|  |  |  |  |
| --- | --- | --- | --- |
| **RAMAIAH INSTITUTE OF TECHNOLOGY, BENGALURU – 560054**  *(Autonomous Institution Affiliated to VTU, Belgaum)*  **Department of Information Science & Engineering**  DISTRIBUTED COMPUTING LAB- ISL75 | | | |
| **CIE Marks (Lab) : 50** | | **LIST OF PROGRAMS** | **SEE Marks (Lab) : 50** |
| **Part-A** | | | |
| 1 | Write parallel program using OpenMP to sort n element using merge sort. | | |
| 2 | Write a program to Multiply a matrix by a vector and get the result of the operation. | | |
| 3 | Write an OpenMP program which demonstrates how to "multitask", implement two separate task, one to generate prime table and other to generate sine table for a given input using OpenMP for parallel execution. Justify the inference. | | |
| 4 | Write a program to show how first private clause works. (Factorial program) | | |
| 5 | Write an OpenMP parallel program for Points Classification. Prove the correctness of sequential program with that of parallel. | | |
| 6 | Write an OpenMP program to convert a color image to black and white image. Demonstrate the performance of different scheduling techniques for varying chunk values | | |
| **Part-B** | | | |
| 7 | Write a program for communication among two processes. | | |
| 8 | Write MPI program to compute dot product of two vectors using block-striped partitioning with uniform data distribution. | | |
| 9 | Write MPI program that computes the value of PI using Monto-Carlo Algorithm. | | |
| 10 | C program which creates new communicators involving a subset of initial set of MPI processes in the default communicator MPI\_COMM\_WORLD | | |
| 11. | Write MPI program to compute Matrix-Matrix Multiplication using self-scheduling algorithm. | | |
| 12. | C program which searches integers between A and B for a value J such that F(J) = C, using the MPI parallel programming environment | | |

Faculty in charge: Head of Department

( SK,PB,DJS) (Dr.Vijaya Kumar B.P)

Following is the list of final DC programs for the semester end lab exam. Please read this message carefully :

1 - same

2 - same

3 - same

4 - old (10)

5 - same

6 - same

7 - old (13)

8 - same

9 - same

10 - new (mpi communicator)

11 - same

12 - new (mpi search integer)

same = program from the new set of questions

old = program from old set of questions

new = completely new program

\_\_\_\_

The "new" and "same" programs are easy guys. Trust me. I went through every code to understand the hardest of the lot and got them changed to easy codes. What wasn't changed was left as it is because they were easy and also primarily because we were allowed to change only 4 in total

\_\_\_\_

Links :

question 10

https://people.sc.fsu.edu/~jburkardt/c\_src/communicator\_mpi/communicator\_mpi.html

question 12

https://people.sc.fsu.edu/~jburkardt/c\_src/search\_mpi/search\_mpi.html

Note :

Click the link at the bottom of the above 2 pages for the source code.

And do not get shocked at the length as 50% of the code is only comments and not actually code.