Code: 9A05505

R09

B.Tech IV Year I Semester (R09) Supplementary Examinations, May 2013
OPERATING SYSTEMS
(Common to ECE, EIE and E.Con.E)

Time: 3 hours   Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1   (a)   Discuss how an operating system makes system call available.
     (b)   Explain the structure of the Solaries operating system.

2   (a)   What is the difference between a program and a process?
     (b)   What are I/O-bound and CPU-bound processes?
     (c)   What are the problems with traditional UNIX scheduler?
     (d)   Under what conditions a parent process terminates the child process.

3   (a)   Give solution to the critical section problem using locks.
     (b)   Explain implementation of the monitor mechanism using semaphores.

4   (a)   With a neat diagram explain paging hardware with TLB.
     (b)   Explain memory management in UNIX.

5   Discuss in detail the two deadlock avoidance algorithms with examples.

6   (a)   In the context of disk space allocation, what is fragmentation, and compaction?
     (b)   How file allocation table can be used for disk space allocation?
     (c)   What are the limitations of linked file allocation?

7   Explain the methods for user authentication.

8   With an example show that SSTF algorithm is a substantial improvement over the FCFS algorithm.

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