**Name of the Faculty :Sh. Virender (Prog.)**

**Department :** Computer Engineering

**Semester :** 3rd

**Subject :** Operating System

**Lesson Plan Duration :** 15 weeks

\*\*Work load (Lecture / Practical) per week (in hours): Lectures-03, practical -03

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| **Week** | **Theory** | | **Practical** | |
| **Lecture day** | **Topic**  **(Including assignment / test)** | **Practical Day** | **Topic** |
| 1st | 1st | Definition of Operating Systems | 1st | Demonstration of all the controls provided in windows control panel |
| 2nd | Types of Operating Systems: Batch Systems, Multi- |
| 3rd | Types of Operating Systems: Time Sharing Systems, |
| 2nd | 1st | Operating System Services, User operating system | 2nd | Exercise on Basics of windows |
| 2nd | System Calls, Types of System Calls |
| 3rd | System Programs |
| 3rd | 1st | Operating System Structure | 3rd | Installation of Linux Operating System |
| 2nd | Virtual Machine, Benefits of Virtual Machine |
| 3rd | Revision of the unit |
| 4th | 1st | Process concept, Process State, Process Control Block, | 4th | Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir |
| 2nd | Scheduling Queues, Scheduler, Job Scheduler, Process |
| 3rd | Context Switch, Operations on Processes |
| 5th | 1st | Interposes Communication | 5th | Usage of File Management commands of Linux: cat, chmod,cp, mv, rm, pg, more, find |
| 2nd | Shared Memory Systems, Message-Passing Systems |
| 3rd | CPU Scheduler, Scheduling Criteria, Process |
| 6th | 1st | SchedulingAlgorithms,Pre-emptive and Pre-emptive | 6th | Use the general purpose commands of  Linux: wc, od, lp, cal , date, who, whoami |
| 2nd | First come first serve (FCFS), Shortest Job first |
| 3rd | Revision of the Unit II |
| 7th | 1st | Deadlock, Conditions for Dead lock Methods for handling deadlocks | 7th | Using the simple filters: pr, head, tail, cut, paste, nl, sort |
| 2nd | Dead Prevention, Deadlock Avoidance |
| 3rd | Deadlock detection ,Recovery from deadlock |
| 8th | 1st | Definition – Logical and Physical address Space | 8th | Communication Commands: news, write, talk, mseg, mail, wall |
| 2nd | Swapping, Memory allocation  partition |
| 3rd | Class Test of Topics Covered |
| 9th | 1st | Internal and External fragmentation and Compaction | 9th | Write a shell program that finds the factorial of a number |
| 2nd | Paging – Principle of operation, Page allocation |
| 3rd | Hardware support for paging, Disadvantages of paging |
| 10th | 1st | Protection and sharing | 10th | Write a shell program that finds whether a given number is prime or not |
| 2nd | Segmentation, Virtual Memory |
| 3rd | Class Test of Unit III |
| 11th | 1st | Dedicated Devices, Shared Devices, | 11th | Write a shell program to find the average of three numbers |
| 2nd | I/O Devices, Storage Devices, |
|  | 3rd | Buffering, Spooling |
| 12th | 1st | Types of File System; Simple file system | 12th | Write a shell program that will |

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|  | 2nd | Basic file system, Logical file systemPhysical file system |  | convert all the text of the file from lowercase to uppercase |
| 3rd | Various Methods of Allocating Disk Space |
| 13th | 1st | History of Linux and Unix, Linux Overview | 13th | Practice the general purpose commands of Linux |
| 2nd | Structure of Linux, Linux releases, Open Linux,L Linux Commands and Filters: mkdir, cd,rmdir, pwd, ls, who, whoami |
| 3rd | , cp, mv, rm,pg,more, pr, tail, head, cut, paste, nl |
| 14th | 1st | grep, wc, sort, kill, write, talk,mseg, wall, merge,mail, news | 14th | Practice Shell Programming |
| 2nd | Shell: concepts of command optionsinput, output,redirection,pipesredirecting |
| 3rd | and piping with standard errorsShell scripts,  vi editing commands and Revision of Shell Script and vi editor |
| 15th | 1st | Shell: concepts of command optionsinput, output,redirection,pipesredirecting, and piping with standard errorsShell scripts | 15th | Practice Vi editor Programs |
| 2nd | Revision |
| 3rd | Revision |