



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






<p>Subject Title: Windows Server Administration</p> <p>Exam Paper No.: 1</p>	<p>Guided Learning Hours: 300</p> <p>Number of Credits: 30</p>
<p>Prerequisites: Knowledge of Windows operating system.</p>	<p>Corequisites: A Pass or better in Certificate in Networking or equivalence.</p>
<p>Aim: This unit will prepare, equip and provide learners with the Windows Server Administration skills. A server administrator is responsible for the operations and day-to-day management of a network infrastructure. The unit will focus on the server and the network environment. IP addressing, network services, remote access, name resolution, file and print services will also be covered. The unit will take learners through clean installations and upgrades in a Windows Sever environment; learn the use of BitLocker, and other installation processes and deployment options. Work with DHCP, DNS and Active Directory, Hyper-V and Terminal Services and set up security services and NPAS. Learners will be taken through the process of setting up enterprise server solutions using IPv4/IPv6; building Active Directory objects; Domain Controller Roles; replication issues; learning about new methods of application deployment throughout the enterprise including Certificate Services and using MSI packages; learning how to provide IIS and Hyper-V services along with other virtualisation options. The unit provide the learners with the knowledge and skills necessary to perform day-to-day administrative tasks in a single or multiple domain Microsoft Windows based network through grasping how to implement system security, create users, establish network printing, backup system data, and manage system resources. It provide learners with the opportunity to develop the knowledge and skills required to implement, administer, configure, customize, optimize, manage and maintain a Microsoft Windows Server.</p>	
<p>Required Materials: Recommended Learning Resources.</p>	<p>Supplementary Materials: Lecture notes and tutor extra reading recommendations.</p>
<p>Special Requirements: The unit requires a combination of lectures, demonstrations, discussions, and hands-on labs.</p>	
<p>Intended Learning Outcomes:</p> <ol style="list-style-type: none"> 1. The key features of the Windows Server 2008 standard edition both in 32-bit/64-bit versions and Windows Server 2008 Enterprise/Windows Server Datacenter. 2. The installation of Windows Server with the option of performing a Windows Server Core installation, with the minimum set of tools to run Windows. 3. The Windows Server Environment allowing for the creation, update, replacement of accounts and resources; maintaining server resources; monitoring server performance and safeguarding data. 	<p>Assessment Criteria:</p> <ol style="list-style-type: none"> 1.1 Analyse and identify Windows Server versions 1.2 Identify client systems to be used with Server 1.3 Identify Windows Server networking models 1.4 Analyse and identify the Windows Server desktop environment 1.5 Demonstrate how to implement network protocols used by Windows Server 1.6 Identify Windows Server virtualisation tools, web resources and security enhancements 2.1 Describe the different installation methods 2.2 Demonstrate how to set up and activate Windows Server 2.3 Demonstrate how to install and configure Windows Deployment Services 2.4 Demonstrate how to install service packs 2.5 Demonstrate how to troubleshoot installation problems 2.6 Demonstrate how to unistall Windows Server 3.1 Explain how to use Server Manager and ServerManagerCmd.exe 3.2 Demonstrate how to install and remove server roles 3.3 Illustrate configuration of server hardware and the operating system 3.4 Demonstrate how to configure the Registry

	<p>3.5 Demonstrate how to use the Security Configuration Wizard</p> <p>3.6 Demonstrate how to install and use Windows Powershell</p> <p>3.7 Demonstrate how to create and manage scheduled tasks</p>
<p>4. Active Directory Domain Services concepts including domains, trees, forests. domain controllers, sites, domain naming service, replication; and Account Management configuration</p>	<p>4.1 Demonstrate how to install and configure Active Directory</p> <p>4.2 Demonstrate how to create and manage user, group and computer accounts</p> <p>4.3 Demonstrate how to configure and use security groups</p> <p>4.4 Create and implement new Active Directory features</p> <p>4.5 Demonstrate how to manage folder and file security in Active Directory</p> <p>4.6 Explain configuration and management of resource access</p>
<p>5. DNS and DHCP in Windows Server; configuring, and troubleshooting Windows networking environment.</p>	<p>5.1 Explain the functions of DNS</p> <p>5.2 Describe DNS terminology</p> <p>5.3 Explain how to configure DNS clients</p> <p>5.4 Describe how to install a standard DNS server</p> <p>5.5 Describe how to create standard DNS zones</p> <p>5.6 Describe Windows Server network services; common Windows Server networking features; network hardware, devices, software that provides the fundamental services; network policy and access services server role</p> <p>5.7 Explain IPv6 concepts and issues</p> <p>5.8 Describe how to install, configure and troubleshoot DNS</p> <p>5.9 Describe how to install, configure and troubleshoot WINS</p> <p>5.10 Describe how to install, configure and troubleshoot DHCP</p>
<p>6. How Windows Server 2008 printing works and Windows Server 2008 Print Services allow printers to be shared over a network and provide a centralized printer management infrastructure.</p>	<p>6.1 Demonstrate how to use XPS Print Path</p> <p>6.2 Demonstrate how to use XML Paper Specifications</p> <p>6.3 Demonstrate how to install Print Services role</p> <p>6.4 Explain print properties configuration</p> <p>6.5 Demonstrate how to install local and shared printers</p> <p>6.6 Demonstrate how to configure internet printer</p> <p>6.7 Demonstrate how to manage print jobs and use the print management tool</p> <p>6.8 Demonstrate how to troubleshoot common printing problems</p>
<p>7. Data storage configuration; management; boot configuration data; file server configuration; adding a Windows Server NFS Share.</p>	<p>7.1 Analyse Windows Server storage options</p> <p>7.2 Demonstrate how to use the Disk Management tool</p> <p>7.3 Evaluate and configure RAID disk storage fault tolerance</p> <p>7.4 Analyse Windows Server storage enhancements</p> <p>7.5 Analyse data storage and backup devices</p> <p>7.6 Demonstrate how to develop a data backup and</p>

	recovery strategy
8. The deployment of Internet Information Services (IIS); Active Directory Certificate Services (AD CS) in Windows Server and Remote Access implementation, configuration.	8.1 Explain IIS features, roles and capabilities
	8.2 Analyse Active Directory Certificate Services; identity and access control security technology
	8.3 Demonstrate how to install, configure and troubleshoot Microsoft Internet Information Services
	8.4 Demonstrate how to install, configure and troubleshoot Active Directory Services
	8.5 Explain the Remote and Routing Access Service (RRAS) tool; best practices for implementing remote access protection and securing remote access.
	8.6 Explain Windows Server remote access services
	8.7 Describe how to implement, configure and manage a Virtual Private Network (VPN)
	8.8 Demonstrate how to configure a dial-up remote access server
	8.9 Demonstrate how to install and configure Terminal Services
9. Implementing and Managing Microsoft Server Virtualization, virtualization concepts, storage technologies, Windows Server failover clustering, application functionalities and security.	9.1 Describe virtualisation technology
	9.2 Explain the features and requirements of Microsoft Hyper-V
	9.3 Demonstrate how to install Hyper-V on Windows server
	9.4 Demonstrate how to install use Hyper-V Manager to configure and manage virtual machines
	9.5 Explain Windows Server 2008 Application Server functionalities; the role services, features of Application Server and configuring the Web and Application server roles on Windows Server 2008 to support Microsoft SharePoint
	9.6 Explain the roles of Application Servers
	9.7 Describe how to configure offline data access
	9.8 Describe System Centre Configuration Manager
	9.9 Describe Windows Server Update Services
	9.10 Explain how to install and use Windows System Resource Manager
	9.11 Illustrate using a network load balancing cluster
	9.12 Describe Windows Server Security compliance essentials; major problems with File Permissions Windows; UAC, Security Policies, BitLocker
	9.13 Identify Windows Server security enhancements
	9.14 Analyse Windows Server Group Policy
	9.15 Describe how to configure security policies
	9.16 Describe how to implement Active Directory Rights Management Services
	9.17 Summarise Security Templates and Security Configuration
	9.18 Demonstrate how to use <i>cipher</i> command and BitLocker Drive encryption
	9.19 Demonstrate how to configure NAT
	9.20 Demonstrate how to configure Windows Firewall

<p>10. The importance of server and network monitoring; capturing network traffic in Windows Server; Windows Network Monitor (Netmon.exe); monitoring Windows network infrastructure servers; reliability of a system based on RAS (Reliability-Availability-Serviceability).</p>	<p>9.21 Demonstrate how to implement Network Access Protection</p> <p>10.1 Describe Windows Server services</p> <p>10.2 Demonstrate how to use Task Manager for server monitoring</p> <p>10.3 Demonstrate how to configure and use performance monitor</p> <p>10.4 Demonstrate how to set up and use Data Collector Sets</p> <p>10.5 Demonstrate how to use Reliability Monitor</p> <p>10.6 Describe the implementation of SNMP service</p> <p>10.7 Explain the importance of effective troubleshooting strategies</p> <p>10.8 Explain how to resolve boot-up problems</p> <p>10.9 Describe Emergency Management Services</p> <p>10.10 Demonstrate how to restore server roles, Active Directory and GPOs</p> <p>10.11 Demonstrate how to configure shadow copies</p> <p>10.12 Define failover clustering</p> <p>10.13 Demonstrate how to use and configure Event Viewer</p> <p>10.14 Demonstrate how to troubleshoot network connectivity</p> <p>10.15 Demonstrate how to remotely administer servers using Remote Server Administration tools.</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 Administration with a weighting of 100%.</p>	

Recommended Learning Resources: Windows Server Administration

<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>