

LESSON PLAN

Discipline: CSE Semester: 4 th , 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
1 st	1 st	UNIT 1: OVERVIEW OF OPERATING SYSTEM
	2 nd	1.1 Basic concepts.
	3 rd	1.2 UNIX/LINUX Architecture.
2 nd	1 st	1.3 Kernel, services
	2 nd	1.3.1 systems calls
	3 rd	1.3.2 System Programs.
3 rd	1 st	UNIT 2: PROCESS MANAGEMENT
	2 nd	2.1 Process concept <ul style="list-style-type: none"> • process control • interacting processes • inter process messages.
	3 rd	2.2 Implementation issues of Processes.
4 th	1 st	2.3 Process scheduling, job scheduling, Multi-threaded programming
	2 nd	2.4 Process synchronization, semaphore.
	3 rd	2.5 Principle of concurrency
5 th	1 st	2.5.1 Types of scheduling.
	2 nd	UNIT 3: MEMORY MANAGEMENT
	3 rd	3.1 Memory allocation Techniques 3.1.1 Contiguous memory allocation 3.1.2 Non-contiguous memory allocation
6 th	1 st	3.2 Swapping
	2 nd	3.3 Paging and Segmentation
	3 rd	3.5 Virtual memory using paging
7 th	1 st	3.6 Demand paging, page fault handling
	2 nd	UNIT 4: FILE MANAGEMENT
8 th	3 rd	4.1 Concept of a file
	1 st	4.1.1 File access methods
	2 nd	4.2 file systems, reliability
9 th	3 rd	4.3 Directory Structure
	1 st	4.3.1 File System Mounting
	2 nd	4.4 File system structure and implementation
10 th	3 rd	4.5 Directory implementation
	1 st	4.6 Free Space management
	2 nd	4.7 Efficiency and performance
11 th	3 rd	UNIT 5: I/O SYSTEM
	1 st	5.1 Mass storage structure- overview
	2 nd	5.2 Disk structure and Disk attachment

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

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