



Australian Government

Assessment Requirements for ICTOPN507 Plan and configure dense wavelength division multiplexing optical networks

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- plan and configure at least two dense wavelength division multiplexing (DWDM) optical networks.

In the course of the above, the candidate must:

- prepare DWDM shelf configurations and specifications
- plan preliminary optical tests
- complete project and acceptance documentation and submit for approval
- comply with work health and safety (WHS) requirements and job specifications.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- configuration of DWDM shelves
- principles of DWDM operations
- functions and features of cabling plans
- risk of electrostatic discharge
- functions and features of specification documents
- functions and operating features of the following test equipment:
 - hand-held optical power meter
 - optical spectrum analyser
 - optical time domain reflectometer (OTDR)
 - transmission test set
- functions of an optical add drop multiplexer

- role of the following items in planning and configuring DWDM systems internet protocol (IP):
 - subnet masks
 - dynamic host configuration protocol (DHCP)
 - default gateways
- International Telecommunications Union (ITU) wavelength grid for DWDM
- types and characteristics of optical fibre connector types
- path protection and protection switching processes
- features of physical optical loopbacks and software loopbacks used in testing DWDM systems
- protocols used on optical DWDM systems
- use of ring topologies and linear network topologies in DWDM system cable routes
- WHS requirements that impact safe inspection of optical connectors and safe measurement of optical power from laser transmission systems.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- test equipment used in industry
- manufacturer technical documentation
- required regulations and specifications.

Assessors of this unit must satisfy the requirements for assessors in required vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>