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Name: .....

Reg.No: .....

**SIXTH SEMESTER B.Sc./B.C.A. DEGREE EXAMINATION, APRIL 2024**

(CBCSS - UG)

(Regular/Supplementary/Improvement)

**CC19U BCS6 B12 / CC19U BCA6 B12 - OPERATING SYSTEMS**

(Computer Science / Computer Application - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

**Part A** (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Explain different types of OS.
2. Describe a thread. Write the benefits of multithreaded programming.
3. Explain concurrent processing.
4. Describe file permissions in Linux.
5. Explain the use of cp command in shell scripting.
6. Explain Turnaround time.
7. Describe preemptive scheduling algorithm. Write an example.
8. Describe the need and working of semaphore.
9. Distinguish Sequential and direct access methods.
10. Explain first fit, best fit and worst fit approaches in memory allocation citing merits and demerits.
11. Describe virtual memory and the method of working.
12. Describe the term Authorization.

**(Ceiling: 20 Marks)**

**Part B** (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Explain the functions of OS.
14. Explain process states and importance of PCB in program execution.
15. Describe with suitable example conditional commands in shell scripts.
16. Explain a shell program to print even numbers between 0 and 100.

17. Illustrate the concept of compaction in detail.
18. Describe paging and segmentation.
19. Explain the features and architecture of Android OS.

**(Ceiling: 30 Marks)**

**Part C (Essay questions)**

Answer any *one* question. The question carries 10 marks.

20. Describe deadlock prevention mechanisms.
21. Consider the following set of processes with arrival time and CPU burst time given in milliseconds. What is the average turnaround time with the Round Robin Scheduling algorithm if the time quantum is 3 milliseconds? Also draw the chart of scheduling.

Process	Arrival Time	Burst Time
P0	0	5
P1	1	3
P2	2	8
P3	3	6

**(1 × 10 = 10 Marks)**

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