Model question paper (Operating System)

A. Short questions----2 marks each

1. Explain process synchronization.
2. Define the term Waiting time and Turnaround time in reference to scheduling algorithms.
3. Differentiate between Internal and External Fragmentation.
4. Write two advantages of virtual memory concept.
5. Define the term Disk Bandwidth.
6. Differentiate between seek time and rotational latency.
7. Explain the term file system in brief.
8. Write a short note on "Process Control Block".
9. Explain various types of program threats.
10. What is segmentation?
11. What is kernel?
12. What is time- sharing system?
13. What is a thread?
14. What is the basic function of paging?
15. What is Direct Access Method?

B. Broad questions----5 marks each

1. Explain in detail the following CPU scheduling algorithms:
   a) FCFS
   b) Round Robin

2. Define the term security. Explain various goals of security.

3. Define the term deadlock. Explain various necessary conditions for a deadlock to occur. Explain in brief about deadlock prevention.

4. What is the need of Page replacement? Consider the following reference string

7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1

Find the number of Page Faults with FIFO, Optimal Page replacement and LRU with four free frames which are empty initially. Which algorithm gives the minimum number of page faults?

5. Explain in detail the concept of Multiprocessor Operating Systems.

6. Write a detailed note on paging scheme of memory management.

7. Write a short note on file system mounting

8. Explain the different types of operating system.

9. Explain Process Control Block. Draw the block diagram of process transition states.

10. Difference between process and thread.

11. What do you mean by CPU scheduling? Discuss CPU/IO burst cycle.

12. What do you mean by RAID Structure? Also discuss different types of RAID levels.

13. Write a short note on disk scheduling algorithm

14. What do you mean by directory structure? Also discuss different types of directory structures.

15. Explain Banker's deadlock-avoidance algorithm with an illustration