

BCA/BSc CA DEGREE END SEMESTER EXAMINATION - MARCH 2026**UGP (HONS.) SEMESTER - 4 : DISCIPLINE SPECIFIC COURSE****COURSE: 24UBCADCC206/24UCAPDSC206 - OPERATING SYSTEM***(For Regular 2024 Admission)*

Time: 2 Hours

Max. Marks: 70

PART A***Answer any 5 questions. Each question carries 2 marks each.***

1. Discuss about Virtual Memory? (An,CO4)
 2. Differentiate internal and external fragmentation? (A,CO2)
 3. Explain critical section problem? (A,CO2)
 4. Differentiate the single level and two level directory structures? (An,CO4)
 5. Explain Resource allocation graphs? (An,CO3)
 6. Explain about PCB? (An,CO1)
 7. Discuss about threads? (An,CO1)
- (2x 5 = 10)**

PART B***Answer any 6 questions. Each question carries 5 marks each***

8. Define System calls. Explain different types of System calls? (An,CO1)
 9. Discuss about Dining Philosophers problem? (A,CO2)
 10. Differentiate Multi-programming and Multiprocessing? (An,CO1)
 11. Compare different page replacement algorithms? (An,CO4)
 12. Explain about segmentation? (An,CO4)
 13. Explain Deadlock recovery methods? (AnCO3)
 14. Explain different file allocation methods? (An,CO4)
- (5x 6 = 30)**

PART C

Answer 3 questions. Each question carries 10 marks each

15. Define deadlock? What are the necessary conditions of deadlock?
Explain deadlock avoidance methods. (An, CO3)
16. Compare different pre-emptive scheduling algorithms? (A,CO2)
17. Explain about disk scheduling algorithms? (An,CO4)
18. Explain about IPC Mechanism? (An,CO1)
- (10 x 3 = 30)**

CO No.	Expected Course Outcome	CL	Questions	Total Marks
1	Illustrate the creation and working of a process, threads and the execution of these in single-processor and multi-processor systems.	Analyse	6,7,8,10,18	24
2	Discuss various Process Management techniques including process structure, synchronization, scheduling and communication.	Apply	2,3,9,16	19
3	Interpret the reasons for deadlock state, and the solution methods to handle deadlock.	Analyse	5,13,15	17
4	Analyse the various device and memory management techniques in time sharing and distributed systems	Analyse	1,4,11,12, 14,17	29