COMPUTER NETWORKING (DCA-201)

OUTLINE OF COURSE:
1. Networking Fundamentals
2. Network Administration

DETAILED SYLLABUS:

1. NETWORKING FUNDAMENTALS: **(60 - Marks)**
What is Computer Networking (Advantages of Networking, Types of Networks), **Client/Server Method of Connecting Computers, Peer to Peer Computer Network** (How Peer-to-Peer Network Works, Comparison of Client/Server Architecture with Peer-to-Peer Architechture), **Local Area Network (LAN), Baseband vs Broadband, Media Access Control, LAN Hardware, LAN Operating Systems, Transmission Media** (Twisted Pair, Coaxial Cables), **Implementing LAN, Fast LANs, Nonstandard LANs, Extending LAN** (Fiber Optic Extension, Repeaters, Bridges, Routers, Gateways, Wi-Fi Router, Hubs, Switches, Switching Hub), Virtual LANs, Metropolitan Area Network (MAN), Wide Area Network (WAN), Using WAN and Network Services, Network Management, Network Elements, IP Address, Network Interface Cards, Cabling Concepts, Transmission Media, Guided Media, Unguided Media, Fiber Optics Communication, Transmission Modes, Network Topologies, Logical Types of Topology, Wireless LAN, Open System Inter Connection (OSI), Network Architectures, Protocol, Layering the Communication Process, Open System Inter Connection (OSI) Model, TCP/IP Protocol (Internet Protocol (IPv4), Services provided by TCP), MAC Address (MM-MM-MM-SS-SS-SS), Subnetting (How does Subnetting Work).

2. NETWORK ADMINISTRATION: **(20 - Marks)**
Introduction to Windows NT, **Introduction to Windows 2000 and XP Operating Systems**, **Windows NT/2000/XP Start Up**, **Configuring a Windows 2000/XP System as a Client to Windows 2000/XP Network** (Verifying Network Configuration, Joining a Domain, Configuring Windows 2000 Professional Workstations, Connecting Windows 9x and Windows ME Workstations), Creating of User and Groups, Rights Assigned to Built-in Groups, File Sharing (Sharing Permissions, Creating Shares, Hidden Shares, Administrative Shares), **Windows 2000/XP Policies, Printer Sharing** (Setting Printer Permissions).

PRACTICALS: **(80 - Marks)**
(Software : Windows XP, Windows 2000 and Windows 7& 8)

1. Network Resource Sharing
2. Internet Connection Sharing
3. Setting IP Address
4. Checking Network Line Using Ping Command
5. Preparing Ethernet cable for straight and crossover with RJ45

TEXT BOOK:
1. INTRODUCTION TO ICT RESOURCES - Satish Jain, Shashank Jain, Shashi Singh, and M. Geetha Iyer. First Edition 2010, Second Revised Updated Edition 2011. BPB Publications.
2. ALAN SIMPSON'S WINDOWS XP BIBLE - SECOND EDITION, 2005, WILEY PUBLISHING, INC.

SUGGESTED FURTHER READINGS:
1. **SAMS Teach Yourself Networking in 24 Hours** - Matt Hayden, First Indian Edition 2001, SAMS Techmedia.
2. **Illustrated World of Networking** - Davinder Singh Minhas, Dreamland Publications.
3. **Windows 7 Install to Secure** – Liam Phelam and Jennie Howe, 2012 Edition, Bookboon.com

4. **Microsoft Windows 2000 Training Guide** - Karl Schwartz, First Indian Edition 2001, BPB Publications.

5. **MCSE Training Guide : Networking Essentials, Second Edition** – Glenn Berg, New Riders Publishing.