



UNIT I

Chapter 1 : Overview of Operating System 1-1 to 1-42

<p>Syllabus : Operating System Objectives and Functions, The Evolution of Operating Systems, Developments Leading to Modern Operating Systems, Virtual Machines. BASH Shell scripting : Basic shell commands, shell as a scripting language.</p>

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UNIT II

Chapter 2 : Process Description and Control**2-1 to 2-55**

Syllabus : Process : Concept of a Process, Process States, Process Description, Process Control (Process creation, Waiting for the process/processes, Loading programs into processes and Process Termination), Execution of the Operating System.

Threads : Processes and Threads, Concept of Multithreading, Types of Threads, Thread programming Using Pthreads.

Scheduling : Types of Scheduling, Scheduling Algorithms, and Thread Scheduling.

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UNIT III

Chapter 3 : Concurrency Control 3-1 to 3-38

Syllabus : Process/thread Synchronization and Mutual

Exclusion : Principles of Concurrency, Requirements for Mutual Exclusion, Mutual Exclusion : Hardware Support, Operating System Support (Semaphores and Mutex), Programming Language Support (Monitors).

Classical synchronization problems : Readers/Writers Problem, Producer and Consumer problem, Interprocess communication (Pipes, shared memory : system V).

Deadlock : Principles of Deadlock, Deadlock Modeling, Strategies to deal with deadlock : The Ostrich Algorithm, Deadlock Prevention, Deadlock Avoidance, Deadlock detection and recovery, An Integrated Deadlock Strategy, Example : Dining Philosophers Problem.

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UNIT IV

Chapter 5 : Input/output and File Management

5-1 to 5-46

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File Management : Overview, File Organization and Access, File Directories, File Sharing, Record Blocking, Secondary Storage Management.

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Chapter 7 : Introduction to Compilers

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