

Syllabus for B.Sc-IT Course

at S.P. College

SEMESTER -- V

COURSE TITLE: OPERATING SYSTEM UNIX AND SHELL PROGRAMMING

COURSE CODE-BIT-501

UNIT-I

Introduction: Evolution of operating system, types of operating systems, different views of the operating systems, operating system concepts and structure.

UNIT-II

Processes: the process concept, programmer's views of processes, the operating system services for process management, scheduling algorithms performance evolution.

Inter-process communication, the need for inter-process synchronization: mutual exclusion and semaphore, queuing implementation of semaphore, critical region and conditional critical region, dead lock (dead lock detection, avoidance)

UNIT-III

Memory management , memory management without swapping or paging , swapping , virtual memory , page replacement algorithm , segmentation , file system , directions , file system implementation .

UNIT-IV

Introduction to Unix operating system , features of Unix , structure of Unix , types of shells , simple Unix commands (ls, cal, cat, kill, who, pwd, mkdir, chmod, mv, grep, etc), Shell programming : shell scripts, executing shell scripts , shell variables , read and echo statements , conditional branching and looping , arrays.

Books Recommended:

1. Peterson, J.L. Abharam Silberschatz, "Operating System Concepts". Addison Wesley Publishing Company
2. Dietal, H.M., "An Introduction to operating system". Addison Wesley Publishing Company
3. Brian W. Kernighan Rob Pike "The Unix Programming Environment"
4. Yashwant Kanitkar " Unix Shell Programming"

Suggested Reading:

1. Tananbum, A.S., "Modern Operating Systems", PHI
2. Milenkovic, M., "Operating system – Concepts and Design". McGraw Hill