**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Session Odd Semester**

**(2018-19)**

**Class: MScIT( Ist SEM) Name of the Teacher: Sonika**

**Subject:Operating System Concepts Period :**

**Paper : Room No :**

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| **S. No** | **Date From** | | **Date Upto** | **Topics to be covered** |
| Week 1 | **(For ongoing classes)** | | | History, Structure of OS, Functions/ Operations of OS Process Management: Process scheduling, Schedulers, Context switch; Operations on process, interrupt mechanism, threads |
| July 24, 2018 | | July 28, 2018 |
| Week 2 | July 30, 2018 | August 4, 2018 | | Scheduling Algorithms: FCFS, SJFS, RRS, priority scheduling, Multilevel queue scheduling, Multilevel feedback queue scheduling. |
| Week 3 | August 6, 2018 | August 11, 2018 | | Inter process communication: Shared memory systems, Message passing systems. |
| Week 4 | August 13, 2018 | August 18, 2018 | | Concurrent Processes, Race condition |
| Week 5 | August 20, 2018 | August 25, 2018 | | Shared data; Critical section problem: Mutual exclusion |
| Week 6 | August 27, 2018 | September 1, 2018 | | Bounded waiting; Software solution: Busy form of waiting. |
| Week 7 | September 3, 2018 | September 8, 2018 | | Progress, lock and unlock primitives |
| Week 8 | September 10, 2018 | September 15, 2018 | | Dekker's algorithm, Peterson's solution |
| Week 9 | September 17, 2018 | September 22, 2018 | | Baker's Algorithm; Synchronization: Semaphores, Monitors. |
| Week 10 | September 24, 2018 | September 29, 2018 | | Reader Writer Problem, Producer Consumer Problem, Dinning Philosopher Problem. |
| Week 11 | October 1, 2018 | October 8, 2018 | | Deadlock Characterization: Necessary conditions, Resource Allocation  graph |
| **MID SEMESTER EXAMINATION (October 11, 2018 to October 17, 2018)** | | | | |
| Week 12 | October 20, 2018 | October 27, 2018 | | Deadlock prevention, Deadlock  Avoidance: Safe state, unsafe state, Resource Allocation graph Algorithm |
| Week 13 | October 29, 2018 | November 3, 2018 | | Banker's Algorithm; Deadlock  Detection & Recovery from deadlock: Wait-for-graph. |
| Week 14 | November 5, 2018 | November 10, 2018 | | Hierarchy of memory types, Cache memory: Memory Allocation:  Address binding, Address Space, Memory Protection, Contiguous and Non- Contiguous allocation, Swapping, Fragmentation; Paging: Protection, Shared pages. |
| Week 15 | November 12, 2018 | November 17, 2018 | | Techniques for structuring of page table; Segmentation: Segmentation with paging; Virtual Memory: Demand paging; Page replacement Algorithms: FIFO, Optimal, LRU, LFU, MFU, Working set, and Thrashing. |
| Week 16 | November 19, 2018 | November 22, 2018 | | File(s): Attributes, Operations, Types, Structure; Access Methods: Sequential,  Direct access, Index; Directory Structure: Single level, Two level, Tree Structured, Acyclic Graph; File System mounting; File sharing; Protection: Types of access, access control. |
| Week 17 | November 26, 2018 | December 1, 2018 | | Disk scheduling: FCFS, SSTF, SCAN,  C-SCAN, LOOK; Disk management; Swap space management; RAID. |