



Sir Padampat Singhanian University

Udaipur

Lesson Plan

Program : B.Tech Semester : IV
Session : 2017-18 Subject Code : CS-370
Subject Name : System Administration with Linux
Credits : 3 (L) + 0 (T) + 1 (P) = 4

Prepared By :

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DEPARTMENT OF COMPUTER SCIENCE

- **Learning Objectives:**

Linux system administration helps students to learn how to manage servers efficiently since Linux server provides stable solution for next-generation datacenters. With the flexibility to deploy on physical hardware, as a virtual host, as a virtual guest or in the cloud, system administrators need to have a strong functional knowledge of Linux server in any current IT work environment. The course explores the security & network access controls in Linux, organizing network system & Mail Services, Securing Data & Account Management.

S. N	Module Title	Contents in the Unit	No. of Lecture
1	Fundamentals of Linux	Development of Linux, Linux Distributions. Structure of Linux Operating System, Logging In & General Orientation, the X Window System.	2
		KDE, GNOME. Navigating the File Systems, Managing Files, File Permission & Access, Shell Basics.	2
		Shell Advanced Features, File Name Generation. Common UNIX commands.	2
2	Administration of Linux:	Installing Linux, Configuring Disk Devices, Creating & Managing File Systems, File System Backup, Kick start Installation,	2
		Linux Boot Loaders, Linux Kernel Management, Managing User Accounts, Understanding File Listing, Ownership & Permission,	2
		Managing Software using RPM, Connecting to Network, Linux Network Services, Setting up a Printer	2
3	Input & Output Redirection	Input Redirection, Output Redirection, Error Redirection	2
		Filter, Pipes.	2
4	Networking in Linux	Network Connectivity, IP address, Accessing Remote system,	2
		Transferring files, & Internet configuration	2
5	Process Control	Identifying Process, Managing Process,	1
		Background Processing, Putting jobs in Background.	1
6	Offline File Storage	Storing files to Media Booting process & User	2

7	Linux Basic networking & naming service	Introduction to Networking, Networking, Internet Network Services	2
		Dynamic DNS, Electronic Messaging, Apache	2
		NIS & Network File Sharing: NIS, Network File Sharing, SAMBA.	2
8	Security	Defining System Security Policies, System Authentication Services & Security,	2
		Securing Services, Securing Data & Communication.	2
9.	The UNIX File System	Inodes - Structure of a regular file. Directories - Conversion of a path name to an inode, Super block - Inode assignment to a new file - Allocation of disk blocks.	2
		System calls for the file System: Open, Read, Write, Lseek, Close. File creation - Creation of special files, Changing directory	2
		Root, changing owner & mode – stat & fstat - pipes - Dup - Mounting & Un mounting file systems - Link & Un link.	2

- **Total no. of Lectures:** **40**

- **Text Book**

1. Red hat Linux Administration. Turner M. & Shah S. McGraw-Hill. 2010.
2. Redhat Fedora linux for Dummies. Barkakati N. Wiley Publishing Inc. 2011.

- **Evaluation Method: -**

There will be a continuous evaluation of students at all levels. Each credit will carry 50 marks. Hence a 5 credit course will have total of 250 marks. Each course component will be evaluated. This means that a course will be evaluated for lectures and practical. For 1 credit there shall be 50 marks. For lectures marks will be divided between mid-terms and end term examinations.

3 – 0 – 2 (a 5 credit course) will be evaluated for 150 (3 x 50) marks for lectures and 100 (2 x 50) marks for practical leading to a total of 250 (5 x 50) marks for the 5 credit course.

- **Theory**

Maximum duration for final examination should be 3 hours. The evaluation pattern for theory examination will be as follows:

Credit	Mid-term-I	Mid-term II	End-term	Total	Final Total
3	25	25	100	150	150

- **Practical**

All practical will be evaluated in the same manner of 1 credit carrying 50 marks. The 100 marks for practical will be divided as follows:

S. No	Evaluation Criteria	Mid Term Examination	End Term examination	Total
		Max Marks	Max Marks	
1.	Practical Files	5	5	10
2.	Lab Attendance	-	5	5
3.	Viva	5	10	15
5.	Lab Written Work	5	15	20
TOTAL				100

Name(s) of the faculty:

Harish Tiwari

Signature of the HOD: