Question List

Operating System and System Design

A

1. What is an Operating system?
2. Write the components of operating system.
3. What is a distributed system? Explain why distributed system are desirable?
4. Classify operating system? Describe multiprogramming and time sharing operating system.
5. Discuss the functions of operating system.
6. What do you understand by user mode and kernel mode of operations?
7. Why we build distributed system.4-10;
8. What is the main advantage of multiprogramming.-3-10;
9. What is the difference between multiprogramming and multiprocessing.
10. Write the operating system activities in connection with memory management and storage management.
11. What are the purpose of an operating system?
12. Explain the reasons for building distributed systems.

B

1. What do you mean by job and process?
2. Define process and program.
3. What are the activities of process management?
4. Describe different status of a process.
5. Briefly write the activities of operating system in connection with process management.
6. Describe process control blocks.
7. Define process. What are possible states of process.
8. Define context switch.
9. Define process. Draw the process state diagram and explain it.
10. What is the difference between short term, medium term and long term scheduler.
11. Write the reasons of process cooperation.

12. What are the difference between process and thread.
13. What do you mean by thread? Is there any advantage of thread over process?
14. Write the operations that perform operating system on process.
15. Explain the situation when CPU switches from a process to another process.

C

1. What do you mean by preemptive and non-preemptive process?
2. Define turnaround time, waiting time, and response time.
3. Describe SJF scheduling for preemptive and non-preemptive process.
4. Write the function of dispatcher module.
5. Describe the criteria that uses to select a schedule algorithm.
6. Write the advantages of process cooperation.
7. Briefly write the direct and indirect method for inter process communication.

D

1. When does CPU scheduling decision take place?
2. Explain the criteria for comparing CPU scheduling algorithm.
3. List the factors that affect a scheduling mechanism of processes.
4. Define the following: i) Dispatcher-1-10; ii) Throughput iii) CPU utilization and iv) Response time.
5. Describe priority scheduling algorithm.
6. Explain Round-Robin algorithm.
7. What do you mean by trap?

E

1. Define critical section problem.
2. Explain all three requirements to solve the critical section problem.
3. Write the solution of critical section problem for two processes for software technique.
4. What is semaphore? Explain how semaphore can be implemented.
5. What is meaning of the term of busy waiting.
6. What is Starvation? How the system can deal with starvation.
7. Write how semaphores mitigate criteria section problem.

F

1. What do you mean by deadlock? Explain the necessary condition for deadlock.
2. Explain deadlock prevention method.
3. What are the methods for handling deadlock?
4. Describe and explain with an example the Banker's algorithm for deadlock avoidance.
5. Define resource allocation graph. Explain resource request algorithm.
6. Briefly explain how a system can be recovered from a deadlock.

G

1. Explain logical address and physical address.;
2. How do you convert logical address to physical address?
3. Explain multiple-partition allocation technique of memory.
4. Explain paging system with proper do example.
5. What is segmentation.
6. Describe how logical address maps physical address under segmentation scheme with proper diagram.
7. What do you mean by swaping.
8. What do you mean by virtual memory technique? What are the advantages of it.