Name of the Faculty: Ms. Jasleen Kaur
Discipline: Btech CSE
Semester: 7th
Subject: Unix & Linux Programming (CSE- 401N)
Work Load (Lecture/Practical) per week (in hours): Lectures- 04 , Practicals- 02

	Theory		Practical	
Week	**Lecture day**	**Topic (including assignment/test)**	**Practical day**	**Topic**
1st	**1st**	User accounts	**1st**	Learning of installation and upgradation of Linux operating system
	2nd	Linux - starting and shutting processes		
	3rd	Logging in and Logging out		
	4th	Unix commands like zip, unzip		
2nd	**5th**	Unix Command : pack, unpack	**2nd**	Install Linux on a PC having some other previously installed operating system. All operating systems should be usable.
	6th	Unix command : compress, uncompress		
	7th	Shell Programming		
	8th	Unix file system: Linux/Unix files		
3rd	**9th**	i-nodes and structure	**3rd**	Familiarize with Unix/Linux logging/logout and simple commands.
	10th	file system related commands		
	11th	Shell as command processor, shell variables		
	12th	creating command substitution, scripts		
4th	**13th**	functions, conditionals, loops, c	**4th**	Familiarize with vi editor
	14th	customizing environment		
	15th	Revision		
	16th	Test		
5th	**17th**	Regular Expressions and Filters: Introducing regular expressions patterns	**5th**	Using Bash shell develop simple shell programs.
	18th	Regular expressions syntax, character classes, quantifiers		
	19th	introduction to grep, egrep, sed		
	20th	programming with awk and perl		
6th	**21st**	File Compression Techniques: data redundancy elimination using fingerprint generation deduplication	**6th**	Develop advanced shell programs using grep, fgrep&egrep.
	22nd	data similarities removal using delta techniques for data reduction storage		
	23rd	parallel compression with Xdelta utility		
	24th	Revision		
7th	**25th**	Test	**7th**	Compile and debug various C programs using different options.
	26th	The C Environment: C compiler, vi editor, compiler options		
	27th	managing projects		
	28th	memory management		
8th	**29th**	use of makefile, cmake	**8th**	As supervisor create and maintain user accounts, learn package installation, taking backups, creation of scripts for file and user
	30th	dependency calculations		
	31st	memory management		

	32nd	static and dynamic memory		management, creation of startup and shutdown scripts using at, cron etc.
9th	33rd	static and dynamic libraries	9th	Unix commands Practice
	34th	dynamic loader		
	35th	debugging tools like gdb		
	36th	Content Defined Chunking Unix based open source coding		
10th	37th	fixed-size and variable-size blocks of data files	10th	Shell Programming Practice
	38th	chunks divisor chunking techniques like Frequency Based Chunking		
	39th	Revision		
	40th	Test		
11th	41st	Processes in Linux: Processes, starting and stopping processes	11th	
	42nd	initialization processes,		
	43rd	rc and init files, job control - at, batch, cron, time		
	44th	network files		
12th	45th	security	12th	
	46th	privileges, authentication,password administration		
	47th	archiving		
	48th	Signals and signal handlers		
13th	49th	Threading	13th	
	50th	Linux I/O system		
	51st	Networking tools like ping, telnet		
	52nd	ftp, route		
14th	53rd	Firewalls	14th	
	54th	Firewalls		
	55th	Backup and Restore		
	56th	tar, cpio, dd		
15th	57th	Case Study: PCOMPRESS open source free software	15th	
	58th	Revision		
	59th	Revision		
	60th	Test		