Code :RA074A0502 RA

III B.Tech I Semester (R07) Supplementary Examinations, May 2011
OPERATING SYSTEMS
(Information Technology)
(For students of R05 regulation readmitted to III B.Tech I semester R07)

Time: 3 hours **Max Marks: 80**

Answer any FIVE questions
All questions carry equal marks

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1. Explain the various functions provided by the operating system.
2. (a) Define the following:
   i. Process
   ii. Thread
   iii. Job queue
   iv. Ready queue
   (b) Explain no preemptive priority scheduling algorithm with an example.
3. (a) Describe the critical section problem. How semaphores can be used to solve the critical section problem? Explain in detail.
   (b) Explain synchronization in Linux.
4. (a) Explain multi step processing of a user program.
   (b) Give a note on the performance of demand paging.
5. (a) What is a deadlock? What are the necessary conditions for the deadlock to occur?
   (b) Explain with an example Banker's algorithm for deadlock avoidance.
6. Give a detailed note on various directory structures mentioning their advantages and disadvantages.
7. (a) Explain the following terms with respect to disk.
   i. Seek time.
   ii. Rotational latency.
   iii. Bandwidth.
   (b) What is RAID? Explain about the improvement of reliability in RAID via redundancy.
8. (a) What do you mean by protection? What are the goals of protection?
   (b) Explain in detail how computer attacks are defended by using cryptography.

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