9012 (Pages : 2) Reg. No.....3.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : Computer Science and Engineering

HIGH PERFORMANCE COMPUTING (R)

(Supplementary)

me : Three Hours Maximum : 100 Marks

Answer **all** *the questions.*

Part A

Each question carries 4 *marks.*

1. Explain the various programmatic levels of parallel processing.
2. Write short notes on parallelism in uni-processor.
3. Explain the methods used for improving the throughput of dynamic pipeline processor.
4. What is instruction prefetch and branch handling.
5. Explain the features of various associative memory organization.
6. Write short note on SIMD matrix multiplication.
7. With the help of diagram explain the working of loosely coupled multiprocessor system.
8. Briefly explain mutual exclusion and condition synchronization.
9. List the difference between state and dynamic data flow computer.
10. What are the advantages and disadvantages of data flow computer.

(10 × 4 = 40 marks)

Part B

Each question carries 12 *marks.*

11. Explain the need for parallel processing in engineering design and automation.

Or

12. Explain Flynn's classification of computer architecture.
13. Discuss in detail about the various design issues of pipeline processors.

Or

14. Write short note on different types of pipeline processors.

Turn over

15. Describe the cube interconnection network and its routing function.

Or

16. Write notes on :

    (a) Parallel sorting on array processor. (6 marks)

    (b) SIMD array processor. (6 marks)

17. What are the different types of interconnection networks ? Briefly explain each.

Or

18. Explain the functional structures of multiprocessor architecture.

19. Explain the data flow design alternatives.

Or

20. With neat block diagram, explain about data flow computers and also explain its application.

[5 × 12 = 60 marks]