**Birla Institute of Technology and Science, Pilani**

**Instruction Division**

**Second Semester 2016-17**

**Course Handouts ( Part II)**

Date:12.01.17

In addition to part I ( General Handout for all courses appended to the time table ) this portion gives further specific details regarding the course.

**Course No. : /CS F372**

**Course Title : Operating Systems**

**Instructor-in-charge : J. P. Misra**

**G S Sesha Chalapathi**

**1. Scope and objective of the course:**

a. To provide understanding of the functions of operating systems

b. To provide insight into functional modules of operating systems

c. To study the concepts underlying the design and implementation of OS

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1. **Text Books:**

1. Silverschatz, A and Galvin, P.B. “ Operating System Concepts” 7th/8th edition, Addison Wesley, 2005

**Reference Books**

1. Stallings W, “operating Systems “, 4th edition, PHI, 2001
2. **Course plan**

|  |  |  |
| --- | --- | --- |
| **Lecture**  **Number** | **Topic(s)** | **Section(s) of the**  **Text Book** |
| 1. | Introduction to OS | 1.1 to 1.3 |
| 2-3 | OS architecture and its components | 1.4 to 1.9 |
| 4 | Special purpose systems | 1.10 to 1.12 |
| 5-6 | System structures | Ch 2 |
| 7-9 | Process Concept, scheduling, operations on processes, IPC | Ch 3 |
| 10-14 | Process scheduling algorithms | Ch 5 |
| 15-16 | Process Synchronization, Critical section problem | 6.1 to 6.3 |
| 17-19 | Semaphores, Monitors, Synchronization Hardware | 6.4 to 6.9 |
| 20-21 | Deadlock concept, Characterization | 7.1 to 7.3 |
| 22-24 | Deadlock detection, Prevention, Avoidance | 7.4 to 7.6 |
| 25 | Recovery from deadlocks | 7.7 |
| 26-27 | Memory management, Allocation | 8.1 to 8.3 |
| 28-30 | Concept of segmentation & H/W support in Intel Processors | 8.6 (Class Notes) |
| 31-33 | Concept of Paging & H/W support in Intel Processors | 8.4 to 8.5 |
| 34 | Virtual Memory management | 9.1 to 9.3 |
| 35-36 | Page replacement algorithms | 9.4 |
| 37 | Frame allocation and Thrashing | 9.5 to 9.6 |
| 38-39 | Secondary storage structure& Management | Ch 12 |
| 40-42 | File systems | Ch 10 |

**4. Evaluation Scheme:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Components** | **Duration** | **Weightage** | **Date & Time** | **Venue** | **Remarks** |
| Mid Sem test | 50 mts | 35% |  |  | Close Book |
| Assignment/take home/online \* |  | 20% |  |  | Open Book |
| Compre. | 3 Hrs | 45% | 11/05/2017 FN |  | Close Book |

\* To be announced in the class.

**5. Make-Up:** May be given on prior permission and to only genuine cases.

**6. Chamber Consultation Hour:** Tuesday 4 to 5PM

**7. Notice:** Notices concerning this course will be displayed on IPC Notice Board only.

**Instructor-in -charge**

**CS C372**