1. a) FIFO replacement  
   b) LRU replacement

c)Optimal Page Replacement.-10

1. FCFS, SJF, RR-15
2. FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK-15
3. Mutual-exclusion implementation with test and set() instruction.-15
4. Critical Section problem. Illustrate the software-based solution to the Critical Section problem.15
5. The concept of Thrashing. What is the cause of Thrashing? How does the system detect Thrashing.-15
6. File Directories and their operation types.-10
7. similarities and dissimilarities (differences) between process and thread.10
8. types of thread and their advantages, and disadvantages-10
9. Multithreading and Multitasking.10
10. Multi-Programming and Multi-tasking systems.-10
11. If there are 100 units of resource R in the system and each process in the system requires 4 units of resource R, then test how many processes can be present at maximum so that no deadlock will occur.-10
12. Consider a reference string: 4, 7, 6, 1, 7, 6, 1, 2, 7, 2. The number of frames in the memory is 3. Find out the number of page faults respective to:  
    1. Optimal Page Replacement Algorithm  
    2. LRU Page Replacement Algorithm  
    Which algorithm is better, according to you.-15
13. first fit, best fit and worst fit algorithms.-10
14. a) File attributes  
    b) File operations  
    c) File types  
    d) Internal file structure.-10
15. Process Control Block.-10
16. System Components.-10
17. Banker’s algorithm for deadlock avoidance.-10
18. process state. Explain the state transition diagram.-10
19. MFT and MVT.-5
20. features of the Time-Sharing System.-5
21. The difference between Process and programme.-5
22. generations of operating system detail.-5
23. Real-Time Operating System.-5
24. context switching with a diagram.-5
25. Disk Arm Scheduling Algorithm.-5