

Department of Information Technology

LESSON PLAN

Subject: Operating System

Subject code: PC-IT-206A

Session: 2022-23

Semester: 4th

SNo	Topic	No. of Lectures required	CO Covered	Teaching Methodology
1	Unit – I Introductory Concepts: Operating System functions and characteristics	1	CO1	Chalk & Talk
2	historical evolution of operating systems	1		PPT
3	Real time systems, Distributed systems,	1		PPT
4	Methodologies for implementation of O/S service	1		PPT
5	system calls, system programs , interrupt mechanisms	1		PPT
6	Processes: Processes model, process states	1		PPT
7	process hierarchies, implementation of processes	1		PPT
8	data structures used such as process table, PCB creation of processes	1		Chalk & Talk
9	context switching, exit of processes	1		PPT
10	Process scheduling: objective, preemptive Vs non- preemptive scheduling	1		PPT
11	comparative assessment of different algorithms such as round robin, priority bases scheduling, FCFS, SJF	2		PPT
12	multiple queues with feedback	1		PPT
13	UNIT 2: Interprocess communication	1	CO2	PPT
14	Race conditions, critical sections, problems of mutual exclusion	1		Chalk & Talk
15	Peterson’s solution, producer-consumer problem	1		Video
16	semaphores	1		PPT
17	counters, monitors	1		PPT
18	message passing	1		PPT
19	Deadlocks:conditions	1		Video
20	modeling, detection, recovery	1	PPT	
21	avoidance, deadlock prevention	1	PPT	
22	Unit – 3 Memory Management: Multiprogramming with fixed partition	1	CO3	PPT
23	variable partitions, virtual partitions	1		PPT
24	virtual memory, paging	1		PPT
25	demand paging design	1		PPT

26	implementation issues in paging such as page tables ,inverted page tables	1		PPT
27	page replacement algorithms	1		PPT/ Video
28	page fault handling	1		PPT
29	working set model, local vs global allocation	1		PPT
30	page size, segmentation and paging	1		PPT
31	Unit – 4: File Systems: File type, attributes	1		PPT
32	access and security, file operations	1		Case Study
33	directory structures, path names, directory operations	1		PPT
34	implementation of file systems, implementation of file and file operations calls	1		PPT
35	implementation of directories, sharing of files, disk space management	1		PPT
36	block allocation, free space management	1	CO4	Chalk & Talk
37	logical file system, physical file system	1		PPT
38	Distributed Systems: Introduction to II/W and S/W concepts in distributed systems	1		PPT
39	Network operating systems and NFS	1		PPT
40	NFS architecture and protocol, client- server model	1		PPT/ Video
41	distributed file systems	1		Chalk & Talk
42	RPC- Basic operations, parameter passing	1		PPT
43	RPC semantics	1		PPT