

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Information Technology)
Semester: V
Syllabus with effect from: June - 2013

Paper Code: US05CINT04	Total Credit: 3
Title of Paper: Operating Systems	

Unit	Description in detail	Weightage (%)
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 Scheduling 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 The Optimal Page Replacement Algorithm The NRU Page Replacement Algorithm The FIFO Page Replacement Algorithm The second change Page Replacement Algorithm The clock Page Replacement Algorithm	25%
III	Process Synchronization and Deadlocks and Introduction to Linux – I 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	Introduction to Linux– II Basic Commands: login, logout, date, man, pwd, who, whoami, dir, ls, cd mkdir, rmdir. Use of Wild card characters 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	25%



	expr, test commands Control structure: if, if..else, case structure Iteration: while, for construct, break, continue, exit commands	
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Basic Text & Reference Books:

- Andrew S. Tanenbaum: Operating System design & Implementation, Prentice Hall International
- James Peterson and Abraham Silberschatz: Operating System Concept, Addison Wesley (Fifth Edition)
- Linux Commands Instant reference – Bryan Pfaffenberger, BPB Publication
- Advanced Linux Programming – Samuel, Techmedia Publications
- LINUX a practical approach, B. Mohamed Ibrahim-Firewall Media

