



[3780] – 61

**M.C.A. (Semester – V) (Management Faculty) Examination, 2010**  
**ITE – 7 : PARALLEL COMPUTING**  
**(2005 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

- Instructions**
- 1) Question No. 1 is **compulsory**.
  - 2) Solve **any four** questions from 2 to 6.
  - 3) Assume suitable data **wherever** necessary.
  - 4) Draw suitable diagram **wherever** needed.
  - 5) Figures to the **right** indicate **full marks**

1. Discuss the following **(any two)** : **(2×5=10)**
  - a) Grid computing
  - b) Cluster computing
  - c) Parallel Virtual Machine
  - d) Multithreading.
  
2. a) Discuss any two applications of parallel processing. **7**  
b) What are the primary-attributes used to measure the performance of a parallel computer system ? **8**
  
3. a) How are parallel algorithms analyzed ? Explain each of them. **7**  
b) What types of data structures are used for parallel algorithms ? Discuss in detail. **8**
  
4. Compare and contrast the following : **(7+8)**
  - a) Vector processing and Array processing
  - b) Instruction pipelines and Arithmetic pipelines.
  
5. Differentiate between control flow computing concept and data flow computing concept. Give example of each. **15**
  
6. a) Write a shared memory program for parallel systems, to add elements of an array using two processors. **7**  
b) Write a program for PVM (parallel virtual machine), to give a listing of the “slave” or spawned program. **8**

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B/1/10/525