

Roll.No.

25UACT5009

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 - V

**25UACT5009 - Operating Systems**

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

### Section B

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

1. Describe the types of operating systems with suitable examples.
2. Illustrate the Critical Section Problem.
3. Relate the concepts address binding.
4. Explain the demand paging and how it works with an example.
5. Identify the concepts of kernel modules in Linux and its purpose and advantages.
6. Apply the working principles of Semaphore.
7. Explain how does affect memory utilization internal and external fragmentation.
8. Examine the how to use access matrix in Operating System.

### Section C

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

9. Explain in detail about Process Management.
10. Classify the various methods for handling deadlocks.
11. Examine the following memory management techniques such as
  - i) Dynamic loading and linking
  - ii) Overlays and swapping
12. Apply with example of page replacement algorithms.
  - i) FIFO
  - ii) LRU
13. Justify the techniques in design principles of the Linux operating system.

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