

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 11: Install, maintain and troubleshoot low voltage <u>alternative power supply systems and associated equipment</u>			Total Hours:	64	
Learning Project 7: <u>Maintain and troubleshoot power supply systems</u>			Total Hours:	8	
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		<ul style="list-style-type: none"> Phase 1 completed LA 11 -LP 2,4 			
Learning project description: You have received a call from a call centre in the service industry. They are concerned that when load shedding starts the alternative power supply does not automatically switch over. This causes problems with their computers and phone lines. You need to lead a team to find out why this is happening and how it can be prevented in future.					
Activity phase	Practical Skills Modules Content	Underpinning Knowledge Module Content	Work Experience Module Content (Exposure to be given)	Didactical-methodological advice	Learning materials/Tools and Equipment
Reference to QCTO Curriculum	PM-01 (PS-01, 02, 03) PM-05 (PS 01) PM-06 (PS1, 2) PM-08 (PS0 1,2,3,4,5)	KM-06-KT03 KM-07 (KT01, 04, 05) KM-08 (KT01) KM-09 (KT01)	WM-01 (WE1-3) WM-02 (WE1-3) WM-03 (WE1-3)		
Planning/Preparation	<p>Provide access to (Given): Circuit diagrams, distribution boards, protective devices, cables, relevant tools and measuring instruments as per last column, statutory requirements.</p> <p>Apprentices must be able to do/perform the following (hard and soft) skills:</p> <ul style="list-style-type: none"> Wear correct PPE Complete necessary documentation Conduct risk assessment Select the correct tools and equipment Transport all materials and equipment safely to workstation 	<p>Knowledge of:</p> <ul style="list-style-type: none"> Electrical maintenance and inspection Typical power supply system faults 	<p>Under supervision: <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none"> Perform preventative electrical maintenance on power supply system Perform lock-out procedures Trace and repair faults on power supply systems (troubleshooting) 	Lecture, presentations DVDs, audio-visual Group work, Internet	<p>Print materials, electronic files, software applications incl.:</p> <ul style="list-style-type: none"> Training manuals for trainers and apprentices incl. multimedia software Set of presentation aids (videos, slides) for overhead or LED/LCD projectors <p>Tools, equipment and materials incl.: Electrical toolbox</p> <p>Equipment</p> <ul style="list-style-type: none"> Line tester Multimeter Insulation tester Phase rotation meter
Implementation/Execution	<ul style="list-style-type: none"> Perform preventative maintenance on electrical power supply systems Perform lock-out procedures 				

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Evaluation/ Documentation	<ul style="list-style-type: none"> • Trace and repair faults on power supply systems (troubleshooting) • Conduct power-on test • Test the power supply system to ensure that it is working correctly (functionality test) • Report work progress to appropriate personnel • Inspect and clean tools • Store and secure tools and materials • Complete applicable work documentation • Perform housekeeping 				<ul style="list-style-type: none"> • Earth leakage tester • Power supply • Earth leakages • Circuit breakers and protective devices • Cables and accessories Materials • SANS 10142-8 • OHS Act • Local Authority requirements • Work-site procedures PPE: • Safety overall • Safety boots
Total	Hours: 8				
Specialisation additions					
Assessment guidance					
<ul style="list-style-type: none"> • Self assessment • Group assessment • Theory test <p>Criteria for assessment:</p> <ul style="list-style-type: none"> • Correct PPE is worn • Risk assessment undertaken • Necessary documentation completed • Lock out and safety procedures are followed • Power supply system tested to ensure functionality • Task is completed as per job card • Housekeeping performed 					