

Roll.No.

25UACT3006

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.C.A. - END SEMESTER EXAMINATIONS - NOVEMBER 2025  
SEMESTER - III

**25UACT3006- Operating Systems**

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

### Section B

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

1. Classify the different types of operating systems with examples
2. Explain differences between user-level and kernel-level threads.
3. Define semaphores. How are they used in process synchronization?
4. Differentiate between logical and physical address space.
5. Explain paging and segmentation schemes
6. Explain any two-page replacement algorithms.
7. What are the goals of protection in an operating system?
8. Briefly describe the history and evolution of the Linux system.

### Section C

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

9. Examine the structure of an operating system and explain its components and services in detail.
10. Distinguish the various methods for handling deadlocks. Explain with suitable examples.
11. Classify contiguous and non-contiguous memory allocation techniques. Compare their advantages and disadvantages.
12. Describe the concept of protection in operating systems. Explain the principles and implementation using the Access Matrix.
13. Assess the design principles of the Linux operating system. Discuss its process and memory management features.

\*\*\*\*\*