Course: BCA
Sub Code: 6BCA2

Semester: VI
Subject Name: Linux & Shell Programming

7502

Unit	Lectures	Practical's	Workshop	Demo	Field Visits	Total Hours	Remarks
UNIT – I Linux introduction and file system - Basic Features, Different flavors of Linux. Advantages, Installing requirement, Basic Architecture of Unix/Linux system, Kernel, Shell. Linux File system-Boot block, super block, Inode table, data blocks, How Linux access files, storage files, Linux standard directories. Commands for files and directories cd, ls, cp, md, rm, mkdir, rmdir, pwd, file, more, less, creating and viewing files using cat, file comparisons – cmp & comm, View files, disk related commands, checking disk free spaces. Partitioning the Hard drive for Linux, Installing the Linux system, System startup and shut-down process.	8	6				14	
UNIT–II Essential linux commands Understanding shells, Processes in linux - process fundamentals, connecting processes with pipes, Redirecting input output, manual help, Background processing, managing multiple processes, changing process priority with nice, scheduling of processes at command, cron commands, kill, ps, who, sleep, Printing commands, touch, file related commands - wc, cut, dd, etc. Mathematical commands- bc, expr. Creating and editing files with vi & vim editor.	8	6				14	
UNIT–III System administration: Common administrative tasks, configuration and log files, Role of system administrator, Managing user accounts-adding & deleting users, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Temporary disable user's accounts, creating and mounting file system, file security & Permissions, becoming super user using su. Getting system information with uname, host name, disk partitions & sizes, users, kernel. Backup and restore files, installing and removing packages with rpm command. KDE & Gnome graphical interfaces.	8	6				14	
UNIT–IV Shell programming- Basic of shell programming, Various types of shell available in Linux, comparisons between various shells, shell programming in bash, read command, conditional and looping statements, case statements, parameter passing and arguments, Shell variables, system shell variables, shell keywords, Creating Shell programs for automate system tasks. Simple filter commands – pr, head, tail, cut, paste, sort, uniq, tr. Filter using regular expressions – grep, egrep, and sed.	8	6				14	
UNIT-V Basic networking administration: Setting up a LAN using Linux, choosing peer to peer vs client/server model, setting up an Ethernet Lan, configuring host computers, checking Ethernet connecting, connecting to Internet, common networking administrative tasks, configuring Ethernet, initializing Ethernet Interface, ifconfig, netstat and netconfig commands, TCP/IP network, DNS services, routing using Linux Installation & Administration of mail server, ftp server and Apache web server.	8	6				14	
TEXT & REFERENCE BOOKS: • *UNIX - CONCEPTS & APPLICATIONS (THIRD ED.) - SUMITABHA DAS, T ATA MCGRAW HILL PUBLICATIONS.* • *UNIX FOR PROGRAMMERS AND USERS (THIRD ED.) - GRAHAM GLASS & KING ABLES, PEARSON EDUCATION INDIA.(LOW PRICES EDITION).* • *FEDORA CORE 6 BIBLE* • *RED HAT LINUX 9 BIBLE – CRISTOPHER NEGUS, IDG BOOKS INDIA LTD.* • *USING LINUX BY JACK T ACKETT, DAVID GUNTER, PHI, EEE EDITION* • *LINUX INSTALLATION AND ADMINISTRATION, NICHOLAS WELLS, COURSE TECHNOLOGY (VIKAS PUBLISHING, NEW DELHI).* • *UNIX SHELL PROGRAMMING - YASHWANT KANETKAR, BPB PUBLICATIONS,* • *RED HAT LINUX UNLEASHED T ECHMEDIA (BPB PUBLICATIONS)* • *LINUX NETWORKING AND SECURITY - WELLS, COURSE T ECHNOLOGY (VIKAS PUBLISHING, NEW DEIHI*							