**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, User  operating 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, Scheduling  Criteria, 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, Deadlock  Avoidance, 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 III  Memory 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 V  Linux 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 to  uppercase.( 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 to  uppercase.( 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) |