MANIPAL INSTITUTE OF TECHNOLOGY

Manipal University, Manipal
Karnataka -576104

COURSE PLAN

Department : **COMPUTER SCIENCE & ENGG.**
Course Name & code : **DISTRIBUTED COMPUTING SYSTEMS(CSE-401)**
Semester & branch : **VII SEMESTER BTECH (CS&E)**
Name of the faculty : **1. Dr. Krishnamoorthi M**
2. Dr. Harish S.V.
3. Dr. Mamatha Balachndra
No of contact hours/week : **4**

ASSESSMENT PLAN:

1. **In Semester Assessments - 50 %**
   - Written tests : 40%
   - Surprise quizzes : 10%

2. **End Semester Examination - 50 %**
   - Written examination of 3 hours duration (Max. Marks: 50)

Portions for Assignment	
Assignment no.	**Topics**
1	**L1-L10**
2	**L11-L18**
3	**L19-L28**
4	**L29-L36**
5	**L37-L44**
Portions for Sessional Test	
Test no.	**Topics**
1	**L1 -L20**
2	**L21-L42**

Course Plan

L. No	Topics
L1	Definition of a Distributed System, Goals
L2	Architecture models
L3	Fundamental models
L4	External data representation (T)
L5	Client server communication, Group communication
L6	Case Study: Inter-process communication in UNIX
L7	Introduction, Communication between Distributed Object
L8	Remote procedure call (T)
L9	Event and notifications
L10	Case study: Java RMI
L11	Processes: Threads
L12	Virtualization (T)
L13	Clients, servers
L14	Code Migration
L15	Introduction, File Service architecture
L16	Case Study: Sun Network File System (T)
L17	Introduction, Name services and DNS
L18	Directory Services
L19	Case Study: Global name service
L20	Case Study: X.500 directory service (T)

L21	Clock Synchronization
L22	Clock synchronization (continued)
L23	Logical clocks
L24	Mutual Exclusion (T)
L25	Mutual Exclusion (continued)
L26	Global Positioning of Nodes
L27	Election algorithms
L28	Election algorithms (continued) (T)
L29	Data-Centric consistency models
L30	Data-Centric consistency models (continued)
L31	Client-Centric consistency models
L32	Client-Centric consistency models (continued) (T)
L33	Replica management
L34	Replica management (continued)
L35	Consistency Protocols
L36	Consistency Protocols (continued) (T)
L37	Introduction to Fault Tolerance
L38	Process Resilience
L39	Reliable Client Server Communication
L40	Reliable Group Communication (T)
L41	Distributed Commit
L42	Recovery
L43	Introduction to Security

L44	Introduction to Security (continued) (T)
L45	Secure Channels
L46	Secure Channels (continued)
L47	Access Control
L48	Access Control (continued) (T)

References:

1. George Coulouris, Jean Dollimore, Tim Kindberg: "Distributed Systems, Concepts and Design": Pearson Education, 4th edition, 2009.

2. Andrew S. Tannenbaum, Maarteen Van Steen: "Distributed Systems, Principles and Paradigms": PHI (EEE), 2nd edition, 2009.

Submitted by: Dr. Krishnamoorthi M

(Signature of the faculty)

Date: 31-07-2015

Approved by:

(Signature of HOD)

Date:

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