

SARDAR PATEL UNIVERSITY
Programme: MCA
Semester: IV
Syllabus with effect from: November 2014

Paper Code: PS04CMCA01	Total Credit: 4
Title Of Paper: The Linux Operating System	

Unit	Description in detail	Weighting (%)
1	Introduction to the UNIX/Linux Environment History and evolution of the UNIX and GNU/Linux operating systems and their derivatives The present landscape of UNIX/Linux derivatives Comparison between free and proprietary software Pros and cons of using Linux Different types of licenses and IPR issues A comparison of currently popular Linux distributions An overview of the Linux environment Introduction to the Bourne Again SHell (bash) The vim editor	
2	Introduction to The CLI Shell environment, commands, syntax, options, getting help Basic commands and utilities File system navigation and manipulation Process management Command line processing I/O redirection and filters	
3	Basic Shell Scripting Basics of shell scripting The built-in constructs of the shell Basics of filters and regular expressions Some utility programs Combining the available facilities to produce new ones Examples	
4	Advanced Shell Scripting - I Using advanced features of the shell The grep filter More utility programs The sed filter Examples	
5	Advanced Shell Scripting – II and System Calls The awk filter Common Linux Commands Programming using system calls under Linux Examples	
6	Linux System Administration System structure, Installation on and using different media, live systems Partitioning, formatting, file systems, Devices and file system management User management, Managing basic file system permissions Configuring the system - display, network, desktop, etc.	



System configuration files, System startup and shutdown, runlevels Updating the system and installing and updating packages, Using along with other operating systems, Backup and system recovery Tools and shell scripting for the administrator An introduction to common applications and file formats on Linux An introduction to tools for Linux development	
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Basic Text & Reference Books

- Das S. : Your UNIX – The Ultimate Guide, Tata McGraw-Hill, 2001
- Nemeth E., Hein T., Snyder G.: Linux Administration Handbook, 2nd edition, Pearson Education/PH PTR, 2007
- Online Manuals
- Kernighan B. W. and Pike R. : The Unix Programming Environment, Prentice-Hall of India, 1994
- Sobel M.: A Practical Guide to Linux Commands, Editors, and Shell Programming, Pearson Education, 2006
- Prata S. : Advanced Unix – A Programmer’s Guide, BPB Publications, 1986

