

Lecture Number	Topics (Broad Topic)	Details	Content Division
1	Introduction To Linux	History of linux, Linux Foundation, Linux Requirements, Linux Components, Linux Architecture, Kernel, Difference between Windows and Linux.	S no. 1
2	Installation	Linux Structure and Installation Configuration of Linux, Linux file-system basics, the boot process and dual boot.	S no. 2
3	Basic Linux Commands	What are Linux commands, use of commands like history, who, whoami,su, sudo, man, help,	Extra content
4	Some Advanced Commands and a bit mathematics	cal, date, hostname, reboot, clear, bc, uptime, free,factor.	S no. 9
5	Some More Miscellaneous Commands	units ,logname,uname,tty,id,banner etc.	Extra content
6	Introduction To file System and permissions to a file	What is File system, File system Architecture and File Types. Read write and Execute permissions.	Extra content
7	Basic Commands For Creating files	Cat, cp, mv, rm, ls and its variations, touch and its variations	Extra content
8	Basic Commands For Manipulating files and Directory oriented commands	Use of which is,where is and what is command and directories commands like cd, mkdir, rmdir, pwd.	S no. 4 , S no. 5 and many extra commands
9	Directory permissions for Groups and others	r--(with cd ,ls, cp Into,cp From),-w-(with cd ,ls, cp into,cp from),--x(with cd ,ls, cp into,cp from) and other options	S.no 4 , S.no 5 and many extra commands
10	Mounting and Storage of files	The boot process,Partitioning, What do we mean by mounting and Mount, Unmount USB, fdisk, mkfs, How files get stored in memory.	S no. 3
11	File realted Commands	wc,sort and its variations,cut and its different variations,dd,Viewing files.	S.no 4 , S.no 5 and many extra commands
12	Disk Related commands and Getting started with File system	df and its variations, dfspace ,du, ulimit, use of commands like diff, cmp, comm for Comparing Files	Extra content
13	File Compressing and uncompressing	concept of tar, gzip, bzip2, compress, uncompress files.	S.no 4 , S.no 5 and many extra commands
14	Introduction to different Text editors	gedit, vi, vim editor (Insert Text, delete text, Navigation, copy-paste, cut-paste, search operation)	S no. 6
15	Search, Find,Replace,delete and paste of Files and directories	use of , wildcards \<,>,\$,*, ?, [], ! and Search, Find,Replace,delete and paste of file or directory in directory structure using commands with different variations	Extra content
16	Managing Users	Types: Super, Owner, Group, Others, Adding user, removing user, Working with Passwords, expiry dates using usermod.	S no. 8
17	Security Principles(local)	Introduction to Linux Security, Understand the Uses of root, difference b/w su and sudo command, assigning sudo privileges to new user. Working with Passwords, permissions modification using chmod. Chown, chgrp	Extra content
18	Advance Linux commands , Regular expressions, redirections	more, less, wc, diff uniq, paste, nl, tee, head, tail, tr,I/P, O/P, Error,>, >>.	Extra content
19	Some more Advance Linux commands with regular expressions	Pattern Matching (grep), egrep, fgrep, sed (-n, -e, -f, context addressing, writing selected lines to a file, deleting lines, substitution).	S no. 7 and extra commands
20	Background processes	nice,nohup,pstree,ps, kill, killall (with all their options),	S no.10 and extra commands
21	Introduction to Process scheduling, Running Process in background and Process Priority	at, cron,No logging out, no hup,nice,renice	Extra content
22	Starting with Linux Shell programming	when to use shell script, interpretive shell script, Shell variables,shall keywords, Types of Shell, The first shell script,user defined variables,	S no. 12 and extra commands
23		passing command line arguments, setting values of positional parameters, Changing one shell to other, Shell builtins. Basic shell commands: alias, Introduction to bg, chsh echo,	S no. 12 and extra commands

24	Taking Decisions:	The if-then-fi statement,The if-then-else-fi statement,The test command,Nested if-elses,Forms of if	S no. 12 and extra commands
25	Use of Logical operators and case control	Using Logical operators in shell scripts, hierarchy of Logical operators, The case control structure	S no. 12 and extra commands
26	Loop Control Structure	The while loop,Reading from a file, The until loop and some basic programs using these loops	S no. 12 and extra commands
27		The for loop,use for with command line arguments,Generating values for a for loop,nesting of loops,The break and continue statement	Extra content
28	Basic Shell Programs	Write script to print your full name, Linux shell script program to create and print the value of variables,Linux shell script program to add two numbers,Linux shell script program to swap two numbers	Extra content
29	Advance Shell Programs	Linux shell script program to read two integer numbers and print the subtraction of both variables, Linux shell script program to multiply two numbers, Linux shell script program to print program name using command line argument , Linux shell script program to add two numbers using command line arguments	Extra content
30	Advanced Bash Shell Scripting	String Manipulation, Boolean Expressions, File Tests, Case Structure, Debugging. Write script to print given numbers sum of all digits, For eg. If no is 123 it's sum of all digit will be $1+2+3 = 6$	Extra content
		Per lecture Duration	3hr
		Total Lectures	30
		Total Duration	90 hrs