

BCA / D-15  
OPERATING SYSTEM  
PAPER-BCA-352

Time Allowed: 3 Hours

Maximum Marks: 80

Note: Attempt five questions in all, selecting at least one question from each Unit.  
Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) Explain Distributed operating system with example.  
(b) Define Batch processing operating system.  
(c) What do you mean by Multitasking operating system.  
(d) Explain Process control block.  
(e) Define Multithreading.  
(f) What do you mean by Starvation in deadlock?  
(g) Define Paging with example.  
(h) Differentiate between Process and Program.  
(i)

UNIT-I

2. (a) Differentiate between Single-user and Multi-user operating systems.  
(b) Differentiate between Time sharing and Real time operating systems.
3. (a) What is an Operating system? Explain its importance.  
(b) Differentiate between Multiprogramming and multitasking operating systems.

UNIT-II

4. (a) What is Process? Describe the concept of Process control block.  
(b) Define Thread. Explain the concept of Multithreading.
5. (a) Differentiate between Short-term, Medium term and Long-term scheduling.  
(b) Explain the concept of Process hierarchy and Process states.

UNIT-III

6. (a) Define Deadlock detection. Explain Resource allocation graph with example  
(b) Define Deadlock avoidance. Explain Banker's algorithm.
7. (a) Define Process. Differentiate between Safe state and Unsafe state.  
(b) Explain "No preemption and "Circular wait condition" in deadlock.

#### UNIT-IV

8. (a) Explain Best fit and Worst fit in variable's partition allocation scheme.  
(b) Differentiate between Logical address and Physical address scheme.
9. (a) Define Paging. Explain its advantages and disadvantages.  
(b) Explain various Page replacement algorithms.