CUDA programs

1. Write a CUDA program for adding two vectors.
2. Write a CUDA program to demonstrate different types of memory.
3. Write a CUDA program to print the message “Hello World” and demonstrate threads by varying BLOCK_WIDTH to different sizes.
4. Write a CUDA program to print the message “Hello World” and demonstrate threads by varying ThreadId to different sizes.
5. Write a CUDA program to multiply two matrices

Open MP

1. Write an OpenMP program to multiply two matrices A & B and find the resultant matrix C
2. Write an OpenMP program to show how first private clause works.(Factorial program)
3. Write an OpenMP program to find the number of processes, number of threads, etc (the environment information).
4. Write an OpenMP program to find the largest element in an array using locks
5. Write an OpenMP program which performs C=A+B & D=A-B in separate blocks/sections where A,B,C & D are arrays.
6. Write an OpenMP program to find prime numbers (split)
7. Write an OpenMP program to add all the elements of two arrays A & B each of size 1000 and store their sum in a variable using reduction clause.
8. Write an OpenMP program to find the largest element in an array using critical section.
9. Write an OpenMP program to show how thread private clause works.
10. Write an OpenMP program to perform addition of two arrays A & B store the result in the array C(scheduling concept)

MPI

1. Write a MPI program where each processor sends an integer number and its rank to the master processor, where the master gathers all the information and prints the data accordingly
2. Write an MPI program where the master processor broadcasts a message “HELLO MSRIT” to the remaining processors using broadcast system call.
3. Write a MPI program to find sum of 'n' integers on 'p' processors using point-to-point communication libraries call
4. Write a MPI program to calculate and print the value of PI.
5. Write a MPI program to send the message from a process whose rank=3 to all other remaining processes.
6. Write a MPI program where each processor send a string and its rank to the master processor, where the master gathers all the information and prints the data accordingly
7. Write a MPI program scatter the information to different processes.

Program Execution (All three):10 marks
Write up : 10 Marks