

**SES's L.S. RAHEJA COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)**



BOARD OF STUDIES: Information Technology and Data Science

Programme: B.Sc. (Cyber Security & Digital Forensics)

Semester: II

Nomenclature of the Course: Operating Systems Fundamentals Lab

NEP Vertical: Major

Credit: 01

Total Marks: 25

Academic Year: 2026–27

(As per Choice Based Credit System under NEP 2020)



Practical Component

List of Practicals (8–10 Experiments)

1. Study of Operating System Interface
 - Overview of Windows and Linux interface
2. Process Management
 - View running processes using Task Manager / top command
 - Observe process states
3. Process Scheduling Demonstration
 - Simulate FCFS and SJF scheduling using charts
4. Thread Concept Demonstration
 - Observe multi-threaded application behavior
5. Memory Management Observation
 - Monitor memory usage
 - Understand virtual memory settings
6. Paging and Segmentation (Simulation Based)
 - Demonstration using diagrams or simulation tools
7. File System Operations
 - Create, delete, rename files and directories
 - Observe file attributes
8. Disk Management
 - Check disk partitions
 - View disk usage statistics
9. Deadlock Concept Demonstration
 - Simulate resource allocation scenario
10. Basic User and Permission Management
 - Create user accounts
 - Assign basic permissions (Conceptual configuration only)

Learning Objectives

1. To observe operating system functions practically.
2. To understand process and memory management behavior.
3. To perform basic file and disk operations.
4. To analyze resource allocation scenarios.

Course Outcomes (CO)

CO No.	Course Outcome	Bloom's Level
CO1	Perform basic OS operations	Apply (L3)
CO2	Analyze process scheduling behavior	Analyze (L4)
CO3	Demonstrate memory and file management concepts	Apply (L3)
CO4	Interpret resource allocation and permission structures	Analyze (L4)

Evaluation Scheme

Component	Marks
Journal	5
Viva Voce	5
Practical Examination	15
Total	25