

ICT

DL TC75

Wide Area Network (WAN) and Internet



Objectives:

Training of an engineer for the installation and maintenance of WAN Networks and Internet, capable of:

- knowing the principles, the standards and the devices that are normally used in WANs
- installing private WANs and systems for accessing Internet
- programming and configuring the devices for accessing the WANs (routers)
- performing maintenance, troubleshooting and tests on WANs

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Educational Path:

The Educational Path of the Training Package covers the following subjects:

- **Introduction to Internetworking**
Computer networks and Internetworking, The OSI reference model, Hierarchical structure of the networks, The protocols of the Internetworking, Addressing in data networks.
- **Technologies and devices of the WANs**
Types of WANs and transmission protocols, Point-to-point connections, Circuit switching networks: PSTN and ISDN, Package switching networks: Frame Relay, ATM, X.25, WAN devices.
- **WAN protocols: Netware protocols**
Netware protocols and OSI Model, IPX protocol, IPX addressing, IPX routing, SPX protocol.
- **WAN protocols: Internet protocols**
Internet protocols and OSI Model, IP protocol, IP addressing, IP routing, Addressing protocols: ARP and RARP, Protocols ICMP, TCP and UDP, Higher protocols: FTP, DNS, HTTP, Telnet, etc.
- **Intranet/Internet and diagnostics on the networks**
What is an Intranet and its services, Terminal emulation: Telnet, Files transfer, Electronic mail, World Wide Web, Domain Name System, TCP/IP tools and diagnostics tests, Address assignment to computers.
- **Routing and routing algorithms**
Routing, Routing tables, Static routing, Dynamic routing, Routing algorithms: Distance vector, Routing algorithms: Link State.
- **The router: its structure and configuration**
The router, Structure of the hardware, Structure of the software, User interface, The help system, The password, The management of the configuration, The saving of the IOS.
- **Static IP routing: configuration and test**
Programming of the interfaces, LAN interfaces, WAN interfaces, Configuration of the IP routing, Static IP routing.
- **Dynamic IP routing: configuration and test**
Dynamic routing, Configuration RIP, Configuration EIGRP, Consulting the configuration, Test and troubleshooting.

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Composed of:

TC75-MS: Structure of a WAN

The module includes:

The block diagram of the structure of a WAN.

The diagrams of the levels of the OSI model used in internetworking.

The connectors for the connection of the routers to the WAN.

TC75-DR: Router (Quantity two)

Serial type WAN interface V24/RS232.

10BaseT LAN interface.

RJ-45 or RS-232 port.

Internetworking Operating System.