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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Seventh Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec - 2016/Jan - 2017

Distributed Operating System

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a.	Why distributed system is gaining popularity? Explain in brief.	8
b.	What is transparency? What are the different types of transparencies that are to be taken care when designing a distributed operating system? Explain in brief.	8
c.	What are the factors considered in designing the cell boundaries while setting up a DCE system? Explain.	4
2 a.	Explain desirable issues of good message passing system.	10
b.	Explain different types of message ordering in group communication.	10

UNIT - II

3 a.	Explain the various components of RPC with neat diagram.	10
b.	Explain different types of communication protocol for RPC's with neat diagram.	10
4 a.	What are the different ways in which a client can bind to a server? Explain.	6
b.	Why stateless servers are better than stateful servers?	4
c.	Explain the following : i) Instance per call server ii) Instance per session server.	10

UNIT - III

5 a.	What are the issues involved in design and implementation of DSM? Explain in brief.	10
b.	Explain any three consistency models of DSM.	10
6 a.	What is distributed shared memory? Which factors affect block size selection? List the advantages of making the block size equal to the page size.	12
b.	What is thrashing? What are the methods used to solve thrashing problem in DSM?	8

UNIT - IV

7 a.	What is drifting of clocks? Explain active and passive time server algorithm for clock synchronization.	10
b.	What are election algorithms? Explain ring algorithm and compare it with bully algorithm.	10
8 a.	With a neat sketch of taxonomy of load balancing algorithm-differentiate between the algorithms at each level.	10
b.	Explain any four issues in designing load sharing algorithm.	10

Contd.....2

UNIT - V

9	a.	Explain the mechanisms of freezing and restarting a process during process migrations.	10
	b.	How are threads scheduled in process management? Explain.	10
10	a.	Explain the different approaches to verify the validity of cached data.	10
	b.	What are the advantages of replication in distributed system?	7
	c.	Differentiate between replications and caching.	3

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