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Reg.No……

Name……

B.TECH. DEGREE EXAMINATION, APRIL/MAY 2014

Eighth Semester

Branch: Computer Science and Engineering

CS010 801 HIGH PERFORMANCE COMPUTING

(Regular, 2010 Admissions)

Time: Three Hours Maximum: 100 Marks

Part A

Answer **all** questions.

Each question carries 3 marks.

1. Describe various applications of parallel processing.
2. Explain the programmatic levels at which parallel processing can be implemented.
3. Short note on 'SIMD matrix multiplication'.
4. Compare loosely coupled and tightly coupled multiprocessors.
5. Differentiate a dataflow computer from a control flow computer.

(5*3=15 Marks)

Part B

Answer **all** questions.

Each question carries 5 marks.

6. Explain different trends towards parallel processing
7. How do data flow computer differs from conventional computers?
8. Explain the cube Interconnection networks.
9. Explain the different conflict resolution methods used in Time shared buses.
10. Explain a dynamic data flow computer organization with diagram. (5*5=25 Marks)
11.

Part C

Answer **any one** question from each module

Each question carries 12 marks.

12. With neat block diagram explain in detail about the various programmatic levels of parallel processing.

OR

13. Briefly discuss the applications of parallel processing in various fields.
14. Explain the design of pipelined instruction unit in detail.

OR

15. Explain in detail dynamic pipelines and reconfigurability
16. Explain Associative array processing.

OR

17. Write a short note on
    a) Memory organisation.
    b) Parallel algorithms for array processors
18. Discuss detail with loosely coupled and tightly coupled multiprocessors.

OR

19. Explain about process synchronization mechanism with Semaphore

20. With neat block diagram explain about the data flow computers and also explain its applications.

OR

21. Explain the design alternatives to the data flow approach.

(5x12=60 marks)