



Level 5 Diploma in Unix Networking (189) 149 Credits



Unit: Linux Administration	Guided Learning Hours: 260
Exam Paper No.: 3	Number of Credits: 26
Prerequisites: Knowledge in Unix operating system commands.	Corequisites: A pass or higher in Certificate in Unix Networking or equivalence.
<p>Aim: The purpose of this unit is to increase learner knowledge by introducing yet another Unix practical administration programme for those who truly enjoy working with computers, Linux is the operating system of perfect dreams. It is more fun than any other computer operating system around. However, the reason why Linux is truly revolutionary is that it is Open Software. Science and technology works owing to the free availability of information and peer review. Would you fly a plane that was based on secret "science" and an unrevealed design? A plane with the internals of which nobody but the manufacturer could look at? Open-source Linux is ideally suited for a mission-critical application-its security and power are based on robust solutions which anyone can view, criticise, or improve on. It is the implementation of the scientific method in computing. A good knowledge of basic Linux commands is required for this unit (Linux Administration); including file manipulation, permissions, redirection band pipes, <i>vi</i>, and basic process control. On completion of the unit, learners will be able to: Install the Linux operating system; Explain the Linux file system; Maintain the Linux operating system and applications; Manage Linux user accounts; Secure the Linux system; Configure devices; Manage the Linux file system; Explain process control; Manage print services; Configure the boot process through scripts; Use back up and recovery processes for the Linux operating system.</p>	
Required Materials: Recommended Learning Resources.	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> <p>1 The procedures required to install; configure Linux server infrastructure and setting up Internet, LAN, and gateway servers.</p> <p>2 Configuring the X Window System Protocol graphics architecture and how it is used on Unix systems</p> <p>3 General system administrative issues, the process of creating and maintaining user accounts and the Linux system startup process.</p>	<p>Assessment Criteria:</p> <p>1.1 Describe the advantages of partitioning the hard drive</p> <p>1.2 Describe the importance of swap space</p> <p>1.3 Explain how to set a system to multi-boot</p> <p>1.4 Demonstrate the installation process</p> <p>1.5 Describe hardware requirements (diskspace, memory etc)</p> <p>2.1 Define the X Window system</p> <p>2.2 Describe installation and configuration of GNOME</p> <p>2.3 Describe installation and configuration of KDE</p> <p>3.1 Define the root account</p> <p>3.2 Describe the process of creating user accounts</p> <p>3.3 Demonstrate how to create a user account</p> <p>3.4 Explain the user's login process</p> <p>3.5 Demonstrate how to search files as a regular user</p> <p>3.6 Explain the system's security access</p> <p>3.7 Describe how to change user passwords</p> <p>3.8 Describe how to disable or remove user accounts</p> <p>3.9 Describe how to modify a user's</p>

<p>4 Customising Linux configuration and simplifying administrative issues, the bourne, korn and c shell commands.</p> <p>5 Why performing regular backups is one of the system administrator's top priorities.</p> <p>6 An overview on automating repetitive/tedious administrative tasks using crontab and script files.</p>	<p>information using chfn</p> <p>3.10 Describe the system configuration files</p> <p>3.11 Describe and configure the cron process</p> <p>3.12 Define the rc configuration files</p> <p>3.13 Explain the Linux startup process</p> <p>3.14 Demonstrate the system shutdown and restart process</p> <p>4.1 Describe the .profile in Bourne shell</p> <p>4.2 Describe the user and system environment</p> <p>4.3 Describe and analyse the .profile in Korn shell</p> <p>4.4 Explain the /etc/profile file</p> <p>4.5 Examine the c shell commands</p> <p>4.6 Explain the .login file</p> <p>4.7 Explain the cshrc file</p> <p>4.8 Describe the cshell and root</p> <p>4.9 Describe how to configure and administer DNS</p> <p>4.10 Describe internet user authentication</p> <p>4.11 Describe how to configure shares and how to access them</p> <p>4.12 Describe Network File System (NFS) services</p> <p>5.1 Describe server backup processes</p> <p>5.2 Describe server backup procedures</p> <p>5.3 Describe server restore procedures</p> <p>5.4 Demonstrate how to use Linux Backup Software</p> <p>5.5 Demonstrate backup restoration</p> <p>6.1 Describe how to check system storage space</p> <p>6.2 Describe how to start and stop processes</p> <p>6.3 Describe automating repetitive tasks and procedures</p> <p>6.4 Demonstrate using crontab</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 Linux Administration with a weighting of 100%.</p>	

Recommended Learning Resources: Linux Administration

<p>Text Books</p>	<ul style="list-style-type: none"> Linux Administration Handbook by Evi Nemeth, Garth Snyder & Trent R. Hein. ISBN-10: 0131480049 Linux System Administration by Tom Adelstein & Bill Lubanovic. ISBN-10: 0596009526 Linux System Administration by Vicki Stanfield & Roderick W. Smith. ISBN-10: 0782141382
<p>Study Manuals</p> 	<p>BCE produced study packs</p>
<p>CD ROM</p> 	<p>Power-point slides</p>
<p>Software</p> 	<p>Linux</p>

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