

## Set Number - 1

1. Describe the role of a network protocol in ensuring reliable data transfer?
2. What is a resource allocation graph (RAG)? How does it help in
3. Explain the concept of a cache coherence protocol, and provide an example of its implementation in a multiprocessor system, including the benefits of using cache coherence protocols for shared memory systems?
4. What is a distributed system, and how does it provide scalability and fault tolerance, including the use of distributed algorithms and communication protocols?
5. Describe the Banker's Algorithm for deadlock avoidance, and explain its advantages?
6. What is a priority inheritance protocol, and how does it prevent priority inversion?
7. What is a disk scheduling algorithm, and explain its purpose?
8. Describe the working of the First-Come-First-Served (FCFS) scheduling algorithm, and explain its advantages and disadvantages, including the impact on system performance and responsiveness?
9. Describe the role of a file system in managing storage devices?
10. Explain the concept of a distributed file system, and provide an example of its implementation, including the benefits of using distributed file systems for large-scale storage?
11. Describe the working of the TCP/IP protocol suite, and explain its importance?
12. deadlock detection? Explain the difference between deadlock prevention and deadlock avoidance.
13. Describe the working of the Shortest Job First (SJF) scheduling algorithm, and explain its

advantages and disadvantages, including the impact on system performance and responsiveness?

14. Explain the working of the Least Recently Used (LRU) page replacement algorithm?

15. What is a device driver, and how does it interact with the operating system?

16. Explain the concept of a thread pool, and provide an example of its implementation in a web server, including the benefits of using thread pools for concurrent programming?

17. Explain the difference between a connection-oriented and a connectionless protocol?

18. What is a condition variable, and how is it used in synchronization?

