KONKAN GYANPEETH

KARJAT COLLEGE OF ARTS, SCIENCE AND COMMERCE

Linux Administration

B.Sc. (IT) Sem. V

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
TW / Tutorial	–	50

SYLLABUS

1. **Introduction :** Introduction to UNIX, Linux, GNU and Linux distributions

   Duties of the System Administrator The Linux System Administrator, Installing and Configuring Servers, Installing and Configuring Application Software, Creating and Maintaining User Accounts, Backing Up and Restoring Files, Monitoring and Tuning Performance, Configuring a Secure System, Using Tools to Monitor Security

   Booting and shutting down : Boot loaders-GRUB, LILO, Bootstrapping, Init process, rc scripts, Enabling and disabling services

   The File System : Understanding the File System Structure, Working with Linux-Supported File Systems, Memory and Virtual File Systems, Linux Disk Management

   Network Configuration Files

2. **System Configuration Files :** System wide Shell Configuration Scripts, System Environmental Settings, Network Configuration Files, Managing the init Scripts, Configuration Tool, Editing Your Network Configuration.

   TCP/IP Networking : Understanding Network Classes, Setting Up a Network Interface Card (NIC), Understanding Subnetting, Working with Gateways and Routers, Configuring Dynamic Host Configuration Protocol, Configuring the Network Using the Network

   The Network File System : NFS Overview, Planning an NFS Installation, Configuring an NFS Server, Configuring an NFS Client, Using Automount Services, Examining NT'S Security.

3. **Connecting to Microsoft Networks :** Installing Samba, Configuring the Samba Server, Creating Samba Users 3, Starting the Samba Server, Connecting to a Samba Client, Connecting from a Windows PC to the Samba Server

   Additional Network Services : Configuring a Time Server, Providing a Caching Proxy Server, Optimizing Network Services

   Internet Services : Secure Services, SSH, scp, sftp Less Secure Services (Telnet, FTP, sync, rsh, rlogin, finger, talk and ntalk, Linux Machine as a server, Configuring the xinetd Server, Comparing xinetd and Standalone, Configuring Linux Firewall Packages.

4. **Domain Name System :** Understanding DNS, Understanding Types of Domain Servers, Examining Server Configuration Files, Configuring a Caching DNS Server, Configuring a Secondary Master DNS Server, Configuring a Primary Master Server, Checking Configuration

Configuring Mail Services : Tracing the Email Delivery Process, Mail User Agent (MUA), Introducing SMTP, Configuring Sendmail, Using the Postfix Mail Server, Serving Email with POP3 and IMAP, Maintaining Email Security

Configuring' FTP Services : Introducing vsftpd, Configuring vsftpd, Advanced FTP Server Configuration, Using SFTP

5. **Configuring a Web Server :** Introducing Apache, Configuring Apache, Implementing SSI, Enabling CGI, Enabling PHP, Creating a Secure Server with SSL

   Providing Web Services : Creating Mailing Lists, Setting Up Web-Based Email, Configuring an RSS Feed, Adding Search Functionality.

6. **Optimizing Internet Services :** Optimizing LDAP Services, Optimizing DNS Services, Optimizing Mail Services, Optimizing FTP Services, Optimizing Web Services

   System Administration: updating system, upgrading and customizing kernel, Administering Users and Groups Installing and Upgrading Software Packages

References :
1. UNIX: Concepts and techniques, (*S. Das*), Tata McGrawHill.
2. Linux Administration: A Beginner's Guide, Fifth Edition, (*Wale Soyinka*), Tata McGraw-hill
3. Linux: complete Reference, 6th Edition, (*Richard Petersen*), Tata McGraw-Hill.