SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc – Information Technology (Integrated)
Semester: III
Syllabus with Effect from: June-2013

Paper Code: PS03CIIT01	**Total Credit: 3**
Title Of Paper: Operating Systems - I	

Unit	Description in detail	Weightage (%)
I	**Introduction to Operating Systems** Concept of Operating system. Operating system operations. Types of Operating system. Operating system structure:Monolithic structure, Layered system, Virtual machine, Client-server model.	25%
II	**CPU Scheduling** Process: Concept, Process state, Process control block. Process Scheduling: concept, Scheduling queues, Schedulers, Context Switch. CPU Scheduler. Non-preemptive and Preemptive Scheduling. Dispatcher, Scheduling Criteria. Scheduling Algorithm: First Come First Serve , Shortest Job First, Priority, Round- Robin.	25%
III	**Process Synchronization & Deadlock** Concept of Co-operating Process. Introduction to Process Synchronization. Producer-Consumer Problem. Critical – Section Problem. Peterson's Solution. Semaphores. Introduction to deadlock. Deadlock characterization. Deadlock Prevention. Deadlock Avoidance. Banker's algorithm.	25%
IV	**Disk Scheduling** Overview of Mass - Storage Structure. Disk Structure. Introduction to Disk scheduling. Disk scheduling algorithm: FCFS Scheduling SSTF Scheduling SCAN Scheduling C-SCAN Scheduling. RAID Structure.	25%

Basic Text & Reference Books:-

- Operating system concepts, 8th edition by Abraham Silberschatz , Peter B. Galvin, Greg Gagne Publisher -Wiley
- Modern Operating system by Andew S. Tanenbaum