# OPERATING SYSTEM LAB

| Semester | Subject Code | Category | Lecture Hrs | | Theory Hrs | | Practical | | Credits |
|---|---|---|---|---|---|---|---|---|---|
| | | | Per week | Per Sem | Per week | Per Sem | Per week | Per Sem | |
| V | | SB Practical – 3 | 2 | 30 | 0 | 0 | 2 | 30 | 2 |

**COURSE OBJECTIVES**

This Course helps the student should be able to: Identify and use **UNIX** utilities to create and manage simple file processing operations, organize directory structures with appropriate security, and develop shell scripts to perform more complex tasks.

**COURSE OUTCOME**

On successful completion of the course, students will be able to

| CO Number | CO Statement | Knowledge Level (K1-K4) |
|---|---|---|
| **CO1** | Learning the fundamental concepts of Unix Operating System. | **K1** |
| **CO2** | To familiarize the student with the concept Bourne Shell | **K2** |
| **CO3** | Analyze the technique of Control Stucture. | **K3** |
| **CO4** | Understand and learn the importance of Shell Scirpt File | **K2** |
| **CO5** | To learn the concept of Unix Command and how to apply it. | **K3** |

*Knowledge Level – K1-Remember, K2- Understand, K3-Apply, K4-Analyze*

**MAPPING WITH PROGRAMME OUTCOME**

| COS | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---|---|---|---|---|---|---|
| **CO1** | M | M | S | M | S | S |
| **CO2** | L | S | M | M | S | M |

| | | | | | | |
|---|---|---|---|---|---|---|
| **CO3** | S | M | S | M | S | S |
| **CO4** | S | S | M | S | M | M |
| **CO5** | M | S | S | M | M | M |

***S-Strong, M-Medium and L-Low***

**SYLLABUS**

**UNIT I – UNIX OVERVIEW**

**6 Hrs**

UNIX Overview – The Kernal – Running a command – Files and Directories – Special Files; Problem – solving Approaches in Unix – Using single and compound Unix command – Shell scripts – C programs for solving problems.

**UNIT II – BOURNE SHELL 6 Hrs**

Working with the Bourne Shell – Filename Expansion – Shell Meta characters - Shell Variables – Shell Scripts More Shell Facilities and Shell Meta characters.

**UNIT III - SHELL CONTROL STRUCTURE**

**6 Hrs**

Shell Scripts – The for Loop – Choice – Making : The Case statement – Conditional Looping : While and until – The if Statement – The test command – Error Checking – trap command

**UNIT IV – SHELL SCRIPT FILES 6 Hrs**

Shell Script Examples – Adding Arithmetic to a Shell : expr – A countdown loop – Printing a Collection of Files – Shell scripts with Multiple options – Passing Arguments to Scripts – Spell Command.

**UNIT V – UNIX COMMANDS**

**6 Hrs**

UNIX Commands like – ls – cat – vi editor – chmod – mv – cp – rm – grep – mkdir – rmdir – chdir with various options

## PRACTICAL PROGRAM

1. Write script to find Prime Test.
2. Write script to find Palindrome Test.
3. Write script to find Fibonacci Series Generation.
4. Write script to find Armstrong No Test.
5. Write script to use User-friendly change of modes (chmod).
6. Write script to see current date, time, username and current directory.
7. Write script to print Nos. as 5,4,3,2,1.
8. Write shell script using for loop to print the following

```
1
1  2
2  3  3
3  4  4  4
4  5  5  5  5
```

9. Script to find out biggest no.
10. Write script to print given nos. Sum of all digits.

**Distribution of Marks: Program Output with Viva voce: 85% and**

**Record: 15%**

### TEXT BOOKS

| S.No | Author | Title | Publisher | Year of Publication |
|---|---|---|---|---|
| 1 | Yashavant Kanetkar | Unix Shell Programming | BPB Publication | 2005 |

### REFERENCE BOOKS

| S.No | Author | Title | Publisher | Year of Publication |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | Rachel Klee, Douglas A. Host, Richard R. Rosinski, Kenneth H. Rosen | UNIX: The Complete Reference, Second Edition | McGraw-Hill | 1999 |
| 2 | *Bach Maurice* J | The Design of Unix Operating System | AT&T Bell Labs | 1986 |
| 3 | Stephen G.Kochan, Wood,Patrick | Unix Shell Programming | Sam Publications | 2003 |
| 4 | Liwei Guo, Yong Yue, and Yukun Liu | UNIX Operating System: The Development Tutorial Via UNIX Kernel Services | Springer | 2011 |
| 5 | Uresh Vahalia | UNIX Internals: The New Frontiers | Dorling Kindersley Pvt. Ltd. | 2008 |
| 6 | Dave Taylor | Sams Teach Yourself UNIX in 24 Hours | Sams Tech | 1997 |
| 7 | *Sam Key*, Millian Quinteros | Unix Operating System Success In A Day | BHP publication | 2015 |
| 8 | Book by Marc Rochkind | Advanced UNIX Programming | Addison-Wesley Professional | 2004 |

**SYLLABUS DESIGNER**

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