Code: R7221204

R07

B.Tech II Year II Semester (R07) Supplementary Examinations December/January 2015/2016
OPERATING SYSTEMS
(Information Technology)
(For 2008 Regular admitted batch only)

Time: 3 hours   Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1 (a) Why the system calls are to be provided by operating system? What system calls are provided by a typical OS? Explain in detail.
   (b) Differentiate distributed systems from multiprocessor systems.

2   What is scheduling? Why is it necessary? Describe the various process scheduling algorithms available.

3 (a) What is a semaphore? What are the various operations defined on it?
   (b) Show how to implement wait ( ) and signal ( ) semaphore operations in multiprocessor environments using the test and set instructions. The solution should exhibit minimal busy waiting.

4 (a) Explain about paging with neat diagram.
   (b) Discuss various address translation mechanisms in paging.

5   What is deadlock? How deadlock can be avoided? Explain Banker's algorithm with an example.

6 (a) Discuss the address information elements of a file directory.
   (b) Illustrate in detail about file system architecture with neat diagram.

7   Compare and contrast the following disk scheduling algorithms:
   (a) Shortest service time first.
   (b) Last in first out.
   (c) FSCAN.
   (d) SCAN.

8 (a) Explain briefly about implementation of access matrix.
   (b) How the security can be provided by fire wall mechanisms? Explain in detail.

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