UNIX Operating System

Unit	Course Topics	Hours
1	**Introduction to UNIX:** History, features, UNIX architecture, kernel, shell, file system structure, login & logout process	4L
2	**UNIX File System & Commands:** File types, directory structure, absolute & relative paths, basic commands (ls, cp, mv, rm, cat, pwd, mkdir, rmdir), permissions (chmod, chown, chgrp)	6L
3	**File Management & Filters:** Redirection, pipes, filters (pr, head, tail, cut, paste, sort, uniq, tr, grep, egrep), compression & archiving (tar, gzip)	6L
4	**Vi Editor & Shell Environment:** Vi modes, commands, editing, shell types, environment variables, shell features, quoting mechanisms	6L
5	**Shell Programming:** Shell script structure, variables, operators, conditional statements, loops, functions, command line arguments, pattern matching	5L
6	**Process Management:** Process states, ps, top, kill, nice, bg, fg, job control, scheduling, system calls	4L
7	**System Administration:** User management, disk quotas, software installation, backup & restore, startup/shutdown scripts, network configuration basics	4L