



Qualification Pack



Solar PV Installer (Suryamitra)

QP Code: MSME/SGJ/Q7201

Version: 1.0

NSQF Level: 4

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Qualification Pack

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MSME/SGJ/Q7201: Solar PV Installer (Suryamitra)

Brief Job Description

Solar PV Installer checks, adapts, implements, configures, installs, inspects, tests and commissions different components of photovoltaic systems, that meet the performance and reliability needs of customers by incorporating quality craftsmanship and complying with all applicable codes, standards and safety requirements

Personal Attributes

Solar PV Installer checks, adapts, implements, configures, installs, inspects, tests and commissions different components of photovoltaic systems, that meet the performance and reliability needs of customers by incorporating quality craftsmanship and complying with all applicable codes, standards and safety requirements

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [MSME/SGJ/N7216: Customer orientation for Solar PV System Practical](#)
2. [MSME/SGJ/N7215: Customer orientation for Solar PV System](#)
3. [MSME/SGJ/N7214: Maintain Personal Health & Safety at project site Practical](#)
4. [MSME/SGJ/N7213: Maintain Personal Health and Safety at project site](#)
5. [MSME/SGJ/N7212: Maintain Solar Photovoltaic Power System Practical](#)
6. [MSME/SGJ/N7211: Maintain Solar Photovoltaic Power System](#)
7. [MSME/SGJ/N7210: Test and commission Solar PV system Practical](#)
8. [MSME/SGJ/N7209: Test and commission Solar PV system](#)
9. [MSME/SGJ/N7208: Installation of electrical components of a solar PV system Practical](#)
10. [MSME/SGJ/N7207: Installation of electrical components of a solar PV system](#)
11. [MSME/SGJ/N7206: Install civil and mechanical parts of Solar PV system Practical](#)
12. [MSME/SGJ/N7205: Install civil and mechanical parts of Solar PV system](#)
13. [MSME/SGJ/N7204: Procure Solar PV system components Practical](#)
14. [MSME/SGJ/N7203: Site survey for installation of solar PV system Practical](#)



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15. [MSME/SGJ/N7202: Procure Solar PV system components](#)
16. [MSME/SGJ/N7201: Site survey for installation of solar PV system](#)
17. [MSME/SGJ/N7218: Employability Skills Pactical](#)
18. [MSME/SGJ/N7217: Employability Skills Theory](#)

Qualification Pack (QP) Parameters

Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
Country	India
NSQF Level	4
Credits	24
Aligned to NCO/ISCO/ISIC Code	7421.1401
Minimum Educational Qualification & Experience	12th Class (with science stream or Equivalent) OR 10th grade pass with 3 Years of experience 3 years Renewable energy/power sector experience OR 10th grade pass with 2 year NTC plus 1 year NAC/CITS OR Previous relevant Qualification of NSQF Level (3.5 Solar PV Site Survey Assistant) with 1.5 years of experience Renewable energy/power sector experience OR Previous relevant Qualification of NSQF Level (3.0 Assistant Technician – Solar Panel Installation) with 3 Years of experience of Renewable energy/power sector experience
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years



Qualification Pack

Last Reviewed On	07/10/2026
Next Review Date	27/05/2027
NSQC Approval Date	30/05/2024
Version	1.0
Reference code on NQR	QG-04-ES-02628-2024-V2-SCGJ
NQR Version	2



Qualification Pack

MSME/SGJ/N7216: Customer orientation for Solar PV System Practical

Description

To orient customers on the operation, monitoring, safety, maintenance, and basic troubleshooting of the Solar PV system and provide necessary system-related information and documentation.

Scope

The scope covers the following :

- To orient customers on the operation, monitoring, safety, maintenance, and basic troubleshooting of the Solar PV system and provide necessary system-related information and documentation.

Elements and Performance Criteria

SGJ/N0107

To be competent, the user/individual on the job must be able to:

- PC1.** • explain and show how to prepare complete and final documentation
- PC2.** • record component serial numbers, file datasheet and complete equipment warranty registration
- PC3.** • record and document inspection and commissioning certificates/forms
- PC4.** • deliver as-built documents along with project photographs and permits
- PC5.** • deliver O&M documentation and customer operation manual
- PC6.** • inform the customer about the type of battery used, its life of operation and to dispose battery after its useful life to a recycling facility
- PC7.** • demonstrate start-up, shutdown and safety procedures to the customer
- PC8.** • demonstrate normal operation procedure along with maintenance procedures of Solar PV system and provide basic training to maintain the system
- PC9.** • demonstrate work safety procedures and how to follow instructions for handling heavy components at project site



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0107</i>	-	100	-	-
PC1. • explain and show how to prepare complete and final • documentation	-	-	-	-
PC2. • record component serial numbers, file datasheet and • complete equipment warranty registration	-	-	-	-
PC3. • record and document inspection and commissioning • certificates/forms	-	-	-	-
PC4. • deliver as-built documents along with project • photographs and permits	-	-	-	-
PC5. • deliver O&M documentation and customer operation • manual	-	-	-	-
PC6. • inform the customer about the type of battery used, • its life of operation and to dispose battery after its useful life • to a recycling facility	-	-	-	-
PC7. • demonstrate start-up, shutdown and safety procedures • to the customer	-	-	-	-
PC8. • demonstrate normal operation procedure along with • maintenance procedures of Solar PV system and provide • basic training to maintain the system	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. • demonstrate work safety procedures and how to • follow instructions for handling heavy components at • project site	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7216
NOS Name	Customer orientation for Solar PV System Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7215: Customer orientation for Solar PV System

Description

To orient customers on the operation, monitoring, safety, maintenance, and basic troubleshooting of the Solar PV system and provide necessary system-related information and documentation.

Scope

The scope covers the following :

- To orient customers on the operation, monitoring, safety, maintenance, and basic troubleshooting of the Solar PV system and provide necessary system-related information and documentation.

Elements and Performance Criteria

SGJ/N0107

To be competent, the user/individual on the job must be able to:

- PC1.** • explain and show how to prepare complete and final documentation
- PC2.** • record component serial numbers, file datasheet and complete equipment warranty registration
- PC3.** • record and document inspection and commissioning certificates/forms
- PC4.** • deliver as-built documents along with project photographs and permits
- PC5.** • deliver O&M documentation and customer operation manual
- PC6.** • inform the customer about the type of battery used, its life of operation and to dispose battery after its useful life to a recycling facility
- PC7.** • demonstrate start-up, shutdown and safety procedures to the customer
- PC8.** • demonstrate normal operation procedure along with maintenance procedures of Solar PV system and provide basic training to maintain the system
- PC9.** • demonstrate work safety procedures and how to follow instructions for handling heavy components at project site



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0107</i>	100	-	-	-
PC1. • explain and show how to prepare complete and final • documentation	-	-	-	-
PC2. • record component serial numbers, file datasheet and • complete equipment warranty registration	-	-	-	-
PC3. • record and document inspection and commissioning • certificates/forms	-	-	-	-
PC4. • deliver as-built documents along with project • photographs and permits	-	-	-	-
PC5. • deliver O&M documentation and customer operation • manual	-	-	-	-
PC6. • inform the customer about the type of battery used, • its life of operation and to dispose battery after its useful life • to a recycling facility	-	-	-	-
PC7. • demonstrate start-up, shutdown and safety procedures • to the customer	-	-	-	-
PC8. • demonstrate normal operation procedure along with • maintenance procedures of Solar PV system and provide • basic training to maintain the system	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. • demonstrate work safety procedures and how to • follow instructions for handling heavy components at • project site	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7215
NOS Name	Customer orientation for Solar PV System
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7214: Maintain Personal Health & Safety at project site Practical

Description

To maintain personal health and safety at the project site by identifying hazards, using PPE, following safety procedures, responding to emergencies, and reporting unsafe conditions and incidents.

Scope

The scope covers the following :

- To maintain personal health and safety at the project site by identifying hazards, using PPE, following safety procedures, responding to emergencies, and reporting unsafe conditions and incidents.

Elements and Performance Criteria

SGJ/N0106

To be competent, the user/individual on the job must be able to:

- PC1.** explain the requirements for safe work area
- PC2.**
 - identify and report any hazards, risks or breaches in
 - site safety to the appropriate authority
- PC3.**
 - follow recommended safe practices in handling
 - physical, chemical, electrical and fire hazards and risk
- PC4.**
 - use appropriate Personal Protective Equipment (PPE) for
 - head, eye, hand, ear, face, body and fall protection specific to
 - work condition
- PC5.**
 - follow safe practices when working at height and in
 - confined space
- PC6.**
 - handle all required tools, tackles, materials and
 - equipment safely
- PC7.**
 - identify expiry dates, wear and tear issues of specified
 - equipment and accordingly inform supervisor and
 - undertake corrective measures
- PC8.** apply ergonomic principles wherever required
- PC9.**
 - use safety signs, labels, charts and notices at
 - workplace
- PC10.**
 - identify work safety procedures and instructions for
 - handling heavy components
- PC11.**
 - follow emergency and evacuation procedures in case
 - of accidents, fires and natural calamities
- PC12.**
 - use appropriate fire extinguishers for different types of
 - fire
- PC13.**
 - follow recommended personal hygiene, workplace
 - hygiene and sanitation practices



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- PC14.** • clean and disinfect all material, tools and supplies
• before and after use
- PC15.** • follow recommended personal hygiene, workplace
• hygiene and sanitation practices
- PC16.** • clean and disinfect all material, tools and supplies
• before and after use
- PC17.** • report immediately to concerned authorities regarding
• sign and symptoms of illness of self and other colleagues
- PC18.** • follow processes specified for disposal of hazardous
• waste



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0106</i>	-	100	-	-
PC1. explain the requirements for safe work area	-	-	-	-
PC2. • identify and report any hazards, risks or breaches in • site safety to the appropriate authority	-	-	-	-
PC3. • follow recommended safe practices in handling • physical, chemical, electrical and fire hazards and risk	-	-	-	-
PC4. • use appropriate Personal Protective Equipment (PPE) for • head, eye, hand, ear, face, body and fall protection specific to • work condition	-	-	-	-
PC5. • follow safe practices when working at height and in • confined space	-	-	-	-
PC6. • handle all required tools, tackles, materials and equipment safely	-	-	-	-
PC7. • identify expiry dates, wear and tear issues of specified • equipment and accordingly inform supervisor and • undertake corrective measures	-	-	-	-
PC8. apply ergonomic principles wherever required	-	-	-	-
PC9. • use safety signs, labels, charts and notices at • workplace	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. • identify work safety procedures and instructions for • handling heavy components	-	-	-	-
PC11. • follow emergency and evacuation procedures in case • of accidents, fires and natural calamities	-	-	-	-
PC12. • use appropriate fire extinguishers for different types of • fire	-	-	-	-
PC13. • follow recommended personal hygiene, workplace • hygiene and sanitation practices	-	-	-	-
PC14. • clean and disinfect all material, tools and supplies • before and after use	-	-	-	-
PC15. • follow recommended personal hygiene, workplace • hygiene and sanitation practices	-	-	-	-
PC16. • clean and disinfect all material, tools and supplies • before and after use	-	-	-	-
PC17. • report immediately to concerned authorities regarding • sign and symptoms of illness of self and other colleagues	-	-	-	-
PC18. • follow processes specified for disposal of hazardous • waste	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7214
NOS Name	Maintain Personal Health & Safety at project site Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



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MSME/SGJ/N7213: Maintain Personal Health and Safety at project site

Description

To maintain personal health and safety at the project site by identifying hazards, using PPE, following safety procedures, responding to emergencies, and reporting unsafe conditions and incidents.

Scope

The scope covers the following :

- To maintain personal health and safety at the project site by identifying hazards, using PPE, following safety procedures, responding to emergencies, and reporting unsafe conditions and incidents.

Elements and Performance Criteria

SGJ/N0106

To be competent, the user/individual on the job must be able to:

- PC1.** explain the requirements for safe work area
- PC2.**
 - identify and report any hazards, risks or breaches in site safety to the appropriate authority
- PC3.**
 - follow recommended safe practices in handling physical, chemical, electrical and fire hazards and risk
- PC4.**
 - use appropriate Personal Protective Equipment (PPE) for head, eye, hand, ear, face, body and fall protection specific to work condition
- PC5.**
 - follow safe practices when working at height and in confined space
- PC6.**
 - handle all required tools, tackles, materials and equipment safely
- PC7.**
 - identify expiry dates, wear and tear issues of specified equipment and accordingly inform supervisor and undertake corrective measures
- PC8.** apply ergonomic principles wherever required
- PC9.**
 - use safety signs, labels, charts and notices at workplace
- PC10.**
 - identify work safety procedures and instructions for handling heavy components
- PC11.**
 - follow emergency and evacuation procedures in case of accidents, fires and natural calamities
- PC12.**
 - use appropriate fire extinguishers for different types of fire
- PC13.**
 - follow recommended personal hygiene, workplace hygiene and sanitation practices



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- PC14.** • clean and disinfect all material, tools and supplies
• before and after use
- PC15.** • follow recommended personal hygiene, workplace
• hygiene and sanitation practices
- PC16.** • clean and disinfect all material, tools and supplies
• before and after use
- PC17.** • report immediately to concerned authorities regarding
• sign and symptoms of illness of self and other colleagues
- PC18.** • follow processes specified for disposal of hazardous
• waste



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0106</i>	100	-	-	-
PC1. explain the requirements for safe work area	-	-	-	-
PC2. • identify and report any hazards, risks or breaches in • site safety to the appropriate authority	-	-	-	-
PC3. • follow recommended safe practices in handling • physical, chemical, electrical and fire hazards and risk	-	-	-	-
PC4. • use appropriate Personal Protective Equipment (PPE) for • head, eye, hand, ear, face, body and fall protection specific to • work condition	-	-	-	-
PC5. • follow safe practices when working at height and in • confined space	-	-	-	-
PC6. • handle all required tools, tackles, materials and equipment safely	-	-	-	-
PC7. • identify expiry dates, wear and tear issues of specified • equipment and accordingly inform supervisor and • undertake corrective measures	-	-	-	-
PC8. apply ergonomic principles wherever required	-	-	-	-
PC9. • use safety signs, labels, charts and notices at • workplace	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. - identify work safety procedures and instructions for - handling heavy components	-	-	-	-
PC11. - follow emergency and evacuation procedures in case - of accidents, fires and natural calamities	-	-	-	-
PC12. - use appropriate fire extinguishers for different types of - fire	-	-	-	-
PC13. - follow recommended personal hygiene, workplace - hygiene and sanitation practices	-	-	-	-
PC14. - clean and disinfect all material, tools and supplies - before and after use	-	-	-	-
PC15. - follow recommended personal hygiene, workplace - hygiene and sanitation practices	-	-	-	-
PC16. - clean and disinfect all material, tools and supplies - before and after use	-	-	-	-
PC17. - report immediately to concerned authorities regarding - sign and symptoms of illness of self and other colleagues	-	-	-	-
PC18. - follow processes specified for disposal of hazardous - waste	-	-	-	-
NOS Total	100	-	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7213
NOS Name	Maintain Personal Health and Safety at project site
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7212: Maintain Solar Photovoltaic Power System Practical

Description

To inspect, clean, monitor, troubleshoot, and maintain Solar PV system components to ensure safe, reliable, and efficient power generation.

Scope

The scope covers the following :

- To inspect, clean, monitor, troubleshoot, and maintain Solar PV system components to ensure safe, reliable, and efficient power generation.

Elements and Performance Criteria

SGJ/N0622

To be competent, the user/individual on the job must be able to:

- PC1.**
 - clean solar panels with water in low sunlight to remove
 - dust, bird droppings, pollen, leaves, branches and snow for
 - maximum energy output from the system
- PC2.**
 - wipe hard stains by wiping with
 - sponge/cotton
- PC3.**
 - use cleaning agent such as detergent to clean the
 - stains/dust on the aluminum framing
- PC4.**
 - clean without damaging modules by stepping on it or
 - through mechanized method
- PC5.**
 - clean module periodically as per specification and
 - document the date of cleaning
- PC6.**
 - explain and show how to prepare and execute
 - preventive maintenance schedule and reactive
 - maintenance activities.
- PC7.**
 - inspect regularly solar power system and mark check
 - points
- PC8.**
 - ensure modules are clean and not affecting power
 - output
- PC9.**
 - ensure that modules are free from any tree shades,
 - construct or other disruption from receiving sunlight
- PC10.**
 - check all cables for loose connections and any
 - mechanical damage
- PC11.**
 - check output voltage of the system and compare with
 - the expected output voltage generation
- PC12.**
 - check for any damage for the system by external
 - elements
- PC13.**
 - ensure that electrical connections are as per
 - specifications



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- PC14.** • check for mechanical components and the condition
• and stability of mounting to hold solar panels
- PC15.** • identify the faults in the system when there is an
• interruption in power generation
- PC16.** • check current output for each string and identify the
• string which gives low/undesired power output
- PC17.** • identify the faulty module if any by shading and check
• current output
- PC18.** • perform standard troubleshoot measures as per
• diagnosed fault
- PC19.** check working conditions of fuses and circuit breakers
- PC20.** • check the service panel connections and any damages
• in the cables
- PC21.** • check wire connection to inverter and identify damage
• if any
- PC22.** • inform the inverter service technician if there is a
• circuit board level fault for further repair
- PC23.** • escalate the issue to superiors if faults can not be
• identified
- PC24.** • remove all the tools, consumables used from the
• installation area
- PC25.** • fill in the job completion form and get the signature of
• the customer
- PC26.** inform customers about maintenance of solar panels
- PC27.** document maintenance activities if performed
- PC28.** • clean the work area after completing the maintenance
• activity
- PC29.** • dispose off any waste materials in accordance with
• safe working practices and procedure



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0622</i>	-	100	-	-
PC1. • clean solar panels with water in low sunlight to remove • dust, bird droppings, pollen, leaves, branches and snow for • maximum energy output from the system	-	-	-	-
PC2. • wipe hard stains by wiping with • sponge/cotton	-	-	-	-
PC3. • use cleaning agents such as detergent to clean the • stains/dust on the aluminum framing	-	-	-	-
PC4. • clean without damaging modules by stepping on it or • through mechanized method	-	-	-	-
PC5. • clean module periodically as per specification and • document the date of cleaning	-	-	-	-
PC6. • explain and show how to prepare and execute • preventive maintenance schedule and reactive • maintenance activities.	-	-	-	-
PC7. • inspect regularly solar power system and mark check • points	-	-	-	-
PC8. • ensure modules are clean and not affecting power • output	-	-	-	-
PC9. • ensure that modules are free from any tree shades, • construct or other disruption from receiving sunlight	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. check all cables for loose connections and any mechanical damage	-	-	-	-
PC11. check output voltage of the system and compare with the expected output voltage generation	-	-	-	-
PC12. check for any damage for the system by external elements	-	-	-	-
PC13. ensure that electrical connections are as per specifications	-	-	-	-
PC14. check for mechanical components and the condition and stability of mounting to hold solar panels	-	-	-	-
PC15. identify the faults in the system when there is an interruption in power generation	-	-	-	-
PC16. check current output for each string and identify the string which gives low/undesired power output	-	-	-	-
PC17. identify the faulty module if any by shading and check current output	-	-	-	-
PC18. perform standard troubleshoot measures as per diagnosed fault	-	-	-	-
PC19. check working conditions of fuses and circuit breakers	-	-	-	-
PC20. check the service panel connections and any damages in the cables	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. - check wire connection to inverter and identify damage - if any	-	-	-	-
PC22. - inform the inverter service technician if there is a - circuit board level fault for further repair	-	-	-	-
PC23. - escalate the issue to superiors if faults can not be - identified	-	-	-	-
PC24. - remove all the tools, consumables used from the - installation area	-	-	-	-
PC25. - fill in the job completion form and get the signature of - the customer	-	-	-	-
PC26. inform customers about maintenance of solar panels	-	-	-	-
PC27. document maintenance activities if performed	-	-	-	-
PC28. - clean the work area after completing the maintenance - activity	-	-	-	-
PC29. - dispose off any waste materials in accordance with - safe working practices and procedure	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7212
NOS Name	Maintain Solar Photovoltaic Power System Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7211: Maintain Solar Photovoltaic Power System

Description

To inspect, clean, monitor, troubleshoot, and maintain Solar PV system components to ensure safe, reliable, and efficient power generation.

Scope

The scope covers the following :

- To inspect, clean, monitor, troubleshoot, and maintain Solar PV system components to ensure safe, reliable, and efficient power generation.

Elements and Performance Criteria

SGJ/N0622

To be competent, the user/individual on the job must be able to:

- PC1.**
 - clean solar panels with water in low sunlight to remove
 - dust, bird droppings, pollen, leaves, branches and snow for
 - maximum energy output from the system
- PC2.**
 - wipe hard stains by wiping with
 - sponge/cotton
- PC3.**
 - use cleaning agent such as detergent to clean the
 - stains/dust on the aluminum framing
- PC4.**
 - clean without damaging modules by stepping on it or
 - through mechanized method
- PC5.**
 - clean module periodically as per specification and
 - document the date of cleaning
- PC6.**
 - explain and show how to prepare and execute
 - preventive maintenance schedule and reactive
 - maintenance activities.
- PC7.**
 - inspect regularly solar power system and mark check
 - points
- PC8.**
 - ensure modules are clean and not affecting power
 - output
- PC9.**
 - ensure that modules are free from any tree shades,
 - construct or other disruption from receiving sunlight
- PC10.**
 - check all cables for loose connections and any
 - mechanical damage
- PC11.**
 - check output voltage of the system and compare with
 - the expected output voltage generation
- PC12.**
 - check for any damage for the system by external
 - elements
- PC13.**
 - ensure that electrical connections are as per
 - specifications



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- PC14.** • check for mechanical components and the condition
• and stability of mounting to hold solar panels
- PC15.** • identify the faults in the system when there is an
• interruption in power generation
- PC16.** • check current output for each string and identify the
• string which gives low/undesired power output
- PC17.** • identify the faulty module if any by shading and check
• current output
- PC18.** • perform standard troubleshoot measures as per
• diagnosed fault
- PC19.** check working conditions of fuses and circuit breakers
- PC20.** • check the service panel connections and any damages
• in the cables
- PC21.** • check wire connection to inverter and identify damage
• if any
- PC22.** • inform the inverter service technician if there is a
• circuit board level fault for further repair
- PC23.** • escalate the issue to superiors if faults can not be
• identified
- PC24.** • remove all the tools, consumables used from the
• installation area
- PC25.** • fill in the job completion form and get the signature of
• the customer
- PC26.** inform customers about maintenance of solar panels
- PC27.** document maintenance activities if performed
- PC28.** • clean the work area after completing the maintenance
• activity
- PC29.** • dispose off any waste materials in accordance with
• safe working practices and procedure



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0622</i>	100	-	-	-
PC1. • clean solar panels with water in low sunlight to remove • dust, bird droppings, pollen, leaves, branches and snow for • maximum energy output from the system	-	-	-	-
PC2. • wipe hard stains by wiping with • sponge/cotton	-	-	-	-
PC3. • use cleaning agents such as detergent to clean the • stains/dust on the aluminum framing	-	-	-	-
PC4. • clean without damaging modules by stepping on it or • through mechanized method	-	-	-	-
PC5. • clean module periodically as per specification and • document the date of cleaning	-	-	-	-
PC6. • explain and show how to prepare and execute • preventive maintenance schedule and reactive • maintenance activities.	-	-	-	-
PC7. • inspect regularly solar power system and mark check • points	-	-	-	-
PC8. • ensure modules are clean and not affecting power • output	-	-	-	-
PC9. • ensure that modules are free from any tree shades, • construct or other disruption from receiving sunlight	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. • check all cables for loose connections and any mechanical damage	-	-	-	-
PC11. • check output voltage of the system and compare with the expected output voltage generation	-	-	-	-
PC12. • check for any damage for the system by external elements	-	-	-	-
PC13. • ensure that electrical connections are as per specifications	-	-	-	-
PC14. • check for mechanical components and the condition and stability of mounting to hold solar panels	-	-	-	-
PC15. • identify the faults in the system when there is an interruption in power generation	-	-	-	-
PC16. • check current output for each string and identify the string which gives low/undesired power output	-	-	-	-
PC17. • identify the faulty module if any by shading and check current output	-	-	-	-
PC18. • perform standard troubleshoot measures as per diagnosed fault	-	-	-	-
PC19. check working conditions of fuses and circuit breakers	-	-	-	-
PC20. • check the service panel connections and any damages in the cables	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. • check wire connection to inverter and identify damage • if any	-	-	-	-
PC22. • inform the inverter service technician if there is a • circuit board level fault for further repair	-	-	-	-
PC23. • escalate the issue to superiors if faults can not be • identified	-	-	-	-
PC24. • remove all the tools, consumables used from the • installation area	-	-	-	-
PC25. • fill in the job completion form and get the signature of • the customer	-	-	-	-
PC26. inform customers about maintenance of solar panels	-	-	-	-
PC27. document maintenance activities if performed	-	-	-	-
PC28. • clean the work area after completing the maintenance • activity	-	-	-	-
PC29. • dispose off any waste materials in accordance with • safe working practices and procedure	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7211
NOS Name	Maintain Solar Photovoltaic Power System
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7210: Test and commission Solar PV system Practical

Description

To test, verify, and commission the installed Solar PV system by checking electrical connections, safety devices, system parameters, performance, and proper operation before handing over the system

Scope

The scope covers the following :

- To test, verify, and commission the installed Solar PV system by checking electrical connections, safety devices, system parameters, performance, and proper operation before handing over the system

Elements and Performance Criteria

SGJ/N0105

To be competent, the user/individual on the job must be able to:

- PC1.** • describe the importance of conducting testing of all
• solar PV components and perform fault findings and analysis
- PC2.** perform visual inspection
- PC3.** • inspect mechanical, civil and electrical installation
• components
- PC4.** • verify system grounding and measure insulation
• resistance
- PC5.** check continuity of the system and verify polarity
- PC6.** • measure solar irradiance, DC voltages, current for
• each string and array for proper operation of the system
- PC7.** • verify inverter operation including anti-islanding
• performance and measurement of AC system values
- PC8.** verify calibration of data acquisition system
- PC9.** • verify workmanship and demonstrate proficiency in
• using tools
- PC10.** prepare inspection report and take appropriate action
- PC11.** • verify labeling of solar PV system including
• components and cabling
- PC12.** • initiate startup procedures as per manufacturer's
• instructions and record energymeter reading at startup
- PC13.** measure and record voltage of energystorage system
- PC14.** record and repair any anomalous conditions
- PC15.** document design changes, if any and verify demounting of a solar PV power plant after commissioning
- PC16.** • examine concerned regulations & guidelines for grid
• interconnection.



Qualification Pack

- PC17.**
- describe and demonstrate the commissioning process
 - for the solar PV system.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0105</i>	-	100	-	-
PC1. • describe the importance of conducting testing of all • solar PV components and perform fault findings and analysis	-	-	-	-
PC2. perform visual inspection	-	-	-	-
PC3. • inspect mechanical, civil and electrical installation • components	-	-	-	-
PC4. • verify system grounding and measure insulation • resistance	-	-	-	-
PC5. check continuity of the system and verify polarity	-	-	-	-
PC6. • measure solar irradiance, DC voltages, current for • each string and array for proper operation of the system	-	-	-	-
PC7. • verify inverter operation including anti-islanding • performance and measurement of AC system values	-	-	-	-
PC8. verify calibration of data acquisition system	-	-	-	-
PC9. • verify workmanship and demonstrate proficiency in • using tools	-	-	-	-
PC10. prepare inspection report and take appropriate action	-	-	-	-
PC11. • verify labeling of solar PV system including • components and cabling	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. initiate startup procedures as per manufacturer's instructions and record energymeter reading at startup	-	-	-	-
PC13. measure and record voltage of energystorage system	-	-	-	-
PC14. record and repair any anomalous conditions	-	-	-	-
PC15. document design changes, if any and verify demounting of a solar PV power plant after commissioning	-	-	-	-
PC16. examine concerned regulations & guidelines for grid interconnection.	-	-	-	-
PC17. describe and demonstrate the commissioning process for the solar PV system.	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7210
NOS Name	Test and commission Solar PV system Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7209: Test and commission Solar PV system

Description

To test, verify, and commission the installed Solar PV system by checking electrical connections, safety devices, system parameters, performance, and proper operation before handing over the system

Scope

The scope covers the following :

- To test, verify, and commission the installed Solar PV system by checking electrical connections, safety devices, system parameters, performance, and proper operation before handing over the system

Elements and Performance Criteria

SGJ/N0105

To be competent, the user/individual on the job must be able to:

- PC1.** • describe the importance of conducting testing of all
• solar PV components and perform fault findings and analysis
- PC2.** perform visual inspection
- PC3.** • inspect mechanical, civil and electrical installation
• components
- PC4.** • verify system grounding and measure insulation
• resistance
- PC5.** check continuity of the system and verify polarity
- PC6.** • measure solar irradiance, DC voltages, current for
• each string and array for proper operation of the system
- PC7.** • verify inverter operation including anti-islanding
• performance and measurement of AC system values
- PC8.** verify calibration of data acquisition system
- PC9.** • verify workmanship and demonstrate proficiency in
• using tools
- PC10.** prepare inspection report and take appropriate action
- PC11.** • verify labeling of solar PV system including
• components and cabling
- PC12.** • initiate startup procedures as per manufacturer's
• instructions and record energymeter reading at startup
- PC13.** measure and record voltage of energy storage system
- PC14.** record and repair any anomalous conditions
- PC15.** document design changes, if any and verify demounting of a solar PV power plant after commissioning
- PC16.** • examine concerned regulations & guidelines for grid
• interconnection.



Qualification Pack

- PC17.**
- describe and demonstrate the commissioning process
 - for the solar PV system.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0105</i>	100	-	-	-
PC1. • describe the importance of conducting testing of all • solar PV components and perform fault findings and analysis	-	-	-	-
PC2. perform visual inspection	-	-	-	-
PC3. • inspect mechanical, civil and electrical installation • components	-	-	-	-
PC4. • verify system grounding and measure insulation • resistance	-	-	-	-
PC5. check continuity of the system and verify polarity	-	-	-	-
PC6. • measure solar irradiance, DC voltages, current for • each string and array for proper operation of the system	-	-	-	-
PC7. • verify inverter operation including anti-islanding • performance and measurement of AC system values	-	-	-	-
PC8. verify calibration of data acquisition system	-	-	-	-
PC9. • verify workmanship and demonstrate proficiency in • using tools	-	-	-	-
PC10. prepare inspection report and take appropriate action	-	-	-	-
PC11. • verify labeling of solar PV system including • components and cabling	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. initiate startup procedures as per manufacturer's instructions and record energymeter reading at startup	-	-	-	-
PC13. measure and record voltage of energystorage system	-	-	-	-
PC14. record and repair any anomalous conditions	-	-	-	-
PC15. document design changes, if any and verify demounting of a solar PV power plant after commissioning	-	-	-	-
PC16. examine concerned regulations & guidelines for grid interconnection.	-	-	-	-
PC17. describe and demonstrate the commissioning process for the solar PV system.	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7209
NOS Name	Test and commission Solar PV system
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7208: Installation of electrical components of a solar PV system Practical

Description

To install, connect, test, and verify the electrical components of a Solar PV system, including cables, inverter, protection devices, batteries, earthing, and distribution equipment, as per design and safety standards.

Scope

The scope covers the following :

- To install, connect, test, and verify the electrical components of a Solar PV system, including cables, inverter, protection devices, batteries, earthing, and distribution equipment, as per design and safety standards.

Elements and Performance Criteria

SGJ/N0104

To be competent, the user/individual on the job must be able to:

- PC1.** • implement the site safety plan, keep workarea clear
• and be aware of the situation at site
- PC2.** ascertain the maximum working voltage
- PC3.** • identify tools and tackles and measure current and
• voltage through instruments beforeproceeding with work
- PC4.** inspect and utilize electrical installationtoolkit
- PC5.** select the location of DC combiner box
- PC6.** • install DC combiner box along withdisconnect
• protections
- PC7.** install DC energy meters
- PC8.** confirm battery bank location and installbatteries
- PC9.** • prepare battery terminals and installbattery
• interconnection cables
- PC10.** terminate fine stranded cables
- PC11.** test final assembled battery polarity andvoltage
- PC12.** install charge controller (if required)
- PC13.** install inverter
- PC14.** install utility required disconnects
- PC15.** install AC combiner box
- PC16.** • connect the solar system to the
• distribution box or transformer
- PC17.** label components properly
- PC18.** prepare conduit and cable routing plan



Qualification Pack

- PC19.** select the correct cable type, color, and gauge
- PC20.**
- ensure that the conduits are properly supported and
 - secured
- PC21.**
- install the cables for modules, inverter and other
 - components
- PC22.** terminate cables
- PC23.** check cables for continuity
- PC24.** label conduits and cables properly
- PC25.** locate underground hazards, if any
- PC26.** confirm and install battery bank enclosure/racks
- PC27.** install battery spill containment (if required)
- PC28.**
- install batteries and prepare battery terminals (e.g.
 - clean)
- PC29.** install battery interconnection cables and apply antioxidant material
- PC30.**
- perform the grounding work for modules/mounting
 - system and inverters
- PC31.**
- perform bonding work for all electrical equipment and
 - apply anti-oxidant material
- PC32.**
- explain the de-mounting of a solar PV power plant
 - (after commissioning).
- PC33.**
- clean the work area after completing the installation
 - work
- PC34.**
- remove all the tools, consumables used from the work
 - area



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0104</i>	-	100	-	-
PC1. • implement the site safety plan, keep workarea clear • and be aware of the situation at site	-	-	-	-
PC2. ascertain the maximum working voltage	-	-	-	-
PC3. • identify tools and tackles and measure current and • voltage through instruments beforeproceeding with work	-	-	-	-
PC4. inspect and utilize electrical installationtoolkit	-	-	-	-
PC5. select the location of DC combiner box	-	-	-	-
PC6. • install DC combiner box along withdisconnect • protections	-	-	-	-
PC7. install DC energy meters	-	-	-	-
PC8. confirm battery bank location and installbatteries	-	-	-	-
PC9. • prepare battery terminals and installbattery • interconnection cables	-	-	-	-
PC10. terminate fine stranded cables	-	-	-	-
PC11. test final assembled battery polarity andvoltage	-	-	-	-
PC12. install charge controller (if required)	-	-	-	-
PC13. install inverter	-	-	-	-
PC14. install utility required disconnects	-	-	-	-
PC15. install AC combiner box	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. • connect the solar system to the • distribution box or transformer	-	-	-	-
PC17. label components properly	-	-	-	-
PC18. prepare conduit and cable routing plan	-	-	-	-
PC19. select the correct cable type, color, and gauge	-	-	-	-
PC20. • ensure that the conduits are properly supported and • secured	-	-	-	-
PC21. • install the cables for modules, inverter and other • components	-	-	-	-
PC22. terminate cables	-	-	-	-
PC23. check cables for continuity	-	-	-	-
PC24. label conduits and cables properly	-	-	-	-
PC25. locate underground hazards, if any	-	-	-	-
PC26. confirm and install battery bank enclosure/racks	-	-	-	-
PC27. install battery spill containment (if required)	-	-	-	-
PC28. • install batteries and prepare battery terminals (e.g. • clean)	-	-	-	-
PC29. install battery interconnection cables and apply antioxidant material	-	-	-	-
PC30. • perform the grounding work for modules/mounting • system and inverters	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC31. - perform bonding work for all electrical equipment and - apply anti-oxidant material	-	-	-	-
PC32. - explain the de-mounting of a solar PV power plant (after commissioning).	-	-	-	-
PC33. - clean the work area after completing the installation - work	-	-	-	-
PC34. - remove all the tools, consumables used from the work - area	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7208
NOS Name	Installation of electrical components of a solar PV system Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7207: Installation of electrical components of a solar PV system

Description

To install, connect, test, and verify the electrical components of a Solar PV system, including cables, inverter, protection devices, batteries, earthing, and distribution equipment, as per design and safety standards.

Scope

The scope covers the following :

- To install, connect, test, and verify the electrical components of a Solar PV system, including cables, inverter, protection devices, batteries, earthing, and distribution equipment, as per design and safety standards.

Elements and Performance Criteria

SGJ/N0104

To be competent, the user/individual on the job must be able to:

- PC1.** • implement the site safety plan, keep workarea clear
• and be aware of the situation at site
- PC2.** ascertain the maximum working voltage
- PC3.** • identify tools and tackles and measure current and
• voltage through instruments beforeproceeding with work
- PC4.** inspect and utilize electrical installationtoolkit
- PC5.** select the location of DC combiner box
- PC6.** • install DC combiner box along withdisconnect
• protections
- PC7.** install DC energy meters
- PC8.** confirm battery bank location and installbatteries
- PC9.** • prepare battery terminals and installbattery
• interconnection cables
- PC10.** terminate fine stranded cables
- PC11.** test final assembled battery polarity andvoltage
- PC12.** install charge controller (if required)
- PC13.** install inverter
- PC14.** install utility required disconnects
- PC15.** install AC combiner box
- PC16.** • connect the solar system to the
• distribution box or transformer
- PC17.** label components properly
- PC18.** prepare conduit and cable routing plan



Qualification Pack

- PC19.** select the correct cable type, color, and gauge
- PC20.**
 - ensure that the conduits are properly supported and
 - secured
- PC21.**
 - install the cables for modules, inverter and other
 - components
- PC22.** terminate cables
- PC23.** check cables for continuity
- PC24.** label conduits and cables properly
- PC25.** locate underground hazards, if any
- PC26.** confirm and install battery bank enclosure/racks
- PC27.** install battery spill containment (if required)
- PC28.**
 - install batteries and prepare battery terminals (e.g.
 - clean)
- PC29.** install battery interconnection cables and apply antioxidant material
- PC30.**
 - perform the grounding work for modules/mounting
 - system and inverters
- PC31.**
 - perform bonding work for all electrical equipment and
 - apply anti-oxidant material
- PC32.**
 - explain the de-mounting of a solar PV power plant
 - (after commissioning).
- PC33.**
 - clean the work area after completing the installation
 - work
- PC34.**
 - remove all the tools, consumables used from the work
 - area



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0104</i>	100	-	-	-
PC1. • implement the site safety plan, keep workarea clear • and be aware of the situation at site	-	-	-	-
PC2. ascertain the maximum working voltage	-	-	-	-
PC3. • identify tools and tackles and measure current and • voltage through instruments beforeproceeding with work	-	-	-	-
PC4. inspect and utilize electrical installationtoolkit	-	-	-	-
PC5. select the location of DC combiner box	-	-	-	-
PC6. • install DC combiner box along withdisconnect • protections	-	-	-	-
PC7. install DC energy meters	-	-	-	-
PC8. confirm battery bank location and installbatteries	-	-	-	-
PC9. • prepare battery terminals and installbattery • interconnection cables	-	-	-	-
PC10. terminate fine stranded cables	-	-	-	-
PC11. test final assembled battery polarity andvoltage	-	-	-	-
PC12. install charge controller (if required)	-	-	-	-
PC13. install inverter	-	-	-	-
PC14. install utility required disconnects	-	-	-	-
PC15. install AC combiner box	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. • connect the solar system to the • distribution box or transformer	-	-	-	-
PC17. label components properly	-	-	-	-
PC18. prepare conduit and cable routing plan	-	-	-	-
PC19. select the correct cable type, color, and gauge	-	-	-	-
PC20. • ensure that the conduits are properly supported and • secured	-	-	-	-
PC21. • install the cables for modules, inverter and other • components	-	-	-	-
PC22. terminate cables	-	-	-	-
PC23. check cables for continuity	-	-	-	-
PC24. label conduits and cables properly	-	-	-	-
PC25. locate underground hazards, if any	-	-	-	-
PC26. confirm and install battery bank enclosure/racks	-	-	-	-
PC27. install battery spill containment (if required)	-	-	-	-
PC28. • install batteries and prepare battery terminals (e.g. • clean)	-	-	-	-
PC29. install battery interconnection cables and apply antioxidant material	-	-	-	-
PC30. • perform the grounding work for modules/mounting • system and inverters	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC31. - perform bonding work for all electrical equipment and - apply anti-oxidant material	-	-	-	-
PC32. - explain the de-mounting of a solar PV power plant (after commissioning).	-	-	-	-
PC33. - clean the work area after completing the installation - work	-	-	-	-
PC34. - remove all the tools, consumables used from the work - area	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7207
NOS Name	Installation of electrical components of a solar PV system
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7206: Install civil and mechanical parts of Solar PV system Practical

Description

To prepare the site and install foundations, mounting structures, supports, and other civil and mechanical components of a Solar PV system as per design, specifications, and safety requirements.

Scope

The scope covers the following :

- To prepare the site and install foundations, mounting structures, supports, and other civil and mechanical components of a Solar PV system as per design, specifications, and safety requirements.

Elements and Performance Criteria

SGJ/N0103

To be competent, the user/individual on the job must be able to:

- PC1.** identify type of footing or dead load required
- PC2.** locate structural footings
- PC3.** arrange tools and consumables required for civil/mechanical installation
- PC4.**
 - construct concrete forms to design specifications with
 - water and material conservation
- PC5.** install mounting posts, roof attachments and anchors
- PC6.**
 - locate structural roof members and install structural
 - attachments
- PC7.** install module support/racking frame
- PC8.** plumb and level array structure
- PC9.** install supplementary structural supports
- PC10.** apply corrosion protection to cut surfaces
- PC11.**
 - apply weatherproofing and anchoring chemical to
 - avoid any seepage and for proper integration with surface
- PC12.** install tracking system or carport mounting system
- PC13.** unpack PV modules
- PC14.** inspect module for physical damage
- PC15.** test PV modules electrical output
- PC16.** install the modules as per layout diagrams
- PC17.** secure module wiring
- PC18.** fasten modules to structure
- PC19.** torque module fasteners
- PC20.**
 - install battery bank stand and battery spill containment
 - as per drawings / manuals



Qualification Pack

- PC21.** install inverter stand as per drawings / manuals
- PC22.**
- identify ways to optimize usage of material including
 - water in various tasks/activities/processes and suggest to
 - higher authority
- PC23.**
- check for spills/leakages in various
 - tasks/activities/processes, plug spills/leakages and escalate
 - to appropriate authority if unable to rectify
- PC24.**
- segregate waste into different categories, dispose nonrecyclable waste appropriately and deposit recyclable and
 - reusable material at identified location



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0103</i>	-	100	-	-
PC1. identify type of footing or dead load required	-	-	-	-
PC2. locate structural footings	-	-	-	-
PC3. arrange tools and consumables required for civil/mechanical installation	-	-	-	-
PC4. • construct concrete forms to design specifications with • water and material conservation	-	-	-	-
PC5. install mounting posts, roof attachments and anchors	-	-	-	-
PC6. • locate structural roof members and install structural • attachments	-	-	-	-
PC7. install module support/racking frame	-	-	-	-
PC8. plumb and level array structure	-	-	-	-
PC9. install supplementary structural supports	-	-	-	-
PC10. apply corrosion protection to cut surfaces	-	-	-	-
PC11. • apply weatherproofing and anchoring chemical to • avoid any seepage and for proper integration with surface	-	-	-	-
PC12. install tracking system or carport mounting system	-	-	-	-
PC13. unpack PV modules	-	-	-	-
PC14. inspect module for physical damage	-	-	-	-
PC15. test PV modules electrical output	-	-	-	-
PC16. install the modules as per layout diagrams	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC17. secure module wiring	-	-	-	-
PC18. fasten modules to structure	-	-	-	-
PC19. torque module fasteners	-	-	-	-
PC20. • install battery bank stand and battery spill containment • as per drawings / manuals	-	-	-	-
PC21. install inverter stand as per drawings / manuals	-	-	-	-
PC22. • identify ways to optimize usage of material including • water in various tasks/activities/processes and suggest to • higher authority	-	-	-	-
PC23. • check for spills/leakages in various • tasks/activities/processes, plug spills/leakages and escalate • to appropriate authority if unable to rectify	-	-	-	-
PC24. • segregate waste into different categories, dispose nonrecyclable waste appropriately and deposit recyclable and • reusable material at identified location	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7206
NOS Name	Install civil and mechanical parts of Solar PV system Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7205: Install civil and mechanical parts of Solar PV system

Description

To prepare the site and install foundations, mounting structures, supports, and other civil and mechanical components of a Solar PV system as per design, specifications, and safety requirements.

Scope

The scope covers the following :

- To prepare the site and install foundations, mounting structures, supports, and other civil and mechanical components of a Solar PV system as per design, specifications, and safety requirements.

Elements and Performance Criteria

SGJ/N0103

To be competent, the user/individual on the job must be able to:

- PC1.** identify type of footing or dead load required
- PC2.** locate structural footings
- PC3.** arrange tools and consumables required for civil/mechanical installation
- PC4.**
 - construct concrete forms to design specifications with
 - water and material conservation
- PC5.** install mounting posts, roof attachments and anchors
- PC6.**
 - locate structural roof members and install structural
 - attachments
- PC7.** install module support/racking frame
- PC8.** plumb and level array structure
- PC9.** install supplementary structural supports
- PC10.** apply corrosion protection to cut surfaces
- PC11.**
 - apply weatherproofing and anchoring chemical to
 - avoid any seepage and for proper integration with surface
- PC12.** install tracking system or carport mounting system
- PC13.** unpack PV modules
- PC14.** inspect module for physical damage
- PC15.** test PV modules electrical output
- PC16.** install the modules as per layout diagrams
- PC17.** secure module wiring
- PC18.** fasten modules to structure
- PC19.** torque module fasteners
- PC20.**
 - install battery bank stand and battery spill containment
 - as per drawings / manuals
- PC21.** install inverter stand as per drawings / manuals



Qualification Pack

- PC22.**
- identify ways to optimize usage of material including
 - water in various tasks/activities/processes and suggest to
 - higher authority
- PC23.**
- check for spills/leakages in various
 - tasks/activities/processes, plug spills/leakages and escalate
 - to appropriate authority if unable to rectify
- PC24.**
- segregate waste into different categories, dispose nonrecyclable waste appropriately and deposit recyclable and
 - reusable material at identified location



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0103</i>	100	-	-	-
PC1. identify type of footing or dead load required	-	-	-	-
PC2. locate structural footings	-	-	-	-
PC3. arrange tools and consumables required for civil/mechanical installation	-	-	-	-
PC4. • construct concrete forms to design specifications with • water and material conservation	-	-	-	-
PC5. install mounting posts, roof attachments and anchors	-	-	-	-
PC6. • locate structural roof members and install structural • attachments	-	-	-	-
PC7. install module support/racking frame	-	-	-	-
PC8. plumb and level array structure	-	-	-	-
PC9. install supplementary structural supports	-	-	-	-
PC10. apply corrosion protection to cut surfaces	-	-	-	-
PC11. • apply weatherproofing and anchoring chemical to • avoid any seepage and for proper integration with surface	-	-	-	-
PC12. install tracking system or carport mounting system	-	-	-	-
PC13. unpack PV modules	-	-	-	-
PC14. inspect module for physical damage	-	-	-	-
PC15. test PV modules electrical output	-	-	-	-
PC16. install the modules as per layout diagrams	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC17. secure module wiring	-	-	-	-
PC18. fasten modules to structure	-	-	-	-
PC19. torque module fasteners	-	-	-	-
PC20. • install battery bank stand and battery spill containment • as per drawings / manuals	-	-	-	-
PC21. install inverter stand as per drawings / manuals	-	-	-	-
PC22. • identify ways to optimize usage of material including • water in various tasks/activities/processes and suggest to • higher authority	-	-	-	-
PC23. • check for spills/leakages in various • tasks/activities/processes, plug spills/leakages and escalate • to appropriate authority if unable to rectify	-	-	-	-
PC24. • segregate waste into different categories, dispose nonrecyclable waste appropriately and deposit recyclable and • reusable material at identified location	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7205
NOS Name	Install civil and mechanical parts of Solar PV system
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7204: Procure Solar PV system components Practical

Description

To prepare the Bill of Materials and procure, inspect, and verify Solar PV system components according to the system design, specifications, quantity, quality, and site requirements.

Scope

The scope covers the following :

- To prepare the Bill of Materials and procure, inspect, and verify Solar PV system components according to the system design, specifications, quantity, quality, and site requirements.

Elements and Performance Criteria

SGJ/N0102

To be competent, the user/individual on the job must be able to:

- PC1.** Explain various terminologies used in the solar industry and identify different components of Solar PV system and explain its basic operation.
- PC2.** Explain the working of different types of Solar PV systems including innovative behind the meter or plug & play system.
- PC3.**
 - Explain manufacturer's specification sheet of different components
- PC4.**
 - Describe and analyse the different types, sizes and specifications of modules, inverters, charge controllers, cables, conduits, junction boxes, solar batteries and allied accessories.
- PC5.**
 - Read and interpret the Single Line Diagram (SLD), civil/mechanical and electrical drawings
- PC6.**
 - Prepare Bill of Materials (BoM) from single line diagram, civil/mechanical and electrical drawings
- PC7.**
 - Prepare bill of materials including for portable and innovative energy solutions like plug and play or behind the meter system
- PC8.**
 - Approach organization's warehouse/vendors, suppliers and/or manufacturers to place the order for components as per BoM
- PC9.**
 - Ensure quantity of modules / panels, inverter and batteries matches with voltage requirement of the system
- PC10.**
 - Identify and list variation in equipment specifications, if any
- PC11.**
 - submit the documented variation to design team (if required) for approval or revised drawings
- PC12.**
 - arrange for tools and consumables required for mounting the solar panels



Qualification Pack

- PC13.** • Dispatch the equipment at site as per statutory and
• other requirements
- PC14.** Ensure that all materials are QC passed
- PC15.** • Complete all documentation with respect to
• procurement and plan and receive the equipment at site
- PC16.** • Ensure that all the components are handled and stored
• properly as per standard operating procedures
- PC17.** • Check materials received as per final BoM to ensure
• that the correct material for the job arrives on site and is
• damage free
- PC18.** • Describe the DO's and Don'ts of material handling and
• demonstrate the process of safe material handling.
- PC19.** • Report and document the status of material received
• at site and take appropriate action for replacements, if any
- PC20.** • identify materials which can be replaced by
• environment friendly substitutes and identify processes
• where material utilization can be optimized and accordingly
• suggest those to higher authority.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0102</i>	-	100	-	-
PC1. Explain various terminologies used in the solar industry and identify different components of Solar PV system and explain its basic operation.	-	-	-	-
PC2. Explain the working of different types of SolarPV systems including innovative behind the meter or plug & play system.	-	-	-	-
PC3. • Explain manufacturer's specification sheet of different • components	-	-	-	-
PC4. • Describe and analyse the different types, sizes and • specifications of modules, inverters, charge controllers, • cables, conduits, junction boxes, solar batteries and allied • accessories.	-	-	-	-
PC5. • Read and interpret the Single Line Diagram (SLD), • civil/mechanical and electrical drawings	-	-	-	-
PC6. • Prepare Bill of Materials (BoM) from single line diagram, • civil/mechanical and electrical drawings	-	-	-	-
PC7. • Prepare bill of materials including for portable and • innovative energy solutions like plug and play or behind the • meter system	-	-	-	-
PC8. • Approach organization's warehouse/vendors, • suppliers and/or manufacturers to place the order for • components as per BoM	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. Ensure quantity of modules / panels, inverter and batteries matches with voltage requirement of the system	-	-	-	-
PC10. Identify and list variation in equipment specifications, if any	-	-	-	-
PC11. submit the documented variation to design team (if required) for approval or revised drawings	-	-	-	-
PC12. arrange for tools and consumables required for mounting the solar panels	-	-	-	-
PC13. Dispatch the equipment at site as per statutory and other requirements	-	-	-	-
PC14. Ensure that all materials are QC passed	-	-	-	-
PC15. Complete all documentation with respect to procurement and plan and receive the equipment at site	-	-	-	-
PC16. Ensure that all the components are handled and stored properly as per standard operating procedures	-	-	-	-
PC17. Check materials received as per final BoM to ensure that the correct material for the job arrives on site and is damage free	-	-	-	-
PC18. Describe the DO's and Don'ts of material handling and demonstrate the process of safe material handling.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. - Report and document the status of material received - at site and take appropriate action for replacements, if any	-	-	-	-
PC20. - identify materials which can be replaced by environment friendly substitutes and identify processes - where material utilization can be optimized and accordingly - suggest those to higher authority.	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7204
NOS Name	Procure Solar PV system components Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7203: Site survey for installation of solar PV system Practical

Description

To conduct a site survey by assessing the site, solar potential, available space, shading, orientation, electrical requirements, and installation conditions for a Solar PV system, and prepare the required survey report.

Scope

The scope covers the following :

- To conduct a site survey by assessing the site, solar potential, available space, shading, orientation, electrical requirements, and installation conditions for a Solar PV system, and prepare the required survey report.

Elements and Performance Criteria

SGJ/N0101

To be competent, the user/individual on the job must be able to:

- PC1.** Explain about the roles and responsibilities of a solar PV Installer along with emerging jobs & entrepreneurial opportunities the sector offers.
- PC2.**
 - Illustrate the advantages of doing the course and opportunities for progression.
- PC3.**
 - Demonstrate how to maintain general discipline during the training program.
- PC4.**
 - Explain the importance of basic skills for effective communication; along with how to work effectively with others while respecting gender and disability concerns at project sites
- PC5.**
 - Explain the importance of reading and interpreting signs, notices and/or cautions at project site.
- PC6.**
 - Demonstrate how to read and interpret sign, notice and cautions at project site.
- PC7.**
 - Explain Ohm's law and fundamentals of power and energy
- PC8.**
 - Explain the basics of solar energy/ electricity and electrical concepts.
- PC9.**
 - Show how to perform simple calculations to illustrate the fundamental concepts of power and energy
- PC10.**
 - Explain the relevance of diffused normal irradiance and global horizontal irradiance along with the differences in Irradiance & Irradiation
- PC11.**
 - Illustrate the movement of the sun and assess its effect on the performance of the solar power plant and overall solar generation.



Qualification Pack

- PC12.** • Demonstrate how the movement of sun affects the performance of the solar power plant.
- PC13.** • Assess the location of installations and optimize the route plan
- PC14.** • Assess the site level pre-requisites for solar panel installation
- PC15.** • Explain the importance of shading analysis and show how to check for any shading obstacles
- PC16.** Show how to perform system sizing calculations.
- PC17.** • Discuss how to decide on the type of mounting to be constructed and inform the customer for any civil construction to be undertaken for installing the panels
- PC18.** • Prepare a site map of the location where installation has to be carried out
- PC19.** • Perform feasibility for innovative energy solutions like portable, "plug and play" or "behind the meter system" for mounting solar panel where typical civil construction work is not required
- PC20.** Assess the load to be run on solar power plant
- PC21.** Prepare a load profile.
- PC22.** • Document the site survey variables and complete the checklist/site survey form.
- PC23.** Identify point of connection.
- PC24.** Identify point of connection.
- PC25.** • Identify and implement ways to monitor material use, conserve and re-use water.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0101</i>	-	100	-	-
PC1. Explain about the roles and responsibilities of a solar PV Installer along with emerging jobs & entrepreneurial opportunities the sector offers.	-	-	-	-
PC2. - Illustrate the advantages of doing the course and - opportunities for progression.	-	-	-	-
PC3. - Demonstrate how to maintain general discipline during - the training program.	-	-	-	-
PC4. - Explain the importance of basic skills for effective - communication; along with how to work effectively with - others while respecting gender and disability concerns at - project sites	-	-	-	-
PC5. - Explain the importance of reading and - interpreting signs, notices and/or cautions at project - site.	-	-	-	-
PC6. - Demonstrate how to read and interpret sign, notice - and cautions at project site.	-	-	-	-
PC7. - Explain Ohm's law and fundamentals of power and - energy	-	-	-	-
PC8. - Explain the basics of solar energy/ electricity and - electrical concepts.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. - Show how to perform simple calculations to illustrate - the fundamental concepts of power and energy	-	-	-	-
PC10. - Explain the relevance of diffused normal irradiance - and global horizontal irradiance along with the differences - in Irradiance & Irradiation	-	-	-	-
PC11. - Illustrate the movement of the sun and assess its - effect on the performance of the solar power plant and - overall solar generation.	-	-	-	-
PC12. - Demonstrate how the movement of sun affects the - performance of the solar power plant.	-	-	-	-
PC13. - Assess the location of installations and optimize - the route plan	-	-	-	-
PC14. - Assess the site level pre-requisites for solar panel - installation	-	-	-	-
PC15. - Explain the importance of shading analysis and - show how to check for any shading obstacles	-	-	-	-
PC16. Show how to perform system sizing calculations.	-	-	-	-
PC17. - Discuss how to decide on the type of mounting to - be constructed and inform the customer for any civil - construction to be undertaken for installing the panels	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. • Prepare a site map of the location where installation has to be carried out	-	-	-	-
PC19. • Perform feasibility for innovative energy solutions • like portable, "plug and play" or "behind the meter system" for mounting solar panel where typical civil construction work is not required	-	-	-	-
PC20. Assess the load to be run on solar power plant	-	-	-	-
PC21. Prepare a load profile.	-	-	-	-
PC22. • Document the site survey variables and complete the checklist/site survey form.	-	-	-	-
PC23. Identify point of connection.	-	-	-	-
PC24. Identify point of connection.	-	-	-	-
PC25. • Identify and implement ways to monitor material use, conserve and re-use water.	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7203
NOS Name	Site survey for installation of solar PV system Practical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7202: Procure Solar PV system components

Description

To prepare the Bill of Materials and procure, inspect, and verify Solar PV system components according to the system design, specifications, quantity, quality, and site requirements.

Scope

The scope covers the following :

- To prepare the Bill of Materials and procure, inspect, and verify Solar PV system components according to the system design, specifications, quantity, quality, and site requirements.

Elements and Performance Criteria

SGJ/N0102

To be competent, the user/individual on the job must be able to:

- PC1.** Explain various terminologies used in the solar industry and identify different components of Solar PV system and explain its basic operation.
- PC2.** Explain the working of different types of Solar PV systems including innovative behind the meter or plug & play system.
- PC3.**
 - Explain manufacturer's specification sheet of different components
- PC4.**
 - Describe and analyse the different types, sizes and specifications of modules, inverters, charge controllers, cables, conduits, junction boxes, solar batteries and allied accessories.
- PC5.**
 - Read and interpret the Single Line Diagram (SLD), civil/mechanical and electrical drawings
- PC6.**
 - Prepare Bill of Materials (BoM) from single line diagram, civil/mechanical and electrical drawings
- PC7.**
 - Prepare bill of materials including for portable and innovative energy solutions like plug and play or behind the meter system
- PC8.**
 - Approach organization's warehouse/vendors, suppliers and/or manufacturers to place the order for components as per BoM
- PC9.**
 - Ensure quantity of modules / panels, inverter and batteries matches with voltage requirement of the system
- PC10.**
 - Identify and list variation in equipment specifications, if any
- PC11.**
 - submit the documented variation to design team (if required) for approval or revised drawings
- PC12.**
 - arrange for tools and consumables required for mounting the solar panels



Qualification Pack

- PC13.** • Dispatch the equipment at site as per statutory and
• other requirements
- PC14.** Ensure that all materials are QC passed
- PC15.** • Complete all documentation with respect to
• procurement and plan and receive the equipment at site
- PC16.** • Ensure that all the components are handled and stored
• properly as per standard operating procedures
- PC17.** • Check materials received as per final BoM to ensure
• that the correct material for the job arrives on site and is
• damage free
- PC18.** • Describe the DO's and Don'ts of material handling and
• demonstrate the process of safe material handling.
- PC19.** • Report and document the status of material received
• at site and take appropriate action for replacements, if any
- PC20.** • identify materials which can be replaced by
• environment friendly substitutes and identify processes
• where material utilization can be optimized and accordingly
• suggest those to higher authority.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0102</i>	100	-	-	-
PC1. Explain various terminologies used in the solar industry and identify different components of Solar PV system and explain its basic operation.	-	-	-	-
PC2. Explain the working of different types of SolarPV systems including innovative behind the meter or plug & play system.	-	-	-	-
PC3. • Explain manufacturer's specification sheet of different • components	-	-	-	-
PC4. • Describe and analyse the different types, sizes and • specifications of modules, inverters, charge controllers, • cables, conduits, junction boxes, solar batteries and allied • accessories.	-	-	-	-
PC5. • Read and interpret the Single Line Diagram (SLD), • civil/mechanical and electrical drawings	-	-	-	-
PC6. • Prepare Bill of Materials (BoM) from single line diagram, • civil/mechanical and electrical drawings	-	-	-	-
PC7. • Prepare bill of materials including for portable and • innovative energy solutions like plug and play or behind the • meter system	-	-	-	-
PC8. • Approach organization's warehouse/vendors, • suppliers and/or manufacturers to place the order for • components as per BoM	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. Ensure quantity of modules / panels, inverter and batteries matches with voltage requirement of the system	-	-	-	-
PC10. Identify and list variation in equipment specifications, if any	-	-	-	-
PC11. submit the documented variation to design team (if required) for approval or revised drawings	-	-	-	-
PC12. arrange for tools and consumables required for mounting the solar panels	-	-	-	-
PC13. Dispatch the equipment at site as per statutory and other requirements	-	-	-	-
PC14. Ensure that all materials are QC passed	-	-	-	-
PC15. Complete all documentation with respect to procurement and plan and receive the equipment at site	-	-	-	-
PC16. Ensure that all the components are handled and stored properly as per standard operating procedures	-	-	-	-
PC17. Check materials received as per final BoM to ensure that the correct material for the job arrives on site and is damage free	-	-	-	-
PC18. Describe the DO's and Don'ts of material handling and demonstrate the process of safe material handling.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. - Report and document the status of material received - at site and take appropriate action for replacements, if any	-	-	-	-
PC20. - identify materials which can be replaced by environment friendly substitutes and identify processes - where material utilization can be optimized and accordingly - suggest those to higher authority.	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7202
NOS Name	Procure Solar PV system components
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7201: Site survey for installation of solar PV system

Description

To conduct a site survey by assessing the site, solar potential, available space, shading, orientation, electrical requirements, and installation conditions for a Solar PV system, and prepare the required survey report.

Scope

The scope covers the following :

- To conduct a site survey by assessing the site, solar potential, available space, shading, orientation, electrical requirements, and installation conditions for a Solar PV system, and prepare the required survey report.

Elements and Performance Criteria

SGJ/N0101

To be competent, the user/individual on the job must be able to:

- PC1.** Explain about the roles and responsibilities of a solar PV Installer along with emerging jobs & entrepreneurial opportunities the sector offers.
- PC2.**
 - Illustrate the advantages of doing the course and opportunities for progression.
- PC3.**
 - Demonstrate how to maintain general discipline during the training program.
- PC4.**
 - Explain the importance of basic skills for effective communication; along with how to work effectively with others while respecting gender and disability concerns at project sites
- PC5.**
 - Explain the importance of reading and interpreting signs, notices and/or cautions at project site.
- PC6.**
 - Demonstrate how to read and interpret sign, notice and cautions at project site.
- PC7.**
 - Explain Ohm's law and fundamentals of power and energy
- PC8.**
 - Explain the basics of solar energy/ electricity and electrical concepts.
- PC9.**
 - Show how to perform simple calculations to illustrate the fundamental concepts of power and energy
- PC10.**
 - Explain the relevance of diffused normal irradiance and global horizontal irradiance along with the differences in Irradiance & Irradiation
- PC11.**
 - Illustrate the movement of the sun and assess its effect on the performance of the solar power plant and overall solar generation.



Qualification Pack

- PC12.** • Demonstrate how the movement of sun affects the performance of the solar power plant.
- PC13.** • Assess the location of installations and optimize the route plan
- PC14.** • Assess the site level pre-requisites for solar panel installation
- PC15.** • Explain the importance of shading analysis and show how to check for any shading obstacles
- PC16.** Show how to perform system sizing calculations.
- PC17.** • Discuss how to decide on the type of mounting to be constructed and inform the customer for any civil construction to be undertaken for installing the panels
- PC18.** • Prepare a site map of the location where installation has to be carried out
- PC19.** • Perform feasibility for innovative energy solutions like portable, "plug and play" or "behind the meter system" for mounting solar panel where typical civil construction work is not required
- PC20.** Assess the load to be run on solar power plant
- PC21.** Prepare a load profile.
- PC22.** • Document the site survey variables and complete the checklist/site survey form.
- PC23.** Identify point of connection.
- PC24.** Identify point of connection.
- PC25.** • Identify and implement ways to monitor material use, conserve and re-use water.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>SGJ/N0101</i>	100	-	-	-
PC1. Explain about the roles and responsibilities of a solar PV Installer along with emerging jobs & entrepreneurial opportunities the sector offers.	-	-	-	-
PC2. - Illustrate the advantages of doing the course and - opportunities for progression.	-	-	-	-
PC3. - Demonstrate how to maintain general discipline during - the training program.	-	-	-	-
PC4. - Explain the importance of basic skills for effective - communication; along with how to work effectively with - others while respecting gender and disability concerns at - project sites	-	-	-	-
PC5. - Explain the importance of reading and - interpreting signs, notices and/or cautions at project - site.	-	-	-	-
PC6. - Demonstrate how to read and interpret sign, notice - and cautions at project site.	-	-	-	-
PC7. - Explain Ohm's law and fundamentals of power and - energy	-	-	-	-
PC8. - Explain the basics of solar energy/ electricity and - electrical concepts.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. - Show how to perform simple calculations to illustrate - the fundamental concepts of power and energy	-	-	-	-
PC10. - Explain the relevance of diffused normal irradiance - and global horizontal irradiance along with the differences - in Irradiance & Irradiation	-	-	-	-
PC11. - Illustrate the movement of the sun and assess its - effect on the performance of the solar power plant and - overall solar generation.	-	-	-	-
PC12. - Demonstrate how the movement of sun affects the - performance of the solar power plant.	-	-	-	-
PC13. - Assess the location of installations and optimize - the route plan	-	-	-	-
PC14. - Assess the site level pre-requisites for solar panel - installation	-	-	-	-
PC15. - Explain the importance of shading analysis and - show how to check for any shading obstacles	-	-	-	-
PC16. Show how to perform system sizing calculations.	-	-	-	-
PC17. - Discuss how to decide on the type of mounting to - be constructed and inform the customer for any civil - construction to be undertaken for installing the panels	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. • Prepare a site map of the location where installation has to be carried out	-	-	-	-
PC19. • Perform feasibility for innovative energy solutions • like portable, "plug and play" or "behind the meter system" for mounting solar panel where typical civil construction work is not required	-	-	-	-
PC20. Assess the load to be run on solar power plant	-	-	-	-
PC21. Prepare a load profile.	-	-	-	-
PC22. • Document the site survey variables and complete the checklist/site survey form.	-	-	-	-
PC23. Identify point of connection.	-	-	-	-
PC24. Identify point of connection.	-	-	-	-
PC25. • Identify and implement ways to monitor material use, conserve and re-use water.	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7201
NOS Name	Site survey for installation of solar PV system
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7218: Employability Skills Pactical

Description

To develop communication, teamwork, problem-solving, digital literacy, professional behaviour, workplace safety, and other essential skills required for effective employment and career development.

Scope

The scope covers the following :

- To develop communication, teamwork, problem-solving, digital literacy, professional behaviour, workplace safety, and other essential skills required for effective employment and career development.

Elements and Performance Criteria

DGT/VSQ/N0102

To be competent, the user/individual on the job must be able to:

- PC1.**
 - identify employability skills required for jobs in various industries
- PC2.**
 - identify employability skills required for jobs in various industries
- PC3.**
 - recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices
- PC5.**
 - recognize the significance of 21st Century Skills for employment
- PC6.**
 - practice the 21st Century Skills such as Self Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life
- PC7.**
 - use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.**
 - read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.**
 - write short messages, notes, letters, e-mail etc. in English
- PC10.** understand the difference between job and career
- PC11.**
 - prepare a career development plan with short- and long-term goals, based on aptitude



Qualification Pack

- PC12.**
- follow verbal and non-verbal communication
 - etiquette and active listening techniques in various
 - settings
- PC13.** work collaboratively with others in a team
- PC14.**
- communicate and behave appropriately with all
 - genders and PwD
- PC15.**
- escalate any issues related to sexual harassment at
 - workplace according to POSH Act
- PC16.**
- select financial institutions, products and services
 - as per requirement
- PC17.**
- carry out offline and online financial transactions,
 - safely and securely
- PC18.**
- identify common components of salary and
 - compute income, expenses, taxes, investments etc.
- PC19.**
- identify relevant rights and laws and use legal aids
 - to fight against legal exploitation
- PC20.**
- operate digital devices and carry out basic internet
 - operations securely and safely
- PC21.**
- use e- mail and social media platforms and virtual
 - collaboration tools to work effectively
- PC22.**
- use basic features of word processor,
 - spreadsheets, and presentations
- PC23.**
- identify different types of Entrepreneurship and
 - Enterprises and assess opportunities for potential
 - business through research
- PC24.**
- develop a business plan and a work model,
 - considering the 4Ps of Marketing Product, Price, Place
 - and Promotion
- PC25.**
- identify sources of funding, anticipate, and
 - mitigate any financial/ legal hurdles for the potential
 - business opportunity
- PC26.** identify different types of customers
- PC27.**
- identify and respond to customer requests and
 - needs in a professional manner.
- PC28.**
- follow appropriate hygiene and grooming
 - standards
- PC29.** create a professional Curriculum vitae (Résumé)
- PC30.**
- search for suitable jobs using reliable offline and
 - online sources such as Employment exchange,
 - recruitment agencies, newspapers etc. and job portals,
 - respectively
- PC31.**
- apply to identified job openings using offline/
 - online methods as per requirement
- PC32.**
- answer questions politely, with clarity and
 - confidence, during recruitment and selection
- PC33.**
- identify apprenticeship opportunities and register
 - for it as per guidelines and requirements



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>DGT/VSQ/N0102</i>	-	100	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify employability skills required for jobs in various industries	-	-	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC8. • read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. • write short messages, notes, letters, e-mailsetc. in English	-	-	-	-
PC10. understand the difference between job and career	-	-	-	-
PC11. • prepare a career development plan with short-and long-term goals, based on aptitude	-	-	-	-
PC12. • follow verbal and non-verbal communication • etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
PC14. • communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. • escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
PC16. • select financial institutions, products and services as per requirement	-	-	-	-
PC17. • carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. • identify common components of salary and compute income, expenses, taxes, investments etc.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. • identify relevant rights and laws and use legal aids • to fight against legal exploitation	-	-	-	-
PC20. • operate digital devices and carry out basic internet • operations securely and safely	-	-	-	-
PC21. • use e- mail and social media platforms and virtual • collaboration tools to work effectively	-	-	-	-
PC22. • use basic features of word processor, spreadsheets, and presentations	-	-	-	-
PC23. • identify different types of Entrepreneurship and Enterprises and assess opportunities for potential • business through research	-	-	-	-
PC24. • develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place • and Promotion	-	-	-	-
PC25. • identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential • business opportunity	-	-	-	-
PC26. identify different types of customers	-	-	-	-
PC27. • identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. • follow appropriate hygiene and grooming standards	-	-	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC30. • search for suitable jobs using reliable offline and • online sources such as Employment exchange, • recruitment agencies, newspapers etc. and job portals, • respectively	-	-	-	-
PC31. • apply to identified job openings using offline/ • online methods as per requirement	-	-	-	-
PC32. • answer questions politely, with clarity and • confidence, during recruitment and selection	-	-	-	-
PC33. • identify apprenticeship opportunities and register • for it as per guidelines and requirements	-	-	-	-
NOS Total	-	100	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7218
NOS Name	Employability Skills Pactical
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024



Qualification Pack

MSME/SGJ/N7217: Employability Skills Theory

Description

To develop communication, teamwork, problem-solving, digital literacy, professional behaviour, workplace safety, and other essential skills required for effective employment and career development.

Scope

The scope covers the following :

- To develop communication, teamwork, problem-solving, digital literacy, professional behaviour, workplace safety, and other essential skills required for effective employment and career development.

Elements and Performance Criteria

DGT/VSQ/N0102

To be competent, the user/individual on the job must be able to:

- PC1.**
 - identify employability skills required for jobs in various industries
- PC2.**
 - identify employability skills required for jobs in various industries
- PC3.**
 - recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices
- PC5.**
 - recognize the significance of 21st Century Skills for employment
- PC6.**
 - practice the 21st Century Skills such as Self Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life
- PC7.**
 - use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.**
 - read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.**
 - write short messages, notes, letters, e-mail etc. in English
- PC10.** understand the difference between job and career
- PC11.**
 - prepare a career development plan with short- and long-term goals, based on aptitude



Qualification Pack

- PC12.**
- follow verbal and non-verbal communication
 - etiquette and active listening techniques in various
 - settings
- PC13.** work collaboratively with others in a team
- PC14.**
- communicate and behave appropriately with all
 - genders and PwD
- PC15.**
- escalate any issues related to sexual harassment at
 - workplace according to POSH Act
- PC16.**
- select financial institutions, products and services
 - as per requirement
- PC17.**
- carry out offline and online financial transactions,
 - safely and securely
- PC18.**
- identify common components of salary and
 - compute income, expenses, taxes, investments etc.
- PC19.**
- identify relevant rights and laws and use legal aids
 - to fight against legal exploitation
- PC20.**
- operate digital devices and carry out basic internet
 - operations securely and safely
- PC21.**
- use e- mail and social media platforms and virtual
 - collaboration tools to work effectively
- PC22.**
- use basic features of word processor,
 - spreadsheets, and presentations
- PC23.**
- identify different types of Entrepreneurship and
 - Enterprises and assess opportunities for potential
 - business through research
- PC24.**
- develop a business plan and a work model,
 - considering the 4Ps of Marketing Product, Price, Place
 - and Promotion
- PC25.**
- identify sources of funding, anticipate, and
 - mitigate any financial/ legal hurdles for the potential
 - business opportunity
- PC26.** identify different types of customers
- PC27.**
- identify and respond to customer requests and
 - needs in a professional manner.
- PC28.**
- follow appropriate hygiene and grooming
 - standards
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- PC30.**
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 - recruitment agencies, newspapers etc. and job portals,
 - respectively
- PC31.**
- apply to identified job openings using offline/
 - online methods as per requirement
- PC32.**
- answer questions politely, with clarity and
 - confidence, during recruitment and selection
- PC33.**
- identify apprenticeship opportunities and register
 - for it as per guidelines and requirements



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>DGT/VSQ/N0102</i>	100	-	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify employability skills required for jobs in various industries	-	-	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC8. • read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. • write short messages, notes, letters, e-mailsetc. in • English	-	-	-	-
PC10. understand the difference between job and career	-	-	-	-
PC11. • prepare a career development plan with short-and • long-term goals, based on aptitude	-	-	-	-
PC12. • follow verbal and non-verbal communication • etiquette and active listening techniques in various • settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
PC14. • communicate and behave appropriately with all • genders and PwD	-	-	-	-
PC15. • escalate any issues related to sexual harassment at • workplace according to POSH Act	-	-	-	-
PC16. • select financial institutions, products and services • as per requirement	-	-	-	-
PC17. • carry out offline and online financial transactions, • safely and securely	-	-	-	-
PC18. • identify common components of salary and • compute income, expenses, taxes, investments etc.	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. • identify relevant rights and laws and use legal aids • to fight against legal exploitation	-	-	-	-
PC20. • operate digital devices and carry out basic internet • operations securely and safely	-	-	-	-
PC21. • use e- mail and social media platforms and virtual • collaboration tools to work effectively	-	-	-	-
PC22. • use basic features of word processor, spreadsheets, and presentations	-	-	-	-
PC23. • identify different types of Entrepreneurship and Enterprises and assess opportunities for potential • business through research	-	-	-	-
PC24. • develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place • and Promotion	-	-	-	-
PC25. • identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential • business opportunity	-	-	-	-
PC26. identify different types of customers	-	-	-	-
PC27. • identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. • follow appropriate hygiene and grooming standards	-	-	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC30. • search for suitable jobs using reliable offline and • online sources such as Employment exchange, • recruitment agencies, newspapers etc. and job portals, • respectively	-	-	-	-
PC31. • apply to identified job openings using offline/ • online methods as per requirement	-	-	-	-
PC32. • answer questions politely, with clarity and • confidence, during recruitment and selection	-	-	-	-
PC33. • identify apprenticeship opportunities and register • for it as per guidelines and requirements	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/SGJ/N7217
NOS Name	Employability Skills Theory
Sector	Green Jobs
Sub-Sector	
Occupation	Environmental Analyst
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	27/05/2027
NSQC Clearance Date	30/05/2024

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

As per qp

Minimum Aggregate Passing % at QP Level : 40

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Minimum Passing % at NOS Level: 40

(Please note: A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

Assessment Weightage

Compulsory NOS



Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MSME/SGJ/N7216.Customer orientation for Solar PV System Practical	-	100	-	-	100	5
MSME/SGJ/N7215.Customer orientation for Solar PV System	100	-	-	-	100	5
MSME/SGJ/N7214.Maintain Personal Health & Safety at project site Practical	-	100	-	-	100	5
MSME/SGJ/N7213.Maintain Personal Health and Safety at project site	100	-	-	-	100	5
MSME/SGJ/N7212.Maintain Solar Photovoltaic Power System Practical	-	100	-	-	100	5
MSME/SGJ/N7211.Maintain Solar Photovoltaic Power System	100	-	-	-	100	5
MSME/SGJ/N7210.Test and commission Solar PV system Practical	-	100	-	-	100	5
MSME/SGJ/N7209.Test and commission Solar PV system	100	-	-	-	100	6
MSME/SGJ/N7208.Installation of electrical components of a solar PV system Practical	-	100	-	-	100	6
MSME/SGJ/N7207.Installation of electrical components of a solar PV system	100	-	-	-	100	6
MSME/SGJ/N7206.Install civil and mechanical parts of Solar PV system Practical	-	100	-	-	100	6
MSME/SGJ/N7205.Install civil and mechanical parts of Solar PV system	100	-	-	-	100	6
MSME/SGJ/N7204.Procure Solar PV system components Practical	-	100	-	-	100	6



Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MSME/SGJ/N7203.Site survey for installation of solar PV system Practical	-	100	-	-	100	5
MSME/SGJ/N7202.Procure Solar PV system components	100	-	-	-	100	6
MSME/SGJ/N7201.Site survey for installation of solar PV system	100	-	-	-	100	6
MSME/SGJ/N7218.Employability Skills Pactical	-	100	-	-	100	6
MSME/SGJ/N7217.Employability Skills Theory	100	-	-	-	100	6
Total	900	900	-	-	1800	100



Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training



Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.



Qualification Pack

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.