

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER M. TECH DEGREE EXAMINATION

Computer Science and Engineering
(Computer Science & Systems Engineering)
04CS6413 – Computer Systems Engineering

Max. Marks : 60

Duration: 3 Hours

PART A

Answer All Questions

Each question carries 3 marks

1. Give a brief note on remote procedure call.
2. List out various signs of complexity.
3. What are the common techniques for coping up with complexity?
4. Briefly explain Client/Service application with a sample procedure.
5. How does RPC design handle no-response failure case?
6. Illustrate the implementation of virtual memory manager using a page table.
7. Define the terms throughput and latency.
8. What is a snoopy cache?

PART B

Each question carries 6 marks

9. Explain about various sources of complexity.
OR
10. Write a note on Internet Domain Name System with an example.
11. What is a deadlock? With the help of a wait-for graph illustrate a deadlock scenario in threads.
OR
12. Illustrate Page replacement algorithms with suitable examples.
13. Write a note on Broadcast Aspects of Ethernet.
OR
14. Explain a multilevel memory pyramid with diagram.
15. You are flying back to Cochin from a business trip to Singapore. Your travel agent gives you the following choice of flights: A) Flight A uses a plane whose mean time to failure (MTTF) is believed to be 6,000 hours. With this plane, the flight takes 6 hours. B) Flight B uses a plane whose MTTF is believed to be 5,000 hours. With this plane, the flight takes 5 hours. The agent assures you that each plane's failures occur according to a memory less random process (not a "bathtub" curve). Assuming that model, which plane should you take to minimize the chance of your plane failing during the flight?
OR
16. Briefly explain various scheduling algorithms in the context of a thread manager.
17. Give an overview of fault tolerant design process.
OR
18. Discuss the various design principles which helps to minimize security flaws in implementation of security systems.
19. Write a note on SSL protocol.
OR
20. Explain Diffie -Hellman Key exchange protocol with an example.