

LESSON PLAN

Discipline: CSE		Semester: 4th, Name of Faculty : Subrat Kumar Sahoo
Subject: Operating System(TH-1)	No. of days/ week Class allotted: 3	Effective From Date: 22.12.2025
Week	Class Day	Theory
1st	1st	UNIT 1: OVERVIEW OF OPERATING SYSTEM
	2nd	1.1 Basic concepts.
	3rd	1.2 UNIX/LINUX Architecture.
2nd	1st	1.3 Kernel, services
	2nd	1.3.1 systems calls
	3rd	1.3.2 System Programs.
3rd	1st	UNIT 2: PROCESS MANAGEMENT
	2nd	2.1 Process concept <ul style="list-style-type: none">• process control• interacting processes• inter process messages.
	3rd	2.2 Implementation issues of Processes.
4th	1st	2.3 Process scheduling, job scheduling, Multi-threaded programming
	2nd	2.4 Process synchronization, semaphore.
	3rd	2.5 Principle of concurrency
5th	1st	2.5.1 Types of scheduling.
	2nd	UNIT 3:MEMORY MANAGEMENT
	3rd	3.1 Memory allocation Techniques 3.1.1 Contiguous memory allocation 3.1.2 Non-contiguous memory allocation
6th	1st	3.2 Swapping
	2nd	3.3 Paging and Segmentation
	3rd	3.5 Virtual memory using paging
7th	1st	3.6 Demand paging, page fault handling
	2nd	UNIT 4: FILE MANAGEMENT
	3rd	4.1 Concept of a file
8th	1st	4.1.1 File access methods
	2nd	4.2 file systems, reliability
	3rd	4.3 Directory Structure
9th	1st	4.3.1 File System Mounting
	2nd	4.4 File system structure and implementation
	3rd	4.5 Directory implementation
10th	1st	4.6 Free Space management
	2nd	4.7 Efficiency and performance
	3rd	UNIT 5: I/O SYSTEM
11th	1st	5.1 Mass storage structure- overview
	2nd	5.2 Disk structure and Disk attachment

	3rd	5.3 Disk scheduling algorithms, Swap space management
12th	1st	RAID types—RAID 0, RAID 1, RAID 2
	2nd	RAID types—RAID 3, RAID 4, RAID 5
	3rd	UNIT 6: DEAD LOCKS
13th	1st	6.1 Concept of deadlock. 6.2 System Model
	2nd	6.3 Dead Lock Detection 6.4 Resources allocation Graph
	3rd	6.5 Methods of Deadlock handling
14th	1st	6.6 Recovery & Prevention
	2nd	6.6.1 Explain Bankers Algorithm & Safety Algorithm
	3rd	UNIT 7: OS SECURITY
15th	1st	7.1. Different ways to secure OS.
	2nd	7.2 Authentication 7.3 Access Control 7.4 Access Rights
	3rd	7.5 System Logs

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22/12/25

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