

## **(IT612) LINUX SERVER ADMINISTRATION**

**(ELECTIVE - III)**

### **Objective of the course :**

*After completion of this course students will become familiar with linux server administration like linux commands, shell programming and system administration.*

### **UNIT - I**

Linux introduction and file system - Basic Features, 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, more, less, creating and viewing files, using cat, file comparisons, View files, disk related commands, checking disk free spaces. Partitioning the Hard drive for Linux, Installing the Linux system, System startup and shut-down.

### **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, scheduling of processes at command, batch commands, kill, ps, who, sleep, Printing commands, grep, fgrep, find, sort, Cal, banner, touch, file, file related commands-ws, sat, cut, grep, dd, etc. Mathematical commands- bc, expr, factor, units. vi, joe, vim editor.

### **Unit - III**

Shell programming Basic of shell programming, Various types of shell, shell programming in bash, conditional and looping statements, case statements, parameter passing and arguments, Shell variables, shell keywords, Creating Shell programs for automate system tasks and report printing, use of grep in shell, awk programming.

### **UNIT - IV**

System administration Common administrative tasks, identifying administrative files – 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, checking and monitoring system performance file security & Permissions, becoming super user using su. Getting system information - host name, disk partitions & sizes, users, kernel. Backup and restore files, linuxconf. utility in GUI, reconfiguration hardware with kudzu Configure desktop-X configurator, understanding XF86config file, starting & using X desktop. KDE & Gnome graphical interfaces, changing X settings.

### **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, administration in a networked environment, common networking administrative tasks, the network file system, configuring Ethernet, initializing Ethernet Interface, ifconfig, netstat and netconfig commands a TCP/IP networks, DNS services, routing using Linux, SLIP & PPP services, UUCP. Installation & Administration of mail server, ftp server and Apache Web Server.

### **TEXTS BOOKS :**

1. Jack Tackett, "Using Linux", 3<sup>rd</sup> ed., QUE Publication, 2008.
2. Cristopher Negus, "Red Hat Linux7.X Bible", 1<sup>st</sup> ed., Wiley publication, 2007.

### **REFERENCE BOOKS :**

1. Nicholas Wells, "Linux Installtion And Administration", 1<sup>st</sup> ed., Course Technology, 2000.
2. Sumitaba Das "Unix Shell Programming", 2<sup>nd</sup> ed., TMH, 2008.