

SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Computer Science)
Semester: IV

Syllabus with Effect from: November/December-2012

Paper Code: US04CCSC02	Total Credit: 3
Title Of Paper: Operating Systems	

Unit	Description in detail	Weighting (%)
I	Introduction Introduction to Operating System Functions of OS Different types of Operating Systems: Real time, Multi-user, Time sharing OS Structure – Monolithic, Layered, Virtual Machine, Client-Server	25%
II	I/O Management and Scheduling I/O Devices Organization of the I/O function Operating System design issues I/O Buffering CPU Scheduling: Introduction to process, process control block, process scheduling FCFS Scheduling, SJF scheduling, Priority scheduling, Round Robin scheduling	25%
III	Memory Management Concept Logical Vs physical address space Swapping Contiguous allocation Paging Segmentation Virtual Memory System Demand Paging Page replacement algorithms: The Optimal Page Replacement Algorithm The LRU Page Replacement Algorithm The FIFO Page Replacement Algorithm The second change Page Replacement Algorithm The clock Page Replacement Algorithm	25%
IV	Process Synchronization and Deadlocks Introduction to Cooperating process Process Synchronization, Critical Section Problem Two process solution, Multiple process solution Deadlock and characterization	25%

Basic Text & Reference Books:-

- Andrew S. Tanenbaum: Operating System design & Implementation, Prentice Hall International.
- James Peterson and Abraham Silberschatz: Operating System Concept, Addison Wesley.
- William Stallings : Operating Systems, Prentice Hall India, Second Edition.

