M.Tech. -CSE/ 3rd Sem

May 2018.

Parallel Computing

Subject Code: CS-517

Reappear.

Paper ID:

Max Marks:100

Time allowed: 3 Hrs

Important Instructions:

- Attempt any five questions
- All questions carry equal marks

Q. 1.   What do you understand by Systolic Array and vector Processors? Explain with block diagram difference between them.

Q. 2.   a.   What do you understand by performance metrics? Explain various performance metrices used for the communication overheads in parallel computers with suitable examples.
   b.   Describe Flynn's classification for parallel computers by giving examples of each category. Also state the merits and demerits of each category.

Q. 3.   a.   Differentiate between SIMD and MIMD architecture.
   b.   Differentiate between static and dynamic interconnections of parallel computing.

Q. 4.   a.   Discuss different parallelism approaches including data and control parallelism.
   b.   Discuss different PRAM model.

Q. 5.   Write short note on following:
   a)   Functional and object oriented programming.
   b)   Flynn's classification

Q. 6.   a)   What are different ways by which loop scheduling can be implemented? Which one is better?
   b)   Explain parallel reduction algorithms and their usage in PRAM models.

Q. 7.   Write short note on following:
   a)   SPMD
   b)   Embedding and simulation.

Q. 8.   Differentiate between distributed and shared MIMD architecture? Explain pros and corns of each.