Level 4 Certificate in Unix Networking (188) 119 Credits

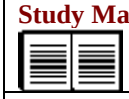
Unit: Introduction to Linux **Exam Paper No.:** 3	**Guided Learning Hours:** 200 **Number of Credits:** 20
Prerequisites: Knowledge in Windows operating system.	**Corequisites:** A pass or higher in Certificate in Networking or equivalence.
Aim: The aim is to highlight another Unix language in a series of units focusing on the UNIX Operating System. It is vendor neutral with an emphasis on the latest version of RedHat Linux. This unit is designed to teach Linux operating system with emphasis on using the command line utility commands, working with files and directories, using the shell and creating and reading simple shell scripts. Learners will learn important Linux operating system concepts to prepare the learner for follow-up administration, networking, and security units in the Diploma level. Topics include Linux evolution, graphical environments, terminal interfaces and bash, the file system, file manipulation commands, data manipulation commands, editors, software tools, networking tools, and system administration tools. The unit is supplemented with many hands-on exercises that reinforce the lectures. On completion of the unit, learners will be able to: understand the relationship between UNIX and LINUX; log in and out of the system; use the various components of the GNOME desktop; perform work using terminal shell windows; navigate through the file system; get help using the on-line manual; use the rich set of LINUX file management utilities; edit files using the 'vi' editor; use network utilities including ftp and telnet; use the bash shell for a wide variety of functions; write fundamental bash scripts; kill processing through knowledge of the process tree; launch and control jobs; understand the role of the system administrator; use the robust set of software tools; use the Nautilus graphical shell; and launch applications graphically.	
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.	

Intended Learning Outcomes:	**Assessment Criteria:**
1 Linux; how it came into existence, advantages and disadvantages, what does future holds for Linux and who should use it.	1.1 Define Linux 1.2 Describe the advantages and disadvantages of Linux 1.3 Analyse the different Linux flavours 1.4 Examine the different Linux distributions.
2 How to connect to the Linux server system and the Linux command structure.	2.1 Describe the logging in and logging out process 2.2 Demonstrate logging in and out 2.3 Define basic Linux commands 2.4 Identify how to get help in Linux 2.5 Demonstrate how to change user password
3 The files and directories on a Linux system; how the use of predefined paths allow users to find, read and manipulate files.	3.1 Analyse the structure of the Linux commands 3.2 Analyse the rules of file names 3.3 Describe the directory hierarchy 3.4 Evaluate and identify file and directory permissions 3.5 Demonstrate how to display contents of a directory 3.6 Demonstrate using wildcards 3.7 Demonstrate how to create and remove a directory

	3.8	Demonstrate how to copy and link files and directories
	3.9	Demonstrate how to interrupt a runaway program
	3.10	Describe the overview of the Linux file system
	3.11	Identify why file partitioning is important
	3.12	Describe Linux layout and types
	3.13	Define mount point
	3.14	Describe the Linux path
	3.15	Describe absolute and relative paths
	3.16	Describe Linux important files and directories
	3.17	Define Linux configuration files
	3.18	Describe how Linux handles devices
	3.19	Describe Linux variable files
	3.20	Demonstrate how to search files by content and attribute
	3.21	Describe how files are manipulated in Linux
	3.22	Describe Linux files security system
4 How to manage processes, boot, shutdown procedures, postponing tasks and repetitive tasks.	4.1	Differentiate multi-user and multi-tasking
	4.2	Analyse the different Linux processes
	4.3	Describe process characteristics/attributes
	4.4	Describe Linux boot, initialisation and shutdown process
	4.5	Describe the initialisation run levels
	4.6	Describe how processes are managed
5 The standard input, output, error pipes that are built into every and how these features used from the command line.	5.1	Describe input/output in Unix
	5.2	Analyse the redirection operators
	5.3	Describe filters in Unix
	5.4	Demonstrate how to use input/output, pipes and file redirection commands
6 The importance of working with a graphical user interface or a text editor; examining the most common editors.	6.1	Describe a text editor
	6.2	Implement the basic *vi* editor operations
	6.3	Describe how to start and exit *vi* editor
	6.4	Demonstrate how to insert, delete and search/replace text
	6.5	Demonstrate how to move cursor
	6.6	Review the Linux Office
7 How to configure graphical, text; audio environment, settings for the non−native English speaking Linux user, and tips for adding extra software.	7.1	Describe how to create a home directory
	7.2	Describe shell setup files
	7.3	Define shell scripts
	7.4	Analyse the Linux graphical environment
8 How to convert files to a printable format, getting them out of the printer and troubleshoot print problems.	8.1	Describe the Linux print service
	8.2	Describe print formatting tools
	8.3	Identify how to troubleshoot print problems
9 How to prepare data for backup; the various backup tools and how to conduct a remote	9.1	Describe the process of archiving data
	9.2	Describe the process of backing up data

backup. 10 Overview of Linux networking tools and user applications, with a short discussion of the underlying service daemon programs and secure networking.	9.3 Demonstrate remote data backup 10.1 Describe networking protocols supported in Linux 10.2 Identify network configuration files 10.3 Outline internet/intranet applications 10.4 Describe security services in Linux
Methods of Evaluation: A 2-hour written examination paper with Section A and Section B. Section A has 40 multiple choice questions. Section B has three essay questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake project/coursework in Introduction to Linux with a weighting of 100%.	

Recommended Learning Resources: Introduction to Linux

Text Books	• Introduction to Linux by Machtelt Garrels. ISBN-10: 1596821124 • Introduction to Unix and Linux by John Muster. ISBN-10: 0072226951 • Introduction to Unix/Linux with DVD by Christopher Diaz. ISBN-10: 8131502465
Study Manuals 	BCE produced study packs
CD ROM 	Power-point slides
Software 	Linux