

DC

Unit - I

- ① Describe Candidate type architecture (CTA) with properties
- ② Explain Blue Gene/L, also describe the diff communication existing among processors.
3. Explain PRAM model → in detail
differences
- ④ What is parallel Computing & benefits of Sequential and distributed
5. Explain Symmetric Multiprocessor Architecture (SMP)
- ⑥ Describe 6 parallel computers
7. Various Solutions to Counting 3's
8. Goals of parallel programming

Unit-2

- ① State and Explain Amdahl's Law for measuring Speed up performance with outcomes.
- ② perl-L code for 26-way parallel solution to alphabets.
- ③ perl-L code for fixed way solution to Cont3s
↓ goals
4. Notes on Dependencies, granularity, Scalability & performance issues
- ⑤ Performance loss → Synchronization, contention, idle, Amdahl's law Sources
6. Different forms of parallelism → fixed, Unlimited, Scalable
7. Different performance measuring parameters

Unit-3

- ① State & explain Schwartz algo, observations
- ② Basic Structure of Scan & Reduce. Explain Generalized Scan/Reduce with exs
- ③ Explain block allocation, Overlap Region, Cyclic, Irregular → Statically few points
4. Work Queue used for dynamic work assignment → Explain
5. How work assignments execute in static & dynamic → Compare
6. Short notes on Sub-Tree & its Allocations

Unit 4

- Q. What are POSIX threads. Explain 5 important threads
 Creation, joining, compare, termination
- Q. Count 3s using openMP
- Q. Explain Safety issues & performance issues for POSIX threads
- Q. Explain Mutual Exclusion & Synchronization
- Q. Necessary Conditions for deadlock & avoidance

Unit 5

- Q. Notes on Titanium, Unified Parallel C
- Q. Concept of transactional memory (TM)
- Q. Limit properties of parallel languages
- Q. Discuss performance & safety issues of MPI
- Q. Hidden Parallelism and Implicit vs Explicit Parallelism,
 Transparent Performance → Lessons for the future
- Q. Diagram Point-to-Point Communication
- Q. Future directions in Parallel programming → Attached Processors, TM