R07

Set No: 1

Code No: V3222

III B.Tech. II Semester Supplementary Examinations, April/May - 2013
OPERATING SYSTEMS
(Computer Science & Engineering)

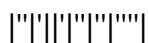**Time: 3 Hours**   **Max Marks: 80**

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

1   a) Explain the Operating system as Resource Manager.
        b) A major operating system will evolve over time for a number of reasons. What are they?

2   a) Stating the optimization criteria, explain the criteria for CPU scheduling algorithms.
        b) With Gantt-chart illustration, write about Round Robin (RR) CPU scheduling algorithm.

3   a) Write the program for mutual exclusion using semaphores.
        b) Explain about infinite buffer producer/consumer problem for concurrent processing which uses Binary Semaphores.

4   a) Explain Paging hardware with translation look-aside buffer.
        b) How memory protection can be accomplished in a paged environment? Explain.

5   What are the principles of deadlock? How the deadlocks can be avoided? Explain with the help of necessary algorithms.

6   a) Explain various techniques implemented for free space management, discuss with suitable examples.
        b) Explain Windows 2000 file management system.

7   a) What is Redundant Array of Inexpensive Discs? What are the advantages and disadvantages of using this kind of systems?
        b) Explain different levels of RAID.

8   a) Write about the goals and principles of protection.
        b) Explain the Role-based access control in Solaris 10.

*****

|''|'||'|''|''|''''|

R07

Set No: 2

Code No: V3222

III B.Tech. II Semester Supplementary Examinations, April/May - 2013
OPERATING SYSTEMS
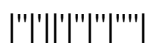(Computer Science & Engineering)

Time: 3 Hours
Max Marks: 80

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

1   What is Operating System? Describe the different types of Operating Systems with the examples.

2   a) Differentiate process and program. With a neat sketch, explain the process control block.
    b) Describe the process management in traditional UNIX.

3   What is message passing? Explain the design characteristics of message systems for inter process communication and synchronization.

4   Explain segmentation scheme for memory management. Give the segmentation hardware.

5   a) What is starvation? Which of the following algorithms could result in starvation FCFS, SPN, SRT and Priority. How to overcome the problem of starvation? Discuss.
    b) How mutual exclusion, hold and wait and circular wait are different from each other? Explain with the help of examples.

6   a) Explain Linked allocation method with example.
    b) Write about tree-structured file-directory structure.

7   Giving merits and demerits, explain the various Disk-scheduling algorithms.

8   Write short notes on
    a) MULTICS ring structure.   b) Revocation of access rights.   c) Protection in Java.
*****

|''|'||'|''|''|'|'''|

Code No: V3222

R07

Set No: 3

III B.Tech. II Semester Supplementary Examinations, April/May - 2013
OPERATING SYSTEMS
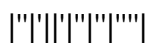(Computer Science & Engineering)

Time: 3 Hours **Max Marks: 80**

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

1 a) Giving the various components explain how a real-time OS is different from conventional OS?
   b) What is meant by a distributed operating system?

2 a) Explain the methods for evaluation of CPU scheduling algorithms.
   b) What is Swapping? Explain the need for swapping.

3 a) Define monitor. What are its characteristics?
   b) Explain about protection technique of critical section in LINUX.

4 a) Explain the partitioning-based memory management schemes.
   b) Compare the memory management in Windows 2000 with that of Linux.

5 a) Explain the life cycle of an I/O request.
   b) Explain the UNIX I/O kernel structure.

6 a) Write about Acyclic Graph-Structured file-directory structure.
   b) Explain in brief the file management in UNIX.

7 a) With an example, explain the swap-space management.
   b) Write about Tertiary –Storage Devices.

8 a) Discuss elaborately intrusion detection techniques.
   b) Explain the security functions of windows XP.
   *****

|''|'||'|''|''|''''|

Code No: V3222

R07

Set No: 4

III B.Tech. II Semester Supplementary Examinations, April/May - 2013
OPERATING SYSTEMS
(Computer Science & Engineering)

Time: 3 Hours   **Max Marks: 80**

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

1   a) Write about hardware protection in multi-user environment.
    b) Brief the characteristics of real-time OS.

2   a) Distinguish a thread from a process.
    b) Describe various operations on threads.
    c) Write about Kernel level threads.
    d) What resources are typically shared by all of the threads of a process?

3   What is Readers/Writers problem? Explain the method of solving the problem by using Semaphores with Writers having priority.

4   a) Explain the concept of virtual memory.
    b) With a neat sketch, explain demand paging concept.

5   a) Differentiate between blocking and Non-blocking I/O.
    b) Explain the STREAMS structure of UNIX system V.

6   Giving merits and demerits, explain the three-disk file allocation methods.

7   a) Write short notes on
         i) Host-Attached Storage
         ii) Network-Attached Storage
         iii) Storage-Area Network
    b) Explain various disk performance parameters.

8   a) Explain the requirements of computer and network security.
    b) Explain in detail various password selection strategies for user authentication.

*****

|"|'||'|"|"|'"'|