Operating System

Program: B.Tech in Computer Science
Semester: 5th Semester
Prerequisites: C Programming, Computer Organization
Credits: 3 Lecture Hours, 1 Tutorial, 0 Practical

Overall Aim

To introduce the core principles of operating systems including process scheduling, memory management, and file systems.

Course Outcomes (COs)

CO1: Describe the different types and functionalities of operating systems.
CO2: Explain the architectural structure of an operating system.
CO3: Implement and compare various process scheduling algorithms.
CO4: Analyze and resolve deadlock situations in a multi-process environment.
CO5: Analyze the effectiveness of different memory allocation strategies such as paging and segmentation.
CO6: Evaluate the performance of memory management techniques.
CO7: Explain the design and implementation of various file systems.
CO8: Design and implement synchronization solutions using semaphores and monitors.
CO9: Evaluate the efficiency and correctness of concurrent programming solutions.

Program Outcomes (POs)

PO1: Apply knowledge of mathematics, science, and engineering fundamentals to solve complex engineering problems.
PO2: Identify, formulate, and solve engineering problems using modern tools and techniques.
PO3: Design and conduct experiments, analyze and interpret data.
PO4: Design a system, component, or process to meet desired needs within realistic constraints.
PO5: Function effectively as an individual and as a member or leader in diverse teams.
PO6: Understand professional and ethical responsibilities.