

MTCE 705A
SYSTEM AND NETWORK ADMINISTRATION

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Credits: 4

Unit 1: N/W Administration

Intro. to networks, TCP/IP model, IP addressing, subnetting, NAT, VLAN. Basic concepts of proxy server, webserver, DNS, firewall, router, mail server and their respective configuration setting. Various interconnecting devices: HUB, switch, bridges, routers, gateway, repeater, router. Knowledge about various network related commands: ping, netstat, tracert, traceroute, ifconfig and etc. Steps followed in establishing a network.

Unit 2: Security

Concept of security, its need, issues, cryptography techniques: - ciphers, substitution cipher, transposition, symmetric key algorithms like AES, DES, public key algo's like RSA authentic algorithms, IPSEC, VAN, Digital signatures, IDS, firewall. Types of attacks, access control list, filtering rules

UNIT 3: Host Administration

Intro. to system administration, what are the necessary issues to be tackled in host management, installation of unix, linux, windows OS, user accounts, group accounts, passwords, shadow passwords, directory structure of various OS. Process, ps, zombie process, backup, recovery, commands like tar, zip etc., performance analysis of host machine and how to improve the system performance

Unit 4:

Knowledge of UNIX commands, administration based commands, shell scripting, AWK, perl

REFERENCES:

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|--|-----------------------------|
| 1. The unix programming environment | Brain kernighen & rob Pike: |
| 2. Design of the Unix OS | Maurich Bach |
| 3. Advanced Unix programmer's Guide | Stephen Prato |
| 4. Unix concepts AND application-featuring | Sumitabha Das |
| 5. SCO Unix and Uinux | |