

**ST. ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY::
CHIRALA DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING LESSON PLAN**

SUBJECT: OPERATING SYSTEMS

ACADEMIC YEAR: 2017-18

NAME: A.V.S.SUDHAKARA RAO

YEAR & SEM: III – I CSE 'A'

No. of Lectures per week : 4+1* (Tutorial)

S. No	Unit	Topics to be covered	No. of Periods Required
1	I	Computer System and Operating System Overview: Overview of computer operating systems, operating systems functions, protection and security, distributed systems, special purpose systems, operating systems structures and systems calls, operating systems generation.	10
2	II	Process Management – Process concept- process scheduling, operations, Inter process communication. Multi Thread programming models. Process scheduling criteria and algorithms, and their evaluation.	9
3	III	Concurrency: Process synchronization, the critical-section problem, Peterson's Solution, synchronization Hardware, semaphores, classic problems of synchronization, monitors, Synchronization examples	8
4	IV	Memory Management : Swapping, contiguous memory allocation, paging, structure of the page table , segmentation Virtual Memory Management: virtual memory, demand paging, page-Replacement, algorithms, Allocation of Frames, Thrashing	8
5	V	Principles of deadlock – system model, deadlock characterization, deadlock prevention, detection and avoidance, recovery form deadlock	6
6	VI	File system Interface- the concept of a file, Access Methods, Directory structure, File system mounting, file sharing, protection. File System implementation- File system structure, allocation methods, free-space management Mass-storage structure overview of Mass-storage structure, Disk structure, disk attachment, disk scheduling, swap-space management	9
Total Number of Periods Required			50

TEXT BOOKS:

1. Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne 7th Edition, John Wiley.
2. Operating Systems' – Internal and Design Principles Stallings, Sixth Edition–2005, Pearson education

REFERENCE BOOKS:

1. http://nptel.iitm.ac.in/courses/Webcourse-contents/IISc-BANG/ Operating%20Systems/New_index1.html
2. Operating systems- A Concept based Approach-D.M.Dhamdhare, 2nd Edition, TMH
3. Operating System A Design Approach-Crowley, TMH.
4. Modern Operating Systems, Andrew S Tanenbaum 3rd edition PHI.

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