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: