

DISTRIBUTED COMPUTING

Semester	Subject Code	Category	Lecture Hrs		Theory Hrs		Practical		Credits
			Per week	Per Sem	Per week	Per Sem	Per week	Per Sem	
I		ELECTIVE - 1	6	90	6	90	0	0	5

COURSE OBJECTIVE

- To Know about the network Concept and Gain the knowledge in developing the System using Distributed Concept .

COURSE OUTCOME

successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	To learn the characteristics, examples and design issues, trends related to distributed systems	K2
CO2	Develop Inter Process Communication	K3
CO3	To learn about synchronization and deadlock concept with real time example.	K3
CO4	To apply process allocations using thread based techniques.	K4
CO5	Implement a distributed file system for a given Operating System.	K4

Knowledge Level – K1-Remember, K2- Understand, K3-Apply, K4-Analyze

MAPPING WITH PROGRAMME OUTCOME

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	M	S	S
CO2	S	S	M	S	S	M
CO3	S	S	S	M	M	S
CO4	S	S	S	M	S	M
CO5	S	S	S	M	S	S

S-Strong, M-Medium and L-Low

UNIT – I INTRODUCTION TO DISTRIBUTED COMPUTING **18 Hours**

Introduction – Goals - Hardware Concepts – Software Concepts – Design Issues: Transparency – Flexibility – Reliability – Performance – Scalability.

UNIT – II COMMUNICATION IN DISTRIBUTED SYSTEM **18 Hours**

Communication in Distributed Systems – The Client – Server Model – Addressing – Types of Primitives – Implementation – Group Communication – Introduction – Design Issues – Group Communication in ISIS.

UNIT – III SYNCHRONIZATION **18Hours**

Synchronization in Distributed Systems – Clock Synchronization – Mutual Exclusion – Election Algorithms – Deadlocks.

UNIT – IV PROCESS IN DISTRIBUTED SYSTEM **18 Hours**

Process and Processors in Distributed Systems – Threads – Processor Allocation – Scheduling – Fault Tolerance.

UNIT – V DISTRIBUTED FILE SYSTEM **18 Hours**

Distributed File System – Design – Implementation – Trends in Distributed File Systems.

Distribution of Marks: Theory 80% and Applications: 20%

TEXTBOOKS

S. NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1	Andrew S Tanebaum	Distributed Operating Systems	PHI/Pearson Education Pte. Ltd., New Delhi	2006

REFERENCEBOOKS

S. NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1	George Coulouris, Jean Dollimore, Tim Kindberg	“Distributed Systems Concepts and Design”	Fifth edition	2011
2	Liu M.L.,	“Distributed Computing, Principles and Applications	Pearson Education	2007

WEB RESOURCES

1. <https://whatis.techtarget.com/definition/distributed-computing>
2. https://computing.llnl.gov/tutorials/parallel_comp/

TEACHING METHODOLOGY

- Class room teaching & Group discussions
- Seminars & Smart Class room
- Chart/Assignment & Simulation Model

SYLLABUS DESIGNERS

- Mrs.G.SANGEETHA LAKSHMI, Assistant professor & HOD, Dept of Computer Science & Applications
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