

Subject Code: 1ET4040605	Subject Title: Linux Administration
Pre-Requisite	Some Basic knowledge of Operating System

RATIONALE:

COURSE OBJECTIVE:

TEACHING AND EVALUATION SCHEME:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)			
Lecture	Tutorial	Practical	Credit	Theory		Practical	
				University Assessment	Continuous Assessment	University Assessment	Continuous assessment
3	-	4	5	60	40	40	60

DETAILS OF COURSE CONTENTS:

Sr. NO.	TOPIC	Total Hrs.	WEIGHTAGE
1	Introduction of Linux System 1.1.Installation of Linux System 1.2.Linux Boot Sequence 1.3.Linux Run Level 1.4.Introduction of different shell 1.5.Access Command Line 1.6.The Linux File System Hierarchy 1.7.Managing files and directories through command line 1.8.Getting Help through command line.	06	14%
2	Management of User, Group, File and Directory 2.1 Users and Groups 2.2 Gaining Superuser Access 2.3 Managing Local User Accounts 2.4 Managing Local Group Accounts 2.5 Managing User Passwords 2.6 Linux File System Permissions 2.7 Managing File System Permissions from the Command Line 2.8 Managing Default Permissions and File Access 2.9 Configuring and Securing OpenSSH Service	06	14%
3	Administration of Processes and Service 3.1 Processes 3.2 Controlling Jobs 3.3 Killing Processes 3.4 Monitoring Process Activity 3.5 Identifying Automatically Started System Processes. 3.6 Controlling System Services. 3.7 Identify the Status of systemd	10	24%

	3.8 Using systemctl to Manage Services 3.9 Concept of daemon		
4	Installing and Updating Software Packages 4.1 RPM Software Packages and Yum 4.2 Managing Software Updates with yum 4.3 Enabling yum Software Repositories 4.4 Examining RPM Package Files 4.5 Installation of different software like PHP, Apache, MySQL, Java, Python.	08	20%
5	Accessing Linux File Systems 5.1 Identifying File Systems and Devices 5.2 Mounting and Unmounting File Systems 5.3 Making Links Between Files 5.4 Locating Files on the System	06	14%
6	Linux Networking 6.1 Network interface names 6.2 Setting IP Address 6.3 Displaying IP addresses 6.4 Nmcli command	06	14%

COURSE OUTCOME:

The course content should be taught and implemented with an aim to develop different skills leading to the achievement of the following competencies and course learning outcomes:

1. Access the command line
2. Manage files from command line
3. Create, view, and edit text files
4. Manage local users and groups
5. Monitor and manage Linux processes
6. Control services and daemons
7. Control access to files with file system permissions
8. Configure and secure the OpenSSH service
9. Install and update software packages
10. Access Linux file systems
11. Manage Linux networking

The practical should be carried out in such a manner that students are able to acquire different learning out comes in cognitive, psychomotor and affective domain to demonstrate course learning outcomes.

LIST OF PRACTICAL:

SR. No.	Experiment
1	Installation of Linux Operating System.
2	Practical to perform various command though shell.
3	Demonstrate the Linux Boot Sequences.
4	Demonstrate how to get help in Linux command line.

5	Practical to change the Run Level in Linux.
6	Creating and managing user and group with Command line.
7	Managing the File permission with Command line.
8	Configure the Open SSH.
9	Practical to perform various task on processes.
10	Practical to show different system services.
11	Practical to perform the systemd and systemctl command.
12	Installing and managing software through command line.
13	Demonstrate the different File system in Linux.
14	Mounting and unmounting the file in Linux system
15	Practical to search file in Linux System through command line.
16	Demonstrate the networking with Linux.
17	Execute the nmcli command.

LIST OF REFERENCES:

Sr.no.	Title	Author	Publication
1	Linux Red Hat System Administration I [RH124]	Susan Lauber, Philip Sweany, Rudolf Kastl, George Hacker	Red Hat
2	Linux Red Hat System Administration I [RH134]	Wander Boessenkool, Bruce Wolfe, Scott McBrien, George Hacker, Chen Chang	Red Hat
3	Linux Bible, 9th Edition	Christopher Negus	Wiley

LINK OF LEARNING WEB RESOURCE:

1	https://www.tutorialspoint.com/linux_admin/linux_admin_centos_overview.htm
2	https://www.tutorialspoint.com/linux_admin/basic_centos_linux_commands.htm
3	https://www.tutorialspoint.com/linux_admin/linux_admin_tutorial.pdf