
OPERATING SYSTEM-II

Paper Code **CEN-506**

Course Credits **4**

Lectures / week **3**

Tutorial / week **1**

Course Description **UNIT – I**

Introduction, defining deadlocks, modeling of deadlocks, Conditions for deadlock, dealing with deadlock, Deadlock avoidance and deadlock prevention, Recovery from deadlock.

UNIT- II

Introduction, Files and File System, File Structure, File naming and file types, File attributes, File Operation, Implementation of File Operations, File Access, Directories- Single Level, Two level, hierarchical or Tree Structure, Acyclic Graph structure and file sharing, File Protection, File system Mounting. File system implementation- introduction, file system structure, Implementation of data structures, Implementation of FILE Operations, File allocation Methods, Free Space Management, Directory implementation, File System Inconsistency, File system Performance Issues.

UNIT- III

Introduction, Disk Scheduling, Disk Scheduling Criteria, Disk Scheduling algorithms, Raid Structure- Raid levels. Security Issues- Introduction, Security Objectives, Security Problems, Intruders, some standard security attacks, Security levels, Inside system attacks, Outside system attacks- Viruses, types of Viruses, worms, bots, mobile code, Root kit.

UNIT- IV

Distributed Operating system: Introduction, Characteristics of distributed systems, Network operating Systems, Issues in Distributed Operating system, Communication in Distributed Systems- Message passing model, Remote Procedure Calls

UNIT – V

Introduction, introduction to Mobile Devices, Characteristics of mobile devices, Mobile OS, Android OS- power Management, memory management, scheduling, IPC, File management, Security. Case- Studies- Linux- Design Principles, Kernel Modules, Process Management, Scheduling, Memory Management, File Systems, Input and Output, interprocess Communication, Security.

References / Text Books:

- Operating System Concepts: 8th Edition: Avi Silberschatz, Galvin, Greg Gagne.
- Principles of Operating Systems: Naresh Chauhan

Computer Usage / Software Requires:
