



Australian Government

Assessment Requirements for ICTOPN501 Plan and configure dense wavelength division multiplexing systems

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 2.0.

Performance Evidence

Evidence of ability to:

- plan and develop all required dense wavelength division multiplexing (DWDM) installation activities according to all work health and safety (WHS) and job specifications
- prepare all DWDM shelf configurations and specifications
- plan preliminary optical tests
- complete project and acceptance documentations and submit for approval.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain configuration of DWDM shelf
- summarise principles of DWDM operations
- manage risk of electrostatic discharge
- summarise features and operating requirements of the following test equipment:
 - hand-held optical power meter
 - optical spectrum analyser
 - optical time domain reflectometer (OTDR)
 - transmission test set
- describe functions of an optical add drop multiplexer
- explain the role of the following in planning and configuration of DWDM systems internet protocol (IP) addressing:
 - subnet mask
 - dynamic host configuration protocol (DHCP)

- default gateway
- explain International Telecommunications Union (ITU) wavelength grid for DWDM
- identify optical fibre connector types and discuss their characteristics
- identify optical fibre types and discuss their characteristics
- explain path protection and protection switching
- summarise physical optical loopbacks and software loopbacks used to assist with testing DWDM systems
- identify protocols used on optical DWDM systems
- discuss the use of ring topologies and linear network topologies in DWDM system cable routes
- explain specific work health and safety (WHS) requirements that impact safe inspection of optical connectors and safe measurement of optical power from laser transmission systems.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the Telecommunications – Optical Networks field of work and include access to:

- test equipment currently used in industry
- manufacturer's technical documentation
- relevant regulations and specifications.

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

Links

Companion Volume implementation guides are found in VETNet -

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