**B. TECH - COMPUTER SCIENCE AND ENGINEERING (V SEMESTER)**

**CST 303Concurrent and Parallel Programming Lab**

**Week: 6**

1. Write MPI Program (SPMD) to get started.
2. Write MPI Program (MPMD) to get started.
3. Write MPI program to find sum of *n* integers on Parallel Processing Platform. You have to use MPI point-to-point blocking communication library calls.
4. Write MPI program to find sum of *n* integers on Parallel Processing Platform. You have to use MPI point-to-point blocking communication library calls.
5. Write MPI program to find sum of *n* integers on a Parallel Computing System in which processors are connected with ring topology and use MPI point-to-point blocking communication library calls.
6. Write MPI program to find sum of *n* integers on a Parallel Computing System in which processors are connected with tree topology (Associative-fan-in rule for tree can be assumed) and use MPI point-to-point blocking communication library calls.
7. Write MPI program to compute the value of PI by numerical integration using MPI point-to-point blocking communication library calls.
8. Write MPI program for prefix sum (scan operation) calculation using MPI point-to-point blocking communication library calls.
9. Write MPI program to find sum of *n* integers on a Parallel Computing System in which processors are connected with tree topology (Associative-fan-in rule for tree can be assumed) and use MPI point-to-point non-blocking communication library calls.
10. Write MPI program to broadcast message "Hello world" to all the process.
11. Write a OpenMP program to print unique identifier.
12. Write a "Hello world" Program Using OpenMP pragmas.
13. Illustrate a program for loop recurrence using OpenMP PARALLEL FOR directive.
14. Write an OpenMP program to find Sum of Natural Numbers using OpenMP Parallel FOR directive.
15. Write an OpenMP program to find Sum of Natural Numbers using OpenMP REDUCTION clause.
16. Write an OpenMP program for Loop-carried dependence using OpenMP parallel Directive.