Operating System - 2012

Note- Attempt all questions.

Section-A: (Objective Type Questions)

1. (i) Unix Operating System is a.....

(a) Time-Sharing Operating System

(b) Multi-User Operating System

(c) Multi-Tasking Operating System (d) All of the above

(ii) An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is.....

(a) FCFS scheduling algorithm

(b) Round Robin scheduling algorithm

(c) Shortest-Job-First scheduling algorithm

(d) None of the above

(iii) Which of the following memory allocation schemes suffers from external fragmentation?

(a) Segmentation (b) Pure demand paging

(c) Swapping (d) Paging

(iv) The time taken by the disk arm to locate the specific address of a sector for getting information is called .....

(a) Rotational Latency (b) Seek Time

(c) Search Time (d) Response Time

(v) ..... is the situation in which a process is waiting on another process, which is also waiting on another process..... which is waiting on the first process. None of the processes involved in this circular wait are making progress.

(a) Deadlock (b) Starvation (c) Dormant (d) None of the above

Section - B: (Short Answer Type Questions)

2. List out the various functions normally performed by an operating system.

Or How is multiprocessing different from multiprogramming?

3. What is CPU Scheduler?

Or What is Context Switch?

4. What is Fragmentation? Explain in short different types of fragmentation

Or Explain in short the concept of page fault frequency.

5. What do you understand by disk mirroring?

Or Explain disk caching.

6. What is File Protection?

Or What do you mean by Dedicated Devices?

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Section - C: (Long Answer Type Questions)

7. Explain the evolution of operating system.

Or Write short notes on the following-

(i) Batch Processing (ii) Multiprogramming

(iii) Client-Server O.S.

8. Write a note on Priority Scheduling.

Or Explain the features of long-term, medium term and short-term scheduler. Discuss the use of these schedulers in batch-processing, multiprogramming and time-sharing system.

9. Explain the following concepts-

(i) Demand Paging (ii) Swapping (iii) Page fault

Or Write a note on page replacement algorithms.

10. What is File Architecture?

Or Explain disk scheduling algorithm.

11. For deadlock prevention, explain various ways so that circular wait can be eliminated.

Or Explain any two of the following-

(i) Safe and Unsafe State (ii) Starvation (related to deadlock)

(iii) Security policies and mechanism