

Model Curriculum

Solar Panel Installation Technician

SECTOR: ELECTRONICS
SUB-SECTOR: SOLAR ELECTRONICS
OCCUPATION: INSTALLATION
REF ID: ELE/Q5901 VERSION 1.0
NSQF LEVEL: 4



Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARD

Is hereby issued by the

Electronics Sector Skills Council of India

for

Skilling Content : Solar Panel Installation Technician

Complying to National Occupational Standards of

Job Role/QP : Solar Panel Installation Technician, QP No : ELE/Q5901 Level 4

Date of Issuance : 12th May 2017

Valid up to* : 11th May 2018

*Valid upto the next QP Review Date or the date mentioned above (whichever is earlier)



Authorized Signatory
Electronics Sector Skills Council of India

TABLE OF CONTENTS

CURRICULUM / SYLLABUS.....	4
Annexure A: TRAINER Pre-Requisites	13
Annexure B: ASSESSMENT Criteria.....	14

SOLAR PANEL INSTALLATION TECHNICIAN

CURRICULUM / SYLLABUS

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Solar panel Installation Technician” Qualification Pack issued by “Electronic Sector Skill Council”.

Program Name	Solar panel Installation Technician		
Qualification Pack Name & Reference ID. ID	ELE/Q5901 VERSION 1.0		
Version No.	1.0	Version Update Date	12-May-2017
Pre-requisites to Training	10th Standard passed ITI/Diploma (electrical, mechanical) * Minimum 6 months preferred but not mandatory in equipment installation		
Training Outcomes	After completing this programme, participants will be able to: <ul style="list-style-type: none"> • Fundamentals of PV Solar Systems • Ensuring effective functioning of solar energy system after installation • Solar PV Technology and usage • Proactive Maintenance • Assessing the installation site, understanding the installation • Pre-requisites, arranging for installation materials, mounting and installing the panels at customer’s premises. 		

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Solar PV Essentials</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 KB1 to KB19 ELE/N9952 KB1 to KB2 ELE/N9953 KB1 to KB4</p>	<ul style="list-style-type: none"> • Global overview of Power Development. • Global overview of Renewable Energy Development including Solar • National overview of Power Development • National overview of Renewable Energy Development including Solar • The Need of Solar Power, Benefits, Application of Solar Energy • Solar Power Myths • Basics on solar energy and power generation systems. • Basic principles of Solar Power (Solar Photovoltaic, Solar Thermal, Dish Type, Solar Tower) • Manufacturing process for Solar Photovoltaic and Solar thermal equipment • Use and handling procedure of solar panels, energy storage, control and conversion • Basic electrical system and functioning of various electrical devices • AC and DC Supply essentials • Components of Solar Systems • mechanical equipment and its functioning • maintenance procedure of equipment • site survey, design and evaluation of various parameters • tools involved in installation of system • quality and process standards • occupational health and safety standards • waste management and disposal procedures and standards • importance of wearing protective clothing and other safety gear while carrying out installation • precautions to be taken while handling different electrical and mechanical products 	<ul style="list-style-type: none"> • Projector • Different types of Solar Panels • Components of a Solar PV Installation Systems • Solar Lighting and other application systems • Inverters • Charge Controllers • Testing Equipment • Hand tools
2	<p>Core and Generic skills</p> <p>Theory Duration (hh:mm) 17:00</p>	<ul style="list-style-type: none"> • Read product and equipment manuals, installation manuals, etc. • Read warnings, instructions and other text material on product labels, components, etc. 	<ul style="list-style-type: none"> • Product Manuals of PV Panels • Charge Controllers • Inverters • Battery Bank • On Grid and Off Grid System components

	<p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 SA1 to SA3 ELE/N5902 SA1 to SA3 ELE/N9952 SA1 to SA5</p>	<ul style="list-style-type: none"> • Fill in job completion form after installation activities have been completed • To clearly communicate installation and design instructions to team • To clearly communicate customer's requirements • To communicate the constraints and quality requirements to team 	<ul style="list-style-type: none"> • Solar application appliances
3	<p>Professional skills</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 SB1 to SB5 ELE/N5902 SB1 to SB8 ELE/N9952 SB1 to SB4 ELE/N9953 SB1 to SB2</p>	<ul style="list-style-type: none"> • Purpose and specification of tools used in maintenance activity • How to operate/use different tools such as screw driver, inspection fixtures, wire cutter, pliers, tester, spanner, etc. • How to handle tools and equipment and maintain them in a good condition • How to interact with supervisor to understand the daily production target • How to interact with co-workers in order to coordinate work processes • Reflective thinking • Decision making • Critical Thinking 	<ul style="list-style-type: none"> • Hand tools • Testing tools
4	<p>Understanding the work requirement</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 PC1 to PC6</p>	<ul style="list-style-type: none"> • Understand the individual work requirement and areas of operation • Interact with the supervisor in order to understand the installation targets for the day and/or week • Understand the location of installations and optimise the route plan • Plan the day's activities and the complete work plan for each installation • Coordinate with the various departments and persons involved in installation • Operation such as design, logistics, material handling and stores • Minimise absenteeism and report to work on time 	<ul style="list-style-type: none"> • Videos • PPT's • Laptop • Projector, • Projector Screen • White Board • Marker • Duster • Attendance Sheet • Feedback Form • Internet
5	<p>Assessing site conditions and understanding installation requirements</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p>	<ul style="list-style-type: none"> • Assess the site level pre-requisites for solar panel installation • Decide on the type of mounting to be made such as roof top, open fields, small spaces • Ensure that land is levelled for flat surface mounting • Decide the type of mounting accessories required for installation as per the site condition 	<ul style="list-style-type: none"> • Videos • PPT's • Laptop • Projector, • Projector Screen • White Board • Marker • Duster • Attendance Sheet • Feedback Form • Internet

	<p>Corresponding NOS Code ELE/N5901 PC7 to PC18</p>	<ul style="list-style-type: none"> • Decide the place of installation and ensure maximum period of sunlight is captured in the area • Ensure that construction is strong to hold solar panel for 20-25 years, especially, on roof top • Inform the customer for any civil construction to be undertaken for installing the panels To be competent, the user/ individual must be able to: understand the location and mounting preference of customers, interact with customers and understand the purpose of installation and suggest alternatives • Match the voltage and power output of the type of installation designed and losses with customer's requirement • Inform customers about the approximate time required for installation and any requirements during installation • Get concurrence from the customer on the package of materials to be procured for installation based on agreed design 	
6	<p>Collecting the materials for installation and ensuring quality of material and handling</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 PC19 to PC30</p>	<ul style="list-style-type: none"> • Arrange for and collect the solar panels as per customer's requirement • Ensure that the quantity of modules / panels match the voltage requirement of the system • Arrange for mounting stands as per design • Arrange for tools and consumables required for mounting the solar panels • Decide on the workforce required and arrange for team • Ensure that only company recommended quality materials are used unless specified by customer • Ensure all the materials procured are QC passed • Ensure that module is not damaged and the outer glass is not broken • Understand the material handling requirement and follow the standard operating procedure while moving them • Cover the glass module with an opaque material to ensure that there is no electricity generation before installation • Ensure standard module handling procedure such as two people should lift a module; module should not be carried on head, etc. 	<ul style="list-style-type: none"> • Charge Controllers • Invertors • On Grid and Off Grid system components • Application Equipment • Testing Equipment

		<ul style="list-style-type: none"> • Ensure that modules are stored in a way that it is not damaged by falling or by any external disturbance 	
7	<p>Organizational context</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5901 KA1 to KA9 ELE/N5902 KA1 to KA9 ELE/N9952 KA1 to KA3 ELE/N9953 KA1 to KA4</p>	<ul style="list-style-type: none"> • Company's policies on: incentives, personnel management • Company's code of conduct • importance of individual's role in the work flow • Organisation culture • Company's reporting structure • Company's documentation policy • Company's different department and concerned authority • Company's installation policy • Company's customer support policy 	<ul style="list-style-type: none"> • Charge Controllers • Invertors • On Grid and Off Grid system components • Application Equipment • Testing Equipment
8	<p>Understanding installation and material usage procedure and assessing mounting</p> <p>Theory Duration (hh:mm) 17:00</p> <p>Practical Duration (hh:mm) 17:00</p> <p>Corresponding NOS Code ELE/N5902 PC1 to PC14</p>	<ul style="list-style-type: none"> • Understand the customer requirement on installation • Ensure that all appropriate materials are available during installation time • Ensure that the installation meets the local building rules and regulations • Ensure to disconnect PV module from any electric sources such as batteries, invertors, etc., before working on the module • Check that the module is defect free before installing • Ensure to take specified measures such as fire resistance, corrosion resistance for the module during installation • To be competent, the user/individual must be able to: • Understand the type of mounting and other accessories required • Assess the degree of inclination and angle of tilt of PV module for the specific area, locality or region to enable the system absorb maximum annual sunlight • Ensure that sunlight falls perpendicular to the PV module to absorb maximum energy • Ensure that panels are mounted in a place where there is no shade at any time of the year • Ensure that mounting is strong to withstand wind, rain, etc. 	<ul style="list-style-type: none"> • Charge Controllers • Invertors • On Grid and Off Grid system components • Application Equipment • Testing Equipment • Clamping Accessories for installation

		<ul style="list-style-type: none"> • Ensure that any special construction requirement for mounting is done by following acceptable quality standards, especially, in rooftop installations • Use approved tools for mounting • Set the mounting fixture firmly at the desired location 	
9	<p>Installing the panel and connecting the system and check for functioning</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code ELE/N5902 PC15 to PC32</p>	<ul style="list-style-type: none"> • Remove packaging of the solar panel carefully • Handle the panels carefully without damaging the material • Take safety measures and wear protection gear such as gloves to avoid shock / injuries while handling modules • Cover the module with opaque material while installing to avoid any current generation • Ensure that junction box is covered • Do not disturb or disassemble any part of the module part during installation • Take necessary precautions for fire resistance of modules • Use recommended material of solar cable and plugs for electrical connection • Install spare fuse to avoid any short circuits as per company policy • Mount the module on the fixture with the mounting rails using bolts and nuts • Ensure that the panels are mounted firmly To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> • Use the cables to connect multiple PV modules in combination to generate the desired voltage and current • Choose type of connection, i.e., series or parallel, as per design • Use recommended cable to generate maximum voltage • Check the maximum system voltage as per the installation and follow adjustment measures accordingly to match output requirement • Ensure that the modules are grounded as specified • Connect the system and check for functioning • Escalate for any issues faced during the functioning of the system 	<ul style="list-style-type: none"> • Charge Controllers • Invertors • On Grid and Off Grid system components • Application Equipment • Testing Equipment • Clamping Accessories for installation

<p>10</p>	<p>Completing the work and following quality and safety procedures</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code ELE/N5902 PC32 to PC43</p>	<ul style="list-style-type: none"> • To be competent, the user/ individual must be able to: • Clean the work area after completing the installation activity • Remove all the tools, consumables used from the installation area • Fill in the job completion form and get the signature of the customer • Inform customers about maintenance of solar panels and procedure for cleaning of solar panels • Follow company standards in documentation of installation activities performed To be competent, the user/ individual must be able to: • Remove any metals or jewellery to avoid possibility of current shock during installation activity • Wear all safety gears such as work shoes, cotton gloves, goggles while carrying out installation activities • Take specified precautionary measures while handling electrical system • Keep work area clean and organised • Adhere to relevant health and safety standards • Dispose of any waste materials in accordance with safe working practices and procedures 	<ul style="list-style-type: none"> • Charge Controllers • Invertors • On Grid and Off Grid system components • Application Equipment • Testing Equipment • Clamping Accessories for installation
<p>11</p>	<p>Interacting with supervisor and coordinating with colleagues</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code ELE/N9952 PC1 to PC17</p>	<ul style="list-style-type: none"> • Understand and assess work requirements • Understand the targets and incentives • Understand new operating procedures and constraints • Report problems in the field • Resolve personnel issues • Receive feedback on work standards and customer satisfaction • Communicate any potential hazards at a particular location • Meet given targets • Deliver work of expected quality despite constraints • Get trained on latest technologies and updates • Receive positive feedback on behaviour and attitude shown during interaction • To be competent, the user/ individual must be able to: • Interact with colleagues from different functions and understand the nature of their work 	

		<ul style="list-style-type: none"> • Receive materials from tool room or stores; deposit faulty modules and tools to stores • Pass on work allocation to colleagues in a respective geographical area • Share work according to competency and capability • Assist colleagues with resolving field problems resolve conflicts and achieve smooth workflow • Follow the company policy during cross functional interaction 	
12	<p>Following safety procedures and participating and drills and workshops</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code ELE/N9953 PC1 to PC15</p>	<ul style="list-style-type: none"> • comply with safety procedures followed in the company • take adequate safety measures while handling hazardous materials or tools • take necessary measures while handling electrical equipment • escalate matters about hazardous materials or things found in the premises • follow appropriate material handling procedures to avoid any damages and injuries • Use safety materials such as gloves, goggles, masks, helmets, etc. • undertake adequate safety measures while on work to prevent accidents • ensure zero accidents in work • avoid damage of components due to negligence in ESD procedures • ensure no loss for company due to safety negligence To be competent, the user/ individual must be able to: • participate in regular safety drills for being prepared in the event of a fire or natural calamity 	<ul style="list-style-type: none"> • Safety equipment
	<p>Total Duration</p> <p>Theory Duration 200:00</p> <p>Practical Duration 200:00</p>	<p>Unique Equipment Required:</p> <ul style="list-style-type: none"> • Allen Key Set • Batteries • Cable Ties • Charge Controller • Connecting Wires • Digital Multimeter • Drill Machine • Lead Solder • Load (AC/DC) • MC4 Connectors • Mechanical Fixtures Required For Panel Installation • PCUs • Plier • Regulated Power Supply • Safety Gloves 	

	<ul style="list-style-type: none">• Safety Helmet• Safety Shoes• Screw Driver Set• Solar Chart• Solar Conversion Kits• Solar Inverter• Solar Panels• Soldering Flux• Soldering Iron• Wire Stripper
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Grand Total Course Duration: **400 Hours 00 Minutes**

(This syllabus/ curriculum has been approved Electronics Sector Skills Council of India)

Annexure A: TRAINER Pre-Requisites

Trainer Prerequisites for Job role: “Solar panel Installation Technician” mapped to Qualification Pack: “ELE/Q5901 Version1.0”

Sr. No.	Area	Details
1	Job Description	The individual at work checks the installation site, understands the layout requirement as per design, assesses precautionary measures to be taken, installs the solar panel as per customer’s requirement and ensures effective functioning of the system post installation.
2	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
3	Minimum Educational Qualifications	Diploma in Electronics with at least 1-2 years of experience in Solar Panel Installation Technician.
4a	Domain Certification	Certified for Job Role: “ <u>Solar Panel Installation Technician</u> ” mapped to QP: “ <u>ELE/Q5901 version 1.0</u> ”. Minimum accepted score =70%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: ““SSC/1402””. Minimum accepted score =70%
5	Experience	1-2 years of Industrial or Trainer experience in Solar Panel Installation Technician

Annexure B: ASSESSMENT Criteria

Assessment Criteria for Solar panel Installation Technician	
Job Role	Solar panel Installation Technician
Qualification Pack	ELE/ Q5901 version1.0
Sector Skill Council	Electronic

Sr. No.	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 centre (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 each 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.

Element	Performance Criteria	Total Marks (400)	Marks Allocation		
			Out Of	Theory	Skills Practical
1. ELE/ N5901 Check site conditions and collect	PC1. understand the individual work requirement and areas of operation	100	2	1	1
	PC2. interact with the supervisor in order to understand the installation targets for the day and/or week		3	2	1
	PC3. understand the location of installations and optimise the route plan		2	1	1
	PC4. plan the day's activities and the complete work plan for each installation		2	1	1
	PC5. coordinate with the various departments and persons involved in installation operation such as design, logistics, material handling and stores		2	0	2

tools and raw materials	PC6. minimise absenteeism and report to work on time	2	0	2
	PC7. assess the site level pre-requisites for solar panel installation	2	0	2
	PC8. decide on the type of mounting to be made such as roof top, open fields, small spaces	2	1	1
	PC9. ensure that land is levelled for flat surface mounting	2	0	2
	PC10. decide the type of mounting accessories required for installation as per the site condition	2	1	1
	PC11. decide the place of installation and ensure maximum period of sunlight is captured in the area	3	1	2
	PC12. ensure that construction is strong to hold solar panel for 20-25 years, especially, on roof top	2	1	1
	PC13. inform the customer for any civil construction to be undertaken for installing the panels	2	0	2
	PC14. understand the location and mounting preference of customers	2	1	1
	PC15. interact with customers and understand the purpose of installation and suggest alternatives	4	1	3
	PC16. match the voltage and power output of the type of installation designed and losses with customer's requirement	4	2	2
	PC17. inform customers about the approximate time required for installation and any requirements during installation	4	2	2
	PC18. get concurrence from the customer on the package of materials to be procured for installation based on agreed design	6	3	3
	PC19. arrange for and collect the solar panels as per customer's requirement	4	2	2
	PC20. ensure that the quantity of modules / panels match the voltage requirement of the system	4	2	2
	PC21. arrange for mounting stands as per design	4	1	3
	PC22. arrange for tools and consumables required for mounting the solar panels	4	1	3
	PC23. decide on the workforce required and arrange for team	5	2	3
	PC24. ensure that only company recommended quality materials are used unless specified by customer	4	2	2
	PC25. ensure all the materials procured are QC passed	4	1	3
PC26. ensure that module is not damaged and the outer glass is not broken	5	0	5	
PC27. understand the material handling requirement and follow the standard operating procedure while moving them	4	1	3	
PC28. cover the glass module with an opaque material to ensure that there is no electricity generation before installation	4	1	3	
PC29. ensure standard module handling procedure such as two people should lift a module, module should not be carried on head, etc.	5	2	3	

	PC30. ensure that modules are stored in a way that it is not damaged by falling or by any external disturbance		5	2	3
		TOTAL	100	35	65
2.		100			
ELE/	PC1. understand the customer requirement on installation		2	1	1
N590	PC2. ensure that all appropriate materials are available during installation time		2	1	1
2	PC3. ensure that the installation meets the local building rules and regulations		2	0	2
Instal	PC4. ensure to disconnect PV module from any electric sources such as batteries, inverters, etc., before working on the module		3	1	2
l the	PC5. check that the module is defect free before installing		3	1	2
solar	PC6. ensure to take specified measures such as fire resistance, corrosion resistance for the module during installation		3	0	3
panel	PC7. understand the type of mounting and other accessories required		3	1	2
	PC8. assess the degree of inclination and angle of tilt of PV module for the specific area, locality or region to enable the system absorb maximum annual sunlight		4	2	2
	PC9. ensure that sunlight falls perpendicular to the PV module to absorb maximum energy		3	1	2
	PC10. ensure that panels are mounted in a place where there is no shade at any time of the year		2	0	2
	PC11. ensure that mounting is strong to withstand wind, rain, etc.		2	1	1
	PC12. ensure that any special construction requirement for mounting is done by following acceptable quality standards, especially, in rooftop installations		2	1	1
	PC13. use approved tools for mounting		2	1	1
	PC14. set the mounting fixture firmly at the desired location		2	0	2
	PC15. remove packaging of the solar panel carefully		2	1	1
	PC16. handle the panels carefully without damaging the material		3	1	2
	PC17. take safety measures and wear protection gear such as gloves to avoid shock / injuries while handling modules		3	1	2
	PC18. cover the module with opaque material while installing to avoid any current generation		3	1	2
	PC19. ensure that junction box in covered		3	1	2
	PC20. do not disturb or disassemble any part of the module part during installation		2	0	2
	PC21. take necessary precautions for fire resistance of modules		2	0	2
	PC22. use recommended material of solar cable and plugs for electrical connection		2	1	1

	PC23. Install spare fuse to avoid any short circuits as per company policy		2	1	1
	PC24. mount the module on the fixture with the mounting rails using bolts and nuts		2	1	1
	PC25. ensure that the panels are mounted firmly		1	0	1
	PC26. use the cables to connect multiple PV modules in combination to generate the desired voltage and current		2	1	1
	PC27. choose type of connection, i.e., series or parallel, as per design		3	1	2
	PC28. use recommended cable to generate maximum voltage		2	1	1
	PC29. Check the maximum system voltage as per the installation and follow adjustment measures accordingly to match output requirement		2	1	1
	PC30. ensure that the modules are grounded as specified		2	1	1
	PC31. connect the system and check for functioning		2	0	2
	PC32. escalate for any issues faced during the functioning of the system		4	2	2
	PC33. clean the work area after completing the installation activity		2	0	2
	PC34. remove all the tools, consumables used from the installation area		1	0	1
	PC35. fill in the job completion form and get the signature of the customer		2	1	1
	PC36. inform customers about maintenance of solar panels and procedure for cleaning of solar panels		3	3	0
	PC37. follow company standards in documentation of installation activities performed		2	1	1
	PC38. remove any metals or jewellery to avoid possibility of current shock during installation activity		3	1	2
	PC39. wear all safety gears such as work shoes, cotton gloves, goggles while carrying out installation activities		3	1	2
	PC40. take specified precautionary measures while handling electrical system		3	1	2
	PC41. keep work area clean and organised		2	0	2
	PC42. adhere to relevant health and safety standards		1	1	0
	PC43. dispose of any waste materials in accordance with safe working practices and procedures		1	0	1
		TOTAL	100	35	65
3.					
ELE/	PC1. understand and assess work requirements	100	6	3	3
N005	PC2. understand the targets and incentives		6	3	3
1	PC3. understand new operating procedures and constraints		8	0	8
Coor	PC4. report problems in the field		6	2	4
	PC5. resolve personnel issues		8	2	6

dinate with team members	PC6. receive feedback on work standards and customer satisfaction		6	3	3
	PC7. communicate any potential hazards at a particular location		6	3	3
	PC8. meet given targets		4	2	2
	PC9. deliver work of expected quality despite constraints		6	2	4
	PC10. get trained on latest technologies and updates		6	2	4
	PC11. receive positive feedback on behaviour and attitude shown during interaction		8	3	5
	PC12. interact with colleagues from different functions and understand the nature of their work		4	2	2
	PC13. receive materials from tool room or stores; deposit faulty modules and tools to stores		4	0	4
	PC14. pass on work allocation to colleagues in a respective geographical area		4	2	2
	PC15. share work according to competency and capability		6	2	4
	PC16. assist colleagues with resolving field problems resolve conflicts and achieve smooth workflow		6	2	4
	PC17. follow the company policy during cross functional interaction		6	2	4
		TOTAL	100	35	65
4. ELE/N005 2 Ensure safety at work place	PC1. comply with safety procedures followed in the company	100	6	3	3
	PC2. take adequate safety measures while handling hazardous materials or tools		6	3	3
	PC3. take necessary measures while handling electrical equipment		6	3	3
	PC4. escalate matters about hazardous materials or things found in the premises		6	3	3
	PC5. follow appropriate material handling procedures to avoid any damages and injuries		6	3	3
	PC6. use safety materials such as gloves, goggles, masks, helmets, etc.		7	3	4
	PC7. undertake adequate safety measures while on work to prevent accidents		7	3	4
	PC8. ensure zero accidents in work		10	4	6
	PC9. avoid damage of components due to negligence in ESD procedures		10	4	6
	PC10. ensure no loss for company due to safety negligence		10	5	5
	PC11. participate in regular safety drills for being prepared in the event of a fire or natural calamity		6	2	4
	PC12. help others during the drill or calamity		4	2	2
	PC13. administer basic first aid		6	3	3
	PC14. participate in company organised games and fitness sessions such as yoga, etc.		4	2	2

	PC15. develop good posture for working so that long term health problems do not arise		6	2	4
		TOTAL	100	45	55