**CMP 337 Linux**

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**Course Objectives:**

1. To provide a strong knowledge of the open-source operating system.
2. To provide knowledge of the server program in the operating system.

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| **Course Contents: Unit I: Introduction** |  | **2 hours** |
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1. Linux:

1. History
2. Introduction

2. Advantages of Linux over other operating systems

3. FAT, NTFS, EXT

4. Culture of free software

**Unit II: Basics of Linux 5 hours**

1. Commands
2. Shells:
3. Csh
4. Ksh
5. Bash

3. Text Editors:

1. Vim
2. Pico

4. The file system of Linux

5. Directories and their special purpose

**Unit III: Installation of Linux 3 hours**

1. Partitioning
2. Installation of Linux
3. Troubleshooting of installation

**Unit IV: System Administration 6 hours**

1. Root login
2. Superuser
3. Configuration of hardware with kudzu
4. Checking system space
5. Monitoring system performance
6. Working with a file system
7. Configuring modules

**Unit V: User Management 6 hours**

1. Creating user accounts
2. Setting user defaults
3. Providing support to users
4. Modifying accounts
5. Deleting user accounts
6. Checking disk quotas
7. Sending mail to all users

**Unit VI: Security and System Handling --- 6 hours**

1. Understanding shell scripts
2. System startup and shutdown
3. Scheduling system tasks
4. Backing up and restoring
5. Password protection
6. File security

**Unit VII: Setting up a Web Server 4 hours**

1. Introduction to a web server
2. Starting the Apache webserver
3. Configuring the Apache webserver
4. Monitoring server activities

**Unit VIII: Setting up DHCP and NIS 5 hours**

1. Introduction to DHCP
2. Setting up a DHCP server
3. Setting up DHCP client
4. Understand NIS

**Unit IX: Setting up a Database Server ---- 5 hours**

1. Configuring database server
2. Checking the status
3. Working with database

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| **Unit X: Setting up DNS Server**   1. Introduction to DNS 2. Setting up DNS and configuration 3. Querying DNS | |  | | **4 hours** | |
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| **Unit XI: ISP Simulation**   1. Integration of servers: 2. DNS, Web, Email, etc.   **List of Practical:** |  | | **2 hours** | |
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1. Linux utilities
2. OS installation project work
3. User management using a terminal
4. Security level access control list
5. Network setting
6. Server configuration of DHCP, DNS, Database server
7. Demonstration of the web, mail, file server.

**Text Book:**

1. Christopher Negus: Red Hat Linux 8.0, Bible, WILEY

**Reference Books:**

1. Neil Jankins and Stanschat: Understanding Local Area Networks, **PHI**
2. Andrew S. Tanenbaum: Computer Networks, PHI