GUJARAT TECHNOGICAL UNIVERSITY
DIPLOMA IN COMPUTER ENGINEERING

SEMESTER- VI

Subject Name: **NETWORK OPERATING SYSTEM**

Sr. No.	Subject Content	Hrs.
1	**1.0 TRADITIONAL SERVICES OF A NOS** 1.1. File and Resource sharing 1.2. Configurability and usability 1.3. BANYAN Network system 1.3.1 Services and applications 1.3.2 VINES supported standards 1.4. Novell Netware 1.4.1 Features of netware 1.4.2 Novel services- Directory, Security, Data base, Messaging, print 1.4.3 Netware Loadable Modules(NLM) 1.4.4 Netware Supported Standards 1.4.5 Strength and weakness of Netware 1.5. Microsoft Windows NT 1.5.1 Features. 1.5.2 Supported standards, Security 1.5.3 Strength and weakness of Windows NT	**5**
2	**2.0 NETWORK ADMINISTRATION** 2.1. What is Network Administration.? 2.2. Managing Network Account. 2.2.1. -Managing and Creating 2.2.1.1.--User accounts 2.2.1.2.--Group Accounts and Built in group accounts 2.3. Managing Resources 2.3.1. -Hardware,Disk,Files and directories, software installation/upgrade 2.3.2. -E-mail application and Network printing. 2.4. Management Tools 2.4.1. -User manager for Domains	**10**

	2.4.2. -Server manager 2.4.3. -Event Viewer 2.4.4. -Network Client Adiministrator 2.5. Managing Network Performance 2.5.1. -Potential Network Performance Problem 2.5.2. -Physical layer issue 2.5.2.1.--Exceeding Media Limitations 2.5.2.2.--Interference 2.5.2.3.--Wear and Tear 2.6. Network Traffic Issue 2.6.1. -Network Collisions 2.6.2. -Inefficient Network Protocols 2.6.3. -Hardware Overload 2.6.4. -Poorly implemented network Stacks 2.6.5. -Garbage 2.6.6. -Denial – of – Service attacks 2.6.7. -Address resolution problem 2.6.8. -Internetworking issues 2.7. Tools and techniques 2.7.1. -Ping,traceroute 2.8. NT performance monitor 2.9. Network analysers 2.10. Hardware trouble shooting	
3	**3.0 PROTECTING THE NETWORK** 3.1. -Ensuring data integrity 3.2. -Protecting the O.S. 3.3. -Installation 3.3.1. --File systems 3.3.2. --Back up domain controller 3.4. -Maintenance Techniques 3.4.1. --Boot disks 3.4.2. --NT boot floppy 3.4.3. --Emergency Repair disk 3.5. -Disk administrator , Service packs 3.6. -Protecting your hardware 3.7. -Protecting user data	**5**
4	**4.0 PLANNING NETWORK AND DATA SECURITY** 4.1. -Security policies 4.2. -Work group ,Domain and Trust 4.3. -Domain models 4.4. -Security in Windows 95/98 and NT 4.5. -Auditing 4.6. -Diskless workstations 4.7. -Encryption , Virus shields	**5**

5	**5.0 NETWORK DIRECTORY SERVICES** 5.1. -Purpose of Network directory 5.2. -Directory frame work – Scope , structure, presentation 5.3. -Network directory special features 5.4. -Network name Resolution – DNS, nameservers, Resolvers 5.5. -Database replication and management 5.6. -WINS 5.7. -SAP 5.8. -Authentication Process 5.9. -Trust relationship 5.10. -Active Directory Services (ADS)	**6**
6	**6. 0 TROUBLE SHOOTING AND PREVENTING PROBLEMS** 6.1. **-**Proactive Network Control operation 6.2. **-**Proactive Network disaster operation 6.3. -Logical fault isolation 6.4. -Common Networking problems	**5**
7	**7.0 REMOTE ACCESS SERVICES** 7.1. -Introduction 7.2. -Remote connection setup 7.3. -RAS protocols 7.4. -RAS transport services 7.5. -NOS and RAS capabilities 7.6 -RAS security	**6**
	TOTAL	**42**

NOTE:- Following are the minimum experiences required, but the college can do more experiences if possible.

Laboratory Experiences: Hrs.

1. Installation of NOS Server. 2
2. Installation of NOS Client 2
3. Configuration of network environment 4
4. Managing system policy and file systems 4
5. Creating and managing partitions 2
6. Creating users accounts 2
7. Creating group accounts 2
8. Managing hardware resources --Printer, Modem, CD Drive etc. 2
9. Managing software resources -- Installation and Updation of Softwares 2

10. Configuration of clients	2
11. Any other practical based on syllabus.	4

Total	28

Reference Books:

1. Peter Norton's Complete guide to Networking -Peter Norton & Dave Kearns Pub. Sams Techmedia
2. NT Server 4 Study Guide - Matthew strobe & Charles Perkins Pub. BPB
3. Using Windows NT Server 4 - Roger Jennings 2nd Ed. Special edition Pub. PHI