

Total No. of Questions :6]

SEAT No. :

[Total No. of Pages :2

P149

BE/ Insem./APR - 195

B.E. (Computer Engineering)

410450 : HIGH PERFORMANCE COMPUTING

(2012 Course) (Semester - II)

Time : 1 Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate answer books.*
- 2) Answer any three questions from each section.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right side indicate full marks.*
- 5) Use of Calculator is allowed.*
- 6) Assume Suitable data, if necessary.*

Q1) a) Explain in detail how implicit parallelism is achieved. **[4]**

b) Write a note on VLIW processor. **[6]**

OR

Q2) a) Explain SIMD, MIMD and SIMT architecture. **[6]**

b) Write a short note on Superscalar Architecture. **[4]**

Q3) a) Discuss various mapping techniques for load balancing. **[5]**

b) What are the characteristics of Tasks and Interactions? **[5]**

OR

P.T.O.

Q4) a) Explain memory hierarchy for Intel Nehalem [4]

b) Write a note on IBM Cell Broadband Engine (CBE) [6]

Q5) a) Explain Collective Communication and Computation Operations. [4]

b) Write note on : Topologies and Embedding. [6]

OR

Q6) a) Write an algorithm for Dijkstra's Single-Source Shortest-Path. [5]

b) Write an algorithm for Two-Dimensional Matrix-Vector Multiplication.[5]

