Code No: R05310503 **R05** **Set No. 2**

III B.Tech I Semester Examinations,November 2010
OPERATING SYSTEMS
Common to IT, E.COMP.E, E.CONT.E, EIE, CSE, CSSE

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Compare the bitmap and hole list method of keeping track of free space on a disk with 800 cylinders, each having 5 tracks of 32 sectors. How many holes it takes before the hole list would be larger than the bitmap? Assume that the allocation unit is the sector, and that a hole requires a 32-bit word.
   (b) Make a comparision of above allocation methods. [8+8]
2. Illustrate memory hierarchy diagramatically and explain in detail. [16]
3. What is deadlock? How is it prevented? [16]
4. Assume the following are the jobs to execute with one processor:

Job	Burst Time	Priority
1	10	3
2	1	1
3	2	3
4	1	4
5	5	2

   The jobs are assumed to have arrived in the order 1, 2, 3, 4, 5
   (a) Give Gant chat illustrating the execution of these jobs using First- Come-First - Serve, Round-Robin (quantum=1), Shortest process next, Shortest remaining time.
   (b) What is the turn around time, waiting time of each jobs for each of the above scheduling algorithms. [8+8]

5.a)Explain the various steps in the process creation and execution using state transition diagram?
   (b) What are the common events that lead to the creation of a process? [8+8]

6. (a) Explain the requirements of operating system security.
   (b) Discuss the assets of a computer system. [8+8]
7. Differentiate Binary semaphore primitives with counting semaphore primitives. using producer - consumer problem[16]
8. Most systems allow program to allocate more memory during execution. Discuss about the requirements to support dynamic memory allocation in the following schemes.

(a) Contiguous- memory allocation.

(b) Pure segmentation.

(c) Pure paging. [6+5+5]

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Code No: R05310503 **R05** **Set No. 4**

III B.Tech I Semester Examinations,November 2010
OPERATING SYSTEMS
Common to IT, E.COMP.E, E.CONT.E, EIE, CSE, CSSE
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Assume the following are the jobs to execute with one processor:

Job	Burst Time	Priority
1	10	3
2	1	1
3	2	3
4	1	4
5	5	2

The jobs are assumed to have arrived in the order 1, 2, 3, 4, 5

(a) Give Gant chat illustrating the execution of these jobs using First- Come-First - Serve, Round-Robin (quantum=1), Shortest process next, Shortest remaining time.

(b) What is the turn around time, waiting time of each jobs for each of the above scheduling algorithms. [8+8]

2. (a) Compare the bitmap and hole list method of keeping track of free space on a disk with 800 cylinders, each having 5 tracks of 32 sectors. How many holes it takes before the hole list would be larger than the bitmap? Assume that the allocation unit is the sector, and that a hole requires a 32-bit word

(b) Make a comparision of above allocation methods. [8+8]

3. What is deadlock? How is it prevented? [16]

4. (a) Explain the requirements of operating system security.

(b) Discuss the assets of a computer system. [8+8]

5. Most systems allow program to allocate more memory during execution. Discuss about the requirements to support dynamic memory allocation in the following schemes.

(a) Contiguous- memory allocation.

(b) Pure segmentation.

(c) Pure paging. [6+5+5]

6. Differentiate Binary semaphore primitives with counting semaphore primitives. using producer - consumer problem [16]

Code No: R05310503 **R05** **Set No. 4**

7. Illustrate memory hierarchy diagramatically and explain in detail. [16]

8.a)Explain the various steps in the process creation and executionusing state transition diagram?
(b)What are the common events that lead to the creation of a process? [8+8]

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Code No: R05310503 **R05** **Set No. 1**

III B.Tech I Semester Examinations,November 2010
OPERATING SYSTEMS
Common to IT, E.COMP.E, E.CONT.E, EIE, CSE, CSSE

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

Answer any FIVE Questions
All Questions carry equal marks

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1.a)Explain the various steps in the process creation and executionusing state transition diagram?
(b)What are the common events that lead to the creation of a process? [8+8]

2. Most systems allow program to allocate more memory during execution. Discuss about the requirements to support dynamic memory allocation in the following schemes.
   (a) Contiguous- memory allocation.
   (b) Pure segmentation.
   (c) Pure paging. [6+5+5]

3. Illustrate memory hierarchy diagramatically and explain in detail. [16]

4. (a) Compare the bitmap and hole list method of keeping track of free space on a disk with 800 cylinders, each having 5 tracks of 32 sectors. How many holes it takes before the hole list would be larger than the bitmap? Assume that the allocation unit is the sector, and that a hole requires a 32-bit word
   (b) Make a comparision of above allocation methods. [8+8]

5. Differentiate Binary semaphore primitives with counting semaphore primitives. using producer - consumer problem [16]

6. Assume the following are the jobs to execute with one processor:

Job	Burst Time	Priority
1	10	3
2	1	1
3	2	3
4	1	4
5	5	2

The jobs are assumed to have arrived in the order 1, 2, 3, 4, 5

   (a) Give Gant chat illustrating the execution of these jobs using First- Come-First - Serve, Round-Robin (quantum=1), Shortest process next, Shortest remaining time.
   (b) What is the turn around time, waiting time of each jobs for each of the above scheduling algorithms. [8+8]

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7. (a) Explain the requirements of operating system security.
   (b) Discuss the assets of a computer system. [8+8]

8. What is deadlock? How is it prevented? [16]

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Code No: R05310503 **R05** **Set No. 3**

III B.Tech I Semester Examinations,November 2010
OPERATING SYSTEMS
Common to IT, E.COMP.E, E.CONT.E, EIE, CSE, CSSE

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

Answer any FIVE Questions
All Questions carry equal marks

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1. What is deadlock? How is it prevented? [16]
2. Illustrate memory hierarchy diagramatically and explain in detail. [16]
3. Assume the following are the jobs to execute with one processor:

Job	Burst Time	Priority
1	10	3
2	1	1
3	2	3
4	1	4
5	5	2

The jobs are assumed to have arrived in the order 1, 2, 3, 4, 5

   (a) Give Gant chat illustrating the execution of these jobs using First- Come-First - Serve, Round-Robin (quantum=1), Shortest process next, Shortest remaining time.

   (b) What is the turn around time, waiting time of each jobs for each of the above scheduling algorithms. [8+8]

4. (a) Compare the bitmap and hole list method of keeping track of free space on a disk with 800 cylinders, each having 5 tracks of 32 sectors. How many holes it takes before the hole list would be larger than the bitmap? Assume that the allocation unit is the sector, and that a hole requires a 32-bit word

   (b) Make a comparision of above allocation methods. [8+8]

5. Most systems allow program to allocate more memory during execution. Discuss about the requirements to support dynamic memory allocation in the following schemes.

   (a) Contiguous- memory allocation.

   (b) Pure segmentation.

   (c) Pure paging. [6+5+5]

6. Differentiate Binary semaphore primitives with counting semaphore primitives. using producer - consumer problem [16]

7. (a) Explain the requirements of operating system security.

(b) Discuss the assets of a computer system. [8+8]

8.a)Explain the various steps in the process creation and executionusing state transition diagram?
(b) What are the common events that lead to the creation of a process? [8+8]

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