7/6/2011

B.E. CMPN VIII (Rev)
Distributed Computing

159-mk: 1st-ff-11.

Con. 3726-11. **(REVISED COURSE)** **RK-4659**

(3 Hours) **[Total Marks : 100**

N.B. (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions out of remaining questions.
(3) Draw **neat** diagrams wherever **required**.

1. (a) What are the desirable features of an Open Distributed Systems ? 5
(b) Differentiate between Process and Threads using proper examples. 5
(c) Compare DOS and NOS as platforms for Distributed Systems. 10

2. (a) What are the parameter passing-semantics of RPC ? 5
(b) What makes a RPC complicated ? Discuss the protocols for handling some of the complicated RPCs. 5
(c) Discuss the different methods available for ensuring ordered message delivery ? Name the protocols which implement these methods. 10

3. (a) What are the issues in designing Load Balancing algorithms ? 10
(b) Explain the different distributed physical clock synchronization algorithms with their relative advantages and disadvantages. 10

4. (a) What are the criteria to be considered for choosing the block size while designing a DSM ? Explain the different replacement strategies of migrating or replicating the blocks from the cache. 10
(b) What is the notion of a Context in a name space ? Explain the different clustering and context binding strategies of names. 10

5. (a) Describe the different approaches for deadlock detection in DS. 10
(b) What do you mean by a Consistency Model ? Explain the available consistency models and the requirements of the systems which support them. 10

6. (a) What are the probable failures in the message passing form of IPC ? With neat diagrams explain the reliable IPC protocols. 10
(b) Describe the different models for organizing threads. Explain the working of a multi-threaded server. 10

7. Write short notes on (any **two**) :— 20
(a) Lightweight RPC
(b) Process Migration in Heterogeneous systems
(c) Stateful and Stateless File Servers
(d) Ricart Agrawala Algorithm-merits and Demerits.

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