



NEW SYLLABUS

Dual certification

BACHELOR OF SCIENCE IN HARDWARE & NETWORKING TECHNOLOGIES With (UIMS)

Universal Infrastructure Management System

STUDY SCHEME FOR BACHELOR OF SCIENCE IN HARDWARE & NETWORKING TECHNOLOGIES SEMESTER-I

CODE	SUBJECT
BScHNT-101	Fundamentals of Information Technology & Operating Systems
BScHNT-102	Basics of Electronics & Microprocessor
BScHNT-103	PC Assembling & Troubleshooting
BScHNT-104	Programming in C
BScHNT-105	Communication & Soft Skills
BScHNT-106	Hardware Lab-I (PC Assembling & Troubleshooting)

SEMESTER-II

CODE	SUBJECT
BScHNT-201	Computer Networks
BScHNT-202	Windows 2003 Server Administration
BScHNT-203	Linux Administration
BScHNT-204	Database Administration
BScHNT-205	Software Lab- 1(Windows 2003 Server & Linux)

SEMESTER III

CODE	SUBJECT
1 BScHNT-301	Discrete Mathematics
2 BScHNT-302	Computer Organization
3 BScHNT-303	IT Applications in Business
4 BScHNT-304	Digital Communications
5 BScHNT-305	Software Lab-I(IT Applications in Business)

SEMESTER IV

CODE	SUBJECT
1 BScHNT-401	Network Routing Technologies
2 BScHNT-402	Router Configuration & Security
3 BScHNT-403	Network Switching Technologies
4 BScHNT-404	WAN Technologies
5 BScHNT-405	Hardware



SEMESTER V

CODE	SUBJECT
1 BScHNT-501	Advanced OS Concept with MS Windows Client
2 BScHNT-502	Managing and Maintaining a Microsoft Windows Server
3 BScHNT-503	Microsoft Windows Network Infrastructure
4 BScHNT-504	Implementing and Managing Microsoft Exchange Server
5 BScHNT-505	Software Lab-I (Microsoft Client & Server)

SEMESTER VI

1 BScHNT-601	Linux Server Management
2 BScHNT-602	Wireless Networking
3 BScHNT-603	Security Essentials
4 BScHNT-604	Project (PC Assembling)
5 BScHNT-605	Hardware Lab-I (Linux Server Management & Security Essentials)



NEW SYLLABUS UIMS

Universal Infrastructure Management System

Revised 2013-2015

A unit of





Semester - 1

Duration: 840 hrs. The edge

Semester 1 is designed for the novice entries into IMS the world of Infrastructure Management Service. The curriculum in this semester is tailored to gear up students to develop the basic IMS knowledge and further it is fashioned to guide them from basics to advanced topics.

The students, to start with, will be educating or upgrading their skill set pertaining to Digital Electronics. MS Office 2007 is the next essential course which would enhance the students' acquaintance on the most popular applications used regularly such as Word, Excel, PowerPoint, Outlook and Access.

Learning A+ will augment the students' comprehension about the fundamentals of computer and the skill set pertaining to assembling and troubleshooting a computer system. In Network+, they learn about networking standards and troubleshooting networks. Learning about the operating systems in A+, the students will step further to discover the latest revolution of Microsoft, the Windows 7 OS. This is one of the latest and most popular client operating systems that is currently phenomenal in the job market.

Since Red Hat Linux is one of the most popular flavors of UNIX, the students will be introduced to the basics of Linux operating systems. It becomes important to understand how to operate laptops, use the special features of laptops, troubleshoot and maintain laptops, all of which are roofed under the topic Laptop Maintenance.

Organizations are growing smarter with potential growth in the IT industry. Along with quality work they emphasis on public relations which becomes the essence of the business. In order to fulfill both, the students must acquire technical skills as well as the communication and personality development skills which is learnt by students in this semester.

This semester leads to certifications like

- | | |
|---|--------|
| • Microsoft Certified Application Specialist on Microsoft Office 2007 | 100HRs |
| • A+ IT technician | 40HRs |
| • Network + | 140HRs |
| • MCTS: Windows 7 Configuration | 60HRs |
| • Desktop & Laptop Maintenance | 60HRs |
| • Red Hat System Administration I(RH124) | 160HRs |
| • El+ Electronics plus | 120HRs |
| • Advance communication | 160HRs |

Job Profiles

Once the students complete this semester they'll be exposed to various job profiles like;

- Application Specialist on Microsoft Office 2007
- Hardware Engineer
- PC Support Engineer
- Tech Support Specialist
- Desktop Support Technician and many more.
-

Electronics+.





- **ANALOG**
 - Soldering
 - Using Multimeter & Trainer kit
 - Resistor & Resistor Connection
 - Current & Voltage
 - Ohm's Law
 - Voltage Rise & Voltage Drop
 - Inductor & Capacitor
 - Using Oscilloscope
 - Transformer
 - Semiconductor
 - PN Junction & Diode
 - Half way rectifier
 - Full Way Rectifier
 - Power Supply
 - Transistor
 - Power Supply introduction to SMPS

DIGITAL

- Number System Conversions
- Basic Logic Gates
- Half Adder & Half Subtractor
- Multiplexer & De-multiplexer
- Decoder
- Encoder
- SR Flip - Flops
- D Flip -Flop
- JK Flip-Flop
- Multivibrator
 - Binary Arithmetic
 - Boolean Algebra
 - Flip-Flop
 - Edge Triggered JK Flip Flop
 - JK Master / Slave
 - Memories
 - Microprocessor

Desktop & Laptop Maintenance

- Desktop & Laptop Features and Function keys
- Common Desktop Laptop Problems
- Function of Desktop & Laptop
- Power Options For Desktop & Laptops
- Hibernate Features
- Standby Features
- Laptop battery
- Common laptop problems
- Best practices
- General maintenance of the Desktop & laptop

Microsoft certified Application Specialist on Microsoft Office 2007

- Word 2007 Basics
- Editing and Proofreading a Document





- Bulleting and Numbering
- Working with Tables
- Word Styles
- Word Art, Clip Art
- Mail Merger
- Excel 2007 Basics
- Printing in Excel
- Charting
- Creating Tables
- Excel Workbook
- Special Features
- PowerPoint 2007 Basics
- Charts and Objects
- Customizing PowerPoint
- Online Presentation
- Access 2007 Basics
- Forms
- Sorting Records
- Filters
- Information Accuracy
- Outlook 2007 Basics
- Electronic Mails
- Inbox Management
- Calendar
- Events and Meetings

Installing and Configuring Windows 7 (MCTS)

- Installing Windows 7
- Preparing the Windows 7 Installation Source
- User and Group Management
- Password Reset Disk
- Parental Control
- Upgrading to Windows 7
- User Profiles Management
- System Images Capturing
- Virtual Hard Disk Files
- Application Compatibility
- Introducing Windows 7
- Windows Aero and Mouse operations
- Switching Users
- Disks and Device Drivers
- Network Settings
- IPv4/IPv6 Configuration
- Network Configuration
- Folder and File Access
- Branch Cache
- Printers in Windows 7
- Windows 7 Desktops Security
- Windows 7 Client Computers
- Mobile Computing and Remote Access in Windows 7

**A+**

- Computer Components Identification
- Assemble and Disassemble Computer Components
- Components in Portable Computers
- Devices Installation and Configuration
- Characteristics of Cabling and their Connectors
- Common IDE, SCSI and Peripheral Devices
- Optimize PC Operations Optimization
- Determine the Issues that must be Considered when upgrading a PC
- Popular CPU Chips
- Types of Memory (RAM)
- Types of Motherboards and their Components
- Printer Technologies, Interfaces and Options/Upgrades
- Troubleshoot Common Printer Problems
- Operating System Fundamentals OS Installation
- Common Error Codes Interpretation
- Networking Capabilities of Windows
- Basic Internet Protocols and Terminologies
- Procedures for Establishing Internet Connectivity

Network +

- Logical or Physical Network Topologies
- Networking Standards
- Characteristics of Different Types of Cables
- Different media Connectors and Describe their uses
- Purposes, Features and Functions of Network Components
- General Characteristics of the Different wireless technologies
- Different Network Protocols
- Classful IP and Their Subnet Masks
- Subnetting
- Private and Public network addressing schemes
- WAN Technologies
- Security protocols and authentication protocols
- Basic capabilities different server operating systems
- Benefits and characteristics of using a firewall and proxy service
- Main characteristics and purpose of extranets and intranets
- Antivirus software
- Fault Tolerance
- Network Utility to Troubleshoot Networks
- Impact of modifying, adding or removing network services
- Network Troubleshooting with Physical Topology

Red Hat System Administration I (RH124)

- Get Started with the GNOME Graphical Desktop
- Manage Files Graphically with Nautilus
- Get Help in a Graphical Environment
- Configure Local Services
- Manage Physical Storage I
- Manage Logical Volumes
- Monitor System Resources



- Manage System Software
- Get Started with Bash
- Get Help in a Textual Environment
- Establish Network Connectivity
- Administer Users and Groups
- Manage Files from the Command Line
- Secure Linux File Access
- Administer Remote Systems
- Configure General Services
- Manage Physical Storage II
- Install Linux Graphically
- Manage Virtual Machines
- Control the Boot Process
- Deploy File Sharing Services
- Secure Network Services

Communication Skills and Personality Development

- Importance of Effective Communication
- Types of Communication
- Scope of Written Communication
- Types of Writing
- Effective Writing
- Reading Skills
- Listening
- Improving one's Vocabulary
- Root words
- Usage of words with similar meaning
- Homophones, Synonyms & Antonyms
- Personality, its types
- Significance of Personality-An organizational perspective
- Public Speaking - As part of personality development
- Group Discussion - A practice of corporate personality development Interviews
- Presentation Skills - The root of Personality Development
- Acting your speech (intonation)- Effective public speaking tips
- Public Presentation
- Nature and scope of a group discussion

Semester - 2

Duration: 420 hrs.

With an ample essence of basics, the students are set to learn the advanced topics in semester II. Here the focus is on much adored technologies such as Microsoft, Cisco and Linux. Semester II includes the latest trend in server side of the Microsoft technologies by covering Server 2008 papers for the students.

With MCITP server administration, students will learn to configure, manage and support groups, domain names and client settings. They will get an in-depth knowledge about the deployment, security, management and maintenance of a server.

With a base knowledge on Microsoft, the students will be taught the Red Hat Linux system administration in detail. They will learn to install the Linux operating system, create users and groups; assign permissions to files,



A unit of



administer and troubleshoot a Linux system and network environment. The students are lead to learn yet another essential technology Cisco CCNA. This enables the students to gain the knowledge and skills necessary to select, connect, configure, and troubleshoot the various Cisco networking devices.

In any network environment, securing networks is a crucial job. Therefore, the students learn about the Check Point Firewall software to secure networks from attacks. They also learn to secure resources within a network from the external network.

To further enhance the personality traits of the students, they are exposed to Personality Development and Communications skills training at advanced levels. Effective communication, public speaking, leadership qualities, time management and interview skills are the few essential topics are covered in this semester.

This semester leads to certifications like:

- | | | |
|---|---|--------|
| • | MCITP- Server Administrator | 60Hrs |
| • | Red Hat Certified System Administrator (RHCSA) | 80Hrs |
| • | Cisco Certified Network Associate (CCNA) | 120Hrs |
| • | Check Point Certified Security Administrator (CCSA) | 40Hrs |
| • | Personality Development | 120Hrs |

Job Profiles

Once the students complete this semester they'll be exposed to various job profiles like;

- System Administrator on Windows Server 2008
- Linux Administrator
- Network Administrator
- Check Point Administrator
- Desktop Management Engineer and many more.

MCITP Server Administration: Windows Server 2008 Administration

- Windows Server 2008 Installation and Administration
- Automated Server Deployment
- Windows Deployment Services and Network Connectivity
- IPv6 in Windows Server 2008
- Domain and Forest Functionality
- Group Policy in Windows Server 2008
- Application Servers and Deployment
- Server and Application Virtualization
- Terminal Services RemoteApp
- File and Print Servers
- Provisioning Data and Credential Delegation
- Remote Administration Technologies
- Windows Server 2008 Patch Management Strategies
- Replica Mode and Autonomous Mode
- WSUS (Windows Server Update Services)
- Server Security and Remote Access
- VPN (Virtual Private Network) Protocols
- Network Policy Server and Remote Access Accounting





- Network Access Protection
- Storage Area Networks and Logical Unit Numbers (LUN)
- Certificate Services Role-Based Administration
- Credential Roaming and Web Enrollment Support
- Online Responder for Certificate Services
- Network Device Enrollment Service
- Clustering and High Availability
- Backing Up Data and Disaster Recovery

MCITP Server Administration: Windows Server 2008 Active Directory, Configuring

- Windows Server 2008 Active Directory
- Organizational Units and Domain Controllers
- Global Catalog
- Operations Masters and Server Manager
- Global Catalog Servers
- RID Master
- Transferring and Seizing of Operations Master Roles
- Active Directory and DNS
- Command-Line DNS Server Administration
- Zone Transfers and Replication
- Active Directory Sites and Replication
- Active Directory Sites
- Active Directory Lightweight Directory Services (AD LDS)
- Active Directory Rights Management Services (AD RMS)
- Read-Only Domain Controllers
- Active Directory Federation Services (ADFS)
- Windows Server 2008 Virtualization
- Active Directory Objects and Trusts
- Organizational Units
- Group Membership
- Shell Access Policies
- Group Policy to Deploy Software
- Backing Up and Recovering Active Directory
 - Use of Windows Server Backup
- Active Directory Certificate Services
- Installing Active Directory Certificate Services
- Certificate Templates and Revocation

MCITP Server Administration: Windows Server 2008 Network, Infrastructure, Configuring

- Windows Server 2008 Installation
- DNS Server Role and Domain Name System
- Recursive and Iterative Queries
- Forward and Windows internet Name System
- Overview of the DHCP Server Role
- Dual Layer Architecture
- ISATASP Tunneling and Port Proxy
- Transitioning from IPv4 to IPv6
- Network and VPN Access



- Network Policy Server
- RADIUS Clients and Servers
- NPS Authentication Methods
- Log File Properties
- SQL Server Logging
- Overview of IPsec
- Storage Technologies
- Windows Server 2008 Storage Management Overview
- Common Capacity Management Challenges
- File Server Resource Manager
- Quota Management
- Network load balancing manager
- Security and Audit policy
- WSUS Administration

Cisco Routing and Switching

(CCNA - ICND I & ICND II)

- Basic Networking Concepts & OSI Reference Model
- Function of Ethernet
- Network Security
- Wireless Network Technology
- Ethernet Switch Configuration
- Subnetting
- Routers and Router Configuration
- Different WAN Technologies
- Advanced dynamic Routing Protocols
- Route Summarization
- Link State Routing Protocol
- EIGRP
- Advanced Switching Technology
- VLAN and Trunks
- Access Control List
- Network Address Translation (NAT)
- IP version 6
- Wide Area Network
- Frame Relay

Red Hat System Administration II (RH134)

- Automated Installations of Red Hat Enterprise Linux
- Accessing the Command Line
- Intermediate Command Line Tools
- Regular Expressions, Pipelines, and I/O Redirection
- Network Configuration and Troubleshooting
- Managing Simple Partitions and Filesystems
- Managing Flexible Storage with Logical Volumes
- Access Network File Sharing Services
- Managing User Accounts
- Controlling Access to Files



- Managing SELinux
- Installing and Managing Software
- Managing Installed Services
- Analyzing and Storing Logs
- Managing Processes
- Tuning and Maintaining the Kernel
- System Recovery Techniques

Checkpoint Certified Security Administrator

- Check Point NGX Pro R60
- Installations and configurations
- Graphical Interface
- Policies
- Network Address Translation
- Tracking and Alerts
- Encryption and VPNs
- SmartDefense

Communication Skills and Personality Development

- Scope of verbal Communication
- Formal Communication
- Informal Communication
- Phonetics
- Pronunciation
- Listening
- Accent and Neutral Accent
- Reading a formal Text
- Pace of Communication
- Dictionaries
- Interviews and its types
- Skills required for facing an interview
- Effective Presentation Skills
- Significance of Leadership
- Factors of Leadership
- Qualities of a good leader
- Interviewer and Interviewee - Roles and Responsibilities

Semester - 3

Duration: 534 hrs.

In this semester, the topics covered move to a more advanced level. In this semester they will start with the Exchange Server configuration and then progress to Linux network and security administration and ethical hacking. Apart from this, they will be introduced with more advanced technologies such as Sun Solaris and CCNP.

A unit of





Since emails have become an integral part of communication, students are introduced to Microsoft Exchange Server 2007, a messaging application that's responsible for hosting mailboxes, sending and receiving of emails etc. In this semester the students are exposed to implement, administer and maintain a Red Hat Linux Network environment. As part of maintaining secure networks, one needs to know the loopholes and vulnerabilities associated with networks. The students, therefore learn about ethical hacking, perform risk analysis, identify types of attacks and protect the networks from various attacks.

Solaris Operating System is yet another UNIX-based operating system which is very popular with organizations. So, students learn about implementing, administering, maintaining, managing and troubleshooting the Solaris 10 operating system.

In this semester student will learn complete about mobile engineering this semester will lead them to have a fight in corporate community through mobile technology

The last topic of this semester is CCNP, which is an advanced Cisco exam. The first two papers of CCNP are introduced in this semester, known as ROUTE and SWITCH. In Implementing Cisco IP Routing and Switched Networks papers, the students will learn to plan and document the configuration and verification of routing protocols and analyze, work and accommodate voice and video on campus network designs in any switched network.

Finally this semester will also teach how to face the interview how you have to present in front of your interviewer how your curriculum should represent you

This semester leads to certifications like

• Microsoft Certified Technology Specialist (MCTS):	80Hrs
• Microsoft Exchange	20Hrs
• Server 2007, Configuration	40Hrs
• Red Hat Certified Engineer	60Hrs
• Mobile Engineering	90Hrs
• Certified ethical Hacker (CEH)	40Hrs
• Sun Certified System	80Hrs
• Administrator (SCSA Part I)	64Hrs
• Interview Skill	60Hrs

Job Profiles

- Application Specialist on Microsoft Office 2007
- Hardware Engineer
- PC Support Engineer
- Tech Support Specialist
- Mobile service engineer
- Desktop Support Technician and many more.

Configuring Exchange Server 2007

- Server Roles and Permissions
- Role based Deployment and Server Roles
- Exchange 2007 administration





- Administrative Permissions Delegations
- Exchange Organization, Server and Recipient Management
- Active Directory Configuration Partition, Managing Recipients Using the
- Exchange 2007 Management Console
- Distribution Groups and Exchange 2007 Mailbox Server
- Exchange 2007 Public Folder Database
- Scheduled Maintenance, Clustering
- Logging, Auditing and Monitoring of Exchange 2007

Red Hat System Administration III (RH 254)

- Enhance User Security
- Bash Scripting and Tools
- File Security with GnuPG
- Package Management
- Network Monitoring
- Advanced Network Configuration
- Secure Network Traffic
- NTP Server Configuration
- System Monitoring and Logs
- Centralized and Secure Storage
- SSL-encapsulated Web Services
- Web Server Additional Configuration
- Basic SMTP Configuration
- Caching-Only DNS Server
- File Sharing with NFS, CIFS & FTP
- Troubleshooting Boot Process

Certified Ethical Hacking

- Foot printing and Scanning
- Enumeration
- System Hacking and Trojans
- Denial of Service and Sniffers
- Session Hijacking
- Hacking Web Servers
- Web Application Vulnerabilities
- Web Techniques Based Password cracking
- SQL Injection and Hacking Wireless Networks
- Viruses, Worms and Physical Security
- Linux Hacking
- Evading IDS and Firewalls
- Buffer Overflows and Cryptography
- Penetration Testing

Mobile service engineering

Module I Basic Electronics

- Basic Electronics.



- Introduction of Mobile Component.
- Practical on Electronic Components & Testing.
- Soldering with iron.
- Multi-meter, CRO, Bread Board.
- Multi-meter, CRO, Bread Board.
- How to use (SMD)
- PCB, General Purpose PCB.
- Checking Of Parts (Speaker, Buzzer, Earphone, PFO).

Module II Mobile Components

- Introduction of Mobile Communication.
- Introduction to Mobile Phones.
- Cellular Mobile Telephone Service.
- Service Information of Mobile Phone.
- (Base Band Module, Base Band)
- Identification Of different IC's
- Supply Voltage Regulator, Powering UP & Down the Phone.
- Receiver, Transmitter, Headset Detection.
- Memory, SRAM, EEPROM, FLASH.
- Display Circuit / Monitor.
- Comparison with computer.
- Batteries and charger.
- SIM Card.
- Network Section(PFO, FDK, Antenna, Antenna Switch).
- Chip level and BGA training.
- GSM Codes.
- Block Diagram of different phones.
- Ball IC Practice.
- How to fix the Ball IC.
- Checking of PCB Prints.
- Introduction of different categories of mobile phones.
- Smd Rework Station Practice on Working Phones.
- Parts Replacing & Checking.

Module III Trouble Shooting

- Fault finding Procedure.
- SIM Card Faults.
- Network Problem.
- Charging And Battery Problems.
- Power ON/OFF Problems.
- General Faults.
- Display Problems.
- Software Problems.
- Keyboard Problems.
- Motherboard Tracing & Trouble shooting.

- CM-102 Mobile Software and Trouble Shooting
- Use of Logo Manager.
- Identification of Dongle Switch and Interface Cable.
- Identify how to connect different type of Interface cable with different mobiles.
- Unlock.
- Flashing.



- Blue tooth.
- Loading Games.
- Video clips.
- Blacklisting Software.
- Remote Software.
- UFS3.

Sun Solaris System Administration

- Solaris 10 OS Installation
- Directory Hierarchy
- File Components & types
- Disk Management & Disk Architecture
- Device Configuration
- Disk Partitioning
- Solaris File System Management
- Boot PROM and GRUB Commands
- Solaris Package Management
- Patch Administration
- File Permissions and Access
- Access Control Lists (ACL)
- FTP, Telnet & SSH
- Restricting remote root login
- Printer and System Process Management
- Backup and Restore

Implementing Cisco IP Routing (ROUTE)

- Implement an EIGRP based solution, given a network design and a set of requirements
- Implement a multi-area OSPF Network, given a network design and a set of requirements
- Implement an EBGp based solution, given a network design and a set of requirements
- Implement an IPv6 based solution, given a network design and a set of requirements
- Implement an IPv4 or IPv6 based redistribution solution, given a network design and a set of requirements
- Implement Layer 3 Path Control Solution

Implementing Cisco IP Switched Networks (SWITCH)

- Implement High Availability, given a network design and a set of requirements
- Implement a Security Extension of a Layer 2 solution, given a network design and a set of requirements
- Implement Switch based Layer 3 services, given a network design and a set of requirements
- Prepare infrastructure to support advanced services
- Implement VLAN based solution, given a network design and a set of requirements

Advance Communication, Personality & Interview Skill

- Grammar, Pronunciations, General knowledge
- Debates, Communication skill
- Group discussion, Voice clarity
- Vocabulary generation
- Accent neutralization
- Body language, texture
- Dressing style
- Aptitude & awareness



- Sitting style, Positive behavior
- Good manners
- Skills to face an interview
- Boosting self confidence
- Enhancing personal skill
- Corporate manner
- Time management
- Group discussion
- Mock interview
- Making curriculum vitae

Semester - 4
Duration: 458 hrs.

Semester IV, is the final step to complete the much sought after UIMS course. This semester includes the latest technologies such as Hyper V, EMC, IBM Tivoli and Cloud Computing. These new technologies are included in order to position our students with up-to-date knowledge.

The last paper of CCNP, Troubleshooting and Maintaining Cisco IP Switched Networks (TSHOOT) is covered in this semester. With this paper, the students will further enhance their skills in managing and maintaining complex enterprise networks as well as troubleshooting process to resolve problems. Through the topic Storage Fundamentals, the students will gain knowledge of the core logical and physical components that make up a Storage Systems Infrastructure.

The next topic in this semester is Server Administration. This topic provides the required skill set in terms of technical knowledge and skills required to build, install, maintain, troubleshoot server. Hyper V Virtualization is the next essential and latest technology that is covered under this semester. Yet another latest technology covered in GIMS is the IBM Tivoli Storage Management. Learning Tivoli helps the students to have in-depth knowledge of storage and data protection using Tivoli Storage manager.

Information Technology Service Management (ITSM) will help the students to manage problems in a network. The students will be introduced to the fundamental concepts associated with cloud computing such as its architecture, and practical applications. The last but very essential topic in this final semester is the Soft skills development.

This semester leads to certifications like:

- | | |
|---|-------|
| • Cisco Certified Network Professional(CCNP) | 60Hrs |
| • Server+ | 46Hrs |
| • MCTS: Windows Server Virtualization, Configuration | 90Hrs |
| • EMCPA- Associate: The EMC Proven Professional Associate | 40Hrs |
| • Cloud Computing | 40Hrs |
| • IBM Tivoli | 32Hrs |
| • Soft skill | 60Hrs |
| • ITSM | 90Hrs |



Job Profiles

The student is qualified to become a

- Network Engineer
- Server Technician
- Server Support Engineer
- Virtualization Administrator on MS technology
- Data Protection specialist
- Storage and Security manager Storage foundation specialist
- EMC Storage Management Administrator and many more

Troubleshooting and Maintaining Cisco IP Switched Networks (TSHOOT) Maintain and monitor network performance Troubleshoot Multi Protocol system networks

- troubleshoot EIGRP, OSPF, EBGp
- Troubleshoot routing redistribution solution & a DHCP client and server solution
- Troubleshoot NAT
- Troubleshoot IPv6 routing & IPv6 and IPv4 interoperability
- Troubleshoot switch-to-switch connectivity for the VLAN based solution
- Troubleshoot private VLANs
- Troubleshoot port security & general switch security
- Troubleshoot VACL and PACL
- Troubleshoot switch virtual interfaces (SVIs)
- Troubleshoot switch support of advanced services (i.e., Wireless, VOIP and Video)
- Troubleshoot a VoIP support solution & a video support solution
- Troubleshoot Layer 3 Security
- Troubleshoot configuration issues related to accessing the AAA server for authentication purposes
- Troubleshoot security issues related to IOS services (i.e. finger, NTP, HTTP, FTP, RCP etc.)

Storage Fundamentals (EMC)

- Storage Technology
- The Proliferation of Data
- The Data Center Evolution
- Storage Infrastructure
- Evolution of Storage
- Storage Systems Architecture
- Intelligent Disk Subsystems
- Storage Networking Overview
- Direct - Attached Storage
- Storage Area Networks
- Network - Attached Storage
- Emerging Technologies
- Information Availability
- Business Continuity Overview
- Backup and Recovery
- Local and Remote Replication
- Disaster Recovery



- Data Center Management
- Security and Virtualization
- Storage Infrastructure Security
- Virtualization Technologies

ITSM

- Life cycle of a service
- Service strategy
- Service design
- Service Transition
- Service Operation
- Models and concepts of service management
- Service management functions and roles

Cloud Computing

- Cloud Computing
- History and Evolution of Cloud Computing
- Private and Public clouds
- Cloud Computing architecture and industry frameworks
- Cloud computing infrastructure
- Practical applications of cloud computing
- Vendors and products for Cloud computing
- Audit and security risk with Cloud computing
- Risk Mitigation methodology for Cloud computing
- Infrastructure as a service (IaaS)
- Platform as a service (PaaS)
- Software as a service (SaaS)

Server Administration

- Server Installation
- Types of servers and roles
- Software and Hardware Configuration
- Processors, Motherboard and storage devices, networking and fault tolerance
- Network operating system and TCP/IP
- Upgradation
- Risk Assessment
- Proactive Maintenance and monitoring performance
- Backups
- Server Security
- Disaster recovery
- Troubleshooting

Virtualization (Microsoft Hyper V)

- Introduction to Windows Server 2008 Hyper-V
- Configure Hyper-V Settings and Virtual Networks
- Hyper-V Remote Administration
- Creation of Virtual Hard Drives and Virtual Machines





- Virtual Machine Settings, Snapshots, and High Availability
- Migration of Virtual Machines to Hyper-V
- Introduction to System Center Virtual Machine Manager
- Managing the VMM Virtual Machine Image Library and Checkpoints
- Windows PowerShell and Disaster Recovery

IBM Tivoli Storage Manager

- IBM Tivoli Storage Manager
- Introduction to IBM Tivoli Disaster Recovery Manager
- Stanzas of the Disaster Recovery Plan File
- Breaking out a Disaster Recovery Plan File
- Client Recovery
- Disaster Recovery Manager Media Management
- Life Cycle of DRM Media
- Sending and Returning Volumes to Vault
- Recovery Site Considerations
- Backup and Recovery Using Removable Media
- Backup and Recovery Using Server-to-Server Virtual Volumes
- Bare Machine Recovery

Soft Skills Development

- Transition from College to Corporate
- Business Written Communication
- Email etiquette
- SMS etiquette
- Business Spoken Communication
- Telephone etiquette
- Net and web meetings etiquette
- Working in Teams
- Attitude At Work
- Work Ethics