Model Curriculum

ELECTRICIAN DOMESTIC SOLUTION

SECTOR: POWER
SUB-SECTOR: DISTRIBUTION -DOWNSTREAM
OCCUPATION: ELECTRICIAN
REF ID: PSS/Q6001, V1.0
NSQF LEVEL: 3

Skill India

N·S·D·C National Skill Development Corporation
Transforming the skill landscape

Certificate

COMPLIANCE TO QUALIFICATION PACK- NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

POWER SECTOR SKILL COUNCIL

for

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: **'Electrician Domestic Solution'** QP No. **PSS/ Q6001, NSQF Level 3**

Date of Issuance : July 25th 2017
Valid Upto : July 25th 2021

*Valid up to the next review date of the Qualification Pack or the 'Valid up to' date mentioned above (whichever is earlier)

Authorised Signatory
(Power Sector Skill Council)

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Electrician Domestic Solution

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Electrician Domestic solution", in the "Power" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Electrician Domestic solution		
Qualification Pack Name & Reference ID. ID	**Electrician Domestic solution PSS/Q6001**		
Version No.	**1.0**	Version Update Date	**25-07-2021**
Pre-requisites to Training	8th Pass		
Training Outcomes	After completing this programme, participants will be able to: • **Gain Familiarity with Power system:** overview especially Distribution Sector. Understand basics of electricity terms used while carrying activities related to testing, repair and maintenance • **Types of House wiring and fault repair in house wiring:** Have good Knowledge of different types of wiring that is being carried out according to the budget of house owner. Skills to utilize the resources-best design, latest technology and longevity of house wiring in best possible way that is also cost effective keeping the protection of wiring, house hold gadgets and property. • **Mains, distribution, controls circuits and protection in house wiring:** The Ensure of mains, distribution board, junction box, switches, lamp holders, fittings, plugs, sockets and protective devices like fuses, MCB, ELCB,RCD etc. and earthing in the best possible manner in domestic houses • **Maintenance & Repair of house hold gadgets**: Ensure of house hold gadgets, maintenance is necessary for the system's healthy, long and safe life • **Develop customer relationship skills:** Make a bond with customer through effective communication and exchange information. Providing all updates to customers regarding the new services, policies, initiatives of the DISCOM/Utility • **Use basic health and safety practices for power related work:** Understand procedure & practices to follow to maintain healthy, safe & secure work environment covering safety of self, others, assets, and the environment • **Work Effectively with others**: Understand basic etiquette and competencies to demonstrate in their behaviour and interaction with others at workplace		

This course encompasses 6 out of 6 National Occupational Standards (NOS) of "Electrician Domestic Solution" Qualification Pack issued by "Power Sector Skill Council".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Introduction** **Theory Duration (hh:mm) 04:00** **Practical Duration (hh:mm) 00:00** **Corresponding NOS Code PSS/N6001**	• Understand Power sector scenario including generation, transmission, and distribution scenario of India. • Understand functions of Power Distribution Companies • Understand elements of power systems, transmission, distribution and generations. • Familiarization with distribution network from substation to end consumer	
2	**Organizational context** **Theory Duration (hh:mm) 04:00** **Practical Duration (hh:mm) 00:00** **Corresponding NOS Code PSS/N6001**	• Understand organization structure and reporting levels • Understand duties and responsibilities of Assistant Electricity Meter Reader, Billing and cash collector and their career progression • Understand relevant Legislation, Electricity act 2003, CERC,SERC • Understand CEA guidelines	
3	**Basics Of Electricity** **Theory Duration (hh:mm) 10:00** **Practical Duration (hh:mm) 04:00** **Corresponding NOS Code PSS/N6001**	• Understand basic fundamentals of Electricals • Explaining the basic key concepts of Voltage, Current, Capacitance, Resistance, KVA, KWh. • Understand Circuit connections, voltage and current relationship in star & delta configuration • Understand 3 phase and 1 phase supply • Familiarity with Energy parameters	**Voltmeter, Ammeter, Wattmeter, basic components, Energy Meter (single phase and three phase) etc.**
4	**Types of House wiring and fault repair in house wiring** **Theory Duration (hh:mm) 18:00**	• Develop circuit and wiring diagram and electrical signage, code specifications to plan wiring layouts, consumption points accurately, as may be required • Use various types of tools, their functions and application for carrying out work	**Drill Machine, Hammer, Chisel**

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 16:00 **Corresponding NOS Code PSS/N6001**	• Understand rating and current carrying capacity of wires, cables, fuse, switches, sockets, MCBs, ELCBs and other electrical accessories • Lay conduit pipe concealed and open wiring, batten, casing-capping and temporary cleat wiring • Implement system in the most economical way • Ensure correct requirement of wires, cables, fuse, switches and other electrical accessories for optimal expenditure • Ensure wiring and points selected in wiring are according to load growth in future • Understand use of under-voltage protective devices, choice of setting of protective devices, labelling of protective devices, switches and terminals • Understand insulation resistance of all live conductors to earth, insulation resistance between live conductors • Implement methods of protection against electric shock • Ensure selection of equipment appropriate to external influences, access to switchgear and equipment, presence of warning signs and danger notices • Use updated technology products and take their ageing into consideration • Inspect fault locating points e.g. fuse blown, MCB, RCD trip or short circuit location in wiring circuit • Ensure open circuit due to overheated switches, socket and wires in control board due to loose contact and overload • Check polarity to ensure all switches are connected in phase conductors	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Check equal distribution of load on three phase wiring in large residential and commercial units • Check the color coding, connection and identification of conductors, cables and wires • Check routing of cables, proper selection of conductors, wires and connectors and connection of single pole devices	
5	**Mains, distribution, controls circuits and protection in house** **Theory Duration (hh:mm) 34:00** **Practical Duration (hh:mm) 28:00** **Corresponding NOS Code PSS/N6002**	• Understand standard location of main board Ensure for utility's service line connection • Understand layout of main switch, circuit breakers require at main board • Install controlling and protection devices for different circuits being used for lighting and power loads at each floor or portion • Understand types of conduit, batten, underground and open wiring • Locate and mark the position of conduit pipe Ensures, connections into the structures with proper equipment like measuring tape, hammer, saw, drill machines etc. • Cut openings in structures to accommodate conduit pipes or pipe fittings, using hand or power tools • Read plan Ensure around obstructions like electrical wiring, gas fittings etc. • Lay conduit pipe with clamps • Install brackets and hangers to support electrical equipment • Install, replace and repair lighting fixtures and electrical control and distribution	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		equipment, such as tubelights, lamps, chandliers, regulators switches, relays and circuit breaker panels • Lay and pull wires through conduits and through holes in walls, ceiling, lanters and floors • Join and connect wire to fixtures and components to form circuits • Prepare extended line for additional points with bearing capacity of existing system or augment/replace existing lines to with hold the additional load • Install the protective device i.e. fuse, MCB, RCCB, RCD, MCCB's ratings as per the load • Ensure proper working and functioning of all protective devices that are necessary to save lives of human, livestock, animals through earthing diagrams (TT) • Ensure fuse, switch or circuit breaker is not placed in an earthed neutral conductor and are wired only in the phase conductor only • Ensure all connections are made properly, tightened and color coding • Ensure that the correct type, size and current-carrying capacity of cables is chosen to bear the load • Ensure that all accessible points which may be switched on/off must be easily approached by the users and made as per CEA guidelines standerds	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Understand types of earthing plate and pipe earthing lay out location. • Understand importance of earth connection with household gadgets and equipments • Understand procedure of earth connection with appliance, sockets main board and distribution board • Use of devices available in market such as Timers, impulse relay, programmable switch, twilight switch, movement detector • Ensure and assembling of various type, design and capacity fans, tube lights, LED Lights, bulbs, lamps, doorbells, switches, geysers, inverters , exhaust fan, safety alarms, decorative lights and chandliers • Ensure of various size and capacity water pump motors according to the load with their control circuit of water level in tank • Make connections and operate instruments to check the healthiness of house wiring in terms of leakage insulation resistance • Operate instruments to check the continuity, open circuit, short circuit and load flow • Operate instruments to check the earth resistance	
6	**Maintenance & Repair of house hold gadgets**	• Understand drawings, circuit diagrams and electrical code	**Plier, Nose Plier, Phase tester, Wire cutter, screw**

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 50:00 **Practical Duration (hh:mm) 102:00** **Corresponding NOS Code PSS/N6003**	specifications of the electrical equipment and gadgets • Understand the capacity in kW, load in Amperes and power consumption in kWH for each appliance • Check connection of equipment and status of tripping device • Ensure presence of appropriate devices for isolating and switching • Operate principle of single phase motor, various types of motors like self start, capacitor start, capacitor run, universal motors and their applications and functions of condenser • Understand how a rotating field is developed in single phase motor • Understand the significance of the number of poles in motor winding for rpm, speed and connections for change of direction • Check insulation resistance of motor winding with live conductors to earth and between live conductors • Various parts of motors, pumps and their functions like ball bearings, cooling fans, fins and bushes • Various types of winding wires, their gauge and insulating materials for motor winding • Understand material used to make various types of heating elements like nicrome, kanthal, eureka etc., various shape, size and capacity of heating elements according to applications and usages • Understand types of thermal insulations used in electrical gadgets like mica, asbestos, ceramics, glass wool etc.	**driver set, Earth tester**

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Understand about timers (motorized, mechanical), thermal relays, bimetallic strips • Ensure preventive maintenance, regular cleaning, oiling, greasing of household gadgets like fans, desert cooler, water pump motors etc. • Ensure replacement of damaged switches, MCB, fan- capacitor, regulator, lighting points i.e. holder, choke, starters, water coolers and their pump & motor • Ensure regular maintenance of electrical equipment's like- iron, toaster, induction-plate & cooker. • Ensure regular maintenance of doorbells, FL tube starters & chokes • Preventative maintenance of batteries • Ensure soldering of winding wires, cables and their joints in electrical gadgets • Verify system grounding and measure insulation resistance • Clean solar panels for removal of dust, bird droppings, pollen, leaves, branches etc. as per maintenance schedule • Ensure all electrical connections as per specification, measure and record DC voltages and currents and identify the faults in the system • Check for working condition of fuses, circuit breakers and all cables for loose connections • Take adequate precautionary measures while handling electrical system adhering to relevant health and safety standards • Understand that if reason of error is not clear, do not try to fix anything and call OEM repair and maintenance team	
7	**Develop customer relationship skills**	• Ensure effective verbal communications are polite, clear and completed in a timely manner.	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 10:00 **Practical Duration (hh:mm) 14:00** **Corresponding NOS Code PSS/N6005**	• Ensure prompt greeting or acknowledgement and offer of assistance are provided to customer. • Ensure consumer is asked if there is anything else they can be helped with. • Ensure tone of voice and pace are monitored to ensure that trust is built. • Ensure effective and efficient line of questioning is used. • Ensure consumer needs are correctly identified in a timely manner. • Ensure techniques used are personalized to meet the needs of customers with different cultural backgrounds and demographics, including age and disability status. • Submit a crisp proposal answering needs of the consumer with financial esatimate component, explain full details and seek his/her consent to begin the job • Understand new initiative taken up by company in reference to energy conservation products by providing LED lamps, 5 star rating electric gadgets. • Ensure power generating equipments like genset, solar panel etc. and other non conventional energy source. • Ensure appropriate explanation/solutions/options are determined for the consumer's situation. • Ensure customer communications are paraphrased to confirm understanding.	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Ensure consumer needs are recognized and acknowledged. • Ensure issues are escalated or advice is solicited from appropriate departmental staff when necessary to meet consumer needs. • Show patience: if you deal with consumers on a daily basis, be sure to stay patient when you meet them and they are stumped and frustrated. • Show attentiveness: the ability to really listen to consumer is so crucial for providing great service for a number of reasons. • Show clear communication skills: when it comes to important points that you need to relay clearly to consumer, keep it simple and leave nothing to doubt. • Show time management skills: don't waste time trying to go above and beyond for a consumer in an service area where you will just end up wasting both of your time. • Show ability to "read" consumer: look and listen for subtle clues about their current mood, patience level, personality, etc., and you'll go far in keeping your customer interactions positive. • Maintain a calming presence. • Show ability to use "positive language". • Show closing ability: being able to close with a consumer means being able to end the services with confirmed satisfaction (or as close to it as you can achieve) and with the consumer feeling that everything has been worked on.	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
8	**Use of basic Health & Safety practices at the work place** **Theory Duration (hh:mm) 12:00** **Practical Duration (hh:mm) 20:00** **Corresponding NOS Code PSS/N 2001**	• To understand basic health and safety practices covering CEA safety regulations 2010, issue of permit to work etc. • To study uses of PPE equipment's during at work site e.g. safety helmet, belt, shoes, protective glasses, earth rod, etc. • Retrieve and point out documentation that refers to safety, health policy and standard • Information to relevant authority for any abnormal situation/ behaviour of any equipment's • Good housekeeping practises and disposal of waste • Identify common hazard , Storage of flammable materials and oils safely • Possible causes of risk or accident • Safe working practices when working with tools and machines • Electrical safe working procedures such as Tag out, Lockout, Permit to work • Recognize any abnormalities in system installed , alarms, noticing parameters • Fire safety, causes and precautionary activities. Use of appropriate fire extinguishers on different types of fires • Demonstrate rescue techniques applied during fire hazard, correct method to move injured people during emergency • Various types of safety signs and what they mean • Lift, carry and transport heavy objects, and tools, safely, using correct procedures from storage to workplace and vice versa • Administer appropriate first aid to victims , bandaging heart attack, CPR, etc. • Demonstrate how to free a person from electrocution • Respond promptly and appropriately to an accident	**Helmet, Gloves, rubber mat, ladder, neon tester, Personal Protective Equipment**

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		situation or medical emergency in real or simulated environments • Inform relevant authority about any abnormal situation • Complete written accident report or dictate a report, send report to concern person responsible	
9	**Work effectively with others** **Theory Duration (hh:mm) 08:00** **Practical Duration (hh:mm) 16:00** **Corresponding NOS Code PSS/N 1336**	• Working effectively in a team. • Demonstrate good interpersonal relation, discipline behaviour, developing a positive attitude and building self-confidence. • Receiving information and instruction from supervisor and fellow workers, pass on information • Assist others to maximize effectiveness • Problem escalation • Demonstrate responsible, disciplined behavior's at workplace • Display appropriate communication etiquette while working • Communication And Writing Skills and their importance • Basic Computer application	
	Total Duration **Theory Duration 150:00** **Practical Duration 200:00**	**Unique Equipment Required:** first aid kit	

Grand Total Course Duration: 350Hours, 0 Minutes

(This syllabus/ curriculum has been approved by POWER SECTOR SKILL COUNCIL)

Trainer Prerequisites for Job role: "Electrician Domestic solution" mapped to Qualification Pack: "PSSC/Q6001, v1.0"

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "PSS/Q6001"
2	Personal Attributes	Aptitude for conducting training, with relevant work experience. So, that competent candidate is produced at end of the training who are employable. Strong communication skills, interpersonal skills, ability to work as part of a team, a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	Minimum Educational Qualifications	ITI in Electrical trade ; Preferably B.Tech(Electrical) or 3 year Diploma in Electrical Engineering,
4a	Domain Certification	Certified for Job Role: " Electrician Domestic Solution" mapped to QP: "PSSC/Q6001 v1.0"., Minimum accepted score as per PSSC guidelines- 80% for Trainer and 90% for Master Trainer
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". Minimum accepted score as per PSSC guidelines – 80% for Trainer and 90% for Master Trainer
5	Experience	Engineer B.Tech. (Electrical) with at least 1-year relevant experience in power distribution either in the Power Distribution utility or with the turnkey /EPC contractors of the power distribution companies carrying out the work of erection of power distribution lines and sub stations etc. 3 years Diploma in Electrical Engineering with at least 2-3 years' relevant experience in power distribution either in the Power Distribution utility or with the turnkey /EPC contractors of the power distribution companies carrying out the work of erection of power distribution lines and sub stations etc. ITI Electrician with at least five-year relevant experience in power distribution either in the Power Distribution utility or with the turnkey /EPC contractors of the power distribution companies carrying out the work of erection of power distribution lines and sub stations etc.

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	**Electrician Domestic solution**
Qualification Pack	**PSSC/Q6001, v1.0**
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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack , every trainee should score a minimum of 50% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS Total Marks: 600				Marks Allocation	
Assessment outcomes	**Assessment criteria for outcomes**	**Total Marks**	**Out Of**	**Theory**	**Skills Practical**
1. PSS/ N 6001 Types of House wiring and fault repair in house wiring	PC1. Develop circuit and wiring diagram and electrical signages, code specifications to plan wiring layouts, consumption points accurately, as may be required		3	2	1
	PC2. Understand and use of various types of tools, their functions and application for carrying out work	**100**	6	4	2
	PC3. Understand rating and current carrying capacity of wires, cables, fuse, switches, sockets, MCBs, ELCBs and other electrical accessories		5	2	3
	PC4. Lay conduit pipe concealed and open wiring, batten, casing-capping and temporary cleat wiring		4	1	3
	PC5. Implement system in most economical way		5	2	3
	PC6. Understand correct requirement of wires, cables, fuse, switches and other electrical accessories for optimal expenditure		6	3	3
	PC7. Ensure wiring and points selected in wiring is according to load growth in future		5	2	3
	PC8. Use under-voltage protective devices, choice of setting of protective devices, labelling of protective devices, switches and terminals		6	0	6
	PC9. Ensure insulation resistance of all live conductors to earth, insulation resistance between live conductors.		4	1	3
	PC10. Impliment methods of protection against electric shock		5	0	5
	PC11. selection of equipment appropriate to external influences, access to switchgear and equipment, presence of warning signs and danger notices		5	2	3
	PC12. Understand updated technology products also consider its ageing		4	1	3
	PC13. Inspect fault locating points e.g. fuse blown, MCB, RCD trip or		4	1	3

	short circuit location in Wiring circuit				
	PC14. Check open circuit due to overheated switches, socket and wires in control board due to loose contact and overload		4	1	3
	PC15. Check polarity to ensure all switches are connected in phase conductors		5	0	5
	PC16. Check equal distribution of load on three phase wiring in large residential and commercial units		5	2	3
	PC17. Check the color coading, proper selection of conductors, wires and connectors and connections of single pole device		5	3	2
	PC18. Check routing of cables, checking proper selection of conductors, checking connection of single pole device		3	1	2
	PC19. Work safely at all times, complying with health and safety legislation, regulation and other relevant guidelines		3	0	3
	PC20. Adhere to procedures for safety to wear PPE's.		5	1	4
	PC21. Ensure that all tools & tackles, fittings, accessories etc. are in safe and usable condition		4	0	4
	PC22. Ensure work area is clean and safe from hazards before and after the job is completed		4	1	3
			100	**30**	**70**
2. PSS/ N 6002 Mains, distribution, controls, circuits and protection in house wiring	PC1. Understand standard location of main board ensure for utility's service line connection	**100**	**6**	**3**	**3**
	PC2. Understand layout of main switch, circuit breakers require at main board		**5**	**2**	**3**
	PC3. Ensure of controlling and protection devices for different circuits being used for lighting and power loads at each floor or portion		**4**	**2**	**2**
	PC4. Check types of conduit, batten, underground and open wiring		**4**	**1**	**3**
	PC5. Locate and mark the position of conduit pipe Ensures, connections into the structures with proper equipment's like measuring tape, hammer, saw, drill machines etc.		**4**	**1**	**3**

PC6.	Cut openings in structures to accommodate conduit pipes or pipe fittings, using hand or power tools	**4**	**0**	**4**
PC7.	Read plan Ensure around obstructions like electrical wiring, gas fittings etc.	**4**	**2**	**2**
PC8.	Laying of conduit pipe with clamps	**1**	**0**	**1**
PC9.	Install brackets and hangers to support electrical equipment	**1**	**0**	**1**
PC10.	Install, replace and repair lighting fixtures and electrical control and distribution equipment, such as switches, relays and circuit breaker panels	**6**	**2**	**4**
PC11.	Lay & pull wire through conduits and through holes in walls and floors	**4**	**0**	**4**
PC12.	Join and connect wire to fixtures and components to form circuits	**6**	**2**	**4**
PC13.	Prepair extended line for additional points with bearing capacity of existing system or augment/replacement of existing lines to with hold the additional load	**5**	**2**	**3**
PC14.	Install the protective device i.e. fuse, MCB, RCCB, MCCB's ratings as per the load	**6**	**2**	**4**

PC15.	Ensure proper working and functioning of all protective devices thet are necessary to save lives of human, livestock, animals	**3**	**1**	**2**
PC16.	Ensure fuse, switch or circuit breaker should not be placed in an earthed neutral conductor and are wired only in the phase conductor only	**3**	**0**	**3**
PC17.	Ensure all the connections are made properly, tightened and color coding	**4**	**1**	**3**
PC18.	Ensure that the correct type, size and current-carrying capacity of cables is chosen to bear the load	**3**	**1**	**2**
PC19.	Ensure that the all accessible points which may be switched on/off must be easily approached by the users	**3**	**2**	**1**

	PC20. Understand types of earthing plate and pipe earthing layout location		4	2	2
	PC21. Understand importance of earth connection with household gadgets and equipments		3	2	1
	PC22. Understand procedure of earth connection with appliance, sockets main board and distribution board		3	1	2
	PC23. Use of devices available in market such as trimmers, impulse relay, programmable switch, twilight switch, movement detector		2	0	2
	PC24. Ensure of assembling of various type, design and capacity fans, tube lights, LED lights, bulbs, lamps, doorbells, switches, geysers, inverters, exhaust fan, safety alarams, decorative lights and chandliers		3	1	2
	PC25. Ensure of various size and capacity water pump motors according to the load with their control circuit of water level in tank		3	1	2
	PC26. Make connections and operate instruments to check the healthiness of house wiring in terms of leakage insulation resistance		2	0	2
	PC27. Operate instruments to check the continunity, open circuit, short circuit and load flow		2	0	2
	PC28. Operate instruments to check the earth resistance		2	0	2
			100	31	69
3. PSS/ N 6003 Maintenance & Repair of house hold electrical gadgets	PC1. Read and interpret drawings, circuit diagrams and electrical code specifications of the electrical equipment, gadgets	100	7	3	4
	PC2. Read, interpret and understand the capacity in KW, load in Amperes and power consumption in KWH for each appliance		4	3	1
	PC3. Check connection of equipment, checking for status of tripping device		4	2	2
	PC4. Ensure presence of appropriate devices for isolating and switching		3	2	1

PC5. Understand operating principle of single phase motor, use of condenser	5	4	1
PC6. Understand how rotating field is developed in single phase and three phase motor	2	2	0
PC7. Understand the significance of number of poles significance in motor winding for rpm, speed and direction change	3	2	1
PC8. Maesure insulation resistance of motor winding with live conductors to earth and insulation resistance between live conductors	3	1	2
PC9. Understand various parts of motors, pumps and their function like ball bearings, cooling fans, fins and bushes	3	2	1
PC10. Understasnd various types of winding wires, their gauge and insulating materials for motor winding	2	2	0
PC11. Understand materials used to make various types of heating elements like nicrome, kanthal, eureka etc., various shape, size and capacity of heating elements according to applications and usages	4	0	4
PC12. Understand types of thermal insulations used in electrical gadgets like mica, asbestos, ceramics, glass wool etc.	4	0	4
PC13. Understand timers (motorized, mechanical), thermal relays, bimetallic strips	5	2	3
PC14. Ensure preventive maintenance, regular cleaning, oiling, greasing of house hold gadgets like fans, desert cooler, water pump motors etc.	4	0	4
PC15. Replace damaged switches, MCB, fan- capacitor, regulator, lighting points i.e. holder, choke, starters, water coolers and their pump & motor	6	2	4
PC16. Ensure regular maintenance of electrical equipment's like- iron, toaster, induction-plate & cooker	8	3	5
PC17. Ensure regular maintenance of doorbells, FL tube starters & chokes	8	3	5

	PC18. Preventative maintenance of batteries used in inverters		**5**	**2**	**3**
	PC19. Solder winding wires, cables and their joints in electrical gadgets		**5**	**1**	**4**
	PC20. Verify system grounding and measure insulation resistance		**2**	**0**	**2**
	PC21. Clean solar panels for removal of dust, bird droppings, pollen, leaves, branches etc. as per maintenance schedule		**2**	**0**	**2**
	PC22. Ensure all electrical connections as per specification, measure and record DC voltages and currents and identify the faults in the system		**2**	**1**	**1**
	PC23. Check for working condition of fuses, circuit breakers and all cables for loose connections		**2**	**1**	**1**
	PC24. Take adequate precautionary measures while handling electrical system adhering to relevant health and safety standards		**2**	**0**	**2**
	PC25. Understand that if reason of error is not clear, do not try ro fix anything and call OEM repair and maintenance team		**5**	**2**	**3**
			100	**38**	**62**

4. **PSS/N6005 Develop coustomer relationship skills**	PC1. Ensure effective verbal communications are polite, clear and completed in a timely manner	**100**	**6**	**2**	4
	PC2. Ensure promot greeting or acKnowledgement and offer of assistance are provided to coustomer		**4**	**0**	**4**
	PC3. Ensure consumer is asked if there is anything else they can be helped with		**4**	**0**	**4**
	PC4. Ensure tone of voice and place are monitored to ensure that trust is built		**6**	2	4
	PC5. Ensure effective and efficient line of questioning is used		**6**	4	**2**
	PC6. Ensure consumer needs are correctly identified in a timely manner		**4**	**2**	**2**
	PC7. Ensure techniques used are personalized to meet the needs of coustomers with different cultural backgrounds and		**4**	**2**	**2**

	demographics, including age and disability status			
PC8.	Submit a crisp proposal answering needs of the consumer with financial esatimate component, explain full details and seek his/her consent to begin the job	**3**	**0**	**3**
PC9.	Understand new initiative taken up by company in reference to energy conservation products by providing LED lamps, 5 star rating electric gadgets	**4**	**1**	**3**
PC10.	Ensure power generation equipment like genset, solar panels etc. and other non conventional energy source	**4**	**0**	4
PC11.	Ensure appropriate explanation/ solution/ option are determinded for the consumer's situation	**4**	**0**	**4**
PC12.	Ensure customer communications are paraphaesd to confirm understanding	**5**	**3**	2
PC13.	Ensure consumer needs are recognized and acKnowledged	**4**	**0**	4
PC14.	Ensure issues are escalated or advice is solicited from appropriate departmental staff when necessary to meet consumer needs	**3**	2	1
PC15.	Show patience : if you deal with consumeron a daily basis, be sure to stay patient when you meetthem and they are stumped and frustrated	**5**	1	4
PC16.	Show attentiveness : the ability to really listen to consumer is so crucial for providing graet service for a number of reasons	**5**	2	3
PC17.	Show clear communication skills : when it comes to important points that you need to relay cleary to consumers, keep it simple and leave nothing to doubt	**5**	2	3
PC18.	Show time management skills : don't waste time trying to go above and beyond for a consumer in an service area where you will just end of wasting both of your time	**5**	**2**	**3**

	PC19. Show ability to "read" consumer : look and listen for subtle clues about their current mood, patience level, personality etc. and you'll go for in keeping your coustomer interaction positive		**5**	**2**	3
	PC20. Maintain a calming presence		**5**	2	**3**
	PC21. Show ability to use "positive language"		**4**	**0**	4
	PC22. Show closing ability : being able to close with a consumer means being able to end the service with confirmed satisfaction (or as close to it as you can achieve) and with the consumer feeling that everything has been worked on		**5**	**1**	**4**
			100	**30**	70
5. PSS/ N 2001 Use basic health and safety practices as the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions Protective clothing: leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuffless (without folds), trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors Equipment: hand and face shields, machine guards, residual current devices, shields, dust sheets, respirator	**100**	8	3	5
	PC2. State the names and location of documents that refer to health and safety in the workplace		5	1	4
	PC3. Identify job-site hazardous work and state possible causes of risk or accident in the workplace Hazards: electrical hazards (dealing with high voltage equipment, power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.); sharp edged and heavy tools; heated metals; oxyfuel and gas cylinders; welding radiation;		6	2	4

	hazardous surfaces(sharp, slippery, uneven, chipped, broken, etc.); hazardous substances(chemicals, gas, oxy-fuel, fumes, dust, hazardous waste materials, etc.); physical hazards(working at heights, working in windy or moist areas, large and heavy objects and machines, sharp and piercing objects, moving objects and part of machinery, tolls and machines, intense light, load noise, abnormal temperature; obstructions in corridors, by doors, blind turns, over stacked shelves and packages, etc.); working in high temperatures. Possible causes of risk and accident: physical actions; not following instructions; inattention; sickness and incapacity (such as drunkenness); health hazards (such as untreated injuries and contagious illness); not taking safety precautions			
PC4.	Carry out safe working practices while dealing with hazards to ensure the safety of self and others Safe working practices: using protective clothing and equipment; putting up and reading safety signs; handle tools in the correct manner and store and maintain them properly; keep work area clear of clutter, spillage and unsafe object lying casually; while working with electricity take all electrical precautions like insulated clothing, adequate equipment insulation, use of control equipment, dry work area, switch off the power supply when not required, etc.; safe lifting and carrying practices; use equipment that is working properly and is well maintained; take due measures for safety while working at heights, etc.	8	3	5
PC5.	Understand different cause of electrical fire	5	2	3

	• Short circuit • Overload circuits • Faulty electrical equipment • Faulty electrical outlets • Faulty circuit breakers • Old, outdated or wrongly installed appliences			
PC6.	Capable to differentiate between different warning signs before electrical fire, such as • Sparks or smoke coming out from a socket • Burning smell • Black marks or scorch marks • Cracked, frayed or bare cables • Melted plastic on cables or casing	5	2	3
PC7.	Use the various appropriate fire extinguishers on different types of fires correctly	6	3	3
PC8.	Understand types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids; Class C: e.g. combustible gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class D: combustible chemicals and metals such as magnesium, titanium, and sodium (These fires burn at extremely high temperatures and require special suppression agents) These categories of fires become Class A, B, C and D fires when the electrical equipment that initiated the fire is no longer receiving electricity; Class E: e.g. electrical equipment such as appliances, wiring, breaker panels, etc.	5	2	3
PC9.	Demonstrate rescue techniques applied during fire hazard	5	2	3

	PC10. Demonstrate good housekeeping in order to prevent fire hazards		5	2	3
	PC11. Demonstrate the correct use of a fire extinguisher.		5	2	3
	PC12. Demonstrate how to free a person from electrocution		4	2	2
	PC13. Demonstrate how to check a person's response		4	1	3
	PC14. Administer appropriate first aid to victims wheneverrequired e.g. in case of bleeding, choking, electric shock, poisoning etc.		5	0	5
	PC15. Demonstrate first-aid procedures if the person has suffered from burns		4	2	2
	PC16. Demonstrate basic techniques of bandaging		6	2	4
	PC17. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		5	2	3
	PC18. Demonstrate the artificial respiration and the CPR Process		5	2	3
	PC19. Demonstrate correct method to move injured people and others during an emergency		4	2	2
			100	**37**	**63**
6. PSS/ N 1336 Work effectively with others (Applicable when working with an organization/in a team)	PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	**100**	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		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. Communication etiquette: do not use abusive language; use appropriate titles and terms of respect; do not eat or chew while talking (vice versa)etc.		10	3	7
	PC7. Display active listening skills while interacting with others at work		10	3	7
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	PC9. Demonstrate responsible and disciplined behaviors at the workplace. Disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc.		10	3	7
	PC10. Escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		10	3	7
			100	**30**	**70**

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