

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B. B. A. Information Technology Management Program**  
**Semester – III**  
**UM03DBBI25 Methods and Practices of Operating System**  
**(w.e.f June 2019)**

**Total Credits: 3**  
**Total Marks: 100**

**THEORY: 3 Hrs per week**

**Unit - 1 Introduction of OS 25%**  
Introduction to Operating System, Functions of OS, Different types of Operating Systems: Real Time, Multi-User, Time Sharing, OS Structure – Monolithic, Layered, Virtual Machine, Client-Server

**Unit - 2 Scheduling 25%**  
CPU Scheduling: Introduction to Process, Process Control Block, Process Scheduling, FCFS Scheduling, SJF Scheduling, Priority Scheduling, Round Robin Scheduling

**Unit - 3 Memory Management 25%**  
Memory Management: Concept, Memory Management Techniques, Swapping, Virtual Memory System, Demand Paging, FIFO Page Replacement Algorithm

**Unit - 4 Process Synchronization and Deadlocks 25%**  
Introduction to Cooperating process, Process Synchronization, Critical Section Problem, Deadlock and characterization, Resource Allocation Graph

**Evaluation:** Internal: 40 Marks  
External: 60 Marks (Two – Hours Examination)

**References Books:**

1. **Andrew S. Tanenbaum**, "Operating System design & Implementation", PHI
2. **James Peterson and Abraham Silberschatz**, Operating System Concept, Addison Wesley
3. **D. M. Dhamdhere**, "Operating Systems: A Concept-based Approach", TMH Education, 2E.