

**Course No: MCA-3T1**  
**Course Title : Advanced Operating Systems**

**Unit I**

Overview Of An Operating System, Resource Management, Operating System Interface, Process Management Concepts, Inter-Process Communication, Process Scheduling, Synchronization, Deadlocks.

***Unit II***

Memory Management, Linking, Loading, Memory Allocation, Design Issues and Problems, Virtual Memory, Fragmentation, Implementing Virtual Memory, Paging, Segmentation, Virtual Memory Design Techniques, Buffering Techniques, Spooling.

***Unit III***

File Management - File Systems & I/O. Device Drivers, Access Strategies, File Systems, File System Organization, Design Techniques.  
Multiprocessor Systems, Types Of Multiprocessor Operating Systems, Design and Implementation Issues.

***Unit IV***

Case Studies, Unix/ Linux Operating Systems, Users View, Design Principles, Implementation, Process Management, Memory Management, File System, I/O System, Windows NT.

**Reference Books:**

Dietel, H.M. "An introduction to operating system" Pearson Education, 2/e.  
Milenkovic.M. "An Operating System – Concepts & Design".McGraw Hill International Education Computer science series 1992.  
Peterson. J.L.AbharamSilberschatz. "Operating System Concepts". John wiley ,1989.  
Tananbum, A. S. "Modern Operating System", Pearson Education.  
Karnetkar, "Unix Shell Programming", BPB.