



Galgotias College of Engineering & Technology
Department Of Information Technology
Innovation in Teaching Learning

Faculty Name: Mr. Gagan Gupta

Subject Name: Operating System

Approach: Well framed approach to a set of question of a topic

Topic: Fundamental of Operating system

1. Define Operating Systems and discuss its role from different perspectives.
2. Explain fundamental difference between i) N/w OS and distributed OS ii) web based and embedded computing.
3. Explain the concept of virtual machines. Bring out its advantages.
4. What is distributed operating system? What are the advantages of distributed operating system?
5. What are system calls? Explain different categories of system calls with example?

Topic: CPU Scheduler

1. Explain direct and indirect communications of message passing systems.
2. Explain the difference between long term and short term and medium term schedulers.
3. Define IPC. What are different methods used for logical implementations of message passing systems.
4. Explain multithreading models.
5. What are semaphores? Explain two primitive semaphore operations. What are its advantages?
6. State dining philosopher's problem and give a solution using semaphores. Write structure of philosopher.
7. Describe term monitor. Explain solution to dining philosopher's problem using monitor.
8. Explain three requirements that a solution to critical-section problem must satisfy.

Topic: Deadlock

1. Why is deadlock state more critical than starvation? Describe resource allocation graph with a deadlock, with a cycle but no deadlock.
2. What are two options for breaking deadlock?
3. Solve the deadlock to find safe or unsafe state.
4. Describe necessary conditions for a deadlock situation to arise.
5. Explain different methods to handle deadlocks. 6. Explain different methods to recover deadlocks.