



QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR POWER SECTOR

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: Assistant Technician -Street Light Installation & Maintenance

SECTOR: Power

SUB-SECTOR: Distribution

OCCUPATION: Assistant Technician -Street Light Installation & Maintenance

REFERENCE ID: PSS/Q6003

ALIGNED TO: NCO-2004/NIL

Assistant Technician -Street Light Installation & Maintenance is responsible for installation, testing, commissioning, operation & maintenance of streetlight network including pole, fixtures, cables, junction boxes, feeder pillars and other associated accessories.

Brief Job Description: Under supervision, provides specialized electrical services in the installation, operation and maintenance of street lighting and other related equipment in the city, and performs related duties as assigned.

Personal Attributes: Work is performed outdoors in all weather conditions and requires availability in the event of emergency situations. Work requires the ability to lift large heavy objects poles and perform strenuous physical labor. Work requires bending, climbing, pulling, carrying, kneeling, walking, and standing for significant periods of time. Work involves exposure to excessive noise, and irregular terrain. Periodic night-time work is required.



Qualifications Pack For Assistant Technician -Street Light Installation & Maintenance



Qualifications Pack Code	PSS/Q6003		
Job Role	Assistant Technician	-Street Light Installati	on & Maintenance
Credits (NSQF)	TBD	Version number	1.0
Sector	Power	Drafted on	15/01/2016
Sub-sector	Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018
NSQC Clearance Date	Not Applicable		

Job Role	Assistant Technician -Street Light Installation & Maintenance
Role Description	Assistant Technician -Street Light Installation & Maintenanceis responsible for installation, testing, commissioning and operation & maintenance of street light network including pole, fixtures, cables, junction boxes, feeder pillars and other associated accessories.
NSQF level	3
Minimum Educational Qualifications	10 th Pass
Maximum Educational Qualifications	Not Applicable
Training (Suggested but not mandatory)	Not Applicable
Minimum Job Entry Age	18 Years
Experience	Prior experience in street lighting preferable
Applicable National Occupational Standards (NOS)	 Compulsory: 1. <u>PSS/N6007 Installation</u> 2. <u>PSS/N6008 Operation & Maintenance</u> 3. <u>PSS/N2001 Use basic health and safety practices as the workplace</u> 4. <u>PSS/N1336 Work effectively with others</u> Optional:
Performance Criteria	Not Applicable As described in the relevant OS units





Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses 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.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the clier industries served by the industry.
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 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-functions	Sub-functions are sub-activities essential achieving the objectives of the function.
Job role	Job role defines unique set of functions that together form a unique employment opportunity in an organization.
Occupational	OS specify the standards of performance an individual must achieve consistently whil
Standards (OS)	carrying out a function at the workplace. Occupational Standards as set of competencies is applicable both in Indian and overreaching global contexts.
Performance Criteria	Performance Criteria defined for a task are statements that together specify the
Performance cinteria	standard of performance while carrying out the task.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications	Qualifications Pack comprises set of OS, together with the educational, training and
Pack(QP)	other criteria that are required to perform a job role satisfactorily at workplace. A Qualifications Pack is assigned a unique qualification pack code for clear identification
Knowledge and Understanding	Knowledge and Understanding are statements which together as a set specify the technical, generic, professional and organization specific knowledge that an individua needs to possess in order to perform and meet the required standards consistently.
Organizational Context	Organizational Context includes the way the organization is structured and how it operates. It includes elements of operational knowledge contents defined in relation to functioning of an organization that a skilled professional need to possess specific to its precise areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific domain knowledge needed to accomplish the task in combination with other competencies. It is usually coined with specifically

Definitions





	designated roles and responsibilities.
Core Skills/Generic	Core Skills or Generic Skills as set are group of skills. It is key to working in today's
Skills	world. These skills are typically needed in any work environment. In the context of the
	OS, these include mainly communication related skills that are applicable to most job
	roles.

Keywords /Terms	Description
CPR	Cardiopulmonary Resuscitation
KV	Kilo Volt
KW	Kilowatt
КШН	Kilo Watt Hour
PPE	Personal Protective Equipment
PTW	Permit to work
JB	Junction Box
KVA	Kilo Volt Ampere





Installation



PSS/N6007

National Occupational Standard



Overview

This unit is about the Installation activities performed by an Assistant Street Light Technician







PS	S/N6007	Installation			
	Unit Code	PSS/N6007			
	Unit Title (Task)	Installation			
	Description	Assistant Technician -Street Light Installation & Maintenance must ensure the proper installation/erection of street light pole, fixtures and wirings/cable as per the company standards & IS			
	Scope	 This unit/task covers the following: street light installation laying the underground cable 			
L	Performance Criteria(PC) w.r.t. the Scope				
	Element	Performance Criteria			
	Street Light Installation	The user/individual on the job needs to : PC1. demonstrate understanding of all type lighting devices including LED light – Wattage wise and Lumen level wise in detail			
		 PC2. demonstrate full knowledge and ensure application of technical specification of various type of LED street lights while carrying out job PC3. carry out the root survey before street light pole installation and cable laying PC4. carry all the tools & equipment needed for erection or installation PC5. ensure proper wiring and connection for erection of street light fixture PC6. ensure installation of protection devices- surge protection device, voltage fluctuation, over voltage protection etc. PC7. ensure setting of control switch and time for automatic switch off and switch on PC8. replace and retrofit the existing light with modern LED light PC9. check and replace street light component and drivers PC10. be able to give street light supply from distribution transformer PC11. ensure required Personal Protective Equipment for the safety measures PC12. test light fixture and drivers, prior to installation 			
	Laying the underground cable	 PC13. develop complete operational familiarity with tools and tackles The user/individual on the job needs to: PC14. Develop familiarity and ensure fixing ofvarious types of underground cable (3 Core) for street light PC15. ensure supply connection from cable to fixture with proper earthing and transformer load balancing PC16. carry all the tools and equipment for digging and laying down the cable PC17. troubleshoot problems involving underground electrical wiring PC18. Develop familiarity and ensure proper use of the ratings and specifications of cables, fuses, switches and wires PC19. report to supervisor or engineer any problem if needed in laying down the wiring PC20. check and perform primary testing on the cables and connections of street light 			







PSS/N6007	Installation
Knowledge a	d Understanding (K)
A. Organiz Contex	 The user/individual on the job needs to know and understand: KA1. relevant legislation, standards, policies, and procedures followed in the organisation relevant to own employment and performance conditions KA2. relevant health and safety requirements applicable in the work place KA3. own job role and responsibilities and sources for information pertaining to employment terms, entitlements, job role and responsibilities KA4. reporting structure, inter-dependent functions, lines and procedures in the work area KA5. how to engage with specialists for support in order to resolve incidents and service requests KA6. importance of working in clean and safe environment practices and procedures KA7. relevant people and their responsibilities within the work area KA8. escalation matrix and procedures for reporting work and employment related issues
B. Technic Knowle	







Installation

Skills (S)		
Α.	Core Skills/ Generic Skills	Writing Skills
		The user/ individual on the job needs to know and understand how to:
		SA1. note the information communicated by the supervisor or engineer
		SA2. note down observations (if any) related to the process
		Reading Skills
		The user/individual on the job needs to know and understand how to:
		SA3. read and interpret the process required for various types of operations
		SA4. read and interpret and process flowchart for all operations
		SA5. read manuals and operation documents to understand the equipment used
		in operations
		Oral Communication (Listening and Speaking skills)
		The user/individual on the job needs to know and understand how to:
		SA6. discuss task lists, schedules and activities with the supervisor
		SA7. effectively communicate with the team members/co-workers
В.	Professional Skills	SA8. communicate clearly with the customer on the issues faced during query/fau Decision Making
р.	Professional Skills	
		The user/individual on the job needs to know and understand how to:
		SB1. follow organization rule-based decision making process in consultation of the
		supervisor
		SB2. take decision with systematic course of actions and/or response
		Plan and Organize
		The user/individual on the job needs to know and understand:
		SB3. planning and organization of tasks to meet timelines
		SB4. able to prepare estimates in consultation with supervisor
		Customer Centricity
		The user/individual on the job needs to know and understand how to:
		SB5. build customer relationships and use customer centric approach
		Problem Solving
		The user/individual on the job needs to know and understand how to:
		SB6. seek and comprehend operation related inputs for clarification
		SB7. find ways of modifying difficult operating stages to make it operation friendly
		Analytical Thinking
		The user/individual on the job needs to know and understand how to:
		SB8. apply domain information to set and define operation parameters that ensure
		economy and quality of the product
		Critical Thinking
		The user/individual on the job needs to know and understand how to:
		SB9. critically evaluate operation parameters in relation to product features intended
		SB10. develop a holistic and comprehensive profile of products based on segregated
		discrete process stages







Installation

NOS Version Control

NOS Code		PSS/N6007	
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	15/01/2016
Industry Sub-sector	Distribution	Last reviewed on	19/07/2016
Occupation	Assistant Technician	Next review date	19/07/2018

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N+S+D+C National Skill Development Corporation

PSS/N6008

Operation and Maintenance

National Occupational Standard



Overview

This unit is about the operation and maintenance work of street light system.







Operation and Maintenance

PSS/N6008
Operation and Maintenance
This section covers the operation and maintenance duties of assistant street light technician like repair & maintenance, replacing of street lights and associated components etc.
 This unit/task covers the following: primary inspection for maintenance testing of the system repairing and replacement
v.r.t. the Scope
Performance Criteria
 The user/individual on the job needs to : PC1. check all the intersections, joints, junction box in the wiring or cable of LED, street light and other lighting devices PC2. check the ON-OFF switch/MCB PC3. check visually the LED bulb and head of street light PC4. locate the conduit, cables & othe ordergoing devices to perform maintenance work PC5. check lux level
 The user/individual on the job needs to : PC6. carry all the testing equipment like tester, multimeter, lux meter, wire, bulb etc. PC7. test the supply across the ON-OFF switch and across the all joints and intersections PC8. check continuity of cable PC9. test the lamp head by multimeter or tester for checking the continuity of supply PC10. test the fixture and other parts of street light system
 The user/individual on the job needs to : PC11. maintain and repair or replace photoelectric control relay and surge protection device for lighting system PC12. replace existing light with modern LED light and associated component PC13. troubleshoot problems involving underground electrical wiring PC14. repair, replace and modify street light equipment including heads, poles, controllers, lights, circuitry, switches, fuses, and cabinet parts PC15. assist in general electrical repair work PC16. help repair other electronic or electrical devices or equipment







5/N6008	Operation and Maintenance
A. Organizational Context	 The user/individual on the job needs to know and understand: KA1. relevant legislation, standards, policies, and procedures followed in the organisation relevant to own employment and performance conditions KA2. relevant health and safety requirements applicable in the work place KA3. own job role and responsibilities and sources for information pertaining to employment terms, entitlements KA4. reporting structure, inter-dependent functions, lines & procedures in the work KA5. how to engage with specialists for support in order to resolve incidents and s requests KA6. importance of working in clean and safe environment practices and procedure KA7. escalation matrix and procedures for reporting work and employment related issues
B. Technical Knowledg	
Skills (S)	
A. Core Skills/ Generic Skills	Writing SkillsThe user/ individual on the job needs to know and understand how to:SA1. note the information communicated by the supervisor or engineer







Operation and Maintenance

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	SA2. note down observations (if any) related to the process		
	Reading Skills		
	 The user/individual on the job needs to know and understand how to: SA3. read and interpret the process required for various types of operations SA4. read and interpret and process flowchart for all operations SA5. read manuals & operation documents to understand the equipment used into operation 		
	Oral Communication (Listening and Speaking skills)		
	 The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules and activities with the supervisor SA7. effectively communicate with the team members SA8. communicate clearly with the customer on the issues faced during query/fault 		
B. Professional Skills	Decision Making		
	 The user/individual on the job needs to know and understand how to: SB1. follow organization rule-based decision making process in consultation with supervisor SB2. take decision with systematic course of actions and/or response in consultation with supervisor 		
	Plan and Organize		
	The user/individual on the job needs to know and understand: SB3. planning and organization of tasks to meet timelines		
	Customer Centricity		
	The user/individual on the job needs to know and understand how to: SB4. build customer relationships and use customer centric approach		
	Problem Solving		
	 The user/individual on the job needs to know and understand how to: SB5. seek and comprehend operation related inputs for clarification SB6. find ways of modifying difficult operating stages to make it operation friendly 		
	Analytical Thinking		
	The user/individual on the job needs to know and understand how to: SB7. apply domain information to set and define operation parameters that ensures economy and quality of the product in consultation with supervisor		
	Critical Thinking		
	The user/individual on the job needs to know and understand how to: SB8. critically evaluate operation parameters in relation to product features intended		
	SB9. develop holistic and comprehensive profile of products based on segregated discrete process stages of blank forming processes		







Operation and Maintenance

NOS Version Control

NOS Code	PSS/N6008		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	15/01/2016
Industry Sub-sector	Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018









PSS/N2001 Use basic health and safety practices for power related work

National Occupational Standard



Overview

This unit covers health, safety and security for power related work. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment.







Use basic health and safety practices for power related work

	Unit Code	PSS/N2001
ard	Unit Title (Task)	Use basic health and safety practices for power related work
าลl Standard	Description	This unit covers health, safety and security for power related work. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment. It covers responsibilities towards self, others, assets and the environment.
)ccupation	Scope	 This unit/task covers the following: health and safety fire safety emergencies, rescue and first-aid procedures
al C	Performance Criteria(PC) w.r.t. the Scope
National Occupational	Element Health and safety	 Performance Criteria The user/individual on the job needs to: PC1. use protective clothing/equipment for specific tasks and work conditions. PC2. state the name and location of people responsible for health and safety in the workplace PC3. state the names and location of dournents that refer to health and safety in the workplace PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace PC5. follow electrical safe working procedures such as Tag out/Lock out and display PTW (Permit To Work), PC6. follow warning signs (danger, out of service, etc.) while working with electrical systems PC7. use standard safe working practices when working at heights, confined areas and trenches PC8. test any electrical equipment and system using insulated testing devices before touching them PC9. ensure positive isolation of electrical equipment or system installed alarm annunciation and/or noticing parameters from gauge/ indicator installed PC11. carry out safe working practices while dealing with hazards to ensure the safety of self and others PC12. state methods of accident prevention in the work environment of the job role PC13. state location of general health and safety equipment in the workplace
		 and ladder PC15. lift,carry and transport heavy objects & tools safely using correct procedures from storage to workplace and vice versa PC16. inspect Grid station and its equipment routinely for any signs of oil and water







S/N2001 Use ba	asic health and safety practices for power related work
	 leakage PC17. store flammable materials and machine lubricating oil safely and correctly PC18. check that the emission and pollution control devices are working properly in line with environmental policy standards PC19. apply good housekeeping practices at all times PC20. identify common hazard signs displayed in various areas PC21. retrieve and/or point out documents that refer to health and safety in the workplace PC22. inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly
Fire safety	 The user/individual on the job needs to: PC23. use the various appropriate fire extinguishers on different types of fires correctly PC24. distinguish types of fire PC25. demonstrate rescue techniques applied during fire hazard PC26. demonstrate good housekeeping in order to prevent fire hazards PC27. demonstrate the correct use of a fire extinguisher
Emergencies, rescue and first-aid procedures	 The user/individual on the job needs to: PC28. demonstrate how to free a person from electrocution PC29. administer appropriate first aid to victions where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc. PC30. demonstrate basic techniques of bandaging PC31. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments PC32. perform and organize loss minimization or rescue activity during an accident in real or simulated environments PC33. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases PC34. demonstrate the artificial respiration and the CPR Process PC35. participate in emergency procedures Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work PC36. complete a written accident/incident report or dictate a report to another person, and send report to person responsible PC37. demonstrate correct method to move injured people and others during an emergency
KnowledgeandUnderstand A. Organizational Context	 Ling (K) The user/individual on the job needs to know and understand: KA1. names (and job titles if applicable), and where to find, all the people responsible for health and safety in a workplace. KA2. names and location of documents that refer to health and safety in the workplace.







		sic health and safety practices for power related work		
B. Technical Knowledge				
		KB1. meaning of "hazards" and "risks"		
		KB2. health and safety hazards commonly present in the work environment and		
		related precautions		
		KB3. possible causes of risk, hazard or accident in the workplace and why risk		
		and/or accidents are possible		
		KB4. possible causes of risk and accident		
		KB5. methods of accident prevention		
		KB6. safe working practices when working with tools and machines		
		KB7. safe working practices while working at various hazardous sites		
		KB8. where to find all the general health and safety equipment in the workplace		
		KB9. various dangers associated with the use of electrical equipment		
		KB10. positive isolation of electrical equipment and system		
		KB11. safe handling and disposal of hazardous power plant wastes		
		KB12. use of emission and pollution control devices and measures taken to control		
		pollution		
		KB13. various safety procedures and equipment used to work at heights, trenches		
		and confined places		
		KB14. safe working practices specific to working with electrical equipment & system		
		e.g. lock out/ tag out, PTW, etc.		
		KB15. preventative and remedial actions we taken in the case of exposure to tox		
		materials		
		KB16. importance of using protective clothing/equipment and other insulated work		
		gear while handling electrical system and equipment		
		KB17. precautionary activities taken to prevent fire accident		
		KB18. various causes of fire		
		KB19. techniques of using the different fire extinguishers		
		KB20. different methods of extinguishing fire		
		KB21. different materials used for extinguishing fire		
		KB22. emergency rescue techniques applied during a fire hazard		
		KB23. various types of safety signs and what they mean		
		KB24. appropriate basic first aid treatment relevant to the condition e.g. shock,		
		electrical shock, bleeding, breaks to bones, minor burns, resuscitation,		
		poisoning, eye injuries		
Ski	ills (S)			
		Writing Skills		
A. Core Skills/				
	Generic Skills	The user/ individual on the job needs to know and understand how to:		
		SA1. note the information communicated by the officer incharge.		
SA2. note down observations (if any) rela Reading Skills		SA2. note down observations (if any) related to the operation/maintenance.		
		· · · ·		
		The user/individual on the job needs to know and understand how to:		
		SA3. read and interpret the process required for different types of manuals for		







PSS/N2001 Use	basic health and safety practices for power related work		
	SA4. read and interpret the flowchart of all parts of an assembly.		
	SA5. read manuals and documents to understand the product-details & how they can be used.		
	Oral Communication (Listening and Speaking skills)		
	The user/individual on the job needs to know and understand how to:		
	SA6. discuss task lists, schedules and activities with the colleague/supervisor.		
	SA7. effectively communicate with the team members.		
	SA8. attentively listen and comprehend the information given by the		
	colleague/supervisor/contractor.		
	SA9. communicate clearly with the colleague on the issues faced during		
B. Professional	query/fault.		
Skills	Decision Making		
Skiiis	The user/individual on the job needs to know and understand how to:		
	SB1. follow colleague/contractor rule-based decision making process.		
	SB2. take decisions with systematic course of actions and/or response.		
	Plan and Organize		
	The user/individual on the job needs to know and understand:		
	SB3. planning and organization of tasks to meet deadlines.		
	Customer Centricity		
	The user/individual on the job needs to know and understand how to:		
	SB4. build customer relationships and use customer centric approach.		
	Problem Solving		
	The user/individual on the job needs to know and understand how to:		
	SB5. seek and comprehend operation related inputs for clarification		
	SB6. find ways of modifying difficult operating stages to make it operation friendly.		
	Analytical Thinking		
	The user/individual on the job needs to know and understand how to:		
	SB7. work systematically and logically to resolve the issues and identify causation		
	and anticipate unexpected results.		
	SB8. quick approach and solution towards faults repairing.		
	Critical Thinking		
	The user/individual on the job needs to know and understand how to:		
	SB9. critically evaluate operation parameters in relation to system normality		
	SB10. develop a holistic and comprehensive profile of grid station on segregated		
	discrete process stages of blank forming processes		







Use basic health and safety practices for power related work

NOS Version Control

NOS Code	PSS/N2001		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	04/06/2016
Industry Sub-sector	Generation, Transmission & Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018

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N·S·D·C National Skill Development Corporation

PSS/N1336

Work effectively with others

National Occupational Standard



Overview

This unit covers basic practices that improve effectiveness of working with others in an organizational set-up







Work	effectively with	other
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Unit Code	PSS/N1336
Unit Title (Task)	Work effectively with others
Description	This unit covers basic etiquette and competencies that a candidate is required to possess and demonstrate in their behavior and interactions with others at the workplace.
	These cover areas such as communication etiquette, discipline, listening, handling conflict and grievances.
Scope	This unit/task covers the following:working with others
Performance Criteria(PC)	w.r.t. the Scope
Element	Performance Criteria
Working with others	 The user/individual on the job should be able to: PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required PC2. accurately pass on information to autoprized persons who require it and within agreed timescale and confirm its receipt PC3. give information to others clearly, at a pace and in a manner that helps them to understand PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks PC6. display appropriate communication etiquette while working . PC7. display active listening skills while interacting with others at work PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism PC9. demonstrate responsible and disciplined behavior at the workplace PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict
Knowledge and Understa	nding (K)
A. Organizational Context (Knowledge of the company / organization and its processes)	 The user/individual on the job needs to know and understand: KA1. legislation, standards, policies, and procedures followed in the organisation relevant to own employment and performance conditions KA2. reporting structure, inter-dependent functions, lines and procedures in the work area KA3. relevant people and their responsibilities within the work area KA4. escalation matrix and procedures for reporting work and employment related issues







SS/N1336	Work effectively with other		
B. Technical	The user/individual on the job needs to know and understand:		
Knowledge	KB1. various categories of people that one is required to communicate and co-		
	ordinate with in the organization		
	KB2. importance of effective communication in the workplace		
	KB3. importance of teamwork in organizational and individual success		
	KB4. various components of effective communication		
	KB5. key elements of active listening		
	KB6. value and importance of active listening and assertive communication		
	KB7. barriers to effective communication		
	KB8. importance of tone and pitch in effective communication		
	KB9. importance of avoiding casual expletives and unpleasant terms while		
	communicating professional circles		
	KB10. how poor communication practices can disturb people, environment and		
	cause problems for the employee, the employer and the customer		
	KB11. importance of ethics for professional success		
	KB12. importance of discipline for professional success		
	KB13. what constitutes disciplined behavior for a working professional		
	KB14. common reasons for interpersonal conflict		
	KB15. importance of developing effective working relationships for professional		
	success		
	KB16. how to express and address grievances appropriately and effectively		
	KB17. importance and ways of managing interpersonal conflict effectively		
Skills (S) (Optional)			
A. Core Skills/	Writing Skills		
Generic Skills	The user/individual on the job, needs to know and understand how to:		
	The user/individual on the job needs to know and understand how to: SA1. note the information communicated by the officer incharge.		
	SA1. note the information communicated by the officer incharge.		
	SA1.note the information communicated by the officer incharge.SA2.note down observations (if any) related to the operation/maintenance.Reading Skills		
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	 SA1. note the information communicated by the officer incharge. SA2. note down observations (if any) related to the operation/maintenance. Reading Skills The user/individual on the job needs to know and understand how to: SA3. read and interpret the process required for different types of manuals 		
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PSS/N1336	Work effectively with other
	SB12. take decisions with systematic course of actions and/or response.
	Plan and Organize
	The user/individual on the job needs to know and understand:
	SB13. planning and organization of tasks to meet deadlines.
	Customer Centricity
	The user/individual on the job needs to know and understand how to:
	SB14. build customer relationships and use customer centric approach.
	Problem Solving
	The user/individual on the job needs to know and understand how to:
	SB15. seek and comprehend operation related inputs for clarification
	find ways of modifying difficult operating stages to make it operation friendly
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB16. work systematically and logically to resolve the issues and identify causation and anticipate unexpected results.quick approach and solution
	towards faults repairing.
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB17. critically evaluate operation parameters in relation to system normality
	develop a holistic and comprehensive profile of grid station on segregated discrete process stages of blank forming processes

NOS Version Control

NOS Code	PSS/N1336		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	04/06/2016
Industry Sub-sector	Generation, Transmission & Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018

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Qualifications Pack for Assistant Technician -Street Light Installation & Maintenance



Annexure

Nomenclature for QP and NOS





Qualifications Pack for Assistant Technician -Street Light Installation & Maintenance



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

Sub-sector	Range of Occupation numbers
[Insert Name of Sub-sector1, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector2, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector3, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector4, Font: Calibri (Body), size 11, Bold]	[Insert range]

Sequence	Description	Example
Three letters	Industry name	[ABC, Font: Calibri (Body), size 11]
Slash	/	/
Next letter	Whether Q P or N OS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01





Development

Assessment Criteria

National Occupational Standards

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Assistant Technician -Street Light Installation & Maintenance

Qualification Pack PSS/Q6003

Sector Skill Council Power

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria

5. To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS

6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

				Marks Allocation				
A	ssessable Outcomes	Assessment Criteria for Outcomes		Total Marks	Out Of	Theory	Skills Practical	
1.	PSS/N6007 Installation	PC1.	apply understanding of all type of LED light – Wattage wise and Lumen level wise in detail		4	1	3	
		PC2.	apply knowledge of technical specification of various type of LED street lights		4	1	3	
	PC3.	carry out the root survey before street light pole installation and cable laying		4	2	2		
		PC4.	carry all the tools & equipment needed for erection or installation		2	0	2	
		PC5.	ensure proper wiring and connection for erection of street light fixture		5	2	3	
		PC6.	ensure installation of protection devices- surge protection device, voltage fluctuation, over voltage		3	0	3	







Assessment Criteria

	protection etc.				
		-			
РС7.	apply knowledge of control switch and time for automatic switch off and switch on		3	0	3
PC8.	apply knowledge about the types/height of street light pole		5	2	3
PC9.	replace and retrofit the existing light with modern LED light		4	1	3
PC10.	check and replace street light component and drivers	-	5	2	3
PC11.	be able to give street light supply from distribution transformer		4	2	2
PC12.	ensure required PPE for the safety measures		4	0	4
PC13.	test light fixture and drivers, prior to installation		4	0	4
PC14.	apply operational familiarity with tools and tackles		4	0	4
PC15.	apply knowledge of types of underground cable (3 Core) for street light		5	2	3
PC16. PC17.	apply knowledge of process of laying cable and termination		4	0	4
PC18.	ensure supply connection from cable to fixture with proper earthing and transformer load balancing		4	0	4
PC19.	carry all the tools and equipment for digging and laying down the cable		5	2	3
PC20.	troubleshoot problems involving underground electrical wiring		4	1	3
PC21.	apply knowledge about the ratings and specifications of cables, fuses,		2	1	1







	Assessment Criteria			
	switches and wires			
	PC22. report to supervisor or engineer (if found) any problem in laying down the wiring	2	1	1
	PC23. check and perform primary testing on the cables and connections of street light	2	1	1
		100	22	78
2. PSS/N6008 Operation & Maintenance	PC1. check all the intersections, joints, junction box in the wiring or cable of LED street light	3	1	2
	PC2. check the ON-OFF switch/MCB	2	1	1
	PC3. check visually the LED bulb and head of street light	2	0	2
	PC4. locate the conduit, cables & other undergoing devices to perform maintenance work	2	1	1
	PC5. checking lux level	2	1	1
	PC6. carry all the testing equipment like tester, multimeter, lux meter, wire, bulb etc.	2	1	1
	PC7. test the supply across the ON-OFF switch and across the all joints and intersections	2	0	2
	PC8. check continuity of cable	3	1	2
	PC9. test the lamp head by multimeter or tester for checking the continuity of supply	1	0	1
	PC10. test the fixture and other parts of street light system	1	0	1
	PC11. maintain and repair or replace photoelectric control relay and surge protection device for lighting system	1	0	1
	PC12. replace existing light with modern	3	1	2







Assessment Criteria

			Assessment Criteria				
			LED light and associated component				
		PC13.	troubleshoot problems involving	-			
			underground electrical wiring		1	0	1
				-			
		PC14.	repair, replace and modify street				
			light equipment including heads,				
			poles, controllers, lights, circuitry,		2	1	1
			switches, fuses, and cabinet parts				
		PC15.	assist in general electrical repair	-			
			work		2	1	1
		PC16.	help repair other electronic or	-			
			electrical devices or equipment		2	1	1
					100	26	74
3.	PSS/N2001 Use basic	PC1.	use protective clothing/equipment				
	health and safety		for specific tasks and work		3	0	3
	practices for power		conditions.		5	0	5
	related work			-			
		PC2.	state the name and location of				
			people responsible for health and		2	0	2
			safety in the workplace				
		PC3.	state the names and location of	-			
			documents that refer to health and		2	0	2
			safety in the workplace		2	0	2
		PC4.	identify job-site hazardous work and	-			
			state possible causes of risk or		3	1	2
			accident in the workplace	100	5	T	2
		205		100			
		PC5.	follow electrical safe working				
			procedures such as Tag out/Lock out		3	1	2
			and display PTW (Permit To Work),				
		PC6.	follow warning signs (danger, out of	1			
			service, etc.) while working with		3	1	2
			electrical systems				
		PC7.	use standard safe working practices	-			
			when working at heights, confined		3	1	2
			areas and trenche		-	-	
		PC8.	test any electrical equipment and	-			
			system using insulated testing		3	1	2
L		1		1	1		1







	Assessment Criteria				
	devices before touching them				
PC9.	ensure positive isolation of electrical				
	equipment & system as per given		3	1	2
	standards				
PC10.	recognize any abnormalities in	-			
	electrical equipment or system				
	installed alarm annunciation and/or		3	1	2
	noticing parameters from gauge/		5	T	2
	indicator installed				
PC11.	carry out safe working practices	-			
1011.	while dealing with hazards to ensure				
	the safety of self and others		3	1	2
PC12.	state methods of accident				
	prevention in the work environment		2	0	2
	of the job role		_	-	
PC13.	state location of general health and	-			
	safety equipment in the workplace		2	0	2
PC14.					
	use of scaffolds and elevated		2	0	2
	platforms and ladder				
PC15.	lift, carry and transport heavy objects	-			
	& tools safely using correct				
	procedures from storage to		2	1	1
	workplace and vice versa				
PC16.	inspect Grid station and its				
	equipment routinely for any signs of		2	0	2
	oil and water leakage				
PC17.	store flammable materials and	-			
	machine lubricating oil safely and		2	0	2
	correctly		2	0	2
PC18.					
	pollution control devices are working		2	4	-
	properly in line with environmental		3	1	2
	policy standards				
PC19.	apply good housekeeping practices				
	at all times		3	1	2







Assessment Criteria

		Assessment Criteria				
PC	20.	identify common hazard signs displayed in various areas		2	0	2
PC	21.	retrieve and/or point out documents that refer to health and safety in the workplace		2	0	2
PC	22.	inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly		3	0	3
PC	23.	use the various appropriate fire extinguishers on different types of fires correctly		2	1	1
PC	24.	distinguish types of fire		3	1	2
PC	25.	demonstrate rescue techniques applied during fire hazard		3	1	2
PC	26.	demonstrate good housekeeping in order to prevent fire hazards		3	1	2
PC	27.	demonstrate the correct use of a fire extinguisher		3	1	2
PC	28.	demonstrate how to free a person from electrocution		3	1	2
PC	29.	administer appropriate first aid to victims where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		3	0	3
PC	30.	demonstrate basic techniques of bandaging		3	1	2
PC	31.	respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		3	1	2
PC	32.	perform and organize loss minimization or rescue activity during an accident in real or simulated environments		3	1	2
			II			







		reational Occupational Standards				
		Assessment Criteria				
	PC33.	administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		3	1	2
	PC34.	demonstrate the artificial respiration and the CPR Process		3	1	2
	PC35.	participate in emergency procedures Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work		3	1	2
	PC36.	complete a written accident/incident report or dictate a report to another person, and send report to person responsible		3	1	2
	PC37.	demonstrate correct method to move injured people and others during an emergency		3	1	2
				100	24	76
4. PSS/N1336 Work effectively with others	PC1.	accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required		10	3	7
	PC2.	accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	PC3.	give information to others clearly, at a pace and in a manner that helps them to understand	100	10	3	7
	PC4.	display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	3	7
	PC5.	consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	3	7
	PC6.	display appropriate communication etiquette while working		10	3	7







-			
Assessment Criteria			
PC7. display active listening skills w interacting with others at work	10	3	7
PC8. use appropriate tone, pitch an language to convey politeness assertiveness, care and professionalism		3	7
PC9. demonstrate responsible and disciplined behaviors at the workplace	10	3	7
PC10. escalate grievances and proble appropriate authority as per procedure to resolve them and avoid conflict	10	3	7
	100	30	70