

COURSE NAME : COMPUTER ENGINEERING GROUP
COURSE CODE : CO/CM/CD/IF
SEMESTER : FIFTH FOR CO/CM/IF AND SIXTH FOR CD
SUBJECT TITLE : NETWORK MANAGEMENT AND ADMINISTRATION
SUBJECT CODE : --

Teaching and Examination Scheme:

Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS.	TH	TEST	PR	OR	TW	TOTAL
02	--	04	--	--	--	--	25#	25@	50

Rationale:

It is an era of computers. In each and every field, computers are used for different applications. So, personal computer users have a need to connect their intelligent workstation to other computers for sharing peripherals such as printers with a user at another personal computer. The users may have a need to access data or execute applications software that resides on another computer. Again the user may need special processing capabilities that are only available on the other computer.

The task of connecting our stand-alone computers often requires a thorough knowledge of connectivity, hardware and software. It provides practical knowledge that will enable the students to get a connectivity job done quickly and easily so the students can get on with the applications and data sharing work they need to do.

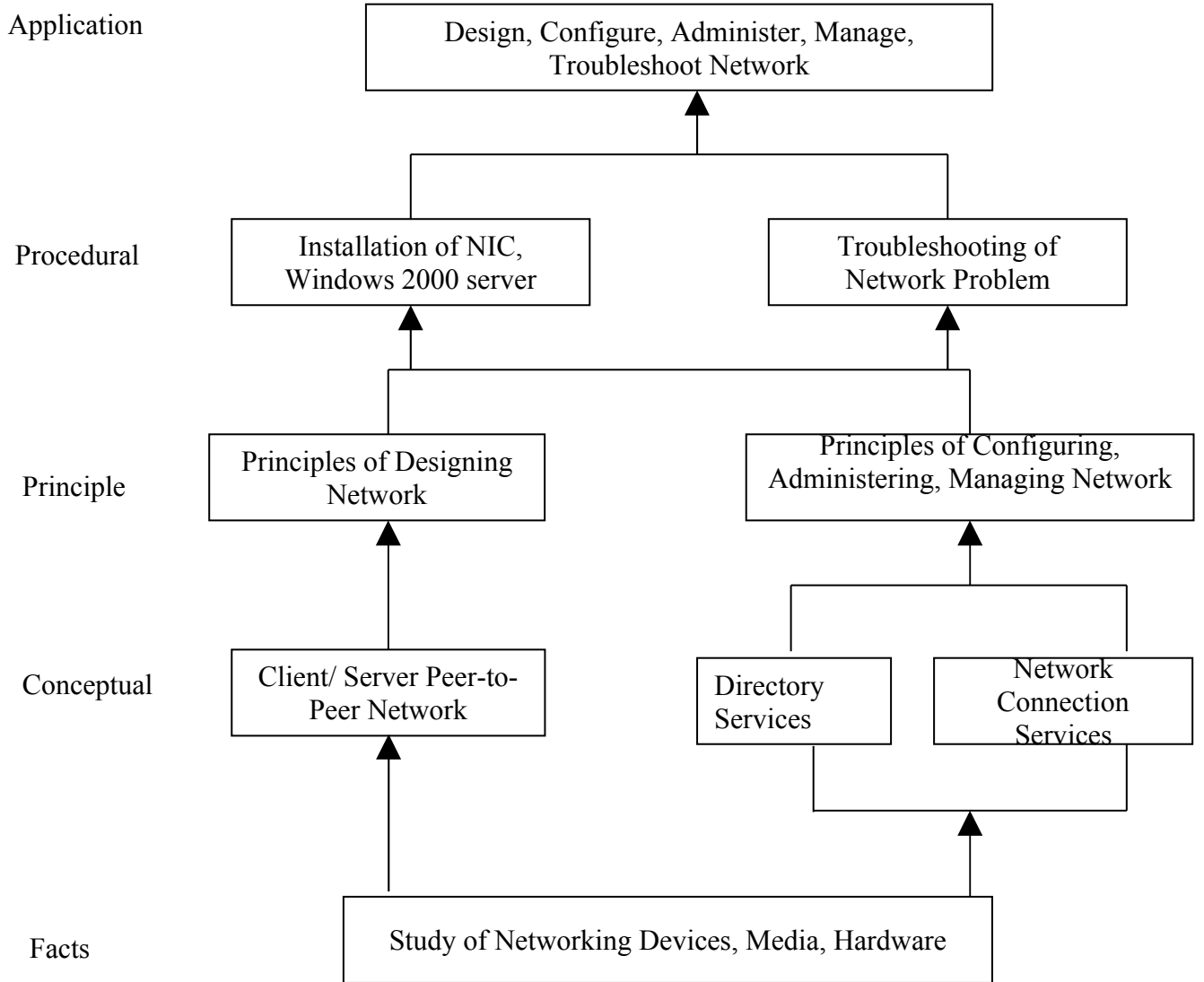
This subject is network application based subject. It gives the practical knowledge of designing computer network while using any type of topologies. This subject covers the installation and configuration of any network operating system. With the proper configuration of operating system on the server, the students will manage and administer the network resources or devices such as printers, scanner, driver and also software like files, folders, directories, applications, programs etc.

Objective:

The students will be able to:

1. Compare different types of network.
2. Describe the different types of network directory services.
3. Design the computer network.
4. Configure the networking resources and software from the server.
5. Know the network management and administration.
6. Apply the different types of network technologies for internet connection.
7. Troubleshoot and repair the network faults

LEARNING STRUCTURE:



Contents: Theory

Chapter	Name of the Topic	Hours
01	<p>Exploring Directory Services and Remote Network Access.</p> <p>1.1 Network Related Jobs – Network Administrator, Network Engineer, Network Architecture / Designer, Other Network Related Jobs.</p> <p>1.2 Directory Services - Define Directory Services, Definition of Novelle Directory, Windows NT domains, Microsoft’s Active Directory, X500 Directory Access Protocol, Lightweight Directory Access Protocol, Forests, Trees, Roots and Leaves.</p> <p>1.3 Active Directory Architecture – Object Types, Object Naming, Canonical Names, LDAP Notation, Globally unique identifiers, User Principle Names, Domain, Trees & Forests.</p> <p>1.4 Remote Network Access – Need of Remote Network Access, Public Switched Telephone Network, Integrated Services Digital Network, Digital Subscriber Line, CATV.</p> <p>1.5 Virtual Private Network – VPN Protocols, Types of VPNs, VPN Clients, SSL VPNs.</p>	06
02	<p>Network Connection and Printing Services</p> <p>2.1 Dynamic Host Configuration Protocol (DHCP) – DHCP Origins, Reverse Address Resolution Protocol (RARP), The Bootstrap Protocol (BOOTP), DHCP Objectives, IP Address Assignment, DHCP Architecture.</p> <p>2.2 Introduction to Domain Name System(DNS) - DNS Objectives, Domain Naming, Top Level Domains, Second Level Domains, Sub domains, DNS Functions, Resource Records, DNS Name Resolution, Resolves, DNS Requests, Root Name Servers, Resolving a Domain Name, DNS Name Registration.</p> <p>2.3 Understand Network Printing Concepts - Understand Network Printing Concepts, Locally connected print devices, Setting up local print devices, Shared print devices, Sharing Locally Attached Print Devices, Describe Windows Network Printing, Add Print Wizard.</p>	06

<p>03</p>	<p>Implementation of Network</p> <p>3.1 Designing Network – Accessing Network Needs, Applications, Users, Network Services, Security and Safety, Growth and Capacity Planning, Meeting Network Needs – Choosing Network Type, Choosing Network Structure, Choosing Servers.</p> <p>3.2 Installing and Configuring Windows 2003 Server - Preparing for Installation, Creating windows 2003 server boot disk, Installing windows 2003 server, Configuring server/ client</p> <p>3.3 Setting windows 2003 server - Creating Domain controller, Adding the DHCP and WINS roles, Adding file server and print server, Adding Web based Administration.</p>	<p>06</p>
<p>04</p>	<p>Administering Windows 2000 Server (The Basics)</p> <p>4.1 Working With User Accounts - Adding a User, Modifying User Account, Deleting or Disabling a User Account.</p> <p>4.2 Working With Windows 2000 Security Groups – Creating Group, Maintaining Group Membership.</p> <p>4.3 Working with Shares – Understanding Share Security, Cresting Shares, Mapping Drives</p> <p>4.4 Administering Printer Shares – Setting up Network Printer,</p> <p>4.3 Working with Windows 2000 Backup – Using Windows 2000 Servers Backup Software</p>	<p>06</p>
<p>05</p>	<p>Troubleshooting and security of Network</p> <p>5.1 Understanding the Problem – Troubleshooting, Segmenting the Problem, Isolating the Problem, Setting Priorities.</p> <p>5.2 Troubleshooting Tools – Hardware Tools, Software Tools, Monitoring and Troubleshooting Tools</p> <p>5.3 Internal Security – Account Security, File and Directory permissions, Practices and user education.</p> <p>5.4 External Threats – Front Door threats, Back Door threats, Denial services threats, Viruses, worms and other Malicious codes.</p>	<p>08</p>
<p style="text-align: right;">Total</p>		<p>32</p>

Practical:

Skills to be developed:

Intellectual skills:

- Fault finding of network
- Troubleshooting of network
- Proper installation of network

Motor skills:

- Proper handling of Computer System hardware.

List of Practical:

Sr. No.	Practical Name
1	Creating Windows 2003 Server Boot Disk.
2	Installing Windows 2003 Server
3	Installing Active Directory
4	Creating AD Objects
5	Setting up Local Print Device
6	Installing and Configuring a Network – Capable Print Device
7	Create new Users & give the Permission
8	Group of four students prepare a mini report on Latest Networking Technology

Learning Resources:**1. Books:**

Sr. No.	Author	Title	Publication
1	Craig Zacker	The Complete Reference Networking	Tata McGraw-Hill Edition
2	Bruce Hallberg	Networking A Beginner's Guide	Tata McGraw-Hill Edition
3	Richard A. McMohan, Sir	Introduction to Networking	Tata McGraw-Hill Edition
4	Microsoft Press	Networking + Certification Training Kit	--
5	Microsoft Press	MCSE Training Kit Networking Essential Plus	--

2. Sources of Information –

- 1) Computer Magazine
- 3) PC Quest
- 5) Internet

- 2) Computer Today
- 4) Information Technology
- 6) Linux for U