for thread synchronization, print the counter variable upon each increment which is in the critical section. (Two threads update a global shared variable with and without synchronization).
2. Write a UNIX system program to implement concurrent Linked List

**Post-Lab:**

1. Write a Unix System program to make A Parent Waiting for Its Child using semaphores.