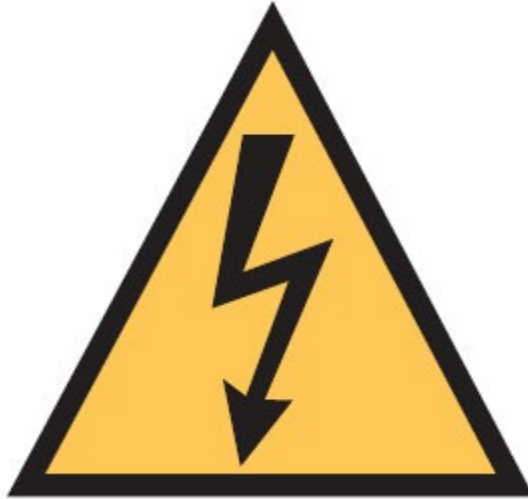

Portfolio of evidence

UEEEL0047

Identify, shut down and restart systems with alternate supplies



UEE Training Package Support Material

Based on:
National Electrotechnology Industry Standards



Assessment Task 3 Portfolio of Evidence

Qualification national code and title	UEE30820 Certificate III in Electrotechnology Electrician
Unit/s national code/s and title/s	UEEEL0047 - Identify, shut down and restart systems with alternate supplies

North Metropolitan TAFE
V1 July 2022

Student Name		Assessment Type	<input type="checkbox"/> Questioning (Oral / Written)
Student ID			<input checked="" type="checkbox"/> Portfolio
Lecturer Name		Student Result (S/NYS)	
<p>By completing and submitting this signed form to my lecturer, I am stating that:</p> <ul style="list-style-type: none"> a. The attached submission is completely my own work b. I have correctly cited all sources of information used in this work (if required) c. I understand a copy of my assessment will be kept by the NMTAFE for their records d. I understand my assessment may be selected for use in the NMTAFE's validation and audit process to ensure student assessment meets requirements 			
Student Signature		Date	

Assessment type (☑):

- ☐ Questioning (Oral/Written)
- ☐ Practical Demonstration
- ☐ 3rd Party Report
- ☒ Other – Project/Portfolio *(please specify)*

Assessment Resources:



Assessment Task 3 Portfolio of Evidence

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Resources the assessor is to provide:

- Classroom setting as the venue.
- UEEEL0047 Resource book

Resources the candidate is to provide:

- Black or Blue pen
- Pencil and eraser
- AS/NZS 3000: current edition
- WA Electrical Requirements current edition

Assessment Instructions:

Task description:

The following Portfolio Assessment relates to the knowledge requirements and performance evidence of the unit. Make sure you complete all questions and practical activities

- To be deemed **Satisfactory** you are required to show competency on all items
- The following **Knowledge Assessment** is an open book assessment and does not need to be completed under supervision
- The following **Practical Activities** must be completed under supervision in a simulated workplace environment
- If **Not Yet Satisfactory** you will be required to re-attempt the **Knowledge Questions** that are marked **not satisfactory** and/or any **Practical Activity** marked as **Not Yet Satisfactory**

Student Instructions:

Ensure you have access to all the resources required for this assessment as described below.

1. Read the **Questions** section. If you are not clear about a question, ask your assessor for further information.
2. You may be able to complete the questions verbally. This would need to be negotiated with your assessor.



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3. Your assessor will provide feedback on your answers, including any questions that may require a further response.
4. If you have specific needs that you would like considered during this assessment, please discuss this with your assessor to identify any possible reasonable adjustments **prior** to commencing the assessment.
5. All diagrams must be neat, labelled and in pencil.
6. All calculations and numerical answers must be shown correct to two decimal places and include both the unit of measurement and metric prefix if applicable.



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Complete all Knowledge Questions.

Question 1	What are some of the risks to consider when undertaking a risk assessment for electrical work?	
Answer	1	
	2	
	3	
	4	
	5	
	6	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 2	Describe the meaning of alternative supply?	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 3	List two risks associated with motor generator sets as alternative electricity power sources.	
Answer	1	
	2	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 4	Identify three alternative electricity power sources.	
Answer	1	
	2	
	3	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory
Question 5	What are Five causes of arc flashes or ark blasts?	
Answer	A	
	B	
	C	
	D	
	E	
Feedback		<input type="checkbox"/> Satisfactory



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		<input type="checkbox"/> Not satisfactory
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Question 6	Describe some typical applications of engine-driven alternators and generators to produce electrical energy.	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 7	What is the purpose of the mechanical gearbox in a wind turbine?	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 8	Identify two types of uninterruptible power supplies.	
Answer	1	
	2	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 9	Describe what the function of a changeover switch is?	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 10	An AC rated circuit breaker or Isolator can be used for DC applications.	
Answer	A	True
	B	False
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 11	Name four inverter which are used commonly in small scale installation up to 5KW per phase	
Answer	1	
	2	
	3	
	4	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 12	List 4 test instruments which should be use on electrical installation verification and testing work.		
Answer	A		
	B		
	C		
	D		
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 13	When replacing a component for a solar photovoltaic system, what should you replace the component with?		
Answer			
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 14	List below the correct method for shutdown a diesel generator.		
Answer	1		
	2		
	3		
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 15	Describe some of the hazards associated with the use of lead-acid batteries.	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 16	Identify the two most prevalent battery technologies for energy storage systems.	
Answer	1	
	2	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 17	Selecting correct labels and appropriate location for fixing labels are identified in which regulations?	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 18	Explain what Solar Voltage Rise is?	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 19	List four Advantages of wind-driven alternator and generators.		
Answer	1		
	2		
	3		
	4		
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 20	What earthing requirements are required for Alternative supply systems over 25KVA? State which regulation and clause number.		
Answer			
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 21	Explain the fundamental principles of how a Hydro powered generator can produce electrical energy.		
Answer			
Feedback			<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

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Question 22	A Supplementary Supply is the term for:	
Answer 1	A	UPS supply which maintains the supply when the normal supply is interrupted
	B	Electrical system which uses above 33KV
	C	Electrical installation connected under normal conditions
	D	Electrical supply that is intended to operate in conjunction with the normal electrical supply.
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 23	What is the most common semiconductor material used in the construction of Photovoltaic (PV)	
Answer		
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory

Question 24	Identify three Risks that could occur with storage of battery.	
Answer	1	
	2	
	3	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 25	List 8 regulations (AS/NZS) which cover alternative energy and renewable energy systems in Australia	
Answer	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Question 26	Draw Below: A diagram showing A 3phase 4 wire system with Normal Supply and Alternative supply connected to a switchboard, include isolator to supplies, Changeover switch and MEN earthing system.	
Feedback		<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory



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Assessment Outcome Knowledge Questions	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Not Satisfactory
Assessment Outcome Practical Activities	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Not Satisfactory

Knowledge Questions / Practical Activity Feedback:

Actions Required if Not Satisfactory:

Assessor name and signature		Date	
Student name and signature		Date	