Code No: RR220503 **Set No.1**

II B.Tech. II Semester Regular Examinations, April/May -2005
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is an operating systems? Discuss in detail the main objectives and functions of an operating system.
2. Explain the following scheduling algorithms with an example.
   (a) Round-Robin scheduling algorithms.
   (b) Shortest job first scheduling algorithm.
3. What is a monitor? Discuss in detail about the producer consumer problem using monitors.
4. What is a deadlock? Explain how to prevent deadlock with a suitable example.
5. Explain the following in detail.
   (a) Windows 2000 memory management
   (b) File sharing
   (c) Record blocking
6. (a) What is protection? Explain different protection mechanisms with an example.
   (b) Write a brief note on loaders.
7. (a) Write and explain the second pass algorithm of the assembler.
   (b) Discuss brief on design issues of an operating system.
8. Write and explain the following:
   (a) Design of macro processor
   (b) Threads
   (c) File organization

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR220503 **Set No.2**

II B.Tech. II Semester Regular Examinations, April/May -2005
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is an operating system? Explain the main functions of UNIX operating system.
2. Explain the following algorithms with an example:
   (a) FCFS
   (b) Round Robin.
3. Solve the sleeping barber problem for the case of a shop with multiple barbers.
4. Define deadlocks. Write and explain how to avoid deadlock with a suitable example.
5. Discuss the following in detail:
   (a) File directories
   (b) Linux memory management
   (c) Virtual memory.
6. (a) What is a security? Explain password and file security in detail.
   (b) Write about the elements of assembly language.
7. (a) What is a macro processor? Explain the design of a macroprocessor.
   (b) What is an overlay? Discuss the main concept of linking of overlays.
8. Write and explain the following:
   (a) loaders
   (b) file sharing
   (c) protection.

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR220503 **Set No.3**

II B.Tech. II Semester Regular Examinations, April/May -2005
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What are the main features of an operating system? Explain each of them in detail.
2. Discuss in detail about the various disk scheduling algorithms with an example.
3. Solve the Dining philosophers problem using monitors instead of semaphores.
4. Write and explain Bankers algorithm with a suitable example.
5. Explain about the following:
   (a) UNIX file management
   (b) Record blocking
6. (a) What is a linker? Explain the main concepts of relocation and linking.
   (b) Explain the design of a two pass Assembler with the help of a flow chart.
7. (a) Write and explain the first pass algorithm of the assembler.
   (b) Discuss about the modern unix operating system.
8. Write and explain the following:
   (a) Virtual memory
   (b) File sharing
   (c) Fragmentation

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR220503 **Set No.4**

II B.Tech. II Semester Regular Examinations, April/May -2005
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is an operating system? Discuss in detail about the structure of an operating system.
2. Explain in detail various CPU scheduling algorithms with an example.
3. What is semaphore? How do you solve the producer-consumer problem using semaphores.
4. (a) What are the necessary conditions to be satisfied to occur deadlock?
   (b) Explain in detail about the safety algorithm and resource request algorithm for deadlock avoidance.
5. (a) Discuss the main concepts of paging and segmentations.
   (b) Write brief note on virtual memory.
6. (a) What is an assembler? Explain the design of a two pass Assembler with the help of a flow chart.
   (b) Write brief note on Editors.
7. (a) Discuss in detail the design of a macro processor with the help of a flow chart.
   (b) Write brief note on message passing.
8. Write and explain the following:
   (a) Monitors
   (b) Directory structures
   (c) Loaders.

⋆ ⋆ ⋆ ⋆ ⋆