

INTRODUCTION TO OPERATING SYSTEMS AND UNIX IV SEM

Course Code: 16CS208

Module 1

Operating System Objectives and Functions, The Evolution of Operating Systems developments Leading to Modern Operating Systems, Virtual Machines, OS Design Considerations for Multiprocessor and Multicore architectures, Microsoft Windows Overview, Modern UNIX Systems, Linux, Android. Booting Process of all the above operating systems.

Module 2

The Unix Operating System, The UNIX architecture and Command Usage, General Purpose Utilities, The File System, Basic File Attributes The Shell, The Process, Process Status, System Processes, Mechanisms of Process Creation, Process States and Zombies, Running jobs in background, Killing processes with Signals, Customising the environment, File Systems & Inodes, hard links, The directory, umask, and find.

Module 3

Simple filters, Different commands: pr, head, tail, cut, paste, sort, uniq, tr. Filters using Regular, expressions grep and sed, Essential Shell Programming: read, exit, the if conditional, case conditional, expr, while loop, for loop, set and shift, trap. awk – An Advanced Filter and using it in programming, splitting a Line in to fields, variables, expressions, Comparison operators, Number Processing, –f option, arrays, functions, if, for and while.

Module 4

Program Development tools and Essentials of Systems Administration Program **development Tools:** Handling multi source C applications, make command, Removing redundancies, cleaning up and backups, **Ar command:** Building a Library(archive), Maintaining an archive with make Essential Systems Administration: Root: The systems administrator's login, The Administrative privileges, maintaining security, User Management, Start ups and shutdown, Managing disk space, Device files, cpio: a back up program, tar : The Tape archive program

Module 5

UNIX System Administration:

TCP/IP basics, Resolving IP addresses, ping, telnet and ftp, Maintaining Security, Partitions and File Systems, Standard File systems and their types, fdisk : creating partitions, mkfs: creating a file system, Mounting and unmounting file systems, fsck: File system checking, systems start up and init. Shutdown and sync operation, backup.

