

STATE INSTITUTE OF ENGINEERING & TECHNOLOGY, NILOKHERI
DEPARTMENT OF COMPUTER ENGINEERING
LESSON PLAN

Subject Name:-UNIX and Linux Programming

Subject Code: PE-CS-S314A

Year:-3rd

Semester:-6th

Subject Teachers: Ms. Seema Ranga & Mr. Ashish Kharb

Lecture No	Unit No	Topic	COs Covered
L 1	Unit-I	Introduction to Unix and Linux Programming	CO1
L 2		History of Unix, Structure of Unix System	
L 3		Unix System Environment, Unix/Linux Startup	
L 4		User accounts, accessing Linux – starting and shutting processes	
L 5		Logging in and Logging out, various types of Unix Commands	
L 6		zip, unzip, compress, uncompress	
L 7		pack, unpack, various types of shells	
L 8		shell programming	
L 9		Unix file system, Mounting & Unmounting File System	
L 10		Linux/Unix files, i-nodes	
L 11		files system related commands,	
L 12		shell as command processor, shell variables	
L 13		Scripting, Unix architecture	
L 14		Handling ordinary files	
L 15		General purpose utilities	
L 16		advanced Unix Commands	
L 17		Revision	
L 18	Unit-II	Filters and File Compression: Introducing regular expression patterns	CO2
L 19		syntax, character classes, Quantifiers	
L 20		Bourne Shell Programming, shell scripting	
L 21		grep : searching pattern, egrep : searching extended regular expression	
L 22		Editors in Unix/Linux : Stream Editor, Visual Editor, Emacs Editor	
L 23		programming with AWK and PERL, File compression techniques	
L 24		delta compression, parallel compression with Xdelta utility	
L 25		data similarities elimination for data reduction	

L26		Revision	
L27	Unit-III	Program Development Tools: C language programming in Unix/Linux using vi editor & C compiler	CO3
L28		various modes of vi editor, C compiler options	
L29		C Shell operators, C Shell Script & programming	
L30		Program Development Tools	
L31		MakeFile Utility for keeping program up-to-date & its use for dependency calculations	
L32		dynamic linking and loading of libraries modules, static and shared libraries	
L33		dynamic loader, debugging tools like gdb for handling errors	
L34		Memory management and managing large projects in Unix programming environment	
L35		Revision	
L36	Unit-IV	Processes in Linux : Processes, starting and stopping processes, initialization of processes	CO4
L 37		rc and init files, job control – at, batch, cron, time, network files	
L 38		security, authentication, password administration, signals handlers	
L 39		threading, Linux I/O system	
L40		Networking tools : Ping, Telnet, FTP	
L 41		Router, Firewalls, Backup	
L 42		Restore tar, cpio, dd utility, mail command	
L 43		Unix Network Security	
L 44		Case Study : LINUX Operating System as open source free software	
L45		Revision	

Text Books:

1. SumitbhaDas : Unix – Concept and Applications, Fourth Edition TMH, 2015
2. B.M Harwani, Unix and Shell Programming, Oxford University Press, 2013
3. Neil Matthew, Richard Stones : Beginning Linux Programming, 4th. Edition, Wrox-Shroff, 2011.
4. Welsh & Kaufmann : Running Linux, O'Reiley & Associates, 2013.

Web resources:

1. <https://www.geeksforgeeks.org/linux-unix/linux-tutorial/>
2. <https://www.tutorialspoint.com/unix/index.htm>