

SUBJECT: UNDERGRADUATE COURSE
CURRICULUM 2024-25

PART-A: Introduction			
Program: Certificate Course		Class: B. Sc. Semester-V	Year: 2024
		Session: 2024-2025	
1	Course Code	CSSC-5T	
2	Course Title	Operating System	
3	Course Type	Discipline Specific Course (DSC)	
4	Pre-requisite(if,any)	As per Government norms / Institutional scheme	
5	Course Learning Outcomes (CLO)	<i>After completion of this course, the students will be able to:</i> <ul style="list-style-type: none"> ➤ To understand design issues related to process management and various related algorithms. ➤ To understand design issues related to memory management. ➤ To understand design issues related to File management. ➤ To understand design issues related to process management. ➤ To understand importance of I/O handling management 	
6	Credit Value	04(03 Theory & 01 Practical)	
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40
PART -B: Content of the Course			
Total No. of Teaching-learning - Hours- 45			
Unit	Topics (Course contents)		No. of Hours
I	Introduction: Definition, Basic functions of Operating System, Types of Operating Systems: Batch, Time Sharing, Multiprogramming, Real Time systems. Multiprocessing, Concepts of processes, Process state, Process Control Block, Process Scheduling Criteria, Scheduling Algorithms, schedulers.		12
II	Deadlock: Necessary Conditions, Deadlock Characterization, Methods for handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Bankers Algorithm, Deadlock Detection, Recovery from Deadlock, Resource Allocation Graph, Deadlock Ignorance.		11
III	Memory Management: Logical and Physical Addresses, Contiguous and Non-contiguous Memory Allocation, Fragmentation, Paging, Segmentation, Virtual Memory, Principles of operation, Demand Paging, Page fault, Page replacement algorithms.		11
IV	File Concept: Access Methods, Directory Structure, File System Structure, File System Implementation, Directory Implementation, Allocation Methods, Free-space Management, and Recovery Disk scheduling algorithms.		11
keywords	Scheduling, Deadlock, Paging, Segmentation		

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