

## CHM-A level

### A3: Network Management and Administration (Duration 80 Hours)

#### Subject Prerequisites:

The primary purpose of this course is to provide candidates with fundamental network management principles, and to teach them introductory programming techniques for use with solving common network management problems such as:

- Managing configuration files & storing log information for multiple network devices
- Identifying patterns in network behavior to ensure optimal performance
- Alerting management when faults or unexpected changes occur within the network
- Analyzing current state of security within a network to help prevent & detect compromises

#### Subject Outcome:

Candidates will become familiar with the protocols, with how large-scale Network Management Systems operate and are configured, and with advanced network configuration and also maintenance of system administration with Linux system

Section	Brief Contents	Duration (Hrs)
<b>1. Introduction to Network Management</b>	Cabling, Addressing, Managing Basic Switches Managing Advanced Switches Managing Basic Routers	5
<b>2. Network Protocols analysis</b>	Introduction to ISO/OSI & TCP/IP Stack, DNS/UDP/IP, TCP/HTTP/HTTPS, ICMP/ARP/RARP/DHCP	6
<b>3. Windows Server Administration</b>	Installing Windows Server, Setting Active Directory, Managing Active Directory, Managing User & Group, Active Directory Security & Policy, Setting File, Web and DHCP Server	8
<b>4. Linux Server Administration with Shell Scripting</b>	Introduction to Linux Fundamentals & Commands, Advanced Linux Commands, Regular Expression with Text Processing, Bash Scripting	8
<b>5. Network Monitoring Tools</b>	Network Monitoring Tools, Integrated Network, Application & Server Monitoring, Techniques for Monitoring LAN/WAN/MAN, Ethical Hacking, What is Qos Network Quality of service	8
<b>6. Optimizing and Troubleshooting</b>	Trouble Shooting, Network components, Protocols, client server, Internet configuration	5
<b>List of Experiments</b>	1. Installation of desktop operating systems 2. Installation of peripherals and devices	40

	<ol style="list-style-type: none"><li>3. Installation of Windows Server operating systems</li><li>4. architectures and understanding and different Protocols</li><li>5. Identifications of Different in Cabling And Switches And Routers</li><li>6. Install And Configure DHCP Service On Both Server And Clint End</li><li>7. Converting From FAT32 to NFTS</li><li>8. Upgrading From Lower Versions to Higher Versions Of Desktops And Servers</li><li>9. Creating enabling and monitoring Remote access on servers and desktop systems</li><li>10. Creating and configure connections like modem switches, routers, internet connection sharing's</li><li>11. Shell scripting network administrations using GNU/LINUX</li><li>12. To experiment on DNS Configuration, Zone delegation manually creating resource records</li><li>13. Experiment on configuration of DHCP Server, mail &amp; Web server</li><li>14. Check your security by brute force attack</li><li>15. Troubleshooting The Devices Like Physical And Software Related and Network Related</li></ol>	
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