

## UEECD0038 Provide solutions and report on routine electrotechnology problems

Element/Performance criteria	Test bank	Quiz	Worksheets
<b>1. Perform fundamental numerical electrotechnology calculations</b>			
1.1 Work health and safety (WHS)/occupational health and safety (OHS) procedures for a given work area are identified, obtained and applied			
1.2 Nature of the problem is identified from documentation or work supervisor to determine scope of work to be undertaken			
1.3 Problems are accurately documented in written and/or diagrammatic form to ensure issues are explicit and appropriate problem-solving methods used to resolve matter/s	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
1.4 Constants and variables related to electrotechnology problem are identified from measured values or relevant documentation	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
1.5 Methods for resolving electrotechnology problems are considered and discussed with appropriate person/s			
1.6 Electrotechnology problems are resolved using relevant numerical calculations with result outcome in accordance with relevant industry standards	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
1.7 Solutions to electrotechnology problems are documented in accordance with workplace procedures			
<b>2. Complete work calculations and report on solutions</b>			
2.1 Solutions used to solve workplace electrotechnology problems are recorded for inclusion in work/project and/or records/technical reports in accordance with workplace procedures			
2.2 Reporting requirements and structures are identified and used to prepare technical reports to communicate the calculated resolution to appropriate person/s			
2.3 Reports are produced to communicate the calculated solutions in accordance with workplace procedures			
2.4 Work completion is documented and appropriate person/s notified			
<b>Performance evidence</b>			
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:			
• completing work and reporting on calculated solutions, including:			
• using standard reporting structures and forms to prepare and produce documents/technical reports			
• interpreting and communicating solutions in documents/technical reports to appropriate person/s in accordance with workplace procedures			
• performing calculations to solve electrotechnology problems, including:			

• identifying problems in written and diagrammatic form	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
• obtaining known constants and variables from an appropriate source to solve problems	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
• solving problems using appropriate fundamental calculations to achieve realistic and accurate outcomes.	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
<b>Knowledge evidence</b>			
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:			
• electrotechnology numeracy, including:			
• decimals	6, 7, 12, 19	1, 5, 7, 8	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12
• fractions and indices	7, 9, 10, 15	5, 8, 9	5, 12
• percentages			8, 12
• graphs	21, 22, 23, 24, 25, 26, 27, 28, 29, 30		5, 9
• multiples and sub-multiples	6, 9, 11, 12		1, 2, 3, 4, 5, 7, 10, 11
• ratios and proportions	16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30		6, 12
• transposition	3, 4, 10, 13, 17	1, 4	1
• areas and volumes	8, 20, 31	2	
• trigonometry and Pythagoras' Theorem	2, 14, 18	1, 3, 6	
• construction of angles and triangles	1, 5	3, 6, 10	
• transposition of equations		9	
• conversion of units of measurement	31		
• electrotechnology literacy, including:			
• reading comprehension	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42	1, 12	
• spelling	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42		
• sentence construction (syntax)	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42		

• grammar	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42		
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