COURSE NAME: Certificate in Data Communication and Networking (CDCN)

Prerequisite: Before taking this course the user should understand peripheral devices, computer hardware and software, memory, storage devices, some common PC utilities, Internet concepts.

Course Objective: The objective of this course is to enable the student to understand the basic networking concepts, design a local area network and supervise the physical implementation of the same. He should have an understanding of router/switch installation and configuration. He should also perform all administrative operations on a Local Area Network independently, including configuring software in the Windows environment, connecting and configuring peripherals such as printers, scanners etc., granting and restricting access to the network and the internet through a proxy server.

Course Duration: 144 hours

Course Contents:

SI.	Modules	Hours
No.		
1	Introduction to Networking	26
2	Windows Server 2012	54
3	Introduction to Linux OS administration and configuration	48
4	Configuration of Routers and Switches using Simulation	16
	Tool	
Total		144

Introduction to Networking

(26 hrs)

Goals, Applications & Types of Networking

OSI Layers

TCP/IP

Planning the Network

LAN topologies

Cabling considerations

Understanding Internetworking devices – hubs, switches, bridges, routers etc

Structured UTP cabling

Windows Server 2012

(54 hrs)

Part 1: (14 hours)

Deploying windows server 2012

Preparing for Installation

Installing windows installing server 2012

Introduction to Administering Accounts and Resources

The Windows Server 2012 Family

Logging on to Windows Server 2012

Installing and Configuring Administrative Tools

Creating User Accounts

Creating Computer Accounts

Creating an Organizational Unit

Managing User and Computer Accounts

Modifying Users and Computer Account Properties

Enabling and Unlocking User and Computer Accounts

Creating a User Account Template

Locating User and Computer Accounts in Active Directory

Saving Queries

Resetting User and Computer Accounts

Moving Domain Objects

Managing Groups

Creating Groups

Managing Group Membership

Strategies for Using Groups

Modifying Groups

Using Default Groups

Best Practices for Managing Groups

Part 2: (8 hours)

Implementing & Managing Printing, File, Mail

Installing and Sharing Printers

Managing Access to Printers Using Shared Printer Permissions

Managing Printer Drivers

Implementing Printer Locations

Changing the Location of the Print Spooler

Setting Printer Priorities

Scheduling Printer Availability

Configuring a Printing Pool

Sharing files, folders etc

Part 3: (12 hours)

Networking windows server 2012

Windows Server 2012 Networking Environment

Setting up and managing a Network

The Architecture of Active Directory

Using Active directories and domains

How Active Directory Works

Examining Active Directory.

The Active Directory Design, Planning, and Implementation Processes.

Managing Virtual Private Networks.

Managing Advanced Network Services

Using Network Monitor.

Managing Routing and Remote Access Services.

Managing the Internet Authentication Service.

Part 4: (8 hours)

Communication and the Internet

Networking with TCP/IP.

Managing the Domain Name System Service.

Managing the Windows Internet Name System Service.

Managing Internet Information Services.

Managing Web Sites.

Managing Routing and Remote Access Services.

Managing the Internet Authentication Service.

Managing the Dynamic Host Configuration Protocol. Communication and Internet Service

Part 5: (12 hours)

Administrating Windows Server 2012

Managing windows server 2012
Controlling windows server 2012 security
Overview of Security in Windows Server 2012
Monitoring Server Memory
Preparing for Disaster Recovery
Backing Up Data
Using Security Templates to Secure Computers
Testing Computer Security Policy
Configuring Auditing
Managing Security Logs

Introduction to Linux OS administration and configuration (48 hrs)

Overview of Linux OS administration
Overview of Linux Architecture
Using Linux (commands and utilities)
NFS and NIS installation and configuration
Configuring Networks
Shell programming
User Management
Backup and Recovery
Troubleshooting
Security
Perl scripting

Basic Configuration of Routers and Switches using Simulation Tool (16 hrs)

Introduction to Routers, Switches Hands on BOSON Router Simulation Hands on Cisco ConfigMaker tool