SARDAR PATEL UNIVERSITY
Programme: BCA
Semester: IV
Syllabus with effect from: November/December-2012

Paper Code: US04CBCA03	Total Credit: 4
Title Of Paper: Operating Systems	

Unit	Description in detail	Weighting (%)
I	**Introduction and Scheduling** 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 CPU Scheduling: Introduction to process, process control block, process scheduling FCFS Scheduling, SJF scheduling, Priority scheduling, Round Robin scheduling	25%

II	**Memory Management**
	Memory Management: Concept, Basic memory management techniques:,
	Swapping, Virtual Memory System, Demand Paging
	    1) The Optimal Page Replacement Algorithm
	    2) The NRU Page Replacement Algorithm
	    3) The FIFO Page Replacement Algorithm
	    4) The second change Page Replacement Algorithm
	    5) The clock Page Replacement Algorithm
		25%

III	**Process Synchronization, Deadlocks and Introduction to Linux** Introduction to Cooperating process Process Synchronization, Critical Section Problem Two process solution, Multiple process solution Deadlock and characterization Introduction to Linux System & History Features of Linux Introduction to File System & Memory Management	25%
IV	**Basic Linux commands** Basic Commands: login, logout, date, man, pwd, who, whoami, dir, ls, cd, mkdir, rmdir Use of Wild card characters and introduction to vi editor Introduction to environment variable like HOME, PATH, PS1 Types of FAP, use of chmod command Basic commands like cp, mv, rm, rev, file redirection, grep, cut, paste, find sort commands with example Introduction to shell script: execution of it, shell script variable, expr, test commands Control structure: if, if..else, case structure Iteration: while, for construct, break, continue, exit commands	25%

Basic Text & Reference Books :-

- Andrew S. Tanenbaum: Operating System deign & Implementation, Prentice Hall International
- James Peterson and Abraham Silberschatz: Operating System Concept, Addition Wesley
- Linux Commands Instant reference – Bryan Pfaffenberger, BPB Publication
- Advanced Linux Programming – Samuel, Techmedia Publications