**Lesson Plan**

**Name of Teacher : Ms keerti kumari**

**Discipline : Computer Engineering**

**Year : 3rd semester**

**Subject : Operating system**

**Duration : 17 week ( 4 August to 26 November)**

**Work Load : 3 ( theory) & 8 (practical)**

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| Week | Lecture Day | Theory | Practical |
| Topic (including Assignments) | Practical Day | Topic |
| 1st  | 1st | **UNIT I**Overview of Operating Systems  | 1st  | 1. Demonstration of all the controls provided in windows control panel. (Group 1) |
| 2nd | Definition of Operating Systems, Types of Operating Systems,  | 2nd  | 1. Demonstration of all the controls provided in windows control panel.(Group 2) |
| 3rd | Operating System Services, Useroperating system interface,  | 3rd | Revision of practical 1. (Group 1) |
| 4th | Revision of practical 1. (Group 2) |
| 2nd  | 4th | System Calls, Types of System Calls, System Programs, Operating  | 1st  | 2.Exercise on Basics of windows.(Group 1) |
| 5th  | System Structure, Virtual Machine, Benefits of Virtual Machine | 2nd  | 2.Exercise on Basics of windows.(Group 2) |
| 6th  | **UNIT II**Process Management and Deadlocks Process concept, Process State, Process Control Block, Scheduling Queues,  | 3rd | Revision of practical 2. (Group 1) |
| 4th | Revision of practical 2. (Group 2) |
| 3rd  | 7th  |  Scheduler, Job Scheduler, Process Scheduler, Context Switch, | 1st  | 3. Installation of Linux Operating System. (Group 1) |
| 8th  | Operations on Processes, Interprocess Communication, Shared Memory Systems, Message-Passing Systems, | 2nd  | 3. Installation of Linux Operating System. (Group 2) |
| 9th  | CPU Scheduler, SchedulingCriteria, Scheduling Algorithms, Preemptive and Non Preemptive, | 3rd | Revision of practical 3. ( Group 1) |
| 4th | Revision of practical 3. ( Group 2) |
| 4th | 10th  | First come first serve (FCFS),Shortest Job first (SJF), Round Robin (RR), | 1st  | 4. Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir.( Group 1) |
| 11th  | Multiprocessor scheduling, Process Synchronization. | 2nd  | 4. Usage of directory management commands of Linux: ls, cd, pwd, mkdir, rmdir.( Group 2) |
| 12th  | Deadlock, Conditions for Deadlock, Methods for handling deadlocks | 3rd | Revision of practical 4. (Group 1) |
| 4th | Revision of practical 4. (Group 2) |
| 5th  | 13th  | Dead Prevention, DeadlockAvoidance, Deadlock detection, Recovery from deadlock | 1st  | 5. Usage of File Management commands of Linux: cat, chmod, cp, mv, rm, pg, more, find. (Group 2) |
| 14th  | Revision of above syllabus  | 2nd  | 5. Usage of File Management commands of Linux: cat, chmod, cp, mv, rm, pg, more, find. ( Group 2) |
| 15th  | UNIT IIIMemory Management Function Definition – Logical and Physical address Space, | 3rd | Revision of practical 5. (Group 1) |
| 4th | Revision of practical 5. (Group 2) |
| 6th  | 16th | Swapping, Memory allocation, Contiguous Memory allocation, | 1st  | 6. Use the general purpose commands of Linux: wc, od, lp, cal , date, who, whoami. (Group 1) |
| 17th | Revision of above syllabus  | 2nd  | 6. Use the general purpose commands of Linux: wc, od, lp, cal , date, who, whoami.(Group 2) |
| 18th | Revision of above syllabus  | 3rd | Revision of practical 6. (Group 1) |
| 4th | Revision of practical 6. (Group 2) |
| 7th | 19th | **First sessional test (tentative)** | 1st  | **First sessional test (tentative)** |
| 20th | 2nd  |
| 21th | 3rd |
| 4th |
| 8th | 22th  | Fixed and variable partition, Internal and External fragmentation and Compaction,  | 1st  | 7. Using the simple filters: pr, head, tail, cut, paste, nl, sort.( Group 1) |
| 23th | Paging – Principle of operation, Page allocation, Hardware support for paging,  | 2nd  | 7. Using the simple filters: pr, head, tail, cut, paste, nl, sort.( Group 2) |
| 24th | Protection and sharing, Disadvantages of paging, Segmentation, Virtual Memory. | 3rd | Revision of practical 7. ( Group 1) |
| 4th | Revision of practical 7. ( Group 2) |
| 9th | 25th | **Revision and Doubt Class** | 1st  | 8. Communication Commands: news, write, talk, mseg, mail, wall. ( Group 1) |
| 26th | **UNIT IV** **I/O Management Functions and File Management :**Dedicated Devices, Shared Devices, I/O Devices,  | 2nd  | 8. Communication Commands: news, write, talk, mseg, mail, wall. ( Group 2) |
| 27th | Storage Devices, Buffering, Spooling. Types of File System; | 3rd | Revision of practical 8. ( Group 1) |
| 4th | Revision of practical 8. ( Group 2) |
| 10th | 28th | Simple file system, Basic file system, Logical file system, | 1st  | 9. Write a shell program that finds the factorial of a number. ( Group 1) |
| 29th | Physical file system, Various Methods of Allocating Disk Space | 2nd  | 9. Write a shell program that finds the factorial of a number. (Group 2) |
| 30th | **Revision and Doubt Class** | 3rd | Revision of practical 9. ( Group 1) |
| 4th | Revision of practical 9. ( Group 2) |
| 11th | 31th | **Second Sessional test (Tentative)** | 1st  | **Second Sessional test (Tentative)** |
| 32th | 2nd  |
| 33th | 3rd |
| 4th |
| 12th | 34th | Revision of chapter 4; I/O Management, Buffering, Spooling  | 1st  | 10. Write a shell program that finds whether a given number is prime or not.( Group 1) |
| 35th | Simple file system, Basic file system, Logical file system, Physical file system,  | 2nd  | 10. Write a shell program that finds whether a given number is prime or not.(Group 2) |
| 36th | UNIT VLinux Operating System History of Linux and Unix, Linux Overview, Structure of Linux, | 3rd | Revision of practical 10. ( Group 1) |
| 4th | Revision of practical 10. ( Group 2) |
| 13th | 37th | Linux releases, Open Linux,Linux System Requirements | 1st  | 11. Write a shell program to find the average of three numbers( Group 1) |
| 38th | Linux Commands and Filters: mkdir, cd, rmdir, pwd, ls, who, whoami, date, cat, | 2nd  | 11. Write a shell program to find the average of three numbers( Group 2) |
| 39th | Linux Commands and Filters: chmod, cp, mv, rm, pg, more, pr, tail, head, cut, paste, | 3rd | Revision of practical 11. ( Group 1) |
| 4th | Revision of practical 11. ( Group 2) |
| 14th | 40th | Linux Commands and Filters: nl, grep, wc, sort, kill, write, talk, mseg, wall, merge, mail, news | 1st  | 12. Write a shell program that will convert all the text of the file from lowercase touppercase.( Group 1) |
| 41th | Shell: concepts of command options, input, output, redirection, pipes, | 2nd  | 12. Write a shell program that will convert all the text of the file from lowercase touppercase.( Group 2) |
| 42th | Shell: redirecting and piping with standard errors, Shell scripts, vi editing commands | 3rd | Revision of practical 12. ( Group 1) |
| 4th | Revision of practical 12. ( Group 2) |
| 15th | 43th | Revision and Doubt Class | 1st  | Revision/Viva (Group 1) |
| 44th | Revision and Doubt Class | 2nd  | Revision/Viva (Group 2) |
| 45th | Revision and Doubt Class | 3rd | Revision/Viva (Group 1) |
| 4th | Revision/Viva (Group 2) |
| 16th | 46th | **Third Sessional Test (Tentative)** | 1st  | **Third Sessional Test (Tentative)** |
| 47th | 2nd  |
| 48th | 3rd |
| 4th |
| 17th | 49th | Revision and Doubt Class | 1st  | Revision & viva( group 1) |
| 50th | Revision and Doubt Class | 2nd  | Revision & viva( group 2) |
| 51th | Revision and Doubt Class | 3rd | Revision & viva( group 1) |
| 4th | Revision & viva( group 2) |