UPES

SESSION PLAN

UNIT-I

Introduction to Operating system

Session Plan				Actual Delivery			
Lect.	Date	Topics to be Covered	CO Mapped	Lect.	Date	Topics Covered	CO Achieved
1		Fundamental concepts –operating system and function	CO1				
2		Its need and operating system services, Modes of operating system	CO1				
3		Operating system classification, Distributed system and real time system(overview)	CO1				
4		System Calls, API and parameter passing mechanism, Interrupts	CO1				

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UNIT-II

Process Management and CPU Scheduling

Session Plan				Actual Delivery			
Lect.	Date	Topics to be Covered	CO Mapped	Lect.	Date	Topics Covered	CO Achieved
5		Introduction to process concept	CO2				
6		Process state diagram, PCB, context switching	CO2				
7		Preemptive v/s Non Preemptive cases, Types of Scheduler	CO2				
8		CPU scheduling	CO2				
9		CPU Scheduling Algorithms FCFS, SJF	CO2				
10		Multilevel feedback Queue, Multilevel queue and Threads.	CO2				
11		Priority Scheduling	CO2				
12		Round Robin Scheduling	CO2				
13		Class Test-1					

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Process Synchronization and Deadlock

Session Plan				Actual Delivery			
Lect.	Date	Topics to be Covered	CO Mapped	Lect.	Date	Topics Covered	CO Achieved
14		Inter process communication: message passing and shared memory model.	CO3				
15		Mutual Exclusion, Busy waiting, two process solution	CO3				
16		Cooperating processes, Race Condition, Critical section	CO3				
17		Numerical of CPU scheduling and race condition	CO3				
18		Quiz-1					
19		Semaphores: Binary and Counting Semaphore	CO3				
21		Classical problems of process synchronization Producer Consumer	CO3				
		Reader Writer Problem, Monitors	CO3				
22		Introduction to Deadlock conditions for deadlock, deadlock Prevention	CO3				
23		Deadlock avoidance :Bankers algorithm , Safe and unsafe state	CO3				
24		Deadlock detection and recovery	CO3				
25		Security mechanism and Policy, Domain of Protection , Access Matrix	CO3				
26		Mid Term Exam	CO3				

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UNIT-IV

Memory Management

Session Plan				Actual Delivery			
Lect.	Date	Topics to be Covered	CO Mapped	Lect.	Date	Topics Covered	CO Achieved
27		Memory Management Techniques	CO4				
28		Logical versus Physical Address space, Swapping	CO4				
29		Multiprogramming with fixed and variable partitions	CO4				
30		Memory management with bit maps, linked list, buddy system-allocation of swap space	CO4				
31		Paging, page tables	CO4				
32		associative memory inverted page tables	CO4				
33		Segmentation	CO4				
34		Virtual memory and Allocation algorithm	CO4				
35		Page replacement algorithm	CO4				
36		Thrashing, techniques to avoid thrashing	CO4				

UNIT-V

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File Systems and Disk Scheduling

Session Plan				Actual Delivery			
Lect.	Date	Topics to be Covered	CO Mapped	Lect.	Date	Topics Covered	CO Achieved
38		File systems and I/O files, File concepts, access methods	CO5				
39		File system implementation	CO5				
40		File allocation techniques	CO5				
41		Directory Structure	CO5				
42		Introduction to disk structure	CO6				
43		Class Test-2					
44		Disk Scheduling algorithm: FCFS , SSTF, C scan , look scan . c- look	CO6				
45		Principles of IO, IO devices, device controller, DMA	CO6				