

Total No. of Questions :6]

SEAT No. :

P275

[Total No. of Pages :2

Oct./BE/ Insem. - 593

B.E. (Computer Engineering)

HIGH PERFORMANCE COMPUTING

(2015 Course) (Semester-I) (410241)

Time : 1 Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) *Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Draw neat and labelled diagrams if necessary.*
- 3) *Assume suitable data if necessary.*
- 4) *Figures to the right side indicate full marks.*

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Q1) a) What are applications of parallel computing? [4]

b) What are types of dataflow execution model? [6]

OR

Q2) a) Explain cache coherence in multiprocessor system. [6]

b) Define latency and bandwidth of memory. [4]

Q3) a) What are characteristics of task and interactions? [4]

b) Explain decomposition, task & dependancy graph. [6]

OR

Q4) a) What are limitations of parallelization of any algorithm? [4]

b) Explain with suitable example [any two] [6]

i) Recursive decomposition

ii) Data decomposition

iii) Exploratory decomposition

P.T.O.

Q5) a) Explain broadcast & reduce operation with diagram. [4]

b) Explain prefix- sum operation for an eight-node hypercube. [6]

OR

Q6) a) Explain scatter and gather operation? [4]

b) Explain all to one broadcast and reduction on a ring? [6]

