Program : **Diploma in Computer Engineering**	
Course Code : **4157**	Course Title: **Network Administration Lab-I**
Semester : **4**	Credits: **1.5**
Course Category: **Program Core**	
Periods per week: **3 (L:0 T:0 P:3)**	Periods per semester: **45**

Course Objectives:

- This course is designed to provide hands-on experience for the students in Server Administration on Linux platform.
- Students will be able to develop skills server administration which will help them to work as Network Administrator. Also they can switch over to any other platforms in future.

Course Prerequisites:

Topic / Description	Course Code	Course name	Semester
Knowledge in computer and system software		Introduction to IT Systems	1
Basics of Computer Networks		System Administration lab-1	3
Computer Hardware basics		Computer Hardware Lab I	3

Course Outcomes

On completion of the course student will be able to:

COn	Description	Duration (Hours)	Cognitive Level
CO1	Demonstrate installation & configuration of LINUX Server operating system	12	Applying
CO2	Appl various user management, process scheduling & monitoring commands.	10	Applying
CO3	Use package management, job scheduling and utilities in Linux.	12	Applying
CO4	Demonstrate the usage of various IP commands & services.	9	Applying
	Lab Exam	3	

CO – PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3			3			
CO2	3			3			
CO3	3			3			
CO4	3			3			

3-Strongly mapped, 2-Moderately mapped, 1-Weakly mapped

Course Outline

	Name of Experiment	Duration (Hours)	Cognitive Level
:			
CO1	Demonstrate installation & configuration of LINUX Server operating system		
M1.01	Demonstrate installation of LINUX Server operating system.	6	Applying
M1.02	Demonstrate the working & usage of configuration files inittab, fstab, crontab	3	Applying
M1.03	Demonstrate the usage of utilities like fdisk, gparted, disks, grub customizer.	3	Applying
CO2	Apply various user management, process scheduling & monitoring commands.		
M2.01	Demonstrate the usage of commands like adduser, uname, su,sudo	4	Applying
M2.02	Demonstrate the usage of process scheduling & monitoring commands – TOP, SAR, VMSTAT, IOSTAT, PS	5	Applying
	Lab Exam – I	1 ½	
CO3:	Use package management, job scheduling and utilities in Linux.		
M3.01	Demonstrate package management in Linux - Synaptic Package Manager, DPKG, RPM	5	Applying
M3.02	Demonstrate Job scheduling using crontab, Demonstrate installation of Samba server, WINE	4	Applying
M3.03	Demonstrate the usage of utilities like TAR, GZIP, COMPRESS	3	Applying
CO4	Demonstrate the usage of various IP commands & services.		
M4.01	Demonstrate the usage of various IP commands - PING, IFCONFIG, ROUTE, ARP	5	Applying

M4.02	Demonstrate working & usage of services like SSH, TELNET, FTP, HTTP, RCP, RSYNC	4	Applying
	Lab Exam – II	1 ½	

Text / Reference:

T/R	Book Title / Author
T1	UNIX and Linux System Administration Handbook (5th Edition) By Evi Nemeth, Garth Snyder, Trent R. Hein, Ben Whaley, Dan Mackin
R1	How Linux Works, 3rd Edition: What Every Superuser Should Know by Brian Ward

Online Resources:

Sl.No	Website Link
1	https://askubuntu.com/
2	https://linoxide.com/
3	https://www.tecmint.com/