

Major Paper IV – OPERATING SYSTEMS

Unit I

Evolution of Operating System – Types of Operating System – Different views of Operating System – Design and Implementation of Operating Systems – I/O Programming concepts – Interrupts Structure & Processing.

Unit II

Memory Management : Single Contiguous Allocation – Partitioned Allocation – Relocatable Partitioned Allocation – Paged and Demand – paged Memory Management – Segmented Memory Management – Segmented and Demand – Paged memory Management – Swapping and overlay techniques.

Unit III

Process Management : Job scheduling – process scheduling – Functions and policies – Evaluation of Round Robin Multiprogramming performance – Process Synchronization – Race conditions – Synchronization Mechanism – Deadly Embrace, prevention, Avoidance and Detection and Recovery methods.

Unit IV

Device Management : Techniques for Device Management – Device Characteristics – I/O Traffic Controller, I/O Scheduler, I/O Device Handlers – Virtual Devices – Spooling.

Unit V

File Management : A simple File System – General Model of a File System Physical File Systems – Logical File Systems.

Case Studies : DOS, UNIX/LINUX Operating Systems.

Text Book :

Operating Systems by Stuart E. Madnick and John J. Donovan – Tata McGraw Hill Publishing Company Ltd.

Reference Books :

1. Operating Systems – Concepts and Design by Milan Milenkovic - McGraw Hill Publishing Company Ltd.
2. Operating Systems by Achyut S. Godbole, Tata McGraw Hill Publishing Company Ltd – 1996.