Level 6 Advanced Diploma in Graphic Design (992)
153 Credits

Unit: Advanced Windows Desktop Operating System	**Guided Learning Hours:** 200
Exam Paper No.: 1	**Number of Credits:** 20
Prerequisites: Good knowledge in file management.	**Corequisites:** A pass or higher in Diploma in Information Technology or equivalence.

Aim: The topics that will be covered in this hands-on unit include: the program manager; using the mouse; the Help feature; desktop shortcuts; the control panel; multitasking; creating and deleting folders; working with the Windows menu system; the Windows desktop environment; working in dialog boxes; using My Computer; the Windows Explorer; and using the clipboard to copy and paste files. The Advanced Windows operating system unit introduce learners to solid understanding of Windows networking, knowledge of document management, industry-related hardware, and technical support. This unit provides comprehensive instruction for installation, troubleshooting and support of the Windows operating system. It also covers user level functionality, as well as an overview of client/server technology and network communications.

Required Materials: Recommended Learning Resources.	**Supplementary Materials:** Recommended textbooks and lecture notes

Special Requirements: This is a hands-on unit, hence practical use of computers is essential. Requires intensive lab work outside of class time.

Intended Learning Outcomes:	Assessment Criteria:
1. Computer hardware and components; including motherboard, CPU, RAM and hard drives.	1.1 Describe computer hardware and software 1.2 Describe the computer numbering system 1.3 Demonstrate using binary numbering system 1.4 Demonstrate converting from binary to decimal and vice versa 1.5 Demonstrate using hexadecimal numbering system 1.6 Demonstrate converting from hexadecimal to binary and vice versa 1.7 Identify and describe PC hardware components 1.8 Outline motherboard major components 1.9 Describe how CPU works and communicates with other devices
2. The history of Windows operating system; various operating system functions and implementations.	2.1 Explain the operating system functions 2.2 Examine the differences between the various Windows operating system 2.3 Describe advantages and disadvantages of the operating system 2.4 Evaluate how operating systems communicates with users, application and hardware 2.5 Analyse the components of the operating system 2.6 Describe how Windows manages applications 2.7 Describe how Windows manages hardware
3. Job roles and responsibilities of technical specialists; including those who sell,	3.1 Evaluate the requirements of internal and external customers

fix or support PCs; installing, upgrading and activating Windows; including product keys and versions.	3.2	Analyse different computer technician posts and explain their responsibilities
	3.3	Analyse the requirements of working with a customer on a site or over the telephone
	3.4	Explain how to deal with difficult customers
	3.5	Examine the different installation methods
	3.6	Outline the differences between upgrading, cleaning install or dual boot
	3.7	Describe hard drive partition
	3.8	Evaluate the installation checklist
4. Optimising and maintaining a Windows client operating system and ensuring the optimal performance to connected users.	4.1	Demonstrate how to set up and perform scheduled preventive maintenance tasks to keep Windows healthy
	4.2	Demonstrate checking the hard drive for errors
	4.3	Explain the functions of the swap file
	4.4	Describe temporary internet files
	4.5	Demonstrate backing up system and data files
	4.6	Demonstrate restoring system and data files
	4.7	Describe the Windows directory structure
	4.8	Explain Windows utilities
5. Workings of the inside of a desktop computer; motherboard form factors and power supplies.	5.1	Describe the different form factors used for computer cases, motherboard and power supplies
	5.2	Explain how electricity is measured
	5.3	Examine electrical components
	5.4	Demonstrate how to take apart a computer system
	5.5	Demonstrate how to put a computer back together
6. Range of motherboards; features, components and interfaces that are found on a motherboard.	6.1	Describe the different types and features of motherboards
	6.2	Analyse motherboard buses and expansion slots
	6.3	Explain how startup BIOS controls the boot process
	6.4	Describe the system resources used by software and hardware
	6.5	Demonstrate configuring the motherboard using BIOS setup
7. Exploring the internet and analysing how internet revolutionised the way computers are used today.	7.1	Define web and the process of connecting to the internet
	7.2	Demonstrate entering a web address, basic navigation, searching the web and saving favourite webpages.
	7.3	Explain how to customise the browser interface
	7.4	Examine how to find previously visited web pages
	7.5	Demonstrate configuring outlook to

	7.6	Demonstrate setting and creating outlook address book to maintain list of contacts
		receive and sent emails
8. Networking services, the different type of networks and the basics of Transmission Control /Internet Protocol (TCP/IP).	8.1	Demonstrate how to log on and log off of a network.
	8.2	Explain the various hardware devices and software settings required to connect to a network.
	8.3	Describe the TCP/IP (Transmission Control Protocol/Internet Protocol) network architecture
	8.4	Examine the address space of the Internet.
	8.5	Demonstrate how to map drives; and to share drives, folders, files and printers.
	8.6	Demonstrate locating computers on a network.
	8.7	Describe domains, and the role of the Active Directory.
	8.8	Examine My Network Places and demonstrate how to use the Add Network Place wizard.
	8.9	Describe what protocols are, why they are important in networking and how to install a protocol.
9 Inter-application communication; the difference between an embedded object and a linked object.	9.1	Describe compound document
	9.2	Describe the difference between a server file and a container file
	9.3	Explain ClipBook and how to use it
	9.4	Demonstrate copying objects from one application to another.
	9.5	Demonstrate editing embedded objects
	9.6	Demonstrate inserting a graphic into another application
	9.7	Describe what a scrap is and how it can improve productivity
	9.8	Demonstrate linking an object
	9.9	Demonstrate editing a linked object
	9.10	Describe the .NET technology
	9.11	Describe basic DOS commands
10 Troubleshooting, system management and how generate reports on the current system status.	10.1	Describe how to end programs that are not responding
	10.2	Identify how to produce a complete hardware report
	10.3	Demonstrate how to troubleshoot device problems
	10.4	Identify how to start a computer in Safe Mode
	10.5	Identify how to restore a computer after startup failure
	10.6	Demonstrate network troubleshooting using command line prompts
	10.7	Demonstrate how to backup and restore the Registry

Methods of Evaluation: A 3-hour essay written paper with 5 questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake project/coursework in Advanced Windows Operating System with a weighting of 100%.

Recommended Learning Resources: Advanced Windows Operating System
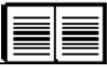
Text Books	• Advanced Windows by Jeffrey Richter. ISBN-10: 1572315482 • Windows Professional Advanced Configuration and Implementation: A Comprehensive Guide to the New Mainstream Desktop Operating System for Professional Users by Morten Strunge Nielsen. ISBN-10: 1576105288
Study Manuals	BCE produced study packs
CD ROM	Power-point slides
Software	Windows Operating System