

**Parallel Computing
Minor-I**

Max. Marks: 20

Date: September 19th, 2011

Duration 60 min.

Note: 1. Attempt all questions.
2. Draw neat diagrams, if needed.

- Q.1** If 95% of a program's execution time occurs inside a loop that can be executed in parallel, what is the maximum speedup we should expect from a parallel version of a program that is executed on 16 CPU's? **[4]**
- Q.2** Propose an efficient parallel algorithm for merging two sorted lists. Calculate parallel time and processor's complexities. **[4]**
- Q.3** Explain the Cube Connected Network of Processors. **[5]**
- Q.4** What problems are associated with Shared Data in UMA and NUMA Multiprocessors systems? **[4]**
- Q.5** What is the basic difference between a thread and a process? Explain. **[3]**

-----Best of Luck-----