



Australian Government

Assessment Requirements for ICTBWN309 Perform tests on optical communication system and components

Release: 1

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Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate, on two occasions, the ability to perform the tasks outlined in the elements, performance criteria, and foundation skills, and to:

- carry out work according to job specifications and work health and safety (WHS) regulations
- determine and plan optical tests and measurements
- use the following optical measuring instruments and devices:
 - laser light source including visual laser light source
 - laser power meter
 - passive optical network (PON) meter
 - optical time domain reflectometer (OTDR)
- perform and record optical measurements for:
 - optical power levels
 - insertion loss of a passive device
 - end-to-end fibre loss (bi-directional)
 - splice loss
 - distance to fault, event, end of fibre using an (OTDR)
- assess and make recommendations from the test results
- document and present test outcomes.

Knowledge Evidence

The candidate must be able to demonstrate the knowledge required for the elements, performance criteria, and foundation skills, which includes knowledge about:

- legislation, regulations, codes and standards that impact on work activities
- consequences of mating contaminated optical connectors
- downstream and upstream signals

- dense wavelength division multiplexing (DWDM) metro and long-haul system architecture
- hybrid fibre coaxial (HFC) architecture (optical section)
- logarithmic power levels (decibels and dBm)
- optical connector types
- optical fibre and laser safety, practices, handling and application
- optical spectrum limits and wavelengths used in various applications and the International Telecommunications Union (ITU) grid
- role of optical transmitters and receivers
- passive optical network (PON) architecture
- transmission system line rates:
 - optical ethernet
 - synchronous digital hierarchy (SDH)
- wavelength division multiplexing (WDM), coarse wavelength division multiplexing (CWDM) and DWDM principles, and optical multiplexers.

Assessment Conditions

Skills must be assessed in a workplace or simulated environment where conditions are typical of those in a telecommunications work environment or workplace.

Access is required to:

- site/s where installation of supporting infrastructure can be conducted
- plant, tools and equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities.

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 available from VETNet -

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