

## Government Polytechnic Sector-26,Panchkula

### Lesson Plan (Odd Semester)

Name of Faculty : Neha Midha  
 Discipline : Computer Engg.  
 Semester : III  
 Subject : Operating System  
 Lesson Plan Duration : 14 weeks  
 Work Load(Lecture/Practical)per week(In hours) :Lectures-3 Practical-3

Week	Theory		Practical(G-I and G-II)	
	Lecture Day	Topic(including assignment/Test)	Practical Day	Topic
1st	1st	<b>UNIT-1--Overview of Operating Systems</b> Definition of Operating Systems	1st	Demonstration of all the controls provided in windows control panel.
	2nd	Types of Operating Systems		
	3rd	Operating System Services, User operating system interface, System Calls, Types of System Calls		
2nd	1st	System Programs, Operating System Structure	2nd	Exercise on Basics of windows
	2nd	Virtual Machine, Benefits of Virtual Machine		
	3rd	<b>UNIT-2 Process Management (Principles and Brief Concept)</b> ---Process concept, Process State, Process Control Block		
3rd	1st	Scheduling Queues, Scheduler, Job Scheduler, Process Scheduler	3rd	Installation of Linux Operating System
	2nd	Context Switch, Operations on Processes, Interprocess Communication		
	3rd	Shared Memory Systems, Message Passing Systems		
4th	1st	CPU Scheduler, Scheduling Criteria, Scheduling Algorithms, Preemptive and Non Preemptive	4th	Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir
	2nd	First come first serve (FCFS), Shortest Job First(SJF), Round Robin (RR)		
	3rd	Multiprocessor Scheduling, Process Synchronization		
5th	1st	Revision	5th	Usage of File management commands of Linux: cat,chmod,cp,mv,rm,pg,more, find
	2nd	<b>UNIT-3 Deadlocks (Principles and Brief Concept)</b> ---Deadlock, Conditions for Deadlock, Methods for handling deadlocks		
	3rd	Deadlock Prevention ,Deadlock Avoidance		

6th	1st	Deadlock Detection ,Recovery from Deadlock	6th	Revision and File checking
	2nd	<b>UNIT-IV Memory Management Function (Principles and Brief Concept)</b> Definition – Logical and Physical address Space		
	3rd	Swapping, Memory allocation		
7th	1st	Contiguous Memory allocation, Fixed and variable partition, Internal and External fragmentation	7th	Use the general purpose commands of Linux: wc, od, lp, cal , date, who, whoami
	2nd	Compaction ,Paging – Principle of operation		
	3rd	Page allocation, Hardware support for Paging		
8th	1st	Protection and Sharing	8th	Using the simple filters: pr, head, tail, cut, paste, nl, sort
	2nd	Disadvantages of Paging		
	3rd	Segmentation and Virtual Memory		
9th	1st	Revision	9th	Revision and File checking
	2nd	<b>UNIT-V-I/O Management Functions (Principles and Brief Concept) Introduction</b>		
	3rd	Dedicated Devices, Shared Devices		
10th	1st	I/O Devices, Storage Devices	10th	Communication Commands: news, write, talk, mseg, mail, wall
	2nd	Buffering,Spooling.		
	3rd	<b>UNIT-VI-File Management (Principles and Brief Concept) Introduction</b>		
11th	1st	Types of File System; Simple file system	11th	Write a shell program that finds the factorial of a number.
	2nd	Basic file system, Logical file system		
	3rd	Physical file system, Various Methods of Allocating Disk Space		
12th	1st	<b>UNIT-VII-Linux Operating System Introduction</b>	12th	Write a shell program that finds whether a given number is prime or not.
	2nd	History of Linux and Unix, Linux Overview		
	3rd	Structure of Linux,Linux Releases,Open Linux,Linux System Requirements		

13th	1st	Linux Commands and Filters: mkdir, cd,rmdir,pwd, ls, who, whoami, date	13th	Write a shell program to find the average of three numbers.
	2nd	Commands:cat,chmod, cp, mv, rm,pg,more, pr, tail, head, cut, paste		
	3rd	Commands: nl, grep,wc, sort, kill, write, talk,mseg,wall, merge,mail, news		
14th	1st	Shell: concepts of command options, input, output,redirection,pipes	14th	Write a shell program that will convert all the text of the file from Lowercase to Uppercase.
	2nd	Redirecting and piping with standard errors		
	3rd	Shell scripts,vi editing commands		