

**Birla Institute of Technology and Science, Pilani**  
**Instruction Division**  
**First Semester 2020-21**  
**Course Handouts (Part II)**

Date:17.08.2020

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**

Sudeept Mohan

Amit Dua

Vandana Agarwal

**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" 7<sup>th</sup>/8<sup>th</sup> edition, Addison Wesley, 2005

**Reference Books**

1. Stallings W, "operating Systems ", 4<sup>th</sup> 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
38-39	Secondary storage structure& Management	Ch 12
40-42	File systems	Ch 10

#### 4. Evaluation Scheme:

Components	Duration	Weightage	Date & Time	Venue	Remarks
Test 1	30 Mts	15%	19/9/2020		Close Book
Test 2	30 Mts	15%	20/10/2020		Close Book
Test 3	30 Mts	15%	19/11/2020		Close Book
Quiz/Assignment		20%	TBA		Open Book
Compre.	2 Hrs	35%	14/12/2020 (FN)		Close Book

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

**6. Chamber Consultation Hour: JPM/SM:** Wednesday 4 to 5 PM

**7. Notice:** Notices concerning this course will be displayed on Nalanda.

**Instructor-in -charge**  
**CS C372**