

IV B.Tech I Semester Supplementary Examinations, April/May 2005
ADVANCED OPERATING SYSTEM
(Common to Computer Science & Engineering and Information Technology)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Compare and contrast among network OS, distributed OS and multiprocessor OS.
(b) What is the primary motivation behind the development of the RPC facility? How does an RPC facility make the role of distributed application programmers simpler? Summarize the steps involved in a basic RPC operation.
2. (a) Why is computer clock synchronization necessary? Describe the design requirements to synchronize the clocks in a distributed system.
(b) What is a transaction? What are the two main factors that threaten the atomicity of transactions?
(c) Describe how atomicity is ensured for a transaction in both commit and abort.
3. (a) List the main differences and similarities between threads and processes.
(b) Describe task scheduling, mechanism in real time systems.
4. (a) What are the desirable features of a good distributed file systems(DFS)
(b) Name the main concept of DFS.
(c) Discuss the relative advantages and disadvantages of using page based shared Variable and object based strategies in the design of a DSM systems.
5. (a) Describe how the external memory manager concept of MACH can be used to implement the DSM facility.
(b) Explain how DCE provide excellent security.
6. (a) What are the goals of distributed systems?
(b) Describe lamports algorithm.
7. (a) What are the key choices involved in processor allocation algorithms? Point out the trade offs.
(b) What is shared memory? Describe a ring based multiprocessor system.
8. Write short notes on:-
(a) Security service in DEC
(b) Communication in MACH.
