

Next Generation Network Optical Workshop

Introduction

This workshop allows the delegate to fully understand Next Generation Networks from access to core. The instructor led training encompasses practical training sessions, whereby the delegate will get to build NGN networks.

Prerequisites

Any although SDH and PDH experience would be advantageous before attending the workshop.

Objectives

Course objectives, the delegate will be able to:

- List the different types of fibres and standards.
- Know the importance of fibre cleanliness in modern optical transmission networks.
- Demonstrate fibre safety when handling fibre and laser safety.
- Understand the flexibility of offering traditional TDM services and Ethernet Data services in a Next Generation Network.
- Know how Ethernet services operate and are transported in Next Generation Networks.
- Describe technically how WDM networks work.
- Explain and demonstrate planning considerations for Optical Networks.
- Classify the difference between CWDM and DWDM networks.
- Stipulate the need for amplification in optical networks and its drawbacks.
- Know how optical protection and management operates in core networks.
- Design, build and test NGN access network, Metro Network and DWDM core network.

Who Should Attend

Transmission Engineers, Transmission Planners, Project Managers, Technical Managers.

Course Content

Fibre

- Different Fibre Types.
- Fibre Cleaning
- Fibre Safety

Next Generation Access

- PDH Access
- SDH Access
- Next Generation Ethernet over SDH
- Layer two Packet Intelligence
- Next Generation Access Networks

Optical Transmission Networks

- WDM Principles
- Effects of Light within Fibre
- Planning Considerations.

Course Code – TRA14004

Metro Transmission Networks

- Coarse Wavelength Division Multiplexing
- Optical Amplifiers
- CWDM Networks

Optical Core Networks

- DWDM Introduction
- Digital Wrapper G.709
- DWDM

Protection

- DWDM Management
- DWDM Core Networks

Practical Exercises

- 1.Design and build a NGN access network with services.
- 2.Design and build a Metro CWDM network.
- 3.Design and build a DWDM Core Network.

Course Length

4 days