



Australian Government

Assessment Requirements for UEEEC0069 Troubleshoot digital sub-systems

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - using risk control measures
- calculating parameters correctly and accurately
- carrying out fault-finding activities without waste and damage to materials, apparatus, environment or services
- checking and isolating circuits
- dealing with unplanned situations safely and with approval of relevant person/s
- determining sources of material required for work
- measuring and calculating values of parameters in fault finding
- obtaining and checking tools, equipment and testing devices for correct operation and safety
- obtaining scope of fault from documentation and/or work supervisor
- preparing to troubleshoot digital sub-systems
- seeking advice from work supervisor to ensure work is coordinated
- testing and measuring live circuits
- troubleshooting digital sub-systems
- using sustainable energy practices.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- analogue and digital signals
- binary addition and subtraction
- combinational logic circuits, including logic gate types and characteristics, truth tables and logic gate operation
- digital building blocks, including clocks, multiplexers and demultiplexers, encoders and

- decoders, counters, flip-flops, latches and registers
- digital displays, including liquid-crystal display (LCD) and 7-segment
- digital fault-finding principles
- digital numbering schemes, including binary, hexadecimal, binary-coded decimal (BCD), American Standard Code for Information Interchange (ASCII) and Unicode
- digital sub-system building blocks
- electrostatic precautions when handling devices,
- logic families (CMOS and transistor-transistor logic (TTL)), including comparisons, input and output types, unit load and noise margin
- numbering systems, including conversions
- principles of analogue-to-digital and digital-to-analogue conversion
- problem-solving techniques
- relevant checking and isolating circuit methods
- relevant circuit measurements and parameter values calculations
- relevant digital sub-systems
- relevant industry standards
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications and operating instructions
- relevant materials, tools, equipment and testing devices
- relevant testing and measuring methods
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace instructions, policies and procedures, including handling sensitive electronic components
- sustainable energy principles.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities, equipment and relevant industry standards currently used in industry

- resources that reflect current industry practices in relation to troubleshooting digital sub-systems
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>