

Birla Institute of Technology and Science, Pilani
Instruction Division
Second Semester 2015-16
Course Handouts (Part II)

Date: 15.01.16

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 : S. Mohan

Sai SessaChalpathi

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

2. Text Books:

1. Silberschatz, A and Galvin, P.B. "Operating System Concepts" 8th/9th edition, Addison Wesley, 2005

Reference Books

1. Stallings W, "operating Systems ", 4th edition, PHI, 2001

3. 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 |

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| 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 | 90 mts | 35% | 17/3 9:00 - 10:30 AM | TBA | Close Book |
| Assignment/take home/online * | | 20% | | | Open Book |
| Comprehensive | 3 Hrs | 45% | 10/5 FN | TBA | 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: Thursday 4 to 5PM

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

**Instructor-in -charge
CS F372**