

COURSE CODE	COURSE TITLE	L	T	P	C
1152IT120	Distributed Computing	3	0	0	3

Course Category:

~~Foundation (0) / Program Core (1) / Program Elective (2) / Allied Elective (3) / University Elective (4) / Value Education Elective (5) / Independent Learning (6) / Industry – Higher Learning Institute Interaction (7).~~

a. Preamble :

Data from various sources saved in different location in an distributed manner. Handling this distribution need incorporation of different technologies for transferring and receiving, saving and giving security etc. This course will give enough knowledge to handle such distributed data.

b. Prerequisite Courses:

Sl No	Course Code	Course Name
1		Operating System
		Computer Networks

c. Related Courses:

Sl No	Course Code	Course Name
1		Project

d. Course Educational Objectives :

Students undergoing this course are expected to:

- To expose students to both the abstraction and details of file systems.
- To introduce concepts related to distributed computing systems.
- To focus on performance and flexibility issues related to systems design decisions.

e. Course Outcomes :

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Describe the basics of Hardware Infrastructure?	K2
CO2	Explain the concept of software architecture?	K2
CO3	Explain the basic concepts of Distributed Systems?	K2
CO4	Explain the various problems in Distributed database?	K2

f. Correlation of COs with POs :

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M		L		L							
CO2	M		L		M							

CO3	M		M		M							
CO4	M				M							

g. Course Content :

UNIT I Hardware Infrastructure 9

Broad Band Transmission Facilities - Open Interconnection Standards - Local Area Networks - Wide Area Networks - Network Management - Network Security.

UNIT II Software Architectures 9

Client - Server Architectures - Intranets and Groupware - Hardware and Software for Intranet - Groupware and Features - Network as a Computer - The Internet - IP Addressing - Internet Security

UNIT III Operating System Issues 9

Distributed Operating Systems - Transparency - Inter-Process Communication - Client - Server Model - Group Communications - Threads - System Models - Process Synchronization

UNIT IV Fundamental Distributed Computing Aspects 9

Distributed Databases - Distribution Transparency - Distributed Database Design - Query Translation – Query Optimization -

UNIT V Managing Distributed Data 9

Concurrency Control - Object-Oriented Databases - Strategic Considerations - Applications of Object-oriented Databases – Features of Object-oriented Databases

Total : 45 Hours

k. Learning

Resources i.Text

Books :

1. SapeMullender, Distributed Systems, Addison-Wesley, 1993.
2. Albert Fleishman, Distributed Systems - Software Design & Implementation, Springer-Verlag, 1994.

ii.Reference:

1. MukeshSingal and Shivaratu N.G., Advanced Concepts in Operating Systems, McGraw Hill, Newyork 1994.
2. George Coulouris and Jean Dollimore, Distributed Systems - Concepts and Design, Addison-Wesley, 1988.

Gerard Tel, Introduction to Distributed Algorithms, Cambridge University Press, 1994