

IHT CERTIFIED HARDWARE & NETWORKING ENGINEER (16 MONTHS)

Course Objective: In this course one can learn:

- The uses of Computer and its Peripherals, Assembling of computer, Installation and configuration of O/S and Microprocessor evolution.
- The Concept of Electricity, electronics components and its uses, Rectification Digital Electronic concept and components
- Fundamental of operating system and pcs hardware
- To assemble, configure and troubleshoot pcs / Laptops
- Troubleshoot and Repair Various Computer Part Like Mother Boards, All kind of Printers, TFT/LCD Monitors , Mobile Phones and Laptops
- To setup and configure a Heterogeneous network
- To configure and manage wireless networks
- To Setup configure and manage Windows Server 2008 Network
- To Setup configure and manage the WAN using Cisco Devices
- To configure and Manage Cisco Devices.
- Configuring Security setting in different Networks
- Manage Disasters ? Setup and configure various Security concepts & Devices

COURSE HEADED FOR: - COMPTIA A+, N+ SECURITY+, MCITP (ENTERPRISE ADMIN WINDOWS SERVER 2008) AND CCNA

Module-1

IPC

Introduction to computer system, Computer Architecture & Generation, Description of all computer peripherals, Study of INPUT/OUTPUT Devices and all ports (Serial, Parallel, USB, Firewall & IEEE), Assembling & disassembling of the Personal PC (Pentium I- IV, Dual Core, Core 2 Duo, Hyper-V & Server Motherboard), PC Troubleshooting & Maintenance, Architecture of Operating System, Installation of Various Operating Systems & Application Software (WIN XP, WIN- VISTA, WIN 7, WINDOWS 2003/2008 & LINUX etc.), Installation & Configuration of Various Device Drivers

IEL

Introduction of Electronics, Study of Current & Voltage, AC & DC Current, Theory of AC & DC Circuits, Resistor, Capacitor & Inductor, Semiconductor Physics, Semiconductor Diode, Transistor Biasing, Transformers, BJT, FET, MOSFET & UJT, Traic, Diac, SCR & OP-Amp, Study of Number System, Gates, Basic Building Block, All Logical Gates, Boolean algebra, Multiplexer/De- Multiplexer, Decoder / Encoder, Flip- Flop, Register, TTL Circuits

I Soft

Ms Word:

Applying advanced formatting techniques, formatting pages, Working columns constructing high quality tables, Creating outlines in Word, Working with complex, documents managing data with Word, creating customized merge Documents, Publishing online forms, Adding reference to documents, Working together on documents.

Ms Excel:

Creating Excel Worksheet, Entering and editing Cell entries, working with numbers, Changing, Worksheet layout, other formatting options, printing in Excel, Using functions and references, Naming financial and statistical functions, tracking and analyzing data with Excel, Auditing Worksheet

Ms Power Point:

Power Point & Access, Creating Power Point Presentation, Creating a Basic Presentation, Building presentations, Modifying visual elements, Formatting and checking text, Dicing objects, Applying transitions, Animations effects and linking, Preparing handouts taking the show on the road.

Internet & Antivirus:

Fundamentals of Internet, Configuring internet connection and sharing, Working experience with Internet Explorer, Mozilla, Mailing and search engine, downloading, uploading, Installation, configuration and working of Anti-virus

Spoken English

Spoken English, People to People communication, Office communication , Conversation with Top Management, Addressing the junior team, Group Discussion , Business communication, Day-to-day communication Skills, Writing Skills (Business Letter, Applications, requisition, Resume Preparation etc.

Module-2

ICHIP

1. Power conditioning devices

Introduction to power supply, LPS Vs SMPS, AT & ATX SMPS & SMPS Connector Details with Voltage and Color Starter Stage, PS Stage &. Introduction & working fundamental of all Power Conditioning Devices

2. TFT/ LCD Monitor

Functional details, fault finding & repairing of all sections SM power supply, Video Amp, OSD, Hon Osc, EHT, Vertical System, CRT testing, sectional .

3. Printers & INPUT/OUTPUT Devices

Introduction & Classification of all types of Printers (DMR INKJET & LASER), Block Diagram of Printer Power Supply and description of Ic494 Pins, Description of 24 V and 5V Power Supply, Reset Circuit, CPU 7810 and DIP Switch, Gate Array E05A3EA, RAM IC HM6264, ROM IC 27C256, Pin Details, Function Block Diagram of LASER Printer and its process, Image Formotion (Cleaning to Fusing Process).

4. Mother Boards :

All Types of Motherboard, Description of Block Diagram & Section, Slots & Ports Identification, RTC (Real Time Clock), Voltage Regulator. Module Section, Clock Generator Section: System Control, Gmch, Ich, Bios, Bios Utility, I/o Controller Section Audio Section, General Fault Finding Of Mother Board

5. Laptop:

Introduction & Working of various Laptops, Power control Section Testing & Fault finding, MICRO CONTROLLER SECTION: Working of H8/3437 Microcontroller, Working of H8/3437 Microcontroller, Oscillator Circuit, Sensor Circuit & VID Selector Circuit. Working of Voltage Regulator Module, Testing & Fault Finding. Control Circuit

Module-3

INet:-

Concept of Networking, Storage Area Network (SAN), Wired Area Network (LAN), Global Area Network (GAL), Wireless Network, Remote Accessing, Network Topology & Designing (Star, Ring, Mesh & Tree etc.), Network Expansion Devices (Switches, Routers, Gateway, PIX & Firewall Etc.), Communication Protocols (TCP/IP, IPX/SPX, UDP & NetBEUI etc.), MAC Address, IEEE Standards & 802 Projects, ISO/OSI Model, Internet Connection & Sharing, Protocol Suit, IP Addressing & Sub netting, Firewall Setting & Proxy Server, Configuring & Managing Network Operating System, Windows XP, Windows VISTA, Windows Server 2000, Windows Server 2003, Windows Server 2008, Windows Server 2008 Hyper V, Linux, Troubleshooting & Fault Tolerance.

Module-4

ILAN:- (CERTIFICATIONS ON MICROSOFT SERVER 2008)

Microsoft Certified IT Professional (Enterprise Admin)

70-680 Configuration of MS Window 7

70-643 - TS Windows Server 2008 Applications Platform

70-640 - Active Directory

70-642 - Network Infrastructures

70-647 - Pro-Windows Server Enterprise Administration

IWAN: - (CERTIFICATIONS ON CISCO)

Cisco Certified Network Associate

Introduction to Networking Concept, The OSI Reference Model (7 Layer), Assembling & Cabling of Cisco Devices (Router, Switches etc.), Operating & Configuring Cisco IOS, Introduction to Routers & Switches Configuration, Interconnecting Catalyst , witches, Interconnecting Cisco Routers, Routing & Advance Routing, Identify Security

Threats to a Network and describe General Methods to mitigate those threats, Explain and Select the appropriate administrative tasks required for WLAN, Implement, Verify & Troubleshoot NAT & ACL in a medium-size network, Extending the Network to WANs, Introduction to VLAN Technology

ISEC:- (Security +)

Proxy Server & Firewall Setting, Email Security Concepts, Internet Security Concepts, Directory Security Concepts, ACL & ACE, Access Control Method, Types of Malicious code, Disaster Recovery, Different Cryptography, Concepts of the PKI

Skill Develop

- Assemble PCs
- Assemble PCs
- Install and configure windows 7
- Deploy Windows 7
- Complete working Knowledge of MS Excel
- Word and Power Point
- Troubleshooting and Repair Various Computer Part Like Mother Boards, Printers, TFT/LCD Monitors , Mobile Phones and Laptops
- Set up configure and manage a Local Area Network,
- Wide Area Network, Storage Area Network and Wireless.
- Trouble shoot Network problem
- Setup applications to communicate over the network.
- Installing Configuring and managing windows Server 2008 Environment.
- Installing Configuring and Managing Active Directory Services
- Installing and Configuring Servers
- Install and configure Cisco Router and Switches , Configuring Routing Protocols.
- Configure and Manage VLAN
- Configuring Security setting in Network
- Manage Disasters
- Setup and configure various Security concepts & Devices