**Operating System Theory**

**Syllabus**:

* Basic Introduction
  + Types
  + Process Diagram
  + System call
* Process Scheduling
  + FIFO
  + SJF
  + ROUND ROBIN
  + PR…
* Process Synchronization
  + Semaphore
* Deadlock & Threads
  + Banker algorithm
* Memory Management
  + Paging
  + Virtual memory
  + Segmentation
  + Fragmentation
  + Page Replacement
* Disk Scheduling
  + SCAN
  + CSCAN
  + FSFS
* Unix commands
* File management and Security
  + Sequential algorithm
  + Random algorithm
  + Linked algorithm

**Types of Operating System:**

1. **Batch Operating System** (Operator run the similar job after dividing into batches)
2. **MultiProgramming OS** (Multiple program in the memory but only one of them in execution)
3. **MultiProcessing OS** (More than one cpu used)
4. **Multi-Tasking OS** (MultiProgramming OS with Round-Robin Scheduling algorithm)
5. **TimeSharing OS** (Each task get equal time to execute)
6. **Distributed OS** (Multiple OS connected through a centralised communication network)
7. **Network Operating System** (Server based)
8. **Realtime OS** ( Hard - Quick response to input , Soft - time-constraint is less strict)
9. **Embedded OS** (Can’t re-program , part of system)