Code No: 07A60501 **R07** **Set No. 2**

III B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Computer Science And Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Describe the attributes of the process. Describe the typical elements of the process control block. [16]
2. What is stable storage? Explain how to implement a stable storage along with various operation that can be performed on it. [2+14]
3. Write about:
   (a) Free space management
   (b) Reliability of a file allocation. [8+8]
4. (a) What are the various methods for protection and access control.
   (b) Explain how worms and viruses can affect the operation of the computer. [8+8]
5. (a) Explain how protection is different from security.?
   (b) Discuss briefly about distributed system. [8+8]
6. Write a bounded-buffer monitor in which the buffer are embedded within the monitor itself. [16]
7. Discuss in detail about the virtual memory implementation in Linux. [16]
8. Describe a system model for study of deadlock situation. [16]

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Code No: 07A60501 **R07** **Set No. 4**

III B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Computer Science And Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the demand paged memory management in detail with an example.
   (b) Describe about dynamic partitioning and fixed partitioning. [8+8]
2. (a) Explain file system software architecture.
   (b) What are the important criteria in choosing a file organization?
   (c) Explain the file and sequential file organization. [6+4+6]
3. contrast and compare Program initiated I/O and Interrupt initiated I/O. [16]
4. (a) Explain the various password selection strategies.
   (b) Discuss about UNIX password scheme. [8+8]
5. (a) Describe FCFS scheduling algorithm with a suitable example
   (b) Explain about Priority scheduling algorithm with suitable example. [8+8]
6. (a) Compare the throughput of SCAN and C-SCAN assuming a uniform distribution of requests.
   (b) What is RAID? Explain how RAID level 5 is implemented? [8+8]
7. Discuss briefly synchronization provided in solaris. [16]
8. Explain why having multiple copies of a resource does not prevent deadlocks from happening. [16]

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Code No: 07A60501 **R07** **Set No. 1**

III B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Computer Science And Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss in detail about the following disk scheduling algorithms:
   (a) FCFS
   (b) SSTF
   (c) SCAN
   (d) LOOK. [16]
2. (a) Explain busy waiting and blocking wait?
   (b) Is busy waiting always less efficient than a blocking wait? Explain. [8+8]
3. (a) Explain different protection mechanisms in Operating systems.
   (b) Explain authentication problem with an example. [8+8]
4. (a) What are the different block based file organization techniques? Explain briefly.
   (b) Compare and contrast chained allocation with indexed allocation technique of file allocation. [8+8]
5. Differentiate between the following:
   (a) Thread Vs process
   (b) Process switching Vs context switching. [8+8]
6. Explain the deadlock detection methods for single instance of resource types with an example. [16]
7. List all the steps that are necessary in order to run a program on a completely dedicated machine. [16]
8. (a) What is the relationship between FIFO and clock page replacement algorithm?
   (b) What is the difference between resident set management and page replacement policy? [8+8]

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Code No: 07A60501 **R07** **Set No. 3**

III B.Tech II Semester Examinations,December 2010
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Differentiate between the following:
   (a) Character-stream Vs Block Devices
   (b) Sharable Vs Dedicated Devices
   (c) Sequential Vs Random Devices
   (d) Synchronous Vs Asynchronous Devices. [4+4+4+4]
2. Explain various steps involved in change of a process state. [16]
3. Write short notes on:
   (a) deadlock
   (b) starvation. [8+8]
4. (a) Distinguish between protection and security of a computer system.
   (b) What is language-based protection? Explain [8+8]
5. What are the main difficulties in writing an OS for a real time environment. [16]
6. (a) How page faults are handled in demand paging?
   (b) Explain briefly about the hardware requirements for demand paging.
   (c) If the average page fault service time of 25ms and a memory access time in 100ns. Calculate the effective access time. [5+5+6]
7. Explain file sharing and discuss about the access right and management of simultaneous access. [16]
8. Discuss the reasons why operating system might require accurate information on how blocks are stored on a disk. How can the OS improve the performance of the file system with this knowledge? [16]

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