SYLLABUS MANUAL

PROFESSIONAL PROGRAMME
PROGRAMME CODE --- 310

BACHELOR OF SCIENCE IN HARDWARE & NETWORKING (BSCHNT)

<table>
<thead>
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<th>SEMESTER I</th>
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### SEMESTER IV

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### SEMESTER V

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<td>Network Switching Technologies</td>
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### SEMESTER VI

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Detailed Syllabus

YEAR I

BSCHNT11 --- Computer Applications

UNIT 1: Introduction of computer (Hardware)
What is computer? How it works? Which parts needed to run a computer? Detail of computer Hardware parts and its working.

UNIT 2: Introduction of computer (Software)
What is software? Types of software (System Software & Application Software) and Its importance

UNIT 3: Windows and its versions
Windows and its versions, (Win95, Win98, XP, Win ME, Vista, Win 7)

UNIT 4: Windows Desktop
Introduction of Desktop & icons like My Computer, My Documents, My Network Places, Recycle Bin, Internet Explorer, Taskbar, Start Button and Notification Area

UNIT 5: Files and Folders
Creating New Files in Notepad, Wordpad, creating new folders

UNIT 6: File and Folder Options
Options related to files and folders like open, print, explore, copy, cut, paste, rename, delete, send to, properties

UNIT 7: Windows Working Bars
Introduction of Title Bar, Tool Bar, Standard Bar, Menu Bar, Address Bar, Scroll Bar, Status Bar

UNIT 8: Introduction of Display Properties
Introduction of Themes, Changing Desktop Background, Screen saver, Appearance Settings - Changing color scheme, effects, icon size, font size, active/inactive windows color setting, font setting, Web Setting, Settings – Screen resolution and color quality

UNIT 9: Properties Menu Options
Refresh, Arrange Icon by- Setting, Paste, New, Properties

UNIT 10: Control Panel
Add Hardware, Add/Remove Programs, Administrator tools, fonts, Key board, Mouse, Network Connection, phone and modems, power options, printers and faxes, regional and language settings, scanners and cameras, schedule tasks, security centre, sound and audio devices, Speech, system, user accounts, windows firewall,
UNIT 11: Windows Options
Folder option, Internet Options, task bar and start menu, Accessibility Options, Date & Time, Display Properties

UNIT 12: Start Menu Program
Accessories, Startup, System Tool, Accessibility, entertainment, communications

UNIT 13: Start Menu Options
Turn off computer, restart, log off, run and search

UNIT 14: Help & Support Options
Help and support

UNIT 15: Windows 7
Introduction of Windows 7, Difference between Win XP & Windows 7,

UNIT 16: Windows 7 Operating
Desktop, start menu, task bar (Supper bar), windows 7 user accounts & profiles.

Reference Books:
1. Dos/Windows/Internet/Installation by Sh. S. K. Gupta, GT Publication, Jaipur
2. Learning Computer Fundamentals and Internet & Web Technology By Firewall Media, New Delhi
3. Operating System and Concepts By John Wiley & Sons, Wiley India (P) Ltd., New Delhi
5. My Big Book of Computers 5 By BPB Publications

BSCHNT12 --- PC Assembling & Troubleshooting

Unit 1: Components of a PC
Identifying the major components of a PC: System unit, Monitor, Keyboard, Mouse devices, Handling PC connections. Identifying the internal components of a PC: Opening a system unit, handling expansion cards.

Unit 2: CPU: Identifying the right CPU for any motherboard : CPU manufacturers, Processor models, CPU speeds, Processor packages Installing and Upgrading CPUs. Heat Sink and Fan assembly.

Unit 3: RAM; What does RAM do, Types of RAM Technologies: SDRAM, DDRSDRAM, RDRAM, RAM Packages: SIMMS, DIMMS and RIMMS. Adding and Upgrading RAM. Motherboard and BIOS, Common motherboard features, Types of Motherboards: AT, ATX, microATX, Proprietary Motherboards. Installing a motherboard. The System BIOS: Why do we need BIOS


Unit 6: Removable Media: Identifying, Installing and Troubleshooting Floppy Drives: How floppy drives work, Floppy Drive Cables, Installing a Floppy Drive, Bootable Floppy Disks.


Unit 10: Input Devices

Unit 11: Sound: How sound works in a PC, MIDI, Purchasing the right sound card: Processor capabilities, Speaker support, Recording quality. Installing a sound card in a Windows System, Troubleshooting Sound.


Reference Books:
1. Assembling and troubleshooting by James Perozzo

BSCHNT13 --- Basics of Electronics & Microprocessor

UNIT 1: Analog Electronics
Introduction of Electricity, AC (Alternative Current) and DC (Direct Current) How to use Digital Multimeter and measurement of Volts AC/DC

UNIT 2: Resistance
Standard Color coding of Resistance, Working and Testing of Resister

UNIT 3: Signal and AC/DC Components
Wave, Wave length, wave amplitude, Capacitor and its working, Coil, Transformer
UNIT 4: Semi conductor Components
Diode, Rectifications or Eliminator (Half Wave/Full Wave/ Bridge Wave), Transistor, FET, MOSFET, Darlington, DIAC, TRAIC, SCR, IC

UNIT 5: Digital Electronics
Introduction of Digital Electronics, Difference between Analog and Digital Electronics, Number System and conversions

UNIT 6: Logic Gates and Circuits
Logic Gates (OR, NOT, AND), Multi Plexer, De-Multiplaxer, 7 Segment Display Device, Flip-Flop, Resister and Resister Array, Semiconductor Memories

UNIT 7: Microprocessor Electronics
Introduction of Microprocessor Electronics, Types of Micro Processor

UNIT 8: Microprocessors Working

Reference Books:
1. Fundamental of Analog & Digital Electronics by Sh. S. K. Gupta, GT Publication, Jaipur
3. Analog and digital electronics, Peter H. Beards
4. Electronics Quick Study Guide for Smartphones and Mobile Devices By Mobile Reference

BSCHNT14 --- Microsoft Office

UNIT 1: Introduction to MS Word
Introduction to Microsoft Word, Writing Letters

UNIT 2: Get Started with Microsoft Word
Making Resume, Document Formatting, Cut, Copy and Paste, Inserting Clip Arts, Pictures, Multi-Page Documents, Letterheads and more, Headers and footers, Bullets and Numbering, Counters (Word, Line), Macro, Mail Merge, Inserting Objects, Create Tables in Word, Printing Documents

UNIT 3: Introduction to MS Excel
Introduction of Microsoft Excel, Creating Sheets and charts
UNIT 4: Get Started with Microsoft Excel
Document Formatting, Inserting New Row & Columns, Inserting Borders, Merging Cells, Wrap Text, Inserting Formulas, Date, Time, Inserting Filters, Maps, Charts, Inserting Comments, Macro, Zoom, Set Print Area, Freeze Pans, Cut, Copy, Paste, Find, Replace Printing Documents

UNIT 5: Introduction to MS Power Point
Introduction of Microsoft Power Point, Creating a Power Point Presentation

UNIT 6: Get Started with Microsoft Power Point
Inserting Picture, Object, Clip Art, Making Animation, Inserting Sound, Slide Transactions, Transaction Effects, Styles, Formatting Picture, Auto Play or Play on Keyboard or Mouse, Document Formatting, Printing Documents

UNIT 7: Introduction to MS Outlook
Introduction of Microsoft Outlook, sending and receiving mails by using Outlook Express

UNIT 8: Get Started with Microsoft Outlook
Sending mails, attachments while working in Microsoft Office

Reference Books:
1. Microsoft Office by Sh. S. K. Gupta, GT Publication, Jaipur
2. MS Office By Dr. S.S. Srivastava, Wirewall Media Publication, New Delhi
3. Microsoft Office Publisher 2007 Step by Step, By Joyce Cox, Joan Preppmau

BSCHNT15P --- Practical-Installation (OS, Drivers, Software etc.)

SEMESTER II

BSCHNT21 --- SMPS, UPS & LCD/TFT Monitor
UNIT 1: Introduction of SMPS
Introduction of SMPS and its Main Working, Providing Multiple Voltage to Devices like Motherboard, HDD, CD/DVD Drive, FDD and SMPS Fan, Cabinet Fan

UNIT 2: Working Block Diagram of SMPS
Understanding to a SMPS by its working block diagram
UNIT 3: Types of SMPS
Introduction of AT, ATX SMPS, Difference between AT/ATX SMPS, Connector Details of 4 Pin, 12 Pin, 20 Pin, 24 Pin Power Supply Connector, Working of SMPS

UNIT 4: Volts of SMPS
Introduction of Different types Volts Providing by SMPS in different color wire’s like +5 Volt, -5 Volt, +5 SB Volt, +5 PS Volt, +5 PG Volt, +3.3 Volt, +12Volt, -12 Volt

UNIT 5: Introduction to various stages of SMPS
Introduction & Working of Various stages of SMPS like – Line Filter Stage, Bridge Rectifier Stage, Filter Stage, Starter Stage, Oscillator Stage, Driver Stage, Output Switching Stage, DC Volt Output Stage, PG Stage, PS Stage and it’s Details

UNIT 6: High Volt Stages of SMPS
High Volt Stage of SMPS like Line Filter Stage, Bridge Rectifier Stage, Filter Stage, Starter Stage, Output Switching Stage.

UNIT 7: Low Volt Stages of SMPS
Low volt stage of SMPS Oscillator Stage, Driver Stage, DC Volt Output Stage, PG Stage, PS Stage and its Details.

UNIT 8: Trouble Shooting of SMPS.
Troubleshooting of SMPS, Checking Volts on Testing Points, Soldering and de-soldering of components, Checking Faulty component like Fuse, Diode, Filter Capacitors, Transistors, Fault Finding and Checking of SMPS

UNIT 9: Introduction of UPS
Introduction of UPS, Main Working of UPS, Introduction and Different types of UPS like Online UPS, Off Line UPS, Difference between Online and Offline UPS, Output Volts from UPS: Volts output by a UPS in online and in backup time is 220/230 Volt.

UNIT 10: Functional Block Diagram of UPS
Understanding of a UPS working by its Functional block diagram

UNIT 11: Different Stages of UPS
Introduction and working of various stages of UPS like AC/DC Stage, Low Volt Stage, High Volt Stage, AVR Stage, Battery Charging Stage, Oscillator Stage, Output Switching Stage, Buzzer Stage, Battery Low Stage and it’s Details
UNIT 12: Transformer of UPS: In a UPS an Iron core transformer is used. It has Charging, Bi-Filer, AVR Windings

UNIT 13: IC’s used in UPS: IC LM 339, LM 3524, LM 393, IC LM 317 these IC’s used in UPS

UNIT 14: Trouble Shooting of UPS: Troubleshooting of UPS, Checking Volts on Testing Points, Checking Faulty component like Fuse Diode, Soldering and de-soldering of components, Transistors/FET/MOSFET, Fault Finding and Checking of UPS

UNIT 15: LCD: Introduction of LCD/TFT, Technology used in LCD/TFT Panel, Panel of Monitor: LCD (Liquid Crystal Display) and TFT (Thin Film Transistor) Panels are used in Monitors, Different Between LCD and CRT: Different Between CRT and LCD/TFT Monitor, Cable of Monitor: VGA Cable and DVI Cable used in LCD/TFT Monitor, types and pin details


Reference Book:
2. Troubleshooting of Electronic Devices By Nipun Sharma, Firewall Media Publications, New Delhi
4. Troubleshooting of Electronic Devices By Nipun Sharma, Firewall Media Publications, New Delhi
5. Upgrading and Repairing PCs: 19th Edition By Mueller Scott
6. PC world, Volume 21, By PC World Communications, 2003
7. PC Architecture and Peripherals - II By Balvir Singh, Ravi Sharma

BSCHNT22 --- Data Recovery

UNIT 1: Introduction of Data
What is Data? Why data is Important, What is Data Loss? Why need Data Recovery?
UNIT 2: Introduction of Hard disk
Introduction of all types of Storage Devices like (FDD, HDD, CD, DVD) Large Data Storage on HDD, HDD Partition, Construction of Hard disk, Platter and Media, Substrate materials, Installing, R/W Head, Head Crash, Servo Technique

UNIT 3: Hard Disk Drive Geometry
Introduction of HDD Geometry and Low Level Data Structure, Track, Cylinder and Sector, Formatting and Unformatting

UNIT 4: File System
Introduction of File System, FAT 12/16, FAT 32, NTFS, Logical structure of Hard Disk, FAT, MBR, DBR, Cluster

UNIT 5: Structure of HDD
Structure of Root Directory, Limitations of File systems, LBA, Using of Data recovery software

UNIT 6: Commands used for preparing a Hard Disk
Commands which used like Fdisk, DM, Format, Unformate, Undelete, Scandisk

UNIT 7: Functional Block Diagram of HDD
Understanding working of HDD through its Functional block diagram

UNIT 8: Trouble Shooting of Hard Disk Drive
General troubleshooting of Hard Disk Drive

Reference Books:
2. Scene of the Cybercrime By Michael Cross, Debra Littlejohn Shinder
3. Absolute Beginner’s Guide to A+ Certification By Mark Edward Soper
4. Data Recovery Tips & Solutions: Windows, Linux, and BSD By Kris Kaspersky

BSCHNT23 --- Windows 2003 Server Administration

UNIT 1: User Accounts and Profiles
Introduction of Windows 7

UNIT 2: User Setting
User accounts & Profiles on Windows 7
UNIT 3: Configuring User Account
Configuring a User Account with Parental Controls

UNIT 4: Advance Sharing
Advance Sharing Settings, Linking your online ID's, Joining a Domain, Give the user Power or Administrator group Rights

UNIT 5: User Personalization
User personalization, Copy a user Profile to a Network Default User Profile

UNIT 6: Managing User Profile
Managing User Profile, Migrating User Profile Data, Windows Easy Transfer, User State Migration Tools

UNIT 7: File Security and Encryption
Introduction of File Security and Encryption on Windows 7

UNIT 8: Application Locker
Application Locker, uses and types, general troubleshooting

UNIT 9: User Account Control
User Account Control, Bit Locker, Setting-up Your home Group, File folder Permission and Owner Ship

UNIT 10: User Permissions
How to Grant Permission, Small Network Setup, User Accounts & Profiles

UNIT 11: Security
Sharing and Security, Firewall, general troubleshooting

UNIT 12: File Security
Introduction to file security & encryption, type of files security, general troubleshooting

UNIT 13: Internet Connection Sharing
Internet Connection Sharing, ADSL Modem Configuration

UNIT 14: Printer Sharing
Printer Sharing and general troubleshooting

UNIT 15: Access Network
Access Network, types of access networks, general troubleshooting

UNIT 16: General Trouble shooting
Fault finding in a network of connectivity with General Trouble shooting

Reference Books:
1. Study Guide Windows 7, By S. K. Gupta, GT Publication, Jaipur
2. Windows 7 (Quicksteps) By Matthews, Tata McGraw Hills
3. Mastering Microsoft Windows 7 Administration By William Panek, Tylor Wentworth
4. Windows 7 Desktop Support and Administration: Real World Skills for MCITP By Darril Gibson
5. Windows 7: The Missing Manual By David Pogue
Unit 1: Installing Red Hat Linux
Starting the Red Hat Linux installer, Beginning the installation, Installation type, Disk partitioning setup, Disk setup, Boot loader configuration, Account configuration, Installing packages, Graphical interface configuration, Finishing first run configuration.

Unit 2: Navigating Linux at the Console
Understanding virtual consoles, Logging in a virtual console, Introducing the shell, Working with the file system, Linux file system, Home directory, Current working directory, manipulating files and directories, Understanding permissions.

Unit 3: Making the console work for you
Creating, Editing and Saving text files using vi, Using emacs to create text files, Grouping files for efficient file management, Searching files and directories quickly, Using pipes, Moving between multiple open applications.

Unit 4: Introducing the Red Hat Desktop
GNOME and KDE Environment, Logging in to desktop, Launching applications, Using window controls, working with multiple windows, Understanding virtual desktops.

Unit 5: Working with files on the desktop
Opening, editing and closing an existing file, Cutting, copying and pasting files, Duplicating a file, Renaming, Deleting items, Changing file permissions, Creating a new directory, Manipulating files using drag and drop, Working with trash contents.

Unit 6: Command Line System Administration
Using the “su” command, Managing system processes, Managing running services, Managing filesystems, Managing accounts.

Unit 7: Desktop System Administration
Managing system processes, Managing running services, Managing network interfaces, Managing accounts, Reading system logs, Mounting and unmounting file systems.

Reference Book:
1. Linux Administration a Beginners Guide by Wale Soyinka
2. Linux System Administration by Tom Adelstein, Bill Lubanovic.
SEMESTER III

BSCHNT31 --- Digital Communications

Section I

Unit 1: Introduction: Analog and digital communication

Unit 2: Baseband transmission

Unit 3: Line coding: Polar/Unipolar/Bipolar NRZ and RZ; Manchester, differential encoding and their spectral characteristic, self synchronization properties of some of the encoded signal.

Unit 4: Equalization: Inter symbol interference (ISI), Purpose of equalization, Eye pattern, Nyquist criterion for zero ISI, fixed equalizer, Design of equalizer, Adaptive equalizer.

Unit 5: Digital modulation techniques: BPSK, DPSK. BFSK, M-Ary PSK & FSK, QPSK, MSK, QASK, Error calculations.

Reference Book:
1. Digital Communications by J.S.Chitode.
2. Digital Communications by Haykin.

BSCHNT32 --- Computer Organization

Unit 1: Register Transfer and Micro operation
Register transfer, Register transfer language, Bus and memory transfer, Arithmetic micro operations, Logic micro operations, Shift micro operations.

Unit 2: Basic Computer Organization and Design
Instruction codes, Computer registers, Computer instructions, Timing & control, Instruction cycle – in Details, Various Memory reference instructions, Input- output and various types of interrupts, Design of a basic computer, Design of accumulator logic.

Unit 3: Micro-programmed Control Unit
Control memory, Address sequencing.

Unit 4: Central Processing Unit
Introduction, General registers organization, Stack organization, and Instruction formats, Addressing modes. Direct, Indirect, Immediate.

**Unit 5: Computer Arithmetic**
Introduction, addition and subtraction, multiplication algorithms, division algorithms, floating point arithmetic operation, decimal arithmetic unit, decimal arithmetic operations.

**Unit 6: Input – Output Organization**
Peripheral devices, input – Output interface, Asynchronous data transfer, Modes of data transfer, Priority interrupt, direct memory access, input – output processor.

**Unit 7: Memory Organization**
Memory hierarchy, main memory, auxiliary memory, associative memory, cache memory, virtual memory, memory management hardware.

**Reference Books**
1. Computer Organization by Madhulika Jain & Satish Jain

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**BSCHNT33 --- Windows 7 Networking**

**Unit 1: User Accounts and Profiles**
Introduction of Windows 7

**UNIT 2: User Setting**
User accounts & Profiles on Windows 7

**UNIT 3: Configuring User Account**
Configuring a User Account with Parental Controls

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Managing User Profile, Migrating User Profile Data, Windows Easy Transfer, User State Migration Tools

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Introduction of File Security and Encryption on Windows 7

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Application Locker, uses and types, general troubleshooting

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User Account Control, Bit Locker, Setting-up Your home Group, File folder Permission and Owner Ship
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UNIT 11: Security
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UNIT 12: File Security
Introduction to file security & encryption, type of files security, general troubleshooting

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Internet Connection Sharing, ADSL Modem Configuration

UNIT 14: Printer Sharing
Printer Sharing and general troubleshooting

UNIT 15: Access Network
Access Network, types of access networks, general troubleshooting

UNIT 16: General Trouble shooting
Fault finding in a network of connectivity with General Trouble shooting

Reference Books:
1. Study Guide Windows 7, By S. K. Gupta, GT Publication, Jaipur
2. Windows 7 (Quicksteps) By Matthews, Tata McGraw Hills
3. Mastering Microsoft Windows 7 Administration By William Panek, Tylor Wentworth
4. Windows 7 Desktop Support and Administration: Real World Skills for MCITP By Darril Gibson
5. Windows 7: The Missing Manual By David Pogue

BSCHNT34 --- CCNA (640-802)

UNIT 1: CCNA (640-802)
Introduction of Internetworking, TCP/IP and the Internet Layer

UNIT 2: Subnetting
Subnetting, Variable Length Subnet Masks (VLSMs)

UNIT 3: Cisco Routers and Switches
Cisco Routers and Switches - Introduction to Cisco Routers and Switches and Its Working

UNIT 4: Foundation Cisco IOS Operations
Introduction of Foundation Cisco IOS Operations
UNIT 5: Foundation Cisco Configurations
Introduction of Foundation Cisco Configurations

UNIT 6: Understanding the Cisco SMD
Understanding the Cisco SMD

UNIT 7: Introduction to Routing
Introduction to Routing and Routing Protocols Introduction, Distance Vector Routing Protocols

UNIT 8: Link State and Hybrid Routing Protocol
Introduction of Link State and Hybrid Routing Protocol

UNIT 9: STP
Layer 2 Switching and Spanning Tree Protocol (STP)

UNIT 10: Virtual LANs
Introduction of Virtual LANs (VLANs), Using Cisco Access Lists

UNIT 11: Internet Connectivity
Introduction of Internet Connectivity and Enabling Internet Connectivity with NAT

UNIT 12: Cisco's Wireless Technology
Introduction of Cisco's Wireless Technology

UNIT 13: WAN
Wide Area Networks, types, limitations, advantages

UNIT 14: Internet Protocol
Internet Protocol Version 6 (IPv6).

UNIT 15: WAN Technologies
WAN Technologies, PPP, PPP Authentication (Pap, Chap)

UNIT 16: ISDN, Frame-relay
ISDN, Frame-relay, types

Reference Books:
1. Study Guide CCNA By S. K. Gupta, GT Publication, Jaipur
2. CCNA Exam Cram (Exam 640-802) By Michael Valentine, Andrew J. Whitaker, Andrew Whitaker
3. CCNA: Cisco Certified Network Associate Study Guide: Exam 640-802 By Todd Lammle
4. Networking For Home And Small Businesses: Ccna Discovery Learning Guide By Reid
5. CCNA Voice 640-461 Official Cert Guide By Jeremy Cioara, Michael Valentine
UNIT 1: Introducing Windows Server 2008

UNIT 2: Installing Windows Server 2008
Installing Windows Server 2008, Active Directory Administration

UNIT 3: Server roles in Windows 2008
Domain Name System, Sites and Replication, Server Roles in Windows 2008, Active Directory Migration

UNIT 4: DHCP and DNS Server
Introduction of Windows Server 2008 Network Infrastructure, Configuring & Working of DHCP and DNS Server

UNIT 5: Network Access Configuration
Introduction of Network Access Configuration, Windows Server 2008 Network Infrastructure, Configuring

UNIT 6: Internet Information Services
Introduction of Internet Information Services

UNIT 7: File Sharing
File Sharing and Permissions, Backup, Recovery and Maintenance

UNIT 8: Configuring Remote Desktop
Introduction & Configuring Remote Desktop and Terminal Services, Terminal Services, Print Server and Services

UNIT 9: Windows Server Core and Commands
Windows Server Core and Commands line Tool, Windows Server Active Directory, Domain Name System, Site and Replication, Configuring Active Directory Roles

UNIT 10: Administering Active Directory
Administering Active Directory, Group Policy, Active Directory Security, Active Directory Monitoring and Optimization
UNIT 11: Understanding Windows Server 2008 Networking
Understanding Windows Server 2008 Networking, IP Addressing and Services, Domain Name System (DNS), Creating a DHCP Infrastructure, Configuring Network Access, Managing Security for Remote Access Services,

UNIT 12: Configuring Windows Firewall
Configuring Windows Firewall and Network Access Protection, Managing File and Print Services

UNIT 13: Monitoring and Managing a Network Infrastructure

UNIT 14: Web Services Infrastructure
Web Services Infrastructure and Security, Microsoft Windows Share Point Services

UNIT 15: Windows Media Server
Windows Media Server, High Availability.

UNIT 16: General Troubleshooting
Fault finding in network and General Troubleshooting

Reference Books:
1. Study Guide MCITP By S. K. Gupta, GT Publication, Jaipur
2. MCITP: Windows Server 2008 Enterprise Administrator Study Guide (Exam 70-647) By Steven Johnson
3. The Real MCTS/MCITP Exam 70-647 Prep Kit By Anthony Piltzecker
4. MCITP Self-Paced Training Kit (Exam 70-647): Windows® Server Enterprise By Orin Thomas, John Policelli, Ian Mclean, J.C. Mackin, Paul Mancuso, David R. Miller
5. MCITP: Windows Server 2008 Server Administrator Study Guide: (Exam 70-646) By Darril Gibson

SEMESTER IV

BSCHNT41 --- Server +
UNIT 1: Basics of Server
Introduction of Server, Server Availability

UNIT 2: Multi Processing
Multi Processing, Server Memory, Server Bus
UNIT 3: SCSI System & IDE Systems
Introduction of SCSI System & IDE Systems

UNIT 4: RAID System
RAID System, Advanced Storage Arrays

UNIT 5: Pre Installation Planning
Introduction of Pre Installation Planning

UNIT 6: Installing Hardware
Installing Hardware from the beginning

UNIT 7: Server Management Plans
Server Management Plans, Configuration

UNIT 8: Preparing the server
Preparing the server for Service

UNIT 9: Upgrading Basic System
Upgrading the Basic System

UNIT 10: Upgrading Adapters and Peripherals
Upgrading Adapters and Peripherals

UNIT 11: Upgrading System Monitoring
Upgrading System Monitoring Agent and Service Tools

UNIT 12: Pro Active Maintenance
Pro Active Maintenance, Environmental Issues

UNIT 13: Server Problem
Server Problem Determination

UNIT 14: Trouble Shooting Server System
Troubleshooting of Server System,

UNIT 15: Disaster Recovery
Disaster Recovery

UNIT 16: General Troubleshooting
General Troubleshooting
Reference Books:
1. Study Guide of Service + By S. K. Gupta, GT Publication, Jaipur
2. Windows server hacks By Mitch Tulloch
4. Mastering Microsoft Exchange Server 2007 By Barry Gerber, Jim McBee

BSCHNT42 --- Exchange Server 2007/2010

UNIT 1: Microsoft Exchange Server 2010
Deploying Microsoft Exchange Server 2010

UNIT 2: Overview of Exchange Server 2010
Overview of Exchange Server 2010 Requirement

UNIT 3: Installing Exchange Server 2010
Installing Exchange Server 2010 and Server Roles

UNIT 4: Completing the Installation
Completing and verifying installation

UNIT 5: Configuring Mailbox Server
Configuring Mailbox Server, Administrative Tools

UNIT 6: Configuring Public Folder
Configuring Public Folders, Managing Recipient Objects, Managing Mailboxes, Managing Other Recipients

UNIT 7: Configuring E-mail Address Policies
Configuring E-mail Address Policies, Configuring Address Lists

UNIT 8: Configuring bulk recipient management task
Configuring Bulk Recipient Management Tasks

UNIT 9: Managing Exchange Recipients
Managing Exchange Recipients, Managing Client Access

UNIT 10: Configuring the client Access Server Role
Configuring the client Access Server Role

UNIT 11: Configuring Client Access Services
Configuring Clint Access Services for Outlook Clients

UNIT 12: Configuring Client Access Servers for Outlook Anywhere Access
Configuring Client Access Servers for Outlook Anywhere Access

UNIT 13: Configuring Outlook Web App
Configuring Outlook Web Application

UNIT 14: Configuring Mobile Messaging
Configuring Mobile Messaging

UNIT 15: Configuring Client Access
Configuring Client Access Servers for Outlook Web Application

UNIT 16: Exchange ActiveSync
Exchange ActiveSync

Reference Books:

BSCHNT43 --- CWNA

Unit 1: Wireless Standards
Unit 2: Organizations
Unit 3: Applications
Unit 4: Introduction of Wireless Networking
Unit 5: Radio Technologies
Unit 6: Antennas and Antenna Systems
Unit 7: Wireless Design Models
Unit 8: Topologies
Unit 9: Infrastructure
Unit 10: IEEE 802.11 Network Architecture
Unit 11: RF Site Surveys
Unit 12: Infrastructure Hardware
Unit 13: Software
Unit 14: Wireless Security Implementation
Unit 15: Planning
Unit 16: Troubleshooting
Reference Books:
2. CWNA Certified Wireless Network Administrator Official Study Guide: Exam PW0-104 By David D. Coleman, David A. Westcott
3. CWNA Guide to Wireless LANs By Mark Ciampa
4. CWNA Cert Wireless Net Admin By Carpenter
5. CWNA-Certified Wireless N/W Admin.Study Guide By Planet3 Wireless

BSCHNT44 --- CEH (Certified Ethical Hacking)

Unit 1: Introduction Hacking
Unit 2: Introduction to Ethical Hacking
Unit 3: Scanning IP Addresses
Unit 4: Scanning Networks
Unit 5: System Hacking
Unit 6: Network Hacking
Unit 7: Trojans
Unit 8: Backdoors
Unit 9: Viruses: Viruses, types of viruses
Unit 10: Worms: Introduction to Worms, types of worms
Unit 11: Sniffers: Sniffers, types of sniffers
Unit 12: Denial of Service: Introduction to Denial of Service, types of services
Unit 13: Session Hijacking: Introduction to hijacking, Session Hijacking, types of hijacking,
Unit 14: SQL Injection: SQL Injection, types of SQL
Unit 15: Hacking Wireless Networks: Hacking Wireless Networks
Unit 16: Cryptography: Cryptography, types of cryptography

Reference Books:
1. Study Guide of ETH By S. K. Gupta, GT Publication, Jaipur
2. Network Security and Ethical Hacking By Rajat Khare, Luniver Press, Beckington
3. Ethical Hacking By Thomas Mathew, EC-Council of E-Commerce Consultants
4. Ethical Hacking and Countermeasures: Attack Phases By Ec-Council
UNIT 1: Planning Routing Services to Requirements
UNIT 2: Implementing an EIGRP based Solution
UNIT 3: Implementing a Scalable Multi area Network OSPF Based Solution
UNIT 4: Implement an IPv4-based Redistribution Solution
UNIT 5: Implementing Path Control: Implementing Path Control, Connecting an Enterprise Network to ISP Networks
UNIT 6: Analyzing Campus Network Designs: Analyzing Campus Network Designs, Implementing VLANs in Campus Networks
UNIT 7: Implementing Spanning Tree: Implementing Spanning Tree, Implementing Inter-VLAN Routing
UNIT 8: Implementing First Hop Redundancy in a Campus Environment
UNIT 9: Implementing a Highly Available Network
UNIT 10: Minimizing Service Loss and Data Theft in a Campus Network: Minimizing Service Loss and Data Theft in a Campus Network, Integrating Wireless LANs into a Campus Network
UNIT 11: Accommodating Voice and Video in Campus Networks: Planning Maintenance for Complex Networks
UNIT 12: Selecting Maintenance and Troubleshooting Tools and Applications, Planning Troubleshooting Processes for Complex Enterprise Networks
UNIT 13: Maintaining and Troubleshooting Campus Switching-Based Problems
UNIT 14: Maintaining and Troubleshooting Routing Based Solutions
UNIT 15: Maintaining and Troubleshooting Network Security Solutions
UNIT 16: Maintaining and Troubleshooting Integrated: Maintaining and Troubleshooting Integrated, Complex Enterprise Networks.

Reference Books:
2. CCNP BCMSN exam certification guide: CCNP self-study By David Hucaby
3. CCNP practical studies: routing By Henry Benjamin
4. CCNP(R) Practical Studies: Switching (CCNP Self-Study) By Justin Menga

SEMESTER V

BSCHNT51 --- Network Routing Technologies

Unit 1: Introduction: Overview of Networking, Advantage of Network, Types of network, Network Models
Unit 2: OSI Model: Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, Application Layer

Unit 4: IP Addressing – Fundamentals - The Hierarchical IP Addressing Scheme, Class A Addressing, Class B Addressing, Class C Addressing, Class D And Class E; The Private IP Addresses - IP Addressing & Sub Netting: Subnet Masking With Class C, Subnet Masking With Class B, Subnet Masking With Class A, Design an IP addressing scheme to support Classless and Class full, Private addressing requirement


Unit 6: Different Network Protocols and their Comparisons, IPX/SPX, The IPX Header Properties, SPX and NCP, Data Link Layer Encapsulation.

Unit 7: NetBEUI, NetBIOS Naming, the NetBEUI Frame.

Unit 8: AppleTalk, the AppleTalk Address, Protocols in the AppleTalk Suite.

Unit 9: Local Area Network: Ethernet, Ethernet Cabling, the Ethernet MAC Sub Layer Protocol, Ethernet Performance, Traditional Ethernet, MAC Sub layer, Physical Layer, Physical Layer Implementation, Bridged Ethernet, Switched Ethernet, Full-Duplex Ethernet, Fast Ethernet, MAC Sub layer, Physical Layer, Physical Layer Implementation, Gigabit Ethernet, MAC Sub layer, Physical Layer, Physical Layer.

Unit 10: Implementation, IEEE 802.2: Logical Link Control, Retrospective on Ethernet, Fiber Optics Used in FDDI, Ethernet at Data Link Layer, Ethernet _II, IEEE 802.3, IEEE 802.2, SNAP Ethernet at Physical Layer: Straight Through Cable, Cross Over Cable, Rolled Over Cable, and Practical of cabling.

Unit 11: Wireless LAN, Wireless Topology, IEEE 802.11a/ 802.11b, Wireless Security Configuring our Wireless Internet work, WAP, Blue tooth technology, AWPP, Mesh and LWAPP


Unit 13: Configuring IGRP, Configuring EIGRP, OSPF Operation, Configuring OSPF in Single Area OSPF Operation in Multiple Areas, Configuring OSPF in Multiple Areas.

Unit 14: Internet Protocol Version 6 (IPv6)
Why do we need IPv6?
The Benefits and uses of IPv6
IPv6 Addressing and Expressions
Address Type
Special Address
How IPv6 Works in an Internetwork
Autoconfiguration
Configuring Cisco Routers with IPv6
ICMPv6  
DHCPv6  
IPv6 Routing Protocols  
**Unit 15: RIPng**  
EIGRPv6  
OSPFv6  
Migrating to IPv6  
Dual Stacking  
6to4 Tunneling  
NAT-PT  
Configuring IPv6 on Our Internetwork  
Configuring RIPng  
Configuring OSPFv3  

**BSCHNT52 --- Router Configuration & Security**  

**Unit 1:** Different Series of Cisco Routers  
**Unit 2:** Different Series of Cisco Switches  
**Unit 3:** Cisco Three Layer Hierarchical Model  
  - The Core Layer  
  - The Distribution Layer  
  - The Access Layer  
**Unit 4:** Design or modify simple LAN using Cisco Products  
**Unit 5:** Demonstrate the Mathematical skills required to work seamlessly with Integer, Decimal, Binary and Hexadecimal Numbers and Simple Binary Logic  
**Unit 6:** Introduction to Cisco IOS  
**Unit 7:** Cisco IOS Booting Procedure  
**Unit 8:** Basic configuration of Cisco IOS  
**Unit 9:** Cisco IOS Advanced configuration including Passwords and Telnet  
**Unit 10:** Cisco Security Device Manager (SDM)  
**Unit 11:** Installing SDM on Your Computer  
**Unit 12:** Using SDM for Backup/Restore and Edit  
**Unit 13:** Using SDM to Telnet into Your Router  
**Unit 14:** Configuring VPN using SDM  
**Unit 15:** Using the SDM to Manage the Flash Memory  
**Unit 16:** Config-Register, Password Recovery, Verifying Config-Register With “Show Version” Command, Managing Cisco Internetwork, Back up, Restore and Upgradation of Cisco IOS, IP Name resolution with DNS.  
**Unit 17:** Developing Access List to meet user requirement  
**Unit 18:** Types of ACL, Configuring Standard ACL, Configuring Extended ACL, Configuring Named ACL.
BSCHNT53 --- Network Switching Technologies

Unit 1: Monitoring Cisco Internetwork
Unit 2: Cisco Discovery Protocol (CDP)
Unit 3: Telnet
Unit 4: Describe the Enterprise Composite Model and its Performance & Scalability
Unit 5: Explain the role of switches in the Enterprise Composite Model
Unit 6: Monitoring Cisco Switched network
Unit 7: Function of Switching Database Management (CAM & TCAM) within Catalyst Switches
Unit 8: Explain Spanning Tree Protocol (STP)
Unit 9: Identify the specific types of Cisco Route switch processor and implementation details
Unit 10: Catalyst Switch 1900 configuration
Unit 11: Catalyst Switch 2950 configuration
Unit 12: Features and Operations of VLAN
Unit 13: Features of VTP
Unit 14: Describe how VTP Version 1 & 2 Operate
Unit 15: VTP Domains
Unit 16: VTP Modes
Unit 17: VTP Advertisements and Pruning
Unit 18: VLAN Configuration with 1900 Series Switch
Unit 19: VLAN Configuration With 2900 Series Switch
Unit 20: List and describe the operation of Key components required to implement Inter – VLAN
Unit 21: VLAN Trunking
Unit 22: Layer 1, 2 & 3 technologies used in Switched Network

BSCHNT54---WAN Technologies

Unit 1: Understanding and Configuring NAT
Unit 2: Practice of NAT Configuration with Simulator
Unit 3: WAN Technologies
Unit 4: Synchronous Dial-in, Frame Relay, ISDN, Cable Modem, DSL, Leased Line, VSAT, PSTN, Structure and Operation of VPN, Explain the operation of Remote Access Control Method.
Unit 5: WAN Protocols
Unit 6: HDLC, PPP, SLIP, ATM, PPP Authentication and Encapsulation Method, Configuring PPP
Unit 7: ISDN Protocols and Design
Unit 8: ISDN Channels: PRI, BRI, ISDN Protocols, ISDN Function Groups and Reference Points
Unit 9: ISDN Components, Typical ISDN Configurations, PAP and CHAP , Multilink PPP , Dial-on-Demand Routing.
Unit 10: Frame Relay

Unit 11: Protocols, Virtual Circuits, LMI and Encapsulation Types, DLCI Addressing Details
Unit 12: Network Layer Concerns with Frame Relay, Frame Relay Configuration
Unit 13: Fully Meshed Network with One IP Subnet/IPX Network
Unit 14: Partially-Meshed Network with One IP Subnet/IPX Network Per VC
Unit 15: Partially Meshed Network with Some Fully Meshed Parts
Unit 16: Frame Relay Verification, Frame Relay Configuration, Frame Relay Configuration Dissection

BSCHNT55P--- Practical-(Network Routing, Switching & WAN Technology)

BSCHNT61--- RHCE 6.0 (RH124, RH135, RH254) BSCHN551

Unit 1: Getting Started with the GNOME Graphical Desktop
Unit 2: Manage Files Graphically with Nautilus, Get Help in a Graphical Environment
UNIT 3: Configure Local Services, Manage Physical Storage I, Manage Logical Volumes, Monitor System Resources
UNIT 4: Manage System Software
Unit 5: Manage System Software, Get Started with Bash
Unit 6: Get Help in a Textual Environment, Establish Network Connectivity
Unit 7; Administer Users and Groups, Manage Files from the Command Line
Unit 8: Secure Linux File Access, Administer Remote Systems
Unit 9: Configure General Services, Manage Physical Storage II
Unit 10; Install Linux Graphically, Manage Virtual Machines, Control the Boot Process, Deploy File Sharing Services
Unit 11: Secure Network Services, Comprehensive Review, Accessing the Command Line Intermediate Command Line Tools
Unit 12; Regular Expressions, Pipelines, and I/O Redirection, Network Configuration and Troubleshooting, Managing Simple Partitions and File systems, Managing Flexible Storage with Logical Volumes
Unit 14: Managing Installed Services, Analyzing and Storing Logs, Managing Processes, Tuning and Maintaining the Kernel, Troubleshooting, Getting Started with the Classroom Environment
Unit 16: NTP Server Configuration, File systems and Logs, Centralized and Secure Storage
Unit 17: SSL-encapsulated Web Services, Web Server Additional Configuration, Basic SMTP Configuration
BSCHNT62--- Customer Relationship Management BSCHNSS61

Unit 1: Introduction to Customer Relationship Management, Identification and classification of Business, Information Quality
Unit 2: Development methodologies and design based on users and on the needs of the different business areas, Identification of different user profiles, the technological architecture
Unit 3: The theoretical framework of Customer Relationship Management, environmental and technical core, from decision support system to CRM – main steps in evolution
Unit 4: CRM Project Organization in financial industry
Unit 5: Basic motivation for CRM, Concepts and Tools of CRM, CRM in the banking industry, CRM Processes and Strategies, Organizing for CRM, Technology in CRM: e-CRM
Unit 6: Applications of CRM, Effective Complaints Handling, Human Resource Management in CRM, Effective CRM through Data Mining & Data Warehousing
Unit 7: Data Mining Techniques, Visualization, neural networks, genetic algorithm, fuzzy logic, rule induction and decision tree, cluster analysis
Unit 8: Product quality, the concept of quality, the KANO model, quality function deployment
Unit 9: Customer Satisfaction, the concept and relevance of customer satisfaction
Unit 10: Customer retention
Unit 11: The concept and relevance of Customer retention, causes of customer retention/commitment, advantages of customer retention, tools of customer retention
Unit 12: Main benefits and organizational impacts of CRM within the bank, a new business organization, CRM, IT and organizational approaches
Unit 13: Evolution of customer relationships and customer value, the company culture, the organizational structure, main process of organizations, who is the customer, customer’s life cycle
Unit 14: Customer value, approaches to acquiring customer values
Unit 15: Company Success: CRM and the balanced scorecard
Unit 16: The balance scorecard, perspectives of the balanced scorecard
Unit 17: Challenges for global CRM, the primary challenges facing successful CRM, Implementation efforts
Unit 16: Organization of knowledge discovery and customer insight activities
Unit 17: Conclusion
Unit 18: Meaning of CRM, adaption of data warehousing in a CRM project, using data mining in CRM project, theoretical foundations of CRM

BSCHNT63---- Channel Distribution Techniques BSCHNSS62

Unit 1: Sales Training & Definitions

Unit 2: Product & Field

Unit 3: Field & Definitions, Product & Definitions, types of product
Unit 4: Sales & Definition, Types of sales, Direct Sales, Indirect Sales

Unit 5: Sales forecasting, Factors affecting sales forecasting, Process of sales forecasting,

Unit 6: Marketing Planning, Sales promotions, Tools of sales

Unit 7: Introduction to Personal Selling, types of selling

Unit 8: Phone Sales Skills

Unit 9: Customer Service, types of services

Unit 10: Strategic, Sales & Strategic Key Account Sales

Unit 11: Meaning and definitions channel distribution

Unit 12: Functions of channel distribution, Factors affecting the selection of channel of distribution

Unit 13: Factor related to market, Time & territory management

Unit 14: Recruiting distributors and channel partners, Qualification and ranking of distributors

Unit 15: Selection of particular channel, Building trust and rapport, Boosting mind share, coaching distributors

Unit 16: Developing distributor capture plans, Proposals and closes

Unit 17: Creating unique sales programs, supporting distributors with sales calls, maintaining successful distributor relationships

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