

## Lesson Plan

**Name of the Faculty** : Ajay Singh  
**Discipline** : Comp. Engg.  
**Semester** :3<sup>rd</sup> Semester  
**Subject** :Operating System  
**Lesson Plan Duration** :15 weeks  
**Work Load (Lectures/Practicals) per week (In hours):** Lectures-03 Practical-03

Week	Theory		Practical	
	Lecture Day	Topic(including assignment/Test)	Practical Day	Topic
1st	1st	UNIT-1–OverviewofOperatingSystems <b>Definition of Operating Systems</b>	1st	<b>Demonstration of all the controls provided in windows control panel.</b>
	2nd	<b>Types of Operating Systems</b>		
	3rd	<b>Operating System Services, User operating system interface, System Calls, Types of System Calls,</b>		
2nd	4th	<b>System Programs, Operating System Structure</b>	2nd	<b>Exercise on Basics of windows</b>
	5th	<b>Virtual Machine, Benefits of Virtual Machine</b>		
	6th	<b>UNIT-2 Process Management (Principles and Brief Concept)—Process concept Process State, Process Control Block</b>		
3rd	7th	<b>Scheduling Queues, Scheduler, Job Scheduler, Process Scheduler,</b>	3rd	<b>Installation of Linux Operating System</b>
	8th	<b>Context Switch, Operations on Processes, Interprocess Communication</b>		
	9th	<b>Shared Memory Systems, Message Passing Systems, CPU Scheduler, Scheduling Criteria</b>		
4th	10th	<b>Scheduling Algorithms, Preemptive and Non Preemptive,</b>	4th	<b>Revision and File checking</b>
	11th	<b>First come first serve (FCFS),</b>		
	12th	<b>Shortest Job first(SJF), Round Robin (RR) Process Synchronization</b>		
5th	13th	<b>Revision</b>	5th	<b>Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir</b>
	14th	<b>Assignment-1</b>		
	15th	<b>Class test Sessional Test</b>		

6th	16th	UNIT-3 Deadlocks (Principles and Brief Concept)—Deadlock, Conditions for deadlock Methods for handling deadlocks Deadlock Prevention, Deadlock Avoidance Deadlock detection, Recovery from deadlock	6th	Usage of File Management commands of Linux: cat, chmod, cp, mv, rm, pg, more, find
	17th			
	18th			
7th	19th	UNIT-IV Memory Management Function (Principles and Brief Concept) Definition—Logical and Physical address Space Swapping, Memory allocation Contiguous Memory allocation, Fixed and variable partition	7th	Revision and File checking
	20th			
	21st			
8th	22nd	Internal and External fragmentation and Compaction Paging – Principle of operation Page allocation Hardware support for paging,	8th	Use the general purpose commands of Linux: wc, od, lp, cal, date, who, whoami
	23rd			
	24th			
9th	25th	Protection and sharing	9th	Using the simple filters: pr, head, tail, cut, paste, nl, sort
	26th	Disadvantages of paging		
	27th	Segmentation Virtual Memory		
10th	28th	Revision	10th	Revision and File checking
	29th	Revision		
	30th	Class test Sessional Test		
11th	31st	UNIT-V-I/O Management Functions (Principles and Brief Concept) Dedicated Devices, Shared Devices I/O Devices, Storage Devices Buffering, Spooling.	11th	Communication Commands: news, write, talk, mseg, mail, wall
	32nd			
	33rd			
12th	34th	UNIT-VI-File Management (Principles and Brief Concept) Types of File System; Simple file system Basic file system, Logical file system Physical file system, Various Methods of Allocating Disk Space	12th	Write a shell program that finds the factorial of a number.
	35th			
	36th			

13th	37th	UNIT-VII-Linux Operating System History of Linux and Unix, Linux Overview	13th	Revision and File checking
	38th			
	39th	Structure of Linux, Linux releases  Open Linux, Linux System Requirements		
14th	40th	Linux Commands and Filters: mkdir cd, rmdir, pwd, ls, who, whoami, date  cat, chmod, cp, mv, rm, pg, more, pr, tail head, cut, paste, nl, grep, wc, sort kill, write, talk, mseg, wall, merge, mail, news	14th	Write a shell program that finds whether a given number is prime or not.
	41st			
	42nd			
15th	43rd	Shell: concepts of command options input, output, redirection, pipes redirecting and piping with standard errors, Shell scripts, vi editing commands	15th	Revision and File checking
	44th			
	45th			