

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc.CGS - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - I

21UCGCT1001 - Operating Systems

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the different types of Operating System Structures.
2. State the difference between of Internal and External Fragmentation.
3. List the use of Demand Paging.
4. Discuss the concept of free space management in a file system.
5. What is a Semaphore? How does it work?
6. Elucidate the concept of swapping in Memory Management.
7. Discuss the concept of Virtual Memory in detail.
8. List out the different methods of user authentication.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Discuss the process of Operating System Design and Implementation.
10. Examine the Process Scheduling and its Algorithms with an example.
11. Describe the Process of Deadlock Prevention.
12. Explain the following Page Replacement Algorithms with detailed example
 - a. FIFO (First-In, First-Out)
 - b. LRU (Least Recently Used)
13. Explain the different file system structures with the comparison of these allocation strategies.
