**Operating Systems**

**UNIT-I** Introduction: Evolution of OS, Types of OS, Basic h/w support necessary for modern operating systems, services provided by OS, system programs and system calls, system design and implementation.

**UNIT-II** File systems: File concept, Access methods, Disk space management and space allocation strategies, directory structures, Recovery, Log-structured File System, disk arm scheduling strategies.

**UNIT-III** Scheduling: Process concept, process control block, Types of scheduler, context switch, threads, multithreading model, goals of scheduling and different scheduling algorithms, examples from WINDOWS 2000 & LINUX.

**UNIT-IV** Memory management: Contiguous allocation, Relocation, Paging, Segmentation, Segmentation with paging, demand paging , page faults and instruction restart , page replacement algorithms , working sets , Locality, Thrashing,Garbage Collection .

**UNIT-V** Process cooperation and synchronization: Concurrency conditions, Critical section problem, software and hardware solution, semaphores, conditional critical regions and monitors, classical inter process communication problems.

**UNIT-VI** Deadlocks & Protection: Deadlock definition, Prevention, Avoidance, Detection and recovery, Goals of Protection, access matrix, implementation, Security problem.

**BOOKS:** Operating System concepts – Silberchatz& Galvin, Addison Wesley, 6th Edn. Modern Operating Systems – Tanenbaum, Pearson Edn. 2ndedn Operating Systems – A.Godbole: TMH Pubilcations Reference Books: Operating System –Milan Milenkovik Operating Systems, 3rd Edition by Gary Nutt, Pearson Education