

Course:Major
Computer Science Practical-Advanced Operating System

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| Semester II | Credits:2 | Subject Code: SMAJCCSP223554 | Lectures: 60 |
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Course Outcome:

At the end of this course, the learner will be able to:

- CO1- Learn Advanced Operating Systems Concepts using Unix/Linux and Windows as representative examples.
- CO2- Use File and Directory I/O using operating system concepts.
- CO3-Apply the concepts underlying in the design and implementation of Operating Systems.
- CO4 -Demonstrate the concept of Virtualization in operating systems.

Unit 1:I/O and Process/Memory Management

30

- Linux commands Basics 1
- Linux commands Basics 2
- File and Directory 1
- File and Directory 2
- Memory Management
- Signal Handling

Unit 2:Signal Handling and Introduction to Virtualization

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- Process Management 1
- Process Management 2
- Process Management 3
- Virtualization – For Demonstration
- Zoning – For Demonstration
- Containerization – For Demonstration

References books

- A Robbins, *Linux Programming by Example: The Fundamentals*”, 2nd Edition, 2008, ISBN 9788131704196, Pearson Education.
- Mark E. Russinovich and David A. Solomon, *Windows Internals*, Microsoft Press.
- Maurice J. Bach, *The Design of the UNIX Operating System*, PHI.
- Richard Steves, *Advanced Programming in the UNIX Environment*, Addison-Wesley.
- Robert Love, *Linux System Programming*, O'Reilly.

| Board of Studies | Name | Signature |
|-------------------|-----------------------|----------------------|
| Chairperson (HoD) | Mrs. Ashwini Kulkarni | <i>AK</i> 15/7/23 |
| Faculty | Mrs. Swati Pulate | <i>S</i> 15/7/23 |
| Faculty | Mrs. Smita Borkar | <i>S</i> 15/7/23 |

| Board of Studies | Department | Name | Signature |
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| Chairperson (HoD) | Computer Science | Ms Ashwini Kulkarni | <i>AK</i> 15/7/23 |



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|----------------------------------|-----------------------|--------------------------|----------------------------|
| Faculty | Mrs. Shubhangi Jagtap | | <i>Shubhang</i> 15/7/23 |
| Faculty | Mrs. Alka Kalhapure | <i>Alka</i> 15/7/23 | <i>Alka</i> 15/7/23 |
| Faculty | Mrs. Anjali Kale | | <i>Anjali</i> 15/7/23 |
| Subject Expert (Outside SPPU) | Dr. Aniket Nagane | <i>Aniket</i> 15/7/23 | |
| Subject Expert (Outside SPPU) | Dr. Manisha Divate | | <i>Manisha</i> 15/7/23 |
| VC Nominee (SPPU) | Dr. Reena Bharathi | <i>Reena</i> 15/7/23 | |
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| Alumni | Ms. Pooja Pandey | <i>Pooja</i> 15-7-23 | |



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