

Branch Name:	Information and Communication Technology
Semester/Year:	Semester I / First Year
Subject Title:	Distributed Computing Practical
Subject Code:	2ET2030103P
Pre-requisite:	Fundamentals of Operating Systems and Computer Networks

Course Objective:

The objectives of this course are to provide students with contemporary knowledge in distributed computing, to describe the various design issues in distributed computing systems and to equip students with skills to design a distributed application.

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCE		SEE		CCE		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	-	-	-	-	10	25	10	25	50

Course Outcome:

At the end of the course the student will be able to:

- Analyze various components of distributed computing systems
- classify distributed shared memory models
- analyze algorithms for coordination, communication, synchronization in distributed systems
- Integrate OS and programming language concepts to solve/implement the (distributed) components of the systems

List of Experiments:

- Develop a Distributed application using socket. Application consists of a server which takes an integer value from the client, calculates its factorial and returns the result to the Client program.
- Develop an application using RPC.
- Design a distributed application using RMI where client submits two strings to the server and server returns the concatenation of the given strings.

4. Implement distributed telephone directory using Java RMI Programming. Implement concurrency control to distributed telephone directory.
5. Implementing election algorithm for synchronization
6. Implement Task assignment and load balancing scheme.
7. Implement two phase commit protocol.
8. Design a Distributed Application using Message passing Interface for remote computation.
9. Study the design of a Gnutella client.
10. Develop distributed enterprise application
11. Design web service in java.
12. Install Hadoop and implement a program to make use of map-reduce model.
13. Install Globus toolkit and implement any program on it.