



Australian Government

Assessment Requirements for ICTOPN511

Test performance of specialised optical devices

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:

- test at least two specialised optical devices and determine suitability for integration into at least two networks.

During the course of the above, the candidate must:

- plan and coordinate test activities and equipment
- analyse test results
- report and make recommendations on suitability for integration
- comply with all work health and safety (WHS) requirements and work practices.

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:

- functions and features of evaluation reports
- manufacturer testing specifications and distinguishing functions and features of specialised optical devices used in industry
- types of test layouts commonly used in testing specialised optical devices
- purpose of amplified spontaneous emission (ASE) source tests
- attenuation characteristics of optical fibres
- principles of operation for dense wavelength division multiplexing (DWDM)
- features and operating requirements of the following test equipment:
 - a hand-held optical power meter
 - an optical spectrum analyser
 - a transmission test set
- dispersion characteristics of various fibres

- dispersion compensation devices
- standard electrostatic discharge precautions
- functions of an optical add-drop multiplexer (OADM) and reconfigurable optical add-drop multiplexer (ROADM)
- gain equalisation theory
- International Telecommunications Union (ITU) wavelength grid for DWDM
- function of measurement of dispersion
- optical amplifier operation features
- optical fibre connector types and characteristics
- optical fibre types and characteristics
- 'optical return loss' (ORL)
- path protection and protection switching
- polarisation dependent loss (PDL)
- protocols used on optical DWDM systems
- reflectance in optical systems
- ring topologies and linear network topologies
- WHS requirements that impact the safe inspection of optical connectors and the safe measurement of optical power from laser transmission systems
- required legislation, codes, company work practices, regulations and standards and environmental requirements for scoped work.
- tuneable laser sources and characteristics.

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, legislation, codes and standards.

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>