CSE 3222 Operating System Sessional

Degree Program: Bachelor of Science in Computer Science and Engineering **Course Code:** CSE 3222 **Course Tittle:** Operating System Sessional		
Credit: 0.75 (Sessional)	**Terms Offered:** 3rd year 2nd semester	
Exam Hours: NA	**CIE Marks: 100**%	**SEE Marks:** 00%

Course Objectives/Summary: The aim of this course is to have students understand and appreciate the principles in the design and implementation of operating systems such as context-switch, unix command, scheduling algorithms representing fairness, infinite wait, optimal scheduling.

Course Learning Outcomes (CLOs): at the end of the Course, the student will be able to -

CLO1	**Learn** basic OS concepts and to be familiar with the design principles of Operating System
CLO2	**Develop** skills in system programming, process management, memory management, and synchronization.
CLO3	**Familiar** students with Linux system commands, scripting, and kernel-level operations.

Mapping of Course Learning Outcomes (CLOs) to Program Learning Outcomes (PLOs)-

Course Learning Outcomes (CLOs)	**Program Learning Outcomes (PLOs)**											
	01	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**
01	✓											
02		✓										
03	✓								✓			

SN	COURSE CONTENT	Lab Tasks/Experiments	Hrs.	CLOs
1.	Deadlock Detection & Avoidance	Banker's algorithm implementation	**03**	**CLO2**
2.	CPU Scheduling Algorithms	Implementing FCFS, SJF, Round Robin, Priority scheduling in C/C++	**03**	**CLO2**
3.	. Memory Management Techniques	Simulation of page replacement algorithms (LRU, FIFO, Optimal)	**03**	**CLO1**
4.	Common Disk Scheduling Algorithms	Implementing FCFS, SSTF, SCAN, C-SCAN, LOOK in C/C++	**03**	**CLO1**
5.	Introduction to Unix/Linux Environment	Basic Linux commands, file systems, process monitoring	**03**	**CLO3**
	Shell Programming	Writing basic shell scripts (loops, conditionals, functions)		

Teaching Learning Strategies: Classroom lecture (white board and power point presentation), reading, solving practical problems, showing video presentation and feedback.

Textbooks

1. *Operating System Concepts*, Avi Silberschatz, Peter Baer Galvin, and Greg Gagne.

Reference Books

1. *Modern Operating Systems*, Andrew Tanenbaum, and Herbert Bos.

Assessment Pattern

CIE- Continuous Internal Evaluation (Marks: 100)

Bloom's Category	**Assignment (Class and Home) / Report (50** Marks**) (%)**	**Quiz (40 Marks)**	**In class Participation (**10 Marks**) (%)**
Remember	10	10	50
Understand	10	10	50
Apply	20	20	
Analyze	20	30	
Evaluate	30	20	
Create	10	10	

Marks Distributions:

Lab Attendance & Participation 10

Report 10 (Hand written, Can use both page) **(Title, objectives, Theory, Source Code (SS), screenshots of output, Conclusion)**

Continuous Assessment 20

Board Viva 10

Assignment 10

Quiz 20

Lab Final 20

Total 100