



Course: BTech

Semester: 4

Prerequisite: Data Structures and Algorithms, Good working knowledge of C, and Fundamentals of Computer Systems.

Rationale: This course is an introduction to the theory and practice behind modern computer operating systems. Topics will include what an operating system does (and doesn't) do, system calls and interfaces, processes, concurrent programming, resource scheduling and management, virtual memory, deadlocks, and algorithms, programming, and security. We will approach the subject from both a theoretical perspective as well as a practical one

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Outcome**After Learning the Course the students shall be able to:**

1. Distinguish different styles of operating system design.
2. Understand device and I/O management functions in operating systems as part of a uniform device abstraction.
3. Have an understanding of disk organisation and file system structure
4. Give the rationale for virtual memory abstractions in operating systems.
5. Understand the main principles and techniques used to implement processes and threads as well as the different algorithms for process scheduling.
6. Understand the main mechanisms used for inter-process communication also the main problems related to concurrency and the different synchronization mechanisms available.

List of Practical

1.	Study of Basic commands of Linux.
2.	Study the basics of shell programming.
3.	Write a Shell script to print given numbers sum of all digits.
4.	Write a shell script to validate the entered date. (eg. Date format is: dd-mm-yyyy).
5.	Write a shell script to check entered string is palindrome or not.
6.	Write a Shell script to say Good morning/Afternoon/Evening as you log in to system.
7.	Write a C program to create a child process.
8.	Finding out biggest number from given three numbers supplied as command line arguments.
9.	Printing the patterns using for loop.
10.	Shell script to determine whether given file exist or not.
11.	Write a program for process creation using C. (Use of gcc compiler.
12.	Implementation of FCFS & Round Robin Algorithm.
13.	Implementation of Banker's Algorithm.