

Code No: RR221201

RR

Set No. 2

II B.Tech II Semester Examinations, December 2010

OPERATING SYSTEMS

Common to Information Technology, Computer Science And Systems
Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Show that monitors and Semaphores have equivalent functionality by
 - (a) Implementing a monitor using Semaphores
 - (b) Implementing a Semaphore using monitors[8+8]
2. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]
3. What is Multiprogramming? Explain the memory hierarchy with reference to the uses, characteristics, applications and functions. [4+12]
4. Consider a memory management system with demand paging. There are three processes P1, P2, P3 which have one page of private memory each. Moreover P1 and P2 are sharing an array A which fits entirely into one memory page. Similarly, P2 and P3 are sharing an array B, which fits into a memory page.
 - (a) Let all the data for the processes be located into physical memory. Draw a possible memory allocation diagram, give the page tables for the three processes.
 - (b) Assume that process P1 gets swapped out of memory entirely. How are the page tables changing.
 - (c) Assume that process P1 gets swapped back into memory. Give the page tables in this situation. [5+5+6]
5. Explain briefly the file organisation in UNIX system V. [16]
6.
 - (a) Explain the nature of viruses.
 - (b) Discuss about various types of viruses.
 - (c) Describe the anti-viruse approaches. [5+5+6]
7.
 - (a) Explain process state diagram (5 state model) with a neat sketch.
 - (b) Describe the typical elements of process control block. [10+6]
8.
 - (a) Discuss about various criteria used for short-term scheduling
 - (b) Discuss about fair share scheduling method [8+8]

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Set No. 4

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OPERATING SYSTEMS

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Engineering

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 - (b) Assume that process P1 gets swapped out of memory entirely. How are the page tables changing.
 - (c) Assume that process P1 gets swapped back into memory. Give the page tables in this situation. [5+5+6]
2. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]
3. (a) Explain process state diagram (5 state model) with a neat sketch.
(b) Describe the typical elements of process control block. [10+6]
4. What is Multiprogramming? Explain the memory hierarchy with reference to the uses, characteristics, applications and functions. [4+12]
5. (a) Explain the nature of viruses.
(b) Discuss about various types of viruses.
(c) Describe the anti-viruse approaches. [5+5+6]
6. Show that monitors and Semaphores have equivalent functionality by
 - (a) Implementing a monitor using Semaphores
 - (b) Implementing a Semaphore using monitors [8+8]
7. Explain briefly the file organisation in UNIX system V. [16]
8. (a) Discuss about various criteria used for short-term scheduling
(b) Discuss about fair share scheduling method [8+8]

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RR**Set No. 1****II B.Tech II Semester Examinations, December 2010****OPERATING SYSTEMS****Common to Information Technology, Computer Science And Systems
Engineering****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Explain process state diagram (5 state model) with a neat sketch.
(b) Describe the typical elements of process control block. [10+6]
2. What is Multiprogramming? Explain the memory hierarchy with reference to the uses, characteristics, applications and functions. [4+12]
3. Consider a memory management system with demand paging. There are three processes P1, P2, P3 which have one page of private memory each. Moreover P1 and P2 are sharing an array A which fits entirely into one memory page. Similarly, P2 and P3 are sharing an array B, which fits into a memory page.
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 - (b) Assume that process P1 gets swapped out of memory entirely. How are the page tables changing.
 - (c) Assume that process P1 gets swapped back into memory. Give the page tables in this situation. [5+5+6]
4. (a) Explain the nature of viruses.
(b) Discuss about various types of viruses.
(c) Describe the anti-viruse approaches. [5+5+6]
5. (a) Discuss about various criteria used for short-term scheduling
(b) Discuss about fair share scheduling method [8+8]
6. Show that monitors and Semaphores have equivalent functionality by
 - (a) Implementing a monitor using Semaphores
 - (b) Implementing a Semaphore using monitors [8+8]
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Set No. 3

II B.Tech II Semester Examinations, December 2010

OPERATING SYSTEMS

Common to Information Technology, Computer Science And Systems
Engineering

Time: 3 hours

Max Marks: 80

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 - (a) Let all the data for the processes be located into physical memory. Draw a possible memory allocation diagram, give the page tables for the three processes.
 - (b) Assume that process P1 gets swapped out of memory entirely. How are the page tables changing.
 - (c) Assume that process P1 gets swapped back into memory. Give the page tables in this situation. [5+5+6]
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3. Explain briefly the file organisation in UNIX system V. [16]
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