

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 11: Install, maintain and troubleshoot low voltage <u>alternative</u> power supply systems and associated equipment			Total Hours:		64
Learning Project 7: Maintain and troubleshoot power supply systems			Total Hours:		8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		<ul style="list-style-type: none">Phase 1 completedLA 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><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <ul style="list-style-type: none">Wear correct PPEComplete necessary documentationConduct risk assessmentSelect the correct tools and equipmentTransport all materials and equipment safely to workstation	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none">Electrical maintenance and inspectionTypical power supply system faults	<p><u>Under supervision:</u> <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none">Perform preventative electrical maintenance on power supply systemPerform lock-out proceduresTrace 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 softwareSet 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 testerMultimeterInsulation testerPhase rotation meter
Implementation/Execution	<ul style="list-style-type: none">Perform preventative maintenance on electrical power supply systemsPerform lock-out procedures				

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	<ul style="list-style-type: none">Trace and repair faults on power supply systems (troubleshooting)Conduct power-on test				<ul style="list-style-type: none">Earth leakage testerPower supplyEarth leakagesCircuit breakers and protective devicesCables and accessories
Evaluation/ Documentation	<ul style="list-style-type: none">Test the power supply system to ensure that it is working correctly (functionality test)Report work progress to appropriate personnelInspect and clean toolsStore and secure tools and materialsComplete applicable work documentationPerform housekeeping				<ul style="list-style-type: none">MaterialsSANS 10142-8OHS ActLocal Authority requirementsWork-site procedures <p>PPE:</p> <ul style="list-style-type: none">Safety overallSafety boots
Total	Hours: 8				
Specialisation additions					
Assessment guidance					
<ul style="list-style-type: none">Self assessmentGroup assessmentTheory test <p>Criteria for assessment:</p> <ul style="list-style-type: none">Correct PPE is wornRisk assessment undertakenNecessary documentation completedLock out and safety procedures are followedPower supply system tested to ensure functionalityTask is completed as per job cardHousekeeping performed					