

D 40093

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Name.....

Reg. No.....

**SIXTH SEMESTER B.C.A. DEGREE EXAMINATION, MARCH/APRIL 2018**

(CUCBCSS—UG)

BCA 6B 15—OPERATING SYSTEM

Time : Three Hours

Maximum : 80 Marks

**Part A**

*Answer all questions.*

*Each question carries 1 mark.*

1. The time interval of storing the status of current job and loading the status of new job to be executed is popularly known as \_\_\_\_\_.
2. In processor scheduling, the total time spent by a process in the ready queue is called \_\_\_\_\_.
3. A set of processes that affect the execution or get affected by other concurrent process forms a set of \_\_\_\_\_ processes
4. In \_\_\_\_\_ approach of distributed processing, clients and servers are not distinguished from one another
5. The round robin scheduling algorithm will resemble \_\_\_\_\_ algorithm when the time quantum is very high
6. The principle of aging is recommended as a solution for \_\_\_\_\_.
7. The concept of file \_\_\_\_\_ helps us to prevent improper access to a file by unauthorized persons
8. Compaction is a method suggested to solve \_\_\_\_\_ type of fragmentation
9. The principle of \_\_\_\_\_ used along with virtual memory allows pages to be loaded into main memory only during program execution.
10. The disk organization technique RAID is an abbreviation for \_\_\_\_\_.

(10 × 1 = 10 marks)

**Part B**

*Answer all questions.*

*Each question carries 2 marks.*

11. Explain the term degree of multiprogramming.
12. What is starvation ? How it can be solved ?

**Turn over**

13. What is a deadlock ?
14. Distinguish jobs and processes.
15. What is disk scheduling ?

(5 × 2 = 10 marks)

### Part C

*Answer any five questions.  
Each question carries 4 marks.*

16. Explain important functions of Operating Systems.
17. Explain Swapping and its need.
18. Explain how to detect and recover from deadlocks ?
19. What is segmentation ? Explain the working principle with needed diagram.
20. What is round robin scheduling ? Explain the importance of time quantum.
21. Explain different techniques for device management.
22. Explain first fit, best fit and worst fit approaches in memory allocation citing merits and demerits.
23. Explain free space management in detail.

(5 × 4 = 20 marks)

### Part D

*Answer any five questions.  
Each question carries 8 marks.*

24. Compare and contradict multiprogramming with time sharing systems.
25. Explain the Directory structures in detail.
26. Distinguish internal fragmentation and external fragmentation? How external fragmentation can be solved ?
27. Explain process States and importance of PCB in program execution.
28. Explain the need and working principle of virtual memory.
29. Explain any two methods of page replacement in detail.

30. Explain the working FCFS, Priority and SJF scheduling in detail.

31. Write short notes on :

- (a) Dispatcher and scheduler components of OS.
- (b) Critical sections and semaphores.
- (c) File accessing methods.
- (d) Spooling and its need.

(5 × 8 = 40 marks)