



Course Code / Name : U14IT727 / Parallel & Distributed Systems

Class (Year / Programme / Department / Section): IV/B.Tech/IT

LESSON PLAN

UNIT -1 (INTRODUCTION)

Session No	Topics	Duration in minutes	Teaching Aid	Book Referred
1	A brief history	45	BB	R1
2	Computer organization for parallel and distributed computing	45	BB	R1
3	Communications and computer networks	45	BB	R1
4	Operating systems for distributed and parallel computing	45	BB	R1
5	The client-server model, Distributed database systems	45	BB	R1
6	Parallel programming languages and algorithms.	45	BB	R1
7	Computer organization for parallel and distributed computing: Pipeline and vector processors	45	BB	R1
8	Multicomputers and computer networks, Multiprocessors	45	BB	R1
9	Massively parallel architecture	45	BB	R1
10	Non-von Neumann-type computers	45	BB	R1
11	Cache architectures in multiprocessors	45	BB	R1
12	Revision	45	-	-
<u>UNIT 2(COMMUNICATION AND COMPUTER NETWORKS)</u>				
1	Communications	45	BB	R1
2	Types of communication	45	BB	R1
3	Computer network architecture-Introduction	45	BB	R1
4	Architecture for Computer Network	45	BB	R1
5	Network topology- Introduction	45	BB	R1
6	Types of Network Topology	45	BB	R1

7	Network interconnection	45	BB	R1
8	Integrated Services Digital Network (ISDN)	45	BB	R1
9	Asynchronous Transfer Mode	45	BB	R1
10	Wireless computing-Introduction	45	BB	R1
11	Wireless Computing	45	BB	R1
12	Revision	45	-	R1

UNIT 3(OPERATING SYSTEM FOR PARALLEL AND DISTRIBUTED COMPUTING)

1	Network operating systems(NOS)-Introduction	45	BB	R1
2	Uses and Types of NOS	45	BB	R1
3	Distributed operating systems- Introduction	45	BB	R2
4	Challenges of DOS	45	BB	R2
5	Operating systems for parallel computing	45	PPT	R1
6	Types of OS in parallel computing	45	BB	R1
7	Distributed system modeling-Introduction	45	BB	R2
8	System Models for distributed systems	45	BB	R2
9	Parallel system modeling-Introduction	45	BB	R2
10	System Models for Parallel system	45	PPT	R2
11	Revision	45	-	-

UNIT 4(DISTRIBUTED COMPUTING)

1	Introduction – Distributed Systems	45	PPT	R2
2	Theory of Distributed Computing	45	BB	R2
3	Formal models for Message – passing systems	45	BB	R2
4	Broadcast and Converge Cast on a Spanning Tree	45	BB	R2
5	Flooring and Building a Spanning Tree	45	PPT	R2
6	Constructing DFS Spanning Tree for a Specified Root	45	BB	R2
7	Constructing DFS Spanning Tree without a Specified Root	45	BB	R2
8	The Leader Election Problems	45	BB	R2
9	Anonymous Rings	45	BB	R2
10	Asynchronous Rings	45	BB	R2
11	Synchronous Rings	45	BB	R2

12	Revision	45	-	-
<u>UNIT 5(MUTUAL EXCLUSION IN SHARED MEMORY)</u>				
1	Formal model for shared memory systems	45	BB	R2
2	The Mutual Exclusion Problem	45	PPT	R2
3	Mutual Exclusion using powerful Primitives	45	PPT	R2
4	Mutual Exclusion using R/W registers.	45	PPT	R2
5	Fault to Lerant Concensus	45	PPT	R2
6	Synchronous systems with Crash Failures	45	BB	R2
7	Synchronous systems with Byzantine Failures	45	BB	R2
8	Impossibility in a synchronous systems	45	BB	R2
9	Causality and Time: Capturing Causality	45	BB	R2
10	Examples of using causality	45	BB	R2
11	Clock synchronization	45	BB	R2
12	Revision	45	-	-