

# Operating Systems COM301T

## Faculty - B Sivaselvan

### Schedule

- Monday 2.00 - 2.50 pm
- Tuesday 12.00 - 12.50 pm
- Thursday 11.00 - 11.50 pm

### TAs

- Santosh Kumar - coe18d005
- Mercy Faustina - coe19d006

| Lecture                    | Topic                                   | PDF                    | Video                      |
|----------------------------|---|------------------------|----------------------------|
| Session-1<br>(03/08/2020)  | Intro session                           | <a href="#">Slides</a> | <a href="#">Lecture 1</a>  |
| Session-2<br>(04/08/2020)  | Operating system overview-1             | <a href="#">Slides</a> | <a href="#">Lecture 2</a>  |
| Session-3<br>(06/08/2020)  | Operating system overview-2             | <a href="#">Slides</a> | <a href="#">Lecture 3</a>  |
| Session-4<br>(10/08/2020)  | Operating system overview-3             | <a href="#">Slides</a> | <a href="#">Lecture 4</a>  |
| Session-5<br>(11/08/2020)  | OS features , Process concept 1         | <a href="#">Slides</a> | <a href="#">Lecture 5</a>  |
| Session-6<br>(13/08/2020)  | Process concept 2                       | <a href="#">Slides</a> | <a href="#">Lecture 6</a>  |
| Session-7<br>(17/08/2020)  | Process concept 3                       | <a href="#">Slides</a> | <a href="#">Lecture 7</a>  |
| Session-8<br>(18/08/2020)  | Linux system calls , Fork intro         | <a href="#">Slides</a> | <a href="#">Lecture 8</a>  |
| Session-9<br>(20/08/2020)  | Process state transition                | <a href="#">Slides</a> | <a href="#">Lecture 9</a>  |
| Session-10<br>(24/08/2020) | Process state transition contd , Fork 1 | <a href="#">Slides</a> | <a href="#">Lecture 10</a> |
| Session-11<br>(25/08/2020) | Fork 2                                  | <a href="#">Slides</a> | <a href="#">Lecture 11</a> |

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|----------------------------|---|------------------------|----------------------------|
| Session-12<br>(27/08/2020) | Fork 3                                    | <a href="#">Slides</a> | <a href="#">Lecture 12</a> |
| Session-13<br>(31/08/2020) | Fork 4 , Exec 1 , Wait                    | <a href="#">Slides</a> | <a href="#">Lecture 13</a> |
| Session-14<br>(01/09/2020) | Wait                                      | <a href="#">Slides</a> | <a href="#">Lecture 14</a> |
| Session-15<br>(03/09/2020) | Exec variants                             | <a href="#">Slides</a> | <a href="#">Lecture 15</a> |
| Session-16<br>(07/09/2020) | Exec variants , Fork output questions     | <a href="#">Slides</a> | <a href="#">Lecture 16</a> |
| Session-17<br>(08/09/2020) | CPU scheduling algo                       | <a href="#">Slides</a> | <a href="#">Lecture 17</a> |
| Session-18<br>(10/09/2020) | CPU scheduling algo , FCFS trace          | <a href="#">Slides</a> | <a href="#">Lecture 18</a> |
| Session-19<br>(14/09/2020) | FCFS , SJF                                | <a href="#">Slides</a> | <a href="#">Lecture 19</a> |
| Session-20<br>(15/09/2020) | SRT (SJF PE) , Priority NPE               | <a href="#">Slides</a> | <a href="#">Lecture 20</a> |
| Session-21<br>(17/09/2020) | Priority PE , Round Robin                 | <a href="#">Slides</a> | <a href="#">Lecture 21</a> |
| Session-22<br>(21/09/2020) | HRRN , Numericals on RR , IO              | <a href="#">Slides</a> | <a href="#">Lecture 22</a> |
| Session-23<br>(22/09/2020) | IO , Multiprocessor example , IPC 1       | <a href="#">Slides</a> | <a href="#">Lecture 23</a> |
| Session-24<br>(24/09/2020) | IPC 2                                     | <a href="#">Slides</a> | <a href="#">Lecture 24</a> |
| Session-25<br>(28/09/2020) | IPC 3 ,Pipes 1                            | <a href="#">Slides</a> | <a href="#">Lecture 25</a> |
| Session-26<br>(29/09/2020) | Pipes 2 , Pipes exercises                 | <a href="#">Slides</a> | <a href="#">Lecture 26</a> |
| Session-27<br>(01/10/2020) | dup and Pipes example LS                  | <a href="#">Slides</a> | <a href="#">Lecture 27</a> |
| Session-28<br>(12/10/2020) | Multithreading intro                      | <a href="#">Slides</a> | <a href="#">Lecture 28</a> |
| Session-29<br>(13/10/2020) | Multithreading benefits challenges models | <a href="#">Slides</a> | <a href="#">Lecture 29</a> |

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|----------------------------|--|------------------------|----------------------------|
| Session-30<br>(14/10/2020) | Pthreads example   | <a href="#">Slides</a> | <a href="#">Lecture 30</a> |
| Session-31<br>(19/10/2020) | Matrix mult  | <a href="#">Slides</a> | <a href="#">Lecture 31</a> |
| Session-32<br>(20/10/2020) | Matrix mult and Amdahl's law   | <a href="#">Slides</a> | <a href="#">Lecture 32</a> |
| Session-33<br>(22/10/2020) | Amdahl's law, Thread pool  | <a href="#">Slides</a> | <a href="#">Lecture 33</a> |
| Session-34<br>(26/10/2020) | Thread level scheduling,Signal handling                                  | <a href="#">Slides</a> | <a href="#">Lecture 34</a> |
| Session-35<br>(27/10/2020) | Signal handling  | <a href="#">Slides</a> | <a href="#">Lecture 35</a> |
| Session-36<br>(29/10/2020) | Sending signals and addnl features                                       | <a href="#">Slides</a> | <a href="#">Lecture 36</a> |
| Session-37<br>(02/11/2020) | Synchronization  | <a href="#">Slides</a> | <a href="#">Lecture 37</a> |
| Session-38<br>(03/11/2020) | Critical Section problem, Peterson's solution                            | <a href="#">Slides</a> | <a href="#">Lecture 38</a> |
| Session-39<br>(05/11/2020) | Lock instruction, Bounded-waiting mutual exclusion                       | <a href="#">Slides</a> | <a href="#">Lecture 39</a> |
| Session-40<br>(09/11/2020) | Mutex locks for CSP,Semaphore limitations,Deadlock & Starvation problems | <a href="#">Slides</a> | <a href="#">Lecture 40</a> |
| Session-41<br>(10/11/2020) | Dining philosopher problem   | <a href="#">Slides</a> | <a href="#">Lecture 41</a> |
| Session-42<br>(12/11/2020) | Dining philosopher,Reader Writer problem                                 | <a href="#">Slides</a> | <a href="#">Lecture 42</a> |
| Session-43<br>(16/11/2020) | Reader writer,prod cons,Deadlocks  | <a href="#">Slides</a> | <a href="#">Lecture 43</a> |
| Session-44<br>(17/11/2020) | handling deadlocks,prevention,avoidance-Bankers algo                     | <a href="#">Slides</a> | <a href="#">Lecture 44</a> |
| Session-45<br>(18/11/2020) | Deadlock detection,Recovery from deadlock                                | <a href="#">Slides</a> | <a href="#">Lecture 45</a> |

## Resources

- Add links to materials you found useful while preparing
- [Refer](#) for full notes

- [Nice intro to Semaphores](#)
- [For semaphore based problems](#) Ch-4 and 5
- For banker's algorithm - [vid\\_1](#) [vid\\_2](#)