Code No: 07A60501

| R07 |

| Set No. 2 |

III B.Tech II Semester Examinations,APRIL 2011
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 virtual memory? Explain in detail about the virtual memory with a neat diagram. [16]

3. (a) What are the advantages of encrypting data stored in the computer system?

   (b) Describe protection mechanism used for protecting files containing programs and data. [4+12]

4. Explain about any three methods of allocating disk space to a directory along with its merits and demerits. [16]

5. (a) Explain the various special-purpose computer systems.?

   (b) Explain how layered approach of designing an OS is different from microkernel approach. [8+8]

6. Explain the Readers and Writers problem and its solution using semaphore. [16]

7. Explain the functions to be performed by a typical I/O interface with a typical input output interface. [16]

8. Explain how to choose the best disk scheduling algorithm that increases the performance of disk I/O? [16]

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

III B.Tech II Semester Examinations,APRIL 2011
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. Explain about the following:

   (a) Process Identification

   (b) Processor state infromation.   [8+8]

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 the demand paged memory management in detail with an example.

   (b) Describe about dynamic partitioning and fixed partitioning.   [8+8]

4. (a) What is the sequence in which resources may be utilized?

   (b) Define request edge and assignment edge.

   (c) What is a safe state and an unsafe state?

   (d) What difficulties may arise when a process is rolled back as a result of dead-lock? Explain.   [3+3+3+7]

5. (a) Discuss about Vulnerability of passwords.

   (b) Explain the security features and methods in Window Operating System.
                                                         [6+10]

6. In all systems that include DMA module, the DMA access to main memory is given higher priority than processor access to main memory why?   [16]

7. Discuss various disk storage accessing methods with its merits and demerits. [16]

8. (a) Consider a hierarchical file system in which free disk space is kept in a free space list.

      i. Suppose the pointer to free space is lost. Can the system reconstruct the free space list?

      ii. Suggest a scheme to ensure that the pointer is never lost as a result of a single memory failure.

   (b) Why are physically contiguous files faster to read?

   (c) What is a FAT file System?   [4+4+4+4]

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

III B.Tech II Semester Examinations,APRIL 2011
OPERATING SYSTEMS
Computer Science And Engineering

Time: 3 hours | Max Marks: 80

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

1. Discuss any two disk scheduling algorithms that schedule the order of disk I/Os to improve the performance with an example. [16]

2. (a) What is the main advantage of layered approach to system design

   (b) What is the purpose of system calls. [10+6]

3. Write short notes on:

   (a) deadlock

   (b) starvation. [8+8]

4. What is deadlock avoidance? Explain Banker's algorithm with an example. [16]

5. (a) Describe the key features of NTFS.

   (b) Discuss file allocation method in UNIX file. [8+8]

6. (a) Describe round robin and feedback scheduling policies.

   (b) Discuss multi-level queue scheduling policies. [8+8]

7. (a) Describe why authentication is important for file protection.

   (b) Describe the merits and demerits of performing file protection checks at the time of file open and at the time of every read and write operation. [8+8]

8. (a) Discuss briefly about the common features and practical issues in virtual memory implementation in UNIX OS.

   (b) Explain in detail about the concept of virtual memory in Windows OS. [8+8]

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

III B.Tech II Semester Examinations,APRIL 2011
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) What are the different modes of Interrupt? Explain how is polling achieved?
   (b) Explain about the interrupt driven I/O cycle. [8+8]

2. (a) What are the main advantages of multiprogramming
   (b) Why spooling is necessary for batch multiprogramming? Is it needed for time shared system. [6+10]

3. (a) Explain the difference between logical and physical addresses.
   (b) Explain the difference between internal and external fragmentation. [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) Determine the performance of various disk allocating methods of a directory structure.
   (b) What are the various access rights that can be assigned to a particular user for a particular file? Explain. [8+8]

6. (a) What resources are required to create a thread? How creation of threads is different from process creation?
   (b) Explain Process Control Block(PCB). [8+8]

7. Describe how critical section problem can be solved in software approach? [16]

8. (a) What are the various disk performance parameters? Explain briefly.
   (b) "In disk scheduling algorithms the successive requests are likely to be from the same cylinder". What does this imply about the excepted performance of the FCFS and SSTF disk scheduling algorithms? [8+8]

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4