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MCSE-011

MCA (Revised)

Term-End Examination

June, 2013

MCSE-011 : PARALLEL COMPUTING

01578

Time : 3 hours *Maximum Marks : 100*

Note : *Question number **1** is **compulsory**. Attempt **any three** questions from the rest.*

1. (a) Explain the various levels of parallel processing. 8

   (b) Explain granularity of a parallel system. 8

   (c) Differentiate between UMA, NUMA and COMA. 8

   (d) What is the significance of : 8
   (i) Bisection bandwidth
   (ii) Network Diameter

   (e) Differentiate between Instruction pipeline and arithmatic pipeline. 8

2. (a) Identify the types of following vector processing instructions. 2.5x4=10
   (i) C(I) = A(I) AND B(I)
   (ii) C(I) = MAX (A(I), B(I))
   (iii) B(I) = A(I)/S (S = scalar items)
   (iv) B(I) = SIN (A(I))

   (b) Explain in a VLIW architecture. 10

3. (a) Explain the various criteria for classification of parallel computer. Explain Flynn's classification in detail. **10**

(b) What are the various types of parallel programming ? Explain, **10**

4. (a) Discuss the sorting using interconnection network. Illustrate an example to understand the algorithm. **10**

(b) Name and Explain any five platforms which can participate in grid computing. **10**

5. (a) Explain the various laws for measuring speed up performance. **10**

(b) Discuss the following interconnection networks. **10**

(i) FAT tree

(ii) Hyper cube