OS question bank for Periodic Test II
SE (Computer Engineering)
Class: C1, C2, C3

Note: In every explanation, diagram becomes mandatory wherever applicable.

1. Write Short note on:
    a. Mutual Exclusion
    b. Race Condition
    c. Hardware Solution to achieve Mutual Exclusion
    d. Two Process Solution
    e. Producer Consumer Problem
2. What is a deadlock? What are necessary conditions for a deadlock to take place?
3. What is a Resource Allocation Graph? What is a Wait For Graph?
4. Explain how deadlock can be prevented using necessary conditions?
5. Deadlock Detection and Avoidance (Banker's Algorithm, allied numerical)
6. How to achieve mutual exclusion using semaphore (Binary and Counting semaphore).
7. Disk scheduling algorithms and numerical.
8. What is virtual memory? Write a short note on virtual memory explaining its need?
9. Explain the process of paging. How logical address is converted to physical address (Numerical on paging).
10. Explain demand paging. Explain the process of conversion of logical address to physical address when using demand paging.
11. Explain different page replacement algorithms (Numerical).
12. Explain issues associated with paging.
13. Explain thrashing in detail.
14. Explain the use of Translation Lookaside Buffer(TLB) in detail with proper diagram.
15. Explain File organization techniques (with diagrams).
16. Explain File allocation techniques (with diagrams).