

Core Course 8 –Operating System

Objectives:

To learn the basic concepts of operating systems and its functionalities.

Unit-I:

Evolution of Operating systems-Types of Operating System - Different views of OS Design and Implementation of Operating Systems – I/O programming concepts-Interrupt structure & processing.

Unit-II:

Memory Management: - Single contiguous Allocation-Partitioned Allocation-Relocatable Portioned Allocation-Paged and Demand paged Memory management-Segmented Memory Management-Segmented and Demand paged Memory Management-Swapping and overlay techniques.

Unit-III:

Processor Management: Job scheduling-process scheduling-Functions and policies-Evaluation of Round Robin Multiprogramming Performance-Process Synchronization-Race condition – synchronization mechanism – deadly embrace prevention and detect and recover 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:

Information Management:- Simple File System, General model of a File system, Physical and Logical File systems. Case studies: DOS. UNIX/LINUX Operating Systems

Book for Study:

1. Stuart E.Madnick and John J.Donavan, "*Operating Systems*",-, Tata McGraw Hill Book Company Ltd, 3rd Edition. ISBN 0-07-039455-5

Book for Reference:

1. Milan Milenkovic, "*Operating Systems (concepts and Design)*", Tata McGraw Hill Publishing Company Limited, New Delhi,1999 ISBN 0-07-463272-8