

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR ELECTRONICS INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack- Field Technician: UPS and Inverter

SECTOR: ELECTRONICS

SUB-SECTOR: INDUSTRIAL ELECTRONICS

OCCUPATION: SALES AND AFTER SALES SERVICE

REFERENCE ID: ELE/Q7201

ALIGNED TO: NCO-2004/7243.10

UPS/Inverter Field Technician: Also called, 'UPS repair Technician', this is an after sales service job for installing and providing support to customers of different types of UPS and inverters.

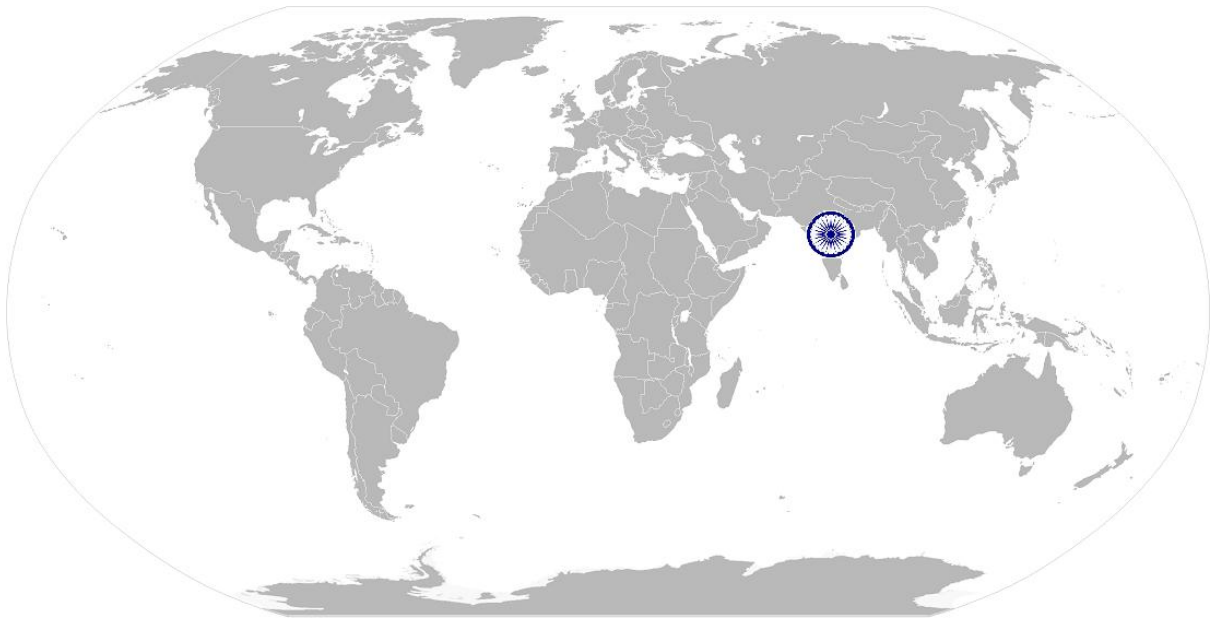
Brief Job Description: The individual at work installs the newly purchased UPS or inverter. The individual also and interacts with customers to diagnose problems in them, assesses possible causes, rectifies faults or replaces faulty modules or recommends factory repairs for bigger faults.

Personal Attributes: The individual must be willing to work in the field and travel through the day from one customer's premise to another. Punctuality, amenable behaviour, patience, good interpersonal relationship building, trustworthiness, integrity, and critical thinking are important attributes for this job. The person is also required to be capable of lifting heavy objects.

Job Details	Qualifications Pack Code	ELE/Q7201		
	Job Role	Field Technician – UPS and Inverter		
	Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
	Sector	Electronics	Drafted on	17/02/14
	Sub-sector	Industrial Electronics	Last reviewed on	24/03/14
	Occupation	Sales and After Sales Service	Next review date	24/03/15

Job Role	Field Technician – UPS and Inverter Also called, 'UPS Repair Technician'
Role Description	Install the online UPS, decipher the symptoms and diagnose the problems in the UPS/inverter isolate the faulty module
NVEQF/NVQF level	4
Minimum Educational Qualifications	8 th Standard passed
Maximum Educational Qualifications	ITI/Diploma (Electrical/Electronics)
Training	Not Applicable
Experience	Minimum 2 years as helper for 8 th / 9 th passed
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> ELE/N0061 Understand requirement of customer ELE/N7201 Install the UPS/Inverter ELE/N7202 Repair dysfunctional UPS/Inverter ELE/N9962 Interact with co workers <p>Optional: Not applicable</p>
Performance Criteria	As described in the relevant OS units

National Occupational Standard



Overview

This unit is about interacting with customers to understand their requirements and build confidence.

ELE/N0061

Understand requirement of customer

Unit Code	ELE/N0061
Unit Title (Task)	Understand requirement of customer
Description	This OS unit is about interacting with customer to understand their requirement with respect to problem in the appliance
Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> • Interact with the customer prior to visit • Interact with customer at their premises • Suggest possible solutions to customer • Achieve productivity and quality as per company's norms
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Interacting with customer prior to visit	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. check customer complaint registered at customer care or installation schedule</p> <p>PC2. call customer to confirm problem and fix time for visit</p> <p>PC3. greet the customer and confirm the problem registered</p> <p>PC4. be polite and patient when interacting with customer</p> <p>PC5. check about warranty status of appliance and annual maintenance contract</p> <p>PC6. anticipate possible problems to carry tools and parts accordingly</p> <p>PC7. ascertain customer location in order to make the route plan for the day</p>
Interacting with customer at their premises	<p>To be competent, the user/ individual must be able to:</p> <p>PC8. enquire about the symptoms and history of problems in the appliance</p> <p>PC9. ask about the age of appliance and status of upkeep</p> <p>PC10. identify the problem based on customer's information</p> <p>PC11. communicate the problems identified and educate on possible reasons</p> <p>PC12. inform about costs involved</p>
Suggesting possible solutions to customer	<p>To be competent, the user/ individual must be able to:</p> <p>PC13. discuss the problem(s) identified with customer</p> <p>PC14. suggest possible solutions and costs involved</p> <p>PC15. explain the time required and methodology for servicing necessary</p> <p>PC16. seek customer's approval on further action</p>
Achieving productivity and quality	<p>To be competent, the user/ individual must be able to:</p> <p>PC17. accurately assess the problem and solution(s) necessary</p> <p>PC18. offer most appropriate and cost-effective service as per customer's requirement</p>

ELE/N0061

Understand requirement of customer

	<p>PC19. communicate problem effectively in order to secure customer's confidence</p> <p>PC20. ensure 100% customer satisfaction and positive feedback</p> <p>PC21. record zero customer complaints post service</p> <p>PC22. avoid repeat problem post service</p> <p>PC23. prepare most optimum route plan to complete daily target visits</p>
Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on: customer care, warranty</p> <p>KA2. company's code of conduct</p> <p>KA3. organisation culture and typical customer profile</p> <p>KA4. company's reporting structure</p> <p>KA5. company's documentation policy</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. company's products and recurring problems reported in consumer appliances</p> <p>KB2. basic electrical and mechanical modules of various industrial electronic products</p> <p>KB3. circuit design of the type and model of product</p> <p>KB4. etiquette to be followed at customer's premises</p> <p>KB5. precautions to be taken while handling field calls and dealing with customers</p> <p>KB6. relevant reference sheets, manuals and documents to carry in the field</p>
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading and writing skills</p> <p>The individual on the job needs to know and understand:</p> <p>SA1. how to read product and module serial numbers and interpret details such as make, date, availability</p> <p>SA2. how to note problems on job sheet and details of work done</p>
<p>B. Professional Skills</p>	<p>Interpersonal skills</p> <p>The individual on the job needs to know and understand how:</p> <p>SB1. to put customer at ease and generate customer's confidence</p> <p>SB2. to listen carefully and interpret their statement of symptoms</p>
	<p>Communication skills</p> <p>The individual on the job needs to know and understand how:</p> <p>SB3. to seek inputs at assess the problems</p> <p>SB4. how to communicate in local language</p> <p>SB5. how to educate and inform customer about contractual issues such as warranty, cost of service and module replacement</p> <p>SB6. to educate on precautions to be taken post repairs to avoid recurrence of problem</p>

ELE/N0061

Understand requirement of customer

	Behavioural skills
	<p>The individual on the job needs to know and understand:</p> <p>SB7. importance of personal grooming</p> <p>SB8. significance of etiquette such as maintaining the appropriate physical distance with customer during conversation, not entering bedroom without permission</p> <p>SB9. importance of being patient and courteous with all types of customers</p> <p>SB10. being polite and courteous under all circumstances</p> <p>SB11. importance of maintaining clean surface/work area</p>
	Decision making skills
	<p>The individual on the job needs to know and understand:</p> <p>SB12. decide on the spot on whether interaction of customer with supervisor is necessary or not</p> <p>SB13. when to call customer care and close the call after work is done to customer's satisfaction and documentation is complete</p>

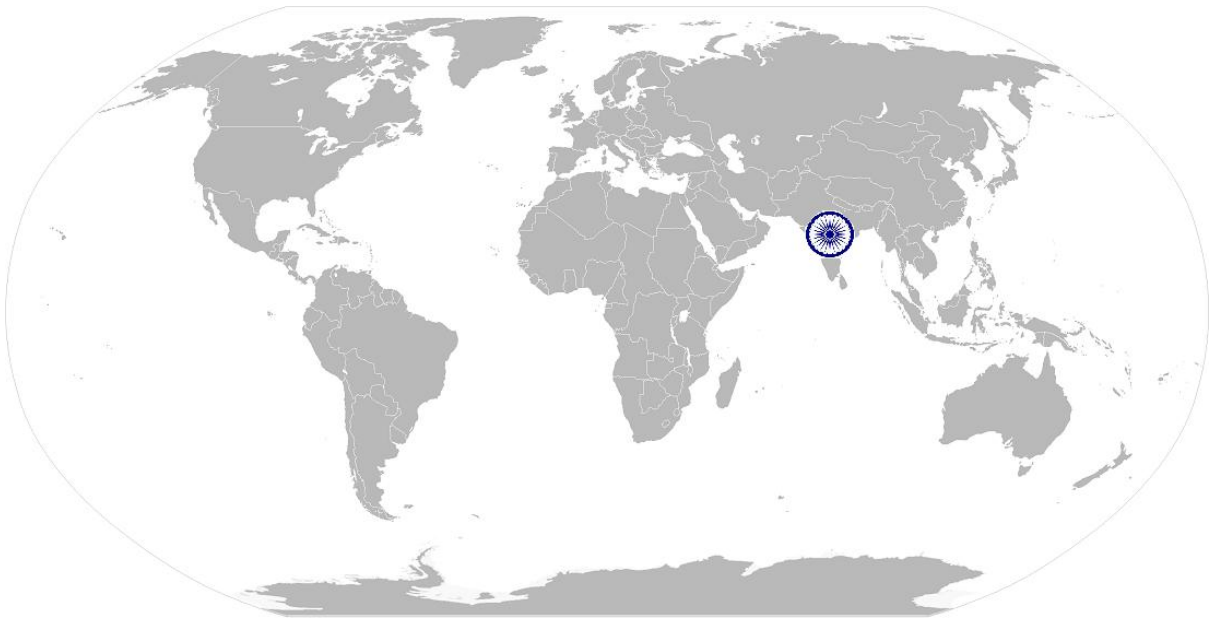
ELE/N0061

Understand requirement of customer

NOS Version Control

NOS Code	ELE/N0061		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	17/02/14
Industry Sub-sector	Industrial Electronics	Last reviewed on	dd/03/14
		Next review date	dd/03/15

National Occupational Standard



Overview

This unit is about installing the newly-purchased UPS/Inverter at customer's premises.

ELE/N7201

Install the UPS/Inverter

National Occupational Standard

Unit Code	ELE /N7201
Unit Title (Task)	Install the UPS/Inverter
Description	This OS unit is about installing the newly purchased UPS/Inverter at customer's location and make it ready to use
Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> • Undertake pre-installation site visit • Remove packaging and check accessories • Place the UPS/Inverter at identified location • Check functioning of the product • Complete the documentation • Interact with supervisor or superior • Achieve productivity and quality as per company's norms
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Undertaking pre-installation site visit	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. visit the customer's premise before carrying out the installation</p> <p>PC2. interact with customer to understand where the UPS/inverter is to be installed</p> <p>PC3. check that the location meets structural requirements such as solid floor surface suitable for wheeling and heavy weight, weight and clearance requirements</p> <p>PC4. make the customer aware of any pre installations/masonry/electrical work to be carried out</p> <p>PC5. educate customer about keeping the equipment protected from moisture</p> <p>PC6. seek appointment for the next visit</p>
Removing packaging and checking accessories	<p>To be competent, the user/ individual must be able to:</p> <p>PC7. remove the packaging in which the UPS/inverter was shipped to customer from point of sale/ warehouse</p> <p>PC8. check that the product matches the customer order in terms of colour and make</p> <p>PC9. if the UPS is not immediately installed, ensure that original packaging is retained</p> <p>PC10. check that all supporting accessories purchased have are there in the pack</p>

ELE/N7201

Install the UPS/Inverter

	<p>PC11. carry out a visual inspection in order to ensure that there are no signs of shipping damages</p> <p>PC12. check that tools and fitments required for the installation are available</p> <p>PC13. clear up the packaging material waste and dispose as per company's norms</p> <p>PC14. remove watches, rings or any other metal objects before installation procedure</p>
Placing and wiring the UPS/Inverter	<p>To be competent, the user/ individual must be able to:</p> <p>PC15. check if pre installation requirements are met</p> <p>PC16. ensure that the room in which the UPS is installed is not airtight and that there is no flammable gas in the environment around</p> <p>PC17. maintain minimum space needed for ventilation and service</p> <p>PC18. detach all bolts and shipping brackets and separate the UPS cabinet</p> <p>PC19. place the UPS at the final location and route and connect the power and control wirings through the top or bottom of the cabinet</p> <p>PC20. follow standard wiring procedure while carrying out the electrical installation</p> <p>PC21. reinstall any safety shields removed during the process of installation</p>
Checking functioning	<p>To be competent, the user/ individual must be able to:</p> <p>PC22. once necessary power and control connections are made, align the UPS/inverter as per the instructions manual</p> <p>PC23. demonstrate the features and utility</p> <p>PC24. explain the precautions to be taken while using the air conditioner</p>
Completing documentation	<p>To be competent, the user/ individual must be able to:</p> <p>PC25. fill in customer acknowledgement form</p> <p>PC26. seek customer's signature</p> <p>PC27. complete other documentation for recording completion of installation</p> <p>PC28. call customer care and inform about job completed</p>
Interacting with supervisor or superior	<p>To be competent, the user/ individual must be able to:</p> <p>PC29. understand the work requirement from superior, periodically</p> <p>PC30. report to superior on the work completed</p> <p>PC31. escalate the customer issues and problems that are unresolved in the field</p> <p>PC32. document the work completed on the company ERP software for tracking and future references</p>
Achieving productivity and quality	<p>To be competent, the user/ individual must be able to:</p> <p>PC33. remove packaging without damage to the UPS/inverter unit and accessories</p> <p>PC34. position the equipment as per requirements specified in instructions manual</p> <p>PC35. educate customer on importance of proper placing</p> <p>PC36. carry and use the correct tools and equipment for installation</p> <p>PC37. operate and check that they are in a safe and stable condition</p> <p>PC38. complete installation in time target given</p> <p>PC39. educate customer on proper operation and maintenance procedures</p> <p>PC40. complete daily field schedule as per instructions/format within the designated time</p>

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Install the UPS/Inverter

Knowledge and Understanding (K)	
B. Organizational Context (Knowledge of the company / organization and its processes)	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on: incentives, delivery standards, and personnel management, call closure</p> <p>KA2. company's sales, installation and after sales support policy</p> <p>KA3. importance of the individual's role in the workflow</p> <p>KA4. reporting structure</p> <p>KA5. company's policy on product's warranty and other terms and conditions</p>
B. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. installation site requirements (structural requirements, ventilation, etc.)</p> <p>KB2. different features and functionalities of various models</p> <p>KB3. fundamentals of electricity, electrical components and electrical schematic symbols</p> <p>KB4. safety precautions to be taken while installing such as wearing rubber gloves, removing metals objects from the surroundings etc.</p> <p>KB5. manual-based procedure of installing the UPS/inverter</p> <p>KB6. packaging waste disposal procedures</p> <p>KB7. use of test equipment and tools such as multi-meter, oscilloscope</p> <p>KB8. safety rules, policies and procedures</p> <p>KB9. quality standards to be followed</p>
Skills (S) [Optional]	
C. Core Skills/ Generic Skills	Reading and writing skills
	<p>The user/individual on the job needs to know and understand how:</p> <p>SA1. to read job sheet for installation as registered by customer care/ company's ERP system</p> <p>SA2. to document the completed work</p> <p>SA3. to read the standard operating procedures for different types of UPS/inverters</p>
	Teamwork and multitasking
	<p>The user/individual on the job needs to know and understand how:</p> <p>SA4. to share work load as required</p> <p>SA5. to achieve the targets given on installation per day or month</p>
D. Professional Skills	UPS/Inverter operation
	<p>The user/individual on the job needs to know and understand how:</p> <p>SB1. the equipment works</p> <p>SB2. to operate and set the UPS/inverter and use the various features</p> <p>SB3. to fix various accessories and parts that have accompanied the unit</p> <p>SB4. to check features and functionalities after installation</p>

NOS

National Occupational Standards

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Install the UPS/Inverter

	Using tools and machines
	The user/individual on the job needs to know and understand how: SB5. to operate tools such as screw drivers for installation SB6. to make appropriate settings after plugging in
	Reflective thinking
	The user/individual on the job needs to know and understand how: SB7. to improve work processes SB8. to reduce repetition of errors in installation
	Critical thinking
The user/individual on the job needs to know and understand how: SB9. to spot process disruptions and delays SB10. to report on any customer concerns to superiors without delay	

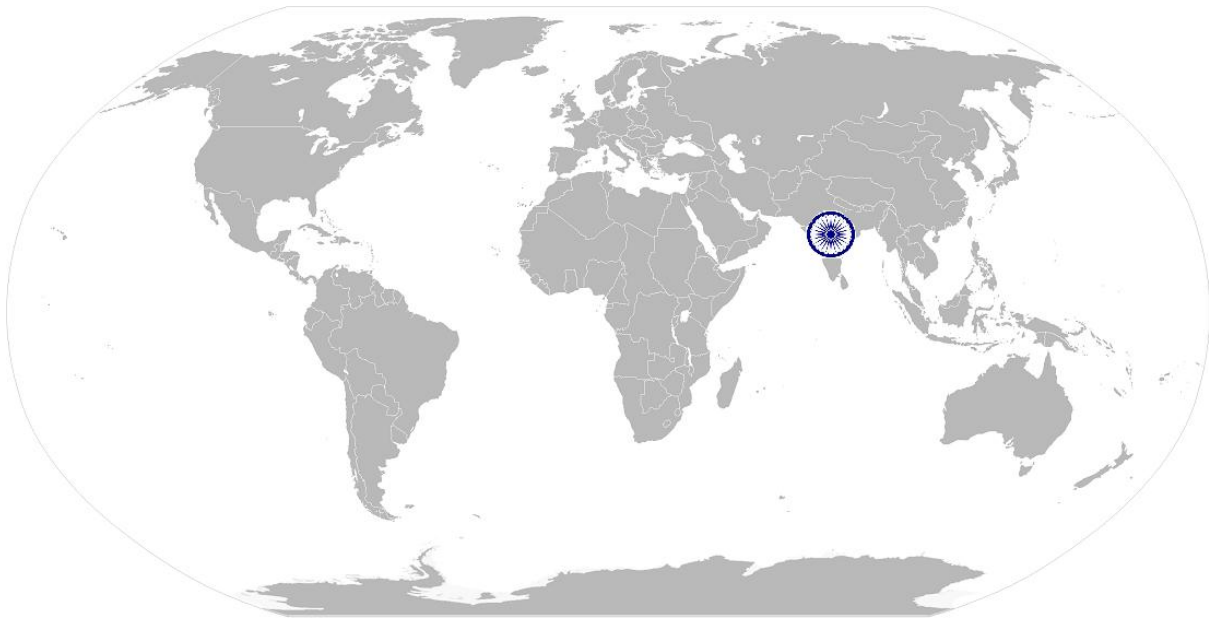
ELE/N7201

Install the UPS/Inverter

NOS Version Control

NOS Code	ELE/N7201		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	17/02/13
Industry Sub-sector	Industrial Electronics	Last reviewed on	dd/03/14
		Next review date	dd/03/15

National Occupational Standard



Overview

This unit is about moving from one customer's premise to another in order to rectify faults in dysfunctional UPS/inverter as recorded by the customer with customer care unit.

ELE/N7202

Repair dysfunctional UPS/Inverter

National Occupational Standard

Unit Code	ELE/N7202
Unit Title (Task)	Repair dysfunctional UPS/inverter
Description	This OS unit is about understanding the customer's complaints, identifying the fault and fixing the UPS/inverter
Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> Understand the symptoms in the UPS/inverter and identify the fault Replace dysfunctional module in the UPS/inverter unit Confirm functionality of the repaired unit Achieve productivity and quality as per company's norms
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Understanding symptoms and identifying fault	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. diagnose the fault based on customer interaction and initial inspection</p> <p>PC2. disconnect the power source and open the cabinet doors of the equipment</p> <p>PC3. disconnect the battery and wait for electrolytic capacitor to discharge</p> <p>PC4. remove protective panels since the voltage present is potentially lethal</p> <p>PC5. check the air filters and monitor system parameters from the control panel</p> <p>PC6. carry out basic tests such as power supply inspection, volt ampere test and earth test power supply etc.</p> <p>PC7. separate and inspect every module of the unit if the fault is not identified through basic tests</p> <p>PC8. send to factory for in depth diagnosis, if problem remains un-identified at site</p>
Replacing dysfunctional module	<p>To be competent, the user/ individual must be able to:</p> <p>PC9. replace component at location, if the fault identified is because of damage of components such as fuse or battery</p> <p>PC10. remove and replace the faulty module with a functional one, either on a second visit or as pre-identified and collected from the service centre, if the problem is at the PCB level or components that cannot be replaced at site</p>
Confirming functionality of repaired unit	<p>To be competent, the user/ individual must be able to:</p> <p>PC9. reassemble the unit and make all power and communication wirings</p> <p>PC10. switch on power supply and confirm that unit is functioning</p> <p>PC11. check that all the modules of the unit work as per specifications</p> <p>PC12. demonstrate and confirm functionality of the unit with customer</p> <p>PC13. educate the customer about cleaning procedures and other best practices</p> <p>PC14. collect necessary payments from the customer, if applicable</p>

ELE/N7202

Repair dysfunctional UPS/Inverter

	<p>PC15. fill in customer acknowledgement form PC16. complete other documentation procedures to record complaint closure</p>
<p>Achieving productivity and quality</p>	<p>To be competent, the user/ individual must be able to:</p> <p>PC17. ensure damage free handling of the unit PC18. diagnose the problem accurately and in assigned time PC19. identify the problem modules accurately such as the power supply, battery, PCB etc. PC20. fix the dysfunctional equipment in designated time PC21. rectify completely to avoid repeat fault in the equipment PC22. record minimum customer complaints post service PC23. meet daily target on attending to number of complaints PC24. select the right spares according to recorded complaints at the customer care PC25. clearly communicate type of module required to the service centre, if a faulty module is to be replaced PC26. secure repairs completion receipt from customer PC27. educate customer on air conditioner maintenance and correct practices to follow in order to avoid further problems PC28. ensure 100% customer satisfaction PC29. recover payments as per rate sheet/ communication from customer care PC30. sell related products such as new equipment or Annual Maintenance Contracts (AMC) as per company policy</p>
<p>Knowledge and Understanding (K)</p>	
<p>C. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to understand:</p> <p>KA1. company's policies on: incentives, delivery standards and personnel management and customer service standards KA2. reporting and documentation processes KA3. importance of the individual's role in the system KA4. reporting structure</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. functionalities of the UPS/inverter and procedures to make settings KB2. functioning of the appliance and its various modules KB3. UPS communication interface and wiring procedures KB4. identification of various status indicators on the control panel of the equipment KB5. daily, monthly and annual maintenance procedures of the equipment and battery maintenance KB6. used battery recycling procedure KB7. basic electronics and electronic components (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistors) KB8. fundamentals of electricity such as ohms law, difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections KB9. troubleshooting knowledge with respect to UPS/inverters</p>

ELE/N7202

Repair dysfunctional UPS/Inverter

	<p>KB10. hazards, their causes and prevention/personal safety KB11. frequently occurring faults such as blown fuse, dead battery etc. KB12. components/modules of the UPS/inverter and their prices</p>
Skills (S) [Optional]	
<p>E. Core Skills/ Generic Skills</p>	<p>Reading, writing and computer skills</p>
	<p>The individual on the job needs to know and understand: SA1. how to read warnings, instructions and other text material on product labels, and components SA2. how to read job sheet and complaints SA3. how to read product operating manuals SA4. how to operate computers and software installed SA5. how to read and understand electrical and electronic symbols, multiples and SI units</p>
	<p>Documentation skills</p>
<p>The individual on the job needs to know and understand: SA6. how to document completion note for customer SA7. how to record completion information in the ERP system</p>	
<p>F. Professional Skills</p>	<p>Using tools and machines</p>
	<p>The individual on the job needs to know and understand: SB1. to operate/use multi-meter, oscilloscope, clamp meter, screw driver, wrenches, pliers,</p>
	<p>Fault diagnosis skills</p>
<p>The individual on the job needs to know and understand: SB1. various modes in which the UPS operates and the different LED and alarm statuses SB2. to detect basic electrical faults such defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse SB3. to identify the problem of dead battery and replacement procedure for the same SB4. to identify failure of inverter circuit or inverter driver and to replace any inverter component or the inverter driver SB5. to detect defects in the cooling fan and to defect faults due to surrounding temperature being higher than allowed operation range SB6. to identify reasons for improper functioning of charger board, boost circuit, PFC components or BUS circuit and to replace the identified dysfunctional module SB7. to identify failed resistors and damaged photo couplers in the IGBT driver module resulting in replacement of the module SB8. to identify fault in the charger module if the UPS works on bypass mode normally, but cannot start up completely SB9. to diagnose fault in the SPS module if the equipment does not work in spite of being connected to the input power source</p>	

ELE/N7202

Repair dysfunctional UPS/Inverter

	Communication skills
	The individual on the job needs to know and understand: SB10. how to interact with customer to understand the problem faced SB11. importance of communicating in language SB12. precautions and etiquette while dealing with customer SB13. be polite, patient and punctual
	Critical thinking
	The individual on the job needs to know and understand: SB14. to match symptoms of the fault noticed to the cause of the problem SB15. anticipate and avoid hazards that may occur during repairs because of tools, materials used or repair processes

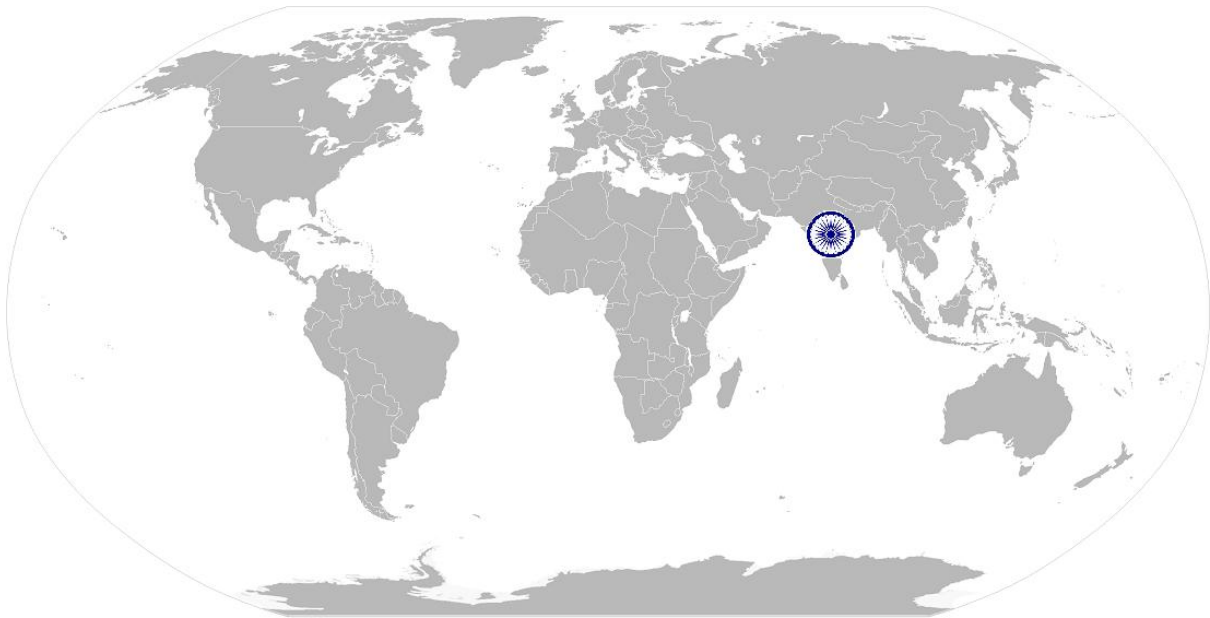
ELE/N7202

Repair dysfunctional UPS/Inverter

NOS Version Control

NOS Code	ELE/N7202		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	17/02/14
Industry Sub-sector	Industrial Electronics	Last reviewed on	dd/03/14
		Next review date	dd/03/15

National Occupational Standard



Overview

This unit is about the individual's level of communication with co-workers and other departments within the organisation. It determines the ability to work as a team member to achieve the required deliverables on schedule.

ELE/N9962

Interact with coworkers

National Occupational Standard

Unit Code	ELE/N9962
Unit Title (Task)	Interact with co-workers
Description	This OS unit is about communicating with colleagues and seniors in order to achieve smooth work flow
Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> • Interact with supervisor or superior • Coordinate with colleagues
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Interacting with supervisor	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. understand work requirements, targets and incentives</p> <p>PC2. learn about new product models, their features and functions</p> <p>PC3. report problems identified in the field</p> <p>PC4. escalate customer concerns that cannot be handled on field</p> <p>PC5. resolve personnel issues</p> <p>PC6. receive feedback on work standards and customer satisfaction</p> <p>PC7. communicate any potential hazards at a particular location</p> <p>PC8. meet given targets</p> <p>PC9. deliver work of expected quality despite constraints</p> <p>PC10. have feedback from a happy and satisfied customer</p>
Interacting with colleagues	<p>To be competent, the user/ individual must be able to:</p> <p>PC11. resolve inter-personnel conflicts and achieve smooth workflow</p> <p>PC12. receive spares from tool room or stores</p> <p>PC13. deposit faulty modules and tools to stores</p> <p>PC14. pass on customer complaints to colleagues in a respective geographical area</p> <p>PC15. assist colleagues with resolving field problems</p> <p>PC16. share knowledge and experience gained through every day work</p> <p>PC17. clearly demarcate roles of each team member</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on: incentives, delivery standards, and personnel management</p> <p>KA2. importance of the individual's role in the workflow</p> <p>KA3. reporting structure</p>
B. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. how to communicate effectively</p> <p>KB2. how to build team coordination</p>

Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Teamwork and multitasking
	The individual on the job needs to know and understand how: SA1. to deliver product to next work process on time
B. Professional Skills	Decision making
	The individual on the job needs to know and understand: SB1. how to report potential areas of disruptions to work process SB2. when to report to supervisor and when to deal with a colleague depending on the type of concern
	Reflective thinking
	The individual on the job needs to know and understand: SB3. how to improve work process
	Critical thinking
	The individual on the job needs to know and understand: SB4. how to spot process disruptions and delays

Interact with coworkers

NOS Version Control

NOS Code	ELE/N9962		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	17/02/14
Industry Sub-sector	Industrial Electronics	Last reviewed on	dd/03/14
		Next review date	dd/03/15

Definitions

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-function	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (OS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding	Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

Core Skills/ Generic Skills	Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
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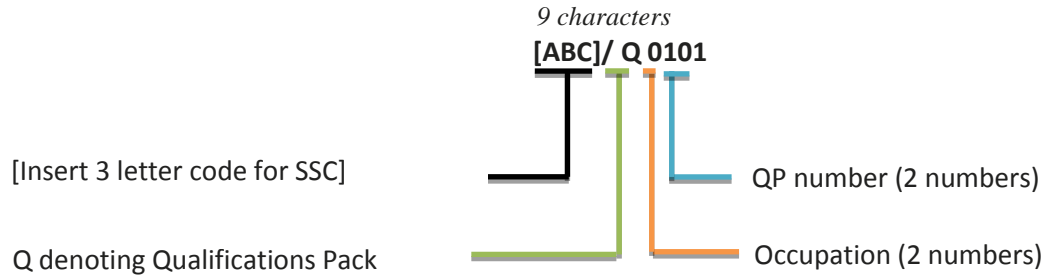
Acronyms

Keywords /Terms	Description
NOS	National Occupational Standard(s)
NVQF	National Vocational Qualifications Framework
NSQF	National Qualifications Framework
NVEQF	National Vocational Education Qualifications Framework
QP	Qualifications Pack

Annexure

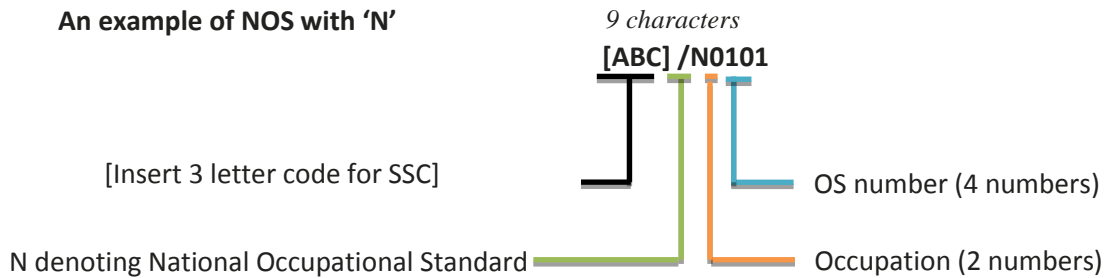
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Passive Components	01 - 10
Semiconductors	11 - 20
PCB Manufacturing	21 - 30
Consumer Electronics	31 - 40
IT Hardware	41 - 50
PCB Assembly	51 - 55
Solar Electronics	56 - 60
Strategic Electronics	61 - 65
Automotive Electronics	66 - 70
Industrial Electronics	71 - 75
Medical Electronics	76 - 80
Communication Electronics	81 - 85

Sequence	Description	Example
Three letters	Industry name	ELE
Slash	/	/
Next letter	Whether QP or NOS	Q
Next two numbers	Occupation code	01
Next two numbers	OS number	01