

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: I

M.E. Information Technology

Subject Name: **Distributed Computing (Major Elective-I)**

Sr.No	Course content
1.	Introduction to distributed computing
2.	Network programming with sockets and streams
3.	Inter-process communication: Remote Procedure Calls, Concurrency and multithreading
4.	Parallel computing: domain and functional partitioning, parallel virtual machines – PVM, message passing interface - MPI, and performance measurements
5.	Distributed Objects and Middleware Remote Method Invocation – Internet-Inter ORB Protocol Object Persistence and Object Serialization, Object Brokers, Message-Oriented Middleware
6.	Development of Enterprise applications: Use of standards J2EE / .NET to develop distributed enterprise applications
7.	Introduction to XML, APIs for XML Processing
8.	Enterprise Application Integration, Web Technologies, Web services: Concepts, Protocols: SOAP, WSDL, UDDI, Development of Web services
9.	Introduction to cluster computing, and grid computing
10.	Research issues

## Reference Books:

1. Distributed Computing – Concepts and Applications” by M. L. Liu, published by Addison-Wesley, Inc.
2. Java in Distributed System, Marko Boger, John Wiley and Sons Ltd.
3. Java Network Programming and Distributed Computing, David Reilly and Michael Reilly, Addison-Wesley
4. Web Services, Gustavo Alonso, Fabio Casati, Harumi Kuno, Vijay Machiraju, Springer Verlag
5. “Developing EJB Components”, Pravin Tulachand, published by Sun Microsystems