

UNIX SYSTEMS PROGRAMMING

Written by Administrator
Sunday, 08 November 2009 11:07 -

Subject Code

: 06CS62

IA Marks

: 25

No. of Lecture Hours/Week

: 04

Exam Hours

: 03

UNIX SYSTEMS PROGRAMMING

Written by Administrator
Sunday, 08 November 2009 11:07 -

Total No. of Lecture Hours

: 52

Exam Marks

: 100

PART - A

Unit - 1

Introduction: UNIX and ANSI Standards: The ANSI C Standard, The ANSI/ISO C++ Standards, Difference between ANSI C and C++, The POSIX Standards, The POSIX.1 FIPS Standard, The X/Open Standards.

UNIX and POSIX APIs: The POSIX APIs, The UNIX and POSIX Development Environment, API Common Characteristics.

6 Hours

Unit - 2

UNIX Files: File Types, The UNIX and POSIX File System, The UNIX and POSIX File Attributes, Inodes in UNIX System V, Application Program Interface to Files, UNIX Kernel Support for Files, Relationship of C Stream Pointers and File Descriptors, Directory Files, Hard and Symbolic Links.

6 Hours

UNIT - 3

UNIX File APIs: General File APIs, File and Record Locking, Directory File APIs, Device File APIs, FIFO File APIs, Symbolic Link File APIs, General File Class, regfile Class for Regular Files, dirfile Class for Directory Files, FIFO File Class, Device File Class, Symbolic Link File Class, File Listing Program.

□□□□□□□ **7 Hours**

Unit - 4

7 Hours

Unit - 6

Signals and Daemon Processes: Signals: The UNIX Kernel Support for Signals, signal, Signal Mask, sigaction, The SIGCHLD Signal and the waitpid Function, The sigsetjmp and siglongjmp Functions, Kill, Alarm, Interval Timers, POSIX.1b Timers.

Daemon Processes: Introduction, Daemon Characteristics, Coding Rules, Error Logging, Single-instance daemons; Daemon conventions; Client-Server Model.

7 Hours

Unit - 7

Interprocess Communication: Introduction; Pipes, popen, pclose Functions; Coprocesses; FIFOs; XSI IPC; Message Queues; Semaphores.

Reference Books:

1. **Advanced Unix Programming**- Marc J. Rochkind, 2nd Edition, Pearson Education, 2005.
2. **The Design of the UNIX Operating System** - Maurice.J.Bach, Pearson Education / PHI, 1987.
3. **Unix Internals** - Uresh Vahalia, Pearson Education, 2001.