

Roll No.

Total No. of Questions : 08]

[Total No. of Pages : 01

M. Tech. (Sem. - 3rd)

PARALLEL COMPUTING

SUBJECT CODE : CS - 517 (Elective - III)

Paper ID : [E0697]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 100

Instruction to Candidates:

- 1) Attempt any Five questions.
- 2) All questions carry equal marks.

- Q1)* (a) What is computer architecture? How is it different from the computational model? What is the basis of a computational model? Explain various computational models in detail.
- (b) What are the types of parallel computers? What are their features? Explain.
- Q2)* (a) Distinguish between SPMD and SIMD.
- (b) Explain the concepts of code granularity and levels of parallelism.
- Q3)* (a) What are the features of parallel object-oriented programming?
- (b) What is the criterion for the paradigm selection in the parallel programming?
- Q4)* (a) Discuss the parallel programming support environments.
- (b) What are benchmarks? How are they useful in measuring the system performance? Explain.
- Q5)* (a) Explain the Flynn's classification of computer architectures with block diagrams.
- (b) Compare and contrast shared and the distributed memory programming approaches.
- Q6)* (a) What is reduction paradigm? Explain.
- (b) Explain embeddings and simulations.
- Q7)* Explain in detail the scheduling and parallelization techniques for parallel programs.
- Q8)* (a) What do you mean by network topology? Make assumptions that are usually incorporated while implementing a parallel algorithm in some interconnection network topology.
- (b) What is the PRAM model? Which PRAM model can be used to execute any other PRAM algorithm and how?
