Code No: NR220503 **NR** **Set No. 2**

II B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. What do you understand by Trusted systems? Draw a figure of reference monitor concept and explain. [5+5+6]
2. (a) What do you understand by a file directory?
   (b) Explain briefly the information elements of a file directory
   (c) Explain what is tree-structured directory? [5+5+6]
3. Draw the block diagram of kernel, and explain each part of the same. [8+8]
4. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]
5. (a) Discuss the differences between a pure paging and pure segmentation virtual memory systems. What are the pros and cons of each scheme?
   (b) What are the three main issues of implementing a virtual memory system?
   (c) Comment on the relative merits of using a local versus a global page replacement policy. [6+5+5]
6. (a) Which type of process is generally favoured by a multi-level feed back queuing scheduler, a processor bound process or an I/O bound process? Briefly explain why?
   (b) Consider a variation of round-robin that we will call priority round-robin. In priority round-robin each process has a priority in the range of 1 to 10. When a process is given a time slice the length of quantum is basic constant (say 50 ms) times the priority of the job. Compare this system with an ordinary priority system. [8+8]
7. (a) Write the Peterson's algorithm for the mutual exclusion problem and explain the same
   (b) What is meant by Semaphore? Explain with an example. [8+8]
8. Discuss about the following:
   (a) User-level threads
   (b) Kernel-level threads
   (c) Multi-threadings. [5+5+6]

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Code No: NR220503 **NR** **Set No. 4**

II B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Which type of process is generally favoured by a multi-level feed back queuing scheduler, a processor bound process or an I/O bound process? Briefly explain why?
   (b) Consider a variation of round-robin that we will call priority round-robin. In priority round-robin each process has a priority in the range of 1 to 10. When a process is given a time slice the length of quantum is basic constant (say 50 ms) times the priority of the job. Compare this system with an ordinary priority system. [8+8]
2. What do you understand by Trusted systems? Draw a figure of reference monitor concept and explain. [5+5+6]
3. Draw the block diagram of kernel, and explain each part of the same. [8+8]
4. Discuss about the following:
   (a) User-level threads
   (b) Kernel-level threads
   (c) Multi-threadings. [5+5+6]
5. (a) Write the Peterson's algorithm for the mutual exclusion problem and explain the same
   (b) What is meant by Semaphore? Explain with an example. [8+8]
6. (a) Discuss the differences between a pure paging and pure segmentation virtual memory systems. What are the pros and cons of each scheme?
   (b) What are the three main issues of implementing a virtual memory system?
   (c) Comment on the relative merits of using a local versus a global page replacement policy. [6+5+5]
7. (a) What do you understand by a file directory?
   (b) Explain briefly the information elements of a file directory
   (c) Explain what is tree-structured directory? [5+5+6]
8. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]

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Code No: NR220503 **NR** **Set No. 1**

II B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Which type of process is generally favoured by a multi-level feed back queuing scheduler, a processor bound process or an I/O bound process? Briefly explain why?
   (b) Consider a variation of round-robin that we will call priority round-robin. In priority round-robin each process has a priority in the range of 1 to 10. When a process is given a time slice the length of quantum is basic constant (say 50 ms) times the priority of the job. Compare this system with an ordinary priority system. [8+8]
2. Draw the block diagram of kernel, and explain each part of the same. [8+8]
3. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]
4. What do you understand by Trusted systems? Draw a figure of reference monitor concept and explain. [5+5+6]
5. (a) Discuss the differences between a pure paging and pure segmentation virtual memory systems. What are the pros and cons of each scheme?
   (b) What are the three main issues of implementing a virtual memory system?
   (c) Comment on the relative merits of using a local versus a global page replacement policy. [6+5+5]
6. (a) What do you understand by a file directory?
   (b) Explain briefly the information elements of a file directory
   (c) Explain what is tree-structured directory? [5+5+6]
7. (a) Write the Peterson's algorithm for the mutual exclusion problem and explain the same
   (b) What is meant by Semaphore? Explain with an example. [8+8]
8. Discuss about the following:
   (a) User-level threads
   (b) Kernel-level threads
   (c) Multi-threadings. [5+5+6]

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Code No: NR220503 **NR** **Set No. 3**

II B.Tech II Semester Examinations,December 2010
OPERATING SYSTEMS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Discuss the differences between a pure paging and pure segmentation virtual memory systems. What are the pros and cons of each scheme?
   (b) What are the three main issues of implementing a virtual memory system?
   (c) Comment on the relative merits of using a local versus a global page replacement policy. [6+5+5]
2. (a) Write the Peterson's algorithm for the mutual exclusion problem and explain the same
   (b) What is meant by Semaphore? Explain with an example. [8+8]
3. Discuss about the following:
   (a) User-level threads
   (b) Kernel-level threads
   (c) Multi-threadings. [5+5+6]
4. How the deadlocks can be avoided? Explain with the help of necessary algorithms. [8+8]
5. Draw the block diagram of kernel, and explain each part of the same. [8+8]
6. (a) Which type of process is generally favoured by a multi-level feed back queuing scheduler, a processor bound process or an I/O bound process? Briefly explain why?
   (b) Consider a variation of round-robin that we will call priority round-robin. In priority round-robin each process has a priority in the range of 1 to 10. When a process is given a time slice the length of quantum is basic constant (say 50 ms) times the priority of the job. Compare this system with an ordinary priority system. [8+8]
7. What do you understand by Trusted systems? Draw a figure of reference monitor concept and explain. [5+5+6]
8. (a) What do you understand by a file directory?
   (b) Explain briefly the information elements of a file directory
   (c) Explain what is tree-structured directory? [5+5+6]

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