University of Hyderabad, Department of Computer and Information Sciences

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Parallel Computing
Minor-I

Max. Marks: 20 **Date: September 26th, 2008**
Duration 60 min.

Note: 1. Attempt **any and only five** questions.
2. Draw neat diagrams, if needed.

Q.1 If $n = 2^m$ numbers stored in an array A of dimension (2n-1) from A[n], A[n+1],..., A[2n-1]. Write a PRAM algorithm to compute prefix sum such that at the end A[i] stores A[1]⊕ A[2]⊕....⊕A[i]. **[4]**

Q.2 What is the difference between Parallelism and Concurrency? How Concurrency can be achieved in a Computation? **[4]**

Q.3 What is speed-up of a computation? How Ahdhal's law is used to obtain speed-up? **[4]**

Q.4 Show that a p-processor PRIORITY PRAM can be simulated by a p-processor EREW PRAM with the time complexity increased by a factor of (log n). **[4]**

Q.5 Devise a parallel algorithm for finding ***factorial of 'n'*** using doubling technique. What is the parallel time and processors complexity? **[4]**

Q.6 List down advantages and disadvantages of using asymmetrical multi-computers. **[4]**

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