



Level 5 Diploma in Windows Server Networking (200)
155 Credits






Unit: Windows Server Network Infrastructure	Total Qualification Time: 200
Exam Paper No.: 2	Number of Credits: 20
Prerequisites: Knowledge in Windows operations system.	Corequisites: A pass or higher in Certificate in Networking or equivalence.
<p>Aim: The Windows Server Network Infrastructure Configuration unit is designed to meet the needs and skills of individuals who work with or plan to work with: Windows Deployment Services, Terminal Services, Web Services, and Media Services. The unit will provide learners with an understanding of how to design a Windows Server Network Infrastructure that meets business and technical requirements for network services, preparing IT professionals for the role of Enterprise Administrator. Learners will learn how to design application infrastructure solutions based on Windows Server to meet varying business and technical requirements. Learners may already be or have been or new to, working as server administrators involved in planning and design decisions at a server level, and wish to gain skills and knowledge that enable them to transition to Enterprise level design decisions. The application infrastructure components of the unit will focus primarily on web-based applications, network application services, virtualisation options and Remote Desktop Services. Application architects who want to know more about how to integrate Windows Server technologies into enterprise applications will also benefit from this unit.</p>	
Required Materials: Recommended Learning Outcomes.	Supplementary Materials: Lecture notes and tutor extra reading recommendations.
Special Requirements: The unit requires a combination of lectures, demonstrations, discussions, and hands-on labs.	
<p>Intended Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Windows Server network concepts; server role, monitoring network bandwidth usage in real-time and designing network infrastructure solutions based on Windows Server to meet varying business and technical requirements. 2. General procedures for installing Windows Server, Microsoft Windows Server system requirements and how to navigate the interface. 3. DHCP client functionality, concepts, features, DHCP networking concepts, networking solutions and overview of the conversation between DHCP client and DHCP server; BOOTP, DHCP server, DHCP relay agent, DHCP client. 	<p>Assessment Criteria:</p> <ol style="list-style-type: none"> 1.1 Describe and configure IPv4 and IPv6 address management 1.2 Identify the basic components of a network 1.3 Describe how to troubleshoot TCP/IP 1.4 Describe Network Load Balancing (NLB) clustering using Windows 1.5 Analyse Windows Server Network Infrastructure and Security 1.6 Describe the concept "<i>data is the lifeblood to an organisation</i>" 2.1 Demonstrate how to configure Windows Server network settings 2.2 Demonstrate how to manage storage disks in Windows Server 2.3 Demonstrate how to use the commands with the server core 2.4 Demonstrate how to manage server roles and features 2.5 Identify Windows Server hardware requirements 2.6 Explain new Windows Server technologies 3.1 Demonstrate how to configure DHCP server roles 3.2 Demonstrate how to manage and secure DHCP database 3.3 Analyse and identify the components and processes of DHCP 3.4 Demonstrate how to administer DHCP on

<p>4. Managing DNS Server Configuration and Security, configuring Client Computers to Find Management Points by using DNS Publishing in Configuration and management of DNS server roles.</p>	<p>clients and servers 3.5 Demonstrate how to troubleshoot DHCP issues 3.6 Describe DHCP in computer networking 4.1 Demonstrate how to configure DNS server 4.2 Demonstrate how to configure DNS zones 4.3 Demonstrate how to configure DNS records 4.4 Demonstrate how to configure DNS replication 4.5 Demonstrate how to configure Name Resolution for client 4.6 Describe new DNS features in Windows Server 4.7 Demonstrate how to troubleshoot DNS environment 4.8 Demonstrate how to manage WINS</p>
<p>5. Routing and Remote Access (RRAS) supporting Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) network routing and remote user or site-to-site connectivity by using virtual private network (VPN) or dial-up connections and Wireless Networking concepts.</p>	<p>5.1 Demonstrate how to configure routing 5.2 Demonstrate how to configure Remote Access 5.3 Demonstrate how to configure Network Address Translation (NAT) 5.4 Demonstrate how to troubleshoot Routing and Remote Access 5.5 Demonstrate how to install and configure a Network Policy Server (NPS) 5.6 Demonstrate how to configure RADIUS clients and servers 5.7 Explain NPS authentication methods 5.8 Monitor and troubleshoot NPS 5.9 Describe Routing and Remote Access Service (RRAS) 5.10 Describe Virtual Private Network (VPN) 5.11 Explain the hierarchy of Routing and Remote Access Service Infrastructure</p>
<p>6. Windows Server file services; installing and configuring the File Services role in Server.</p>	<p>6.1 Describe how to configure a file server 6.2 Demonstrate how to configure and use Distributed File System 6.3 Explain Windows Server storage management 6.4 Demonstrate how to configure disk quota management 6.5 Demonstrate how to implement file screening and manage storage reports 6.6 Describe encrypting file services</p>
<p>7. Windows Server print services; the Print Services role in the Windows Server operating system and the primary tools used to administer a Windows Server.</p>	<p>7.1 Demonstrate how to configure and monitor print services 7.2 Explain Windows Printer Model and how it is implemented in Windows Server 7.3 Demonstrate how to troubleshoot print failure 7.4 Describe the primary tools used to administer a Windows Server 7.5 Explain how print services role in Server Manager enables to share printers on a network, as well as to centralize print.</p>
<p>8. Windows Server Update Services (WSUS) and how it used to manage the deployment of the latest Microsoft Windows operating system.</p>	<p>8.1 Demonstrate how to configure WSUS server settings 8.2 Demonstrate how to use Windows Server 2008 Event Viewer</p>

<p>9. Understand how to secure data transmission, the authentication process; authentication services, authentication protocol improvements and configuring the authentication methods.</p> <p>10. The components of Network Access Protection (NAP); configuring Network Access Protection for Windows Server; Windows Server file services, setting up file services, shared folder in Windows and Backup infrastructure.</p>	<p>8.3 Demonstrate how Be able to use Network Monitor to gather network data</p> <p>8.4 Demonstrate how to use performance monitor to capture performance data</p> <p>9.1 Explain how IPSec secures network traffic</p> <p>9.2 Describe how to configure IPSec</p> <p>9.3 Describe how to configure network authentication</p> <p>9.4 Describe how to configure firewall settings</p> <p>9.5 Demonstrate how to use security templates to secure services</p> <p>9.6 Demonstrate how to monitor and troubleshoot IPSec activities</p> <p>10.1 Demonstrate how to configure NAP</p> <p>10.2 Explain NAP architecture</p> <p>10.3 Identify how NAP works</p> <p>10.4 Demonstrate how to monitor and troubleshoot NAP</p> <p>10.5 Demonstrate how to configure shadow copy services</p> <p>10.6 Demonstrate how to configure backup and restore process</p> <p>10.7 Demonstrate how to manage disk quotas</p> <p>10.8 Identify the various types of hardware used for backup</p> <p>10.9 Describe the differences between full, incremental and differential backup</p> <p>10.10 Compare Server Backup programs</p> <p>10.11 Demonstrate how to use volume shadows</p> <p>10.12 Demonstrate how to backup and restore Active Directory database</p>
<p>Methods of Evaluation: A 2½-hour written examination paper with five essay questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake project/coursework in Windows Server 2008 Network Infrastructure with a weighting of 100%.</p>	

Recommended Learning Resources: Windows Server Network Infrastructure

<p>Text Books</p>	<ul style="list-style-type: none"> • Administering Windows Server Hybrid Core Infrastructure Paperback by Orin Thomas. ISBN-13 : 978-0137729265 • Windows Server Administration Cookbook by Jordan Krause. ISBN-13 : 978-1789135930
<p>Study Manuals</p> 	<p>BCE produced study packs</p>
<p>CD ROM</p> 	<p>Power-point slides</p>
<p>Software</p> 	<p>Latest Windows Server</p>