

**IV B.Tech I Semester Supplementary Examinations, November 2005**  
**DISTRIBUTED SYSTEMS**

**( Common to Computer Science & Engineering, Information Technology  
and Electronics & Computer Engineering)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. (a) Explain the main differences between a network operating system and a distributed operating system.  
(b) What are the major issues in designing a distributed operating system? [8+8]
2. (a) Explain why most RPC systems do not use acknowledgement messages?  
(b) Differentiate among R, RR and RRA protocols for RPCs. [8+8]
3. Explain the following clock synchronisation algorithms  
(a) Cristian's algorithm  
(b) Berkeley's algorithm [16]
4. (a) Discuss the issues that has to be considered in allocating processors to processes in a distributed system.  
(b) Discuss the hierarchial, heuristic and the bidding algorithm for processor allocation. [8+8]
5. (a) Write about Satyanarayanan's observation on file usage in a distributed system. How it is useful in implementation of a file system.  
(b) Compare write through and write once protocols. [8+8]
6. (a) Compare different consistency models with synchronization and models without synchronization.  
(b) Explain about Ring based multiprocessor. [10+6]
7. (a) Illustrate how mach\_msg can be used for both sending and receiving messages in mach  
(b) Discuss how memory objects can be shared with copy-on-write. [8+8]
8. Discuss the directory service, time service and security service of DCE. [16]

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