Introduction to Linux Operating System

Course Code	20S08355	**Year**	II	**Semester**	I
Course Category	SOC-1	**Branch**	CSE	**Course Type**	Practical
Credits	2	**L-T-P**	1-0-2	**Prerequisites**	-
Continuous Internal Evaluation :	-	**Semester End Evaluation:**	50	**Total Marks:**	50

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Apply suitable commands to perform various tasks on Linux Operating System	L3
CO2	Implement tasks as an individual on Linux Operating System	L3
CO3	Develop an effective report based on various tasks implemented	L3
CO4	Apply technical knowledge for a given problem and express with an effective oral communication	
CO5	Analyze outputs using given constraints	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1		√											√	
CO2					√				√					
CO3										√				
CO4									√		√			
CO5			√			√								

Syllabus		
Unit No.	**Contents**	**Mapped CO**
I	**Getting Started with Red Hat Enterprise Linux:** What is Linux? Types of Open Source Licenses. What is Linux Distribution? **Accessing the Command Line:** Accessing the command line, logging into a Local Computer, Executing Commands using the Bash shell, Viewing the Contents of Files, what is tab completion?	**CO1,CO2**

	What is command history? Bash commands and keyboard Shortcuts **Managing Files from the Command Line:** Managing Files from the Command Line, Locating Files by name, navigating paths. Managing File names using Path name expansion. File System Hierarchy, Locating Files and Directories and Path Name Expansion.	
II	**Creating, Viewing and Editing Text Files** Editing Text Files from the Shell Prompt, Visual Mode in Vim, Create, delete, copy, and move files and directories, Create hard and soft links **Archiving and Copying Files Between Systems:** Managing Compressed tar Archives, Backing Up and Restoring Files From a tar Archive, Copying Files Between Systems Securely, Copying Files Over the Network With scp	**CO1,CO2**
III	**Manage users and groups:** Create, delete, and modify local user accounts, Change passwords and adjust password aging for local user accounts, Create, delete, and modify local groups and group memberships, Configure super user access **Linux File Systems: Overview** about Linux File Systems, Identify File Systems and Devices, Mounting and Unmounting File Systems, Making Soft & Hard Links Between Files Locating Files on the System	**CO1,CO4**
IV	**Controlling Access to Files with Linux File System Permissions** Linux File System Permissions, Viewing File and Directory Permissions and Ownership, Managing File Systems Permissions from the Command Line, Changing Permissions with the Numeric Method, Changing File and Directory User or Group Ownership, Managing File Security from the Command Line, Managing Default Permissions and File Access	**CO1,CO4**
V	**Manage basic networking** Network Concepts, Validating Network Configuration, Configuring Network with nmcli , Configuring hostnames and resolution, configure network services to start automatically at boot, Restrict network access using firewall-cmd/firewall **Installing and Updating Software Packages:** Installing and Updating Software Packages, Managing Software updates with YUM, RPM Software Packages	**CO1,CO3**

Learning Resources

Text Books

1. Red Hat Enterprise Linux 8.0 RH124, Red Hat System Administration I, Edition 1, Fiona Allen, Marc Kesler, Saumik Paul, Snehangshu Karmakar, Victor Costea

Referencs

1. https://www.coursera.org/learn/fundamentals-of-red-hat-enterprise-linux
2. https://www.udemy.com/course/certified-system-administrator/

e-Resources & Other Digital Material

1. https://www.redhat.com/en/services/training/ex200-red-hat-certified-system-administrator-rhcsa-exam