PARUL UNIVERSITY - Faculty of Engineering and Technology

Department of Computer Science & Engineering

SYLLABUS FOR 5th Sem BTech PROGRAMME

Distributed Computing Laboratory

Type of Course: BTech

Prerequisite: Basic knowledge operating system.

Rationale: This course provides a broad introduction distributed computing.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/	Tut Hrs/	Lab Hrs/ Week		T	P	T	CE	P	
0	0	2	1	-	30	-	-	20	50

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

Course Outcome:

After Learning the course, the students shall be able to:

1. Understand the design principles in distributed systems and the architectures for distributed systems.
2. Apply various distributed algorithms related to clock synchronization, concurrency control, deadlock detection, load balancing, voting etc.
3. Analyze fault tolerance and recovery in distributed systems and algorithms for the same.
4. Analyze the design and functioning of existing distributed systems and file systems.
5. Implement different distributed algorithms over current distributed platforms

List of Practical:

1. Implement concurrent echo client-server application.
2. Implement concurrent day-time client-server application.
3. Incrementing a counter in shared memory.
4. Create CORBA based server-client application.
5. Configure reliability and security options.
6. Program to implement Chat Server.
7. Program to implement locking algorithm.
8. Program to implement Remote Procedure Call.
9. Program to implement edge chasing distributed deadlock detection algorithm.
10. Case Study: CORBA