Australian Government

Assessment Requirements for ICTTEN827 Produce engineering solutions

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:

- resolve at least two specialised network problems.

In the course of the above, the candidate must:

- solve a range of complex mathematical functions
- use software systems to produce simulations of mathematical solutions
- analyse results of software simulations
- design network systems using software simulations
- document and present software solutions for engineering problems.

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:

- required legislation, codes, company work practices, regulations and standards, workplace health and safety (WHS) requirements for scoped work
- functions using symbolic and numerical software, including operations of entering and manipulating polynomials in suitable software and then substitution of values and graphing
- matrices and determinants, numerically with and without symbolic and numerical software
- methods to design and debug programs using algorithmic control structures and output results to the screen, a graph and a file
- methods to analyse and manipulate complex numbers numerically and with symbolic software
- methods to determine and manipulate equations using advanced calculus operations of differentiation and integration numerically and with symbolic software

- methods to determine and manipulate equations of the type called ordinary differential equations (ODE) met in network engineering applications numerically and with symbolic software
- methods to determine and manipulate Laplace transforms met in network engineering applications numerically and with symbolic software
- methods to design a simulation control system and simulate queues using software
- functions and features of required technical documentation.

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:

- networked computers
- simulation software
- required documentation
- a range of industry scenarios or workplace examples.

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 Guide is found on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2