

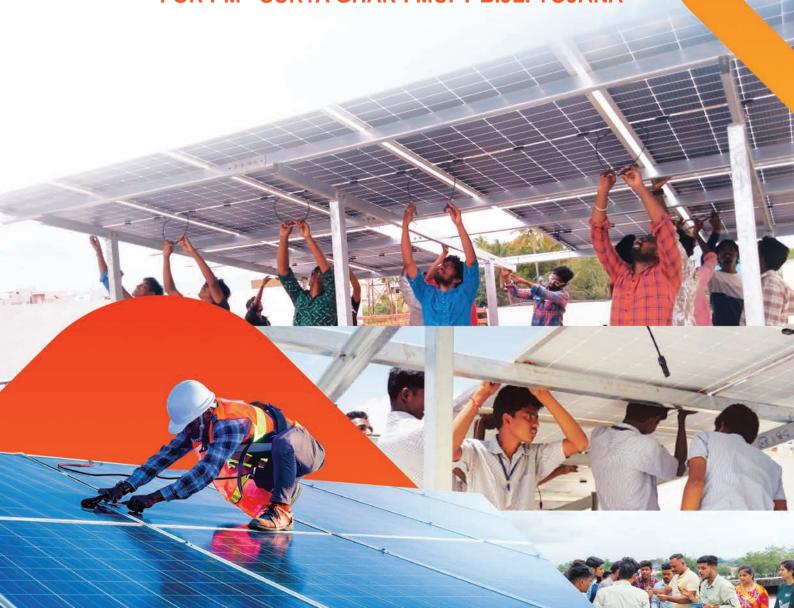
GOVERNMENT OF INDIA MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP













GOVERNMENT OF INDIA MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP







Guidelines

Imparting Training for Solar Technician and Training of Trainers

Ву

Directorate General of Training (DGT) under the Skill Development Component of PM - Surya Ghar : Muft Bijli Yojana

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Abbreviations and Acronyms

PMSGMBY	PM – Surya Ghar: Muft Bijli Yojana
FY	Financial Year
RTS	Rooftop Solar
MNRE	Ministry of New and Renewable Energy
O&M	Operation and Maintenance
REDA	Renewable Energy Development Authority
MSDE	Ministry of Skill Development and Entrepreneurship
DGT	Directorate of General Training
ТоТ	Trainers of Training
TLO	On the Job Training
CSTARI	Central Staff Training and Research Institute
NCVET	National Council for Vocational Education and Training
TP	Training Partner
RDSDE	Regional Directorate of Skill Development and Entrepreneurship
REC	Rural Electrification Corporation
NIMI	National Instructional Media Institute
тс	Training Centre
ITI	Industrial Training Institute
NSTI	National Skill Training Institute
SIDH	Skill India Digital Hub
NSDC	National Skill Development Corporation
NISE	National Institute of Solar Energy
CTS	Craftsmen Training Scheme
CITS	Crafts Instructor Training Scheme
IToT	Institutes of Training of Trainers
СВТ	Computer Based Test
PFMS	Public Financial Management System

1. Introduction

The Government of India launched the PM Surya Ghar Muft Bijli Yojana (PMSGMBY) on 29th February 2024, with the aim to increase the share of solar rooftop capacity and empower residential households to generate their own electricity. The scheme has an outlay of ₹75,021 crore, with a target of installing 1 crore residential solar rooftops by FY 2026–27, and is being implemented by the Ministry of New and Renewable Energy (MNRE).

It has been estimated that to undertake these targeted installations, a total 3 lakh manpower will be required. Accordingly, Ministry of New and Renewable Energy (MNRE) intends to impart training on the installation, operation, maintenance and repair of solar rooftop systems at the grassroots level. Specific training and skills are crucial to building a capable, local skilled workforce for the installation of rooftop solar systems throughout the country. MNRE has planned that training for design, installation, O&M (operation and maintenance) of rooftop solar systems will be provided to Engineers, Supervisors, Technicians, Vendors and end users.

Capacity building of other relevant stakeholders is also crucial, including DISCOM officials, Banking and financial institutional officials, officials and teams from other Ministries and Departments of the Central and State Governments (for effective convergence of efforts) including State Renewable Energy Development Agencies (REDA), etc. This capacity building components has been implemented through various Ministries/Department/agencies including Ministry of Skill Development & Entrepreneurship (MSDE).



The Ministry of Skill Development and Entrepreneurship (MSDE) has been made as a nodal ministry for the implementation of the following four capacity-building components. Furthermore, MSDE has designated the reposibilities of implementing these components to the following department/agency:

SI. No	Skill Development Component	Department/Agency
1.	Solar Technicians and Trainers	Directorate General of Training (DGT)
2.	Entrepreneurs as Vendors	National Institute for Entrepreneurship and Small Business Development (NIESBUD) and Indian Institute of Entrepreneurship (IIE)
3.	Assistant Helpers	Skill Council for Green Jobs (SCGJ)

Under this scheme, 1,00,000 solar technicians and 2,000 trainers will be trained by DGT. These skill development components will be imparted through a selected network of ITIs/NSTIs, which will be known as Training Centres (TCs).

2. Scope

The guidelines outlined herein are specifically designed to facilitate the effective implementation of the Capacity Building covering two components under the PM Surya Ghar: Muft Bijli Yojana. Firstly, the Training of Trainers (ToT) programme, which aims to equip selected individuals with the knowledge and pedagogical skills necessary to train others in solar technology; and secondly, the technical training of aspiring solar technicians. This technical training will be conducted through accredited institutions such as Industrial Training Institutes (ITIs) and National Skill Training Institutes (NSTIs). Upon completion of the formal training phase, participants will also undergo On-the-Job Training (OJT), which will be arranged in collaboration with empanelled vendors of REC & MNRE to provide them with hands-on, practical experience in real-world solar energy installations and maintenance.

3. Aims and Objectives

The primary objective of this project is to develop a robust and skilled workforce to support the growing demand for residential rooftop solar installations across India. This initiative aims to create a pool of 1,00,000 well-trained rooftop solar technicians and 2,000 qualified trainers, strategically distributed throughout the country. These trained technicians will play a crucial role in ensuring the efficient installation, commissioning, and long-term maintenance of residential rooftop solar systems. By building this cadre of skilled professionals, the project not only supports the goals of the PM Surya Ghar: Muft Bijli Yojana but also contributes to the broader vision of promoting clean energy adoption and creating green job opportunities nationwide.

4. Training Methodology, Target Group and Training Centres

4.1 Solar Technician Training

4.1.1 Training Methodology for Solar technician:

Under this program, a total of **one lakh (100,000) solar technicians will be trained** nationwide to meet the rapidly increasing demand for skilled professionals capable of installing and maintaining residential rooftop solar systems.



The training program has been carefully structured to ensure both theoretical knowledge and practical expertise.



It begins with five days of class room-based institutional training(45hour's),during which participants will receive foundational instruction on solar photovoltaic (PV) systems, safety protocols, installation procedures, and maintenance practices. The eligibility criteria for the Solar Technician program is final-year or pass-out trainees of Electrician, Electronic Mechanic, and Electrician-Power Distribution trades from ITIs/NSTIs.



At the end of the five-day institutional training, participants will be required to undergo a 30-minute computer-based assessment, which will be conducted by the National Instructional Media Institute (NIMI). This assessment will evaluate the trainees' understanding of the theoretical and practical aspects covered during the training.



Following the institutional training, participants will undertake a two-day On-the-Job Training (15hour's) (OJT) component, which will be facilitated by empanelled vendors associated with REC (Rural Electrification Corporation). This hands-on segment is designed to give trainees real-world experience under the guidance of industry professionals.



Upon successful completion of all three components—namely the institutional training, the NIMI assessment, and the OJT—the trainees will be awarded a certification. This certificate will be issued digitally through the SIDH portal, formally recognizing the individual as a certified rooftop solar technician.

4.1.2 Target Group and Eligibility Criteria for Solar Technician



Eligibility Criteria for Solar Technician

- Final-year or pass-out trainees from ITI or NSTI
- **✓** Age Group 15–40

Seeking upskilling in the following trades under CTS and CITS are eligible to attend the program:



Electrician



Electronics Mechanic



Electrician-Power Distribution

4.2 Training of Trainers (ToT) Program

4.2.1 Training Methodology for Training of Trainers (ToT) Program:

Under this program, a total of 2,000 Solar Trainer will be trained nationwide to trainer the 1,00,000 solar technicians across the country.



The training program has been carefully structured to ensure both theoretical knowledge and practical expertise.



It includes two days (15 hours) of classroom-based institutional training for brush-up the concept of solar photovoltaic (PV) systems, safety protocols, installation procedures, and maintenance practices etc. The eligibility criteria for the ToT program is ITI/NSTI trainers from Electrician background.



At the end of the two-day institutional training, trainees will be required to undergo a 30-minute computer-based assessment, which will be conducted by the National Instructional Media Institute (NIMI).



Upon successful completion of training program and NIMI assessment — the trainees will be awarded a certification. This certificate will be issued digitally through the SIDH portal.



4.2.2 Target Group and Eligibility Criteria



Eligibility Criteria



ITI/NSTI trainers from an Electrician background.

4.3 Training Centres

Government ITIs and National Skill Training Institutes (NSTIs) with the required infrastructure, tools, and equipment as specified in the curriculum will serve as training centres under this scheme.

5. Stakeholders and their responsibilities

The implementation of this scheme involves multiple stakeholders, each playing a crucial role in its execution. The stakeholders and their respective responsibilities are outlined below:

5.1 Directorate General of Training (DGT)

Provide strategic guidance for curriculum development through CSTARI, Kolkata, and ensure

its timely approval by NCVET to maintain quality and standardization across training programs

- Develop comprehensive training content in Hindi, English, and various regional languages through NIMI, Chennai, to ensure accessibility and inclusivity across diverse linguistic groups
- Coordinate closely with RDSDEs, State and UT governments, Training Providers (TPs), Rural Electrification Corporation Limited (REC Limited), and the Ministry of New and Renewable Energy (MNRE) to ensure the smooth and effective implementation of the scheme.

5.2 National Instructional Media Institute (NIMI)

- Serve as the training partner for implementing the scheme through designated Training Centres (TCs) such as ITIs, NSTIs.
- Coordinate with RDSDEs and State Directorates to ensure the nomination of Training Centres (TCs) for scheme implementation.
- Provide instructional and training materials to Training Centres, along with banners and other necessary resources for implementation.
- Monitor and ensure compliance with MNRE guidelines in the execution of training programs.
- Conduct assessments through the portal after the completion of institutional training for both technicians and trainers.
- Ensure the uploading of OJT certificates on the portal by Training Centres after the completion of the 2-day OJT through vendors.
- Declare results and generate certificates on the SIDH portal upon completion of the training lifecycle for both technicians and trainers.
- Submit invoices for payment to REC upon course completion.
- Disburse training charges/costs to Training Centres in accordance with the rates approved by MNRE.
- Maintain all scheme-related documents for audit purposes as per the standard guidelines of the Government of India.
- Act as a liaison agency with RDSDEs, State Directorates, ITIs, NSTIs, and other relevant stakeholders.
- Manage and resolve grievances of Training Centres and trainees.
- Undertake any other responsibilities assigned to NIMI for the smooth execution of the training program.

5.3 Training Centers (ITIs, NSTIs, etc.)

- 1. Provide necessary infrastructure and qualified trainers for conducting the training.
- 2. Mobilize trainees, register them on the portal, conduct training sessions, and assess their performance.
- 3. Depute instructors to NSTIs/ITIs for attending the 2-day Training of Trainers (ToT) program.
- 4. Offer infrastructure support for conducting the ToT program, as required.
- 5. Collaborate with vendors to facilitate On-the-Job Training (OJT) and ensure timely uploading of OJT certificates on the portal

5.4 Programme Co-ordinator:



Plan and organize training programs.



Coordinate schedules venues, and resources for seamless execution.



Communicate with trainers and participants to ensure smooth coordination.



Ensure all materials and equipment are prepared and available at training centres before the program begins.



Monitor attendance and participation throughout the training.



Address any issues or concerns

during training and escalate them to the training partner (NIMI) if necessary.

5.5 Invigilator

Set up and arrange the examination hall and necessary computer systems.

Monitor for malpractice and enforce exam rules.

Manage exam timing and make necessary announcements.

Assist candidates with instructions to ensure the smooth conduct of the examination.

Maintain discipline and order throughout the examination process.

Document attendance and report any irregularities.

5.6 National Skill Development Corporation (NSDC)

Provide technical support for certification on the SIDH portal.

5.7 Ministry of New & Renewable Energy (MNRE)

- 1. Ensure financial support for the PMSGMBY program.
- 2. Facilitate the training of Master Trainers at NISE, Gurugram.
- 3. Coordinate and resolve issues between DGT, NIMI, and REC while facilitating vendor participation for On-the-Job Training (OJT).
- 4. Communicate any updates or changes in the guidelines to all stakeholders in a timely manner.

5.8 Rural Electrification Corporation (REC)

- 1. Act as the implementing agency on behalf of MNRE.
- 2. Ensure empanelled vendor participation for On-the-Job Training (OJT).
- 3. Reimburse training bill claims for ToT and technician training as per the training costs approved by MNRE.
- 4. Ensure the quality and effectiveness of OJT.

6. Implementation Framework

- The Directorate General of Training (DGT), in consultation with MNRE, NIMI and other stakeholders, will develop a training program consisting of modules tailored to meet the specific requirements outlined by MNRE for Rooftop Solar Technicians.
- The training for Solar Technicians will consist two (02) components:



Institutional Training

A five-day (45-hour) classroom-based training conducted at designated Training Centres (TCs), focusing on theoretical knowledge, safety procedures, system design, installation practices, and basic trouble shooting.



On -the-Job Training (OJT)

A two-day (15-hour) hands-on training experience carried out with nearby empanelled vendors of REC/MNRE, providing participants with practical exposure to real-life rooftop solar system installations and maintenance.

- Upon successful completion of both the institutional training and the On-the-Job Training (OJT), participants will be **eligible for certification**. The certificate will be generated and issued through the SIDH by NIMI.
- To implement this scheme, a portal has been developed by NIMI (https://suryaghar.nimiprojects.in).
- Process Flow of Solar Technician Training:



a. Registration and Enrolment

Interested candidates can visit the portal to access an updated list of training centres, along with the contact details of the designated Single Point of Contact (SPoC). They can directly reach out to the nearest SPoC to enrol in the Solar Technician Training Program. Training centres will identify and enrol eligible trainees on the https://suryaghar.nimiprojects.in portal.



b. Institutional Training

Trainees will undergo a five-day institutional training program based on the curriculum developed by DGT. This training will be conducted by trainers from the Electrician trade who have completed the ToT program under this scheme or by Master trainers. During training program training centres must upload the video and photos of training program at a portal (https://suryaghar.nimiprojects.in).



c. Assessment

A 30-minute Computer-Based Test (CBT) will be conducted, consisting of 15 multiple-choice questions, each worth 2 marks. To successfully pass the CBT test, trainees must secure a minimum mark of 33%.



d. On the Job Training

A two-day (15-hour) OJT will be conducted through empanelled vendors of REC/MNRE.



e. Certification of OJT

After completing the two-day OJT, vendors will issue the certificate to trainees, which must be uploaded by training centre to the portal:

https://suryaghar.nimiprojects.in.



f. Final Certification

After completing the seven-day (60-hour) program, the certificate will be generated through the SIDH portal by NIMI. Training centres will download it from

https://suryaghar.nimiprojects.in and distribute it to the trainees.



g. Placement

A list of trained technicians will be shared with REC and MNRE, who will upload it to their portal, enabling vendors to offer employment if required.



Process Flow of Training of Trainers (ToT) Program:



a. Registration and Enrolment

State and NSTI will identify and nominate eligible trainers to participate in a two-day Training of Trainers (ToT) program. Based on these nominations, the respective Training Centres (TCs) will further verify and register them on the SIDH portal for participation in the ToT program.



b. Two-Day Institutional Training

The training will be conducted by Master Trainers from NSTIs, who have been trained at the National Institute of Solar Energy (NISE), Gurugram, under MNRE. The participants will include instructors from ITIs, NSTIs, and IToTs in the Electrician trade. Upon successful completion, these trainers will be qualified to conduct training for solar technicians.



c. Assessment & Certification

A 30-minute CBT exam will be conducted through the NIMI-developed portal. The exam will consist of 15 multiple-choice questions, each carrying 2 marks. The minimum passing percentage is 33%. Certificate will be issued to successful candidates which can be downloaded directly from SIDH portal.

7. Financial Management

i. Funding for the skill development component will be provided by MNRE.

ii. The Funds for the program will be transferred from REC (the implementing unit designated by MNRE) to NIMI (the training provider designated by DGT) as per the approved guidelines of MNRE and REC, based on claims submitted by NIMI.

NIMI will be responsible for transferring funds to the respective State Directorates for training conducted in ITIs as a TC and for NSTIs as a TC, the fund will be disburse to the consolidate fund of India. Additionally, NIMI will maintain all financial records as per Government of India guidelines after the program's completion.

7.1 Training of Solar Technician

SI. No.	Particulars	Rate (Rs.)	Total Cost (Rs.)
1.	Training Cost for 45 hours	49/- per hour per trainee	2,205
2.	Assessment & Certification	600/- per trainee	600
3.	Lunch and Refreshment	150/- per trainee per day (5 days)	750
4.	Food and Transportation	375/- per trainee per day for OJT only (2 days)	750
5.	Accidental Insurance	14.16/- per trainee	14.16
6.	AEBAS – Transaction fees	10/- per trainee	10

7.2 Training of Rooftop Solar Technician Programme – Trainer

SI. No.	Particulars	Rate (Rs.)	Total Cost (Rs.)
1.	Training Cost for 2 Days	1080/- per Day per trainee	2,160
2.	Assessment & Certification	600/- per trainee	600
3.	Lunch and Refreshment	150/- per trainee per day (2 days)	300
4.	Boarding and Lodging	1000/- per trainee	1,000
5.	AEBAS – Transaction fees	10/- per trainee	10

7.3 Programme Coordinator

An amount of **Rs. 750/-** will be paid to programme coordinator per training Program.

7.4 Invigilator

An amount of Rs. 750/- will be paid to invigilator for conducting examination per training program.

7.5 Release of Funds

Based on the allocated training targets, training centres will form batches—ranging from 15 to 25 trainees for the Solar Technician Training Program and 5 to 25 trainees for the Training of Trainers (ToT) Program.

For NE States the batch size for Solar Technician Training will be ranging for 5 to 25 trainees.

Upon batch completion, training centres will submit an invoice (as per the format provided by NIMI) to NIMI for reimbursement of training costs.

The reimbursement procedure for the Solar Technician Training Program, Training of Trainers (ToT) Program, and payments for Invigilators and Coordinators is outlined below:

7.5.1 Solar Technician Training Program

- i. The designated SPOC of each Training Centre will receive a Login ID from NIMI to verify training details for completed batches.
- ii. Upon logging in, the SPOC must select the specific batch ID and verify the auto-populated batch details. The following details will be auto-populated and must be reviewed by the concerned SPOC:



Number of Candidates



Number of Candidates Present for CBT



Training Start and End Dates



OJT Completed



CBT Exam Date



No. of certified trainees (CBT Passed + OJT completed) for the raising bill:



Trainer's SIDH ID



Declaration (to be ticked only)



Trainer's Name

- iii. Based on the number of certified trainees, the total amount to be disbursed will be calculated and NIMI will initiate internal approval.
- iv. NIMI will collect the account details from all concerned State Directorates and transfer the funds through PFMS.
- v. The payment components that will be disbursed to the State Directorate are
 - a. Training cost (for STT)
 - b. Lunch & refreshment (During training)
 - c. Food and transportation (During OJT period)

A sample claim payment format is at Annexure – 1.

7.5.2 Training of Trainers (ToT) Program

- i. The designated SPOC of each Training Centre will receive a Login ID from NIMI to verify training details for completed batches.
- ii. After the login, the SPOC must select the Batch Date and verify the auto populated details for the batch pertaining to the batch date selected. The below mentioned details will be auto populated and same needs to be verified by the concern SPOC



TC ID

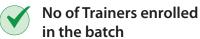


Training Start and end Date





No. of certified trainees (CBT Passed)





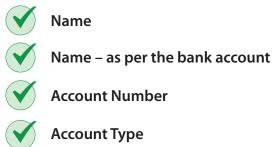
Declaration (to be ticked only)

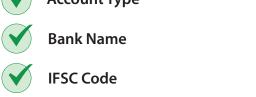
- iii. Based on the number of certified trainers, the total amount to be disbursed will be calculated and NIMI will initiate internal approval.
- iv. NIMI will collect the account details from all concerned State Directorates and transfer the funds through PFMS.
- v. The payment components that will be disbursed to the State Directorate are:
 - a. Training cost (for ToT)
 - b. Lunch & refreshment (During training)
 - c. Boarding and lodging will be disbursed to trainers as per the government's prescribed procedure and norms for TA/DA payments.

A sample claim format is at Annexure - II

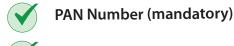
7.5.3 Invigilator payments

- i. The designated SPOC of the Training Centre will receive a Login ID and the SPOC will login to the portal and select the CBT Invigilator and Co-ordinator tab under the Payments Claim tab.
- ii. Once this is completed, the invigilator payment details tab will open and the concerned batch number needs to be selected. Accordingly, the following details of the invigilator must be shared.









Copy of PAN (attachment)

Copy of Bank Passbook/

Copy of Bank Passbook/
Cancelled Cheque (attachment)

Copy of nomination of invigilator by concerned Principal.

The screenshot of the landing page is shared in the Annexure – III

i. Payment will be disbursed directly to the invigilator.

7.5.4 Programme Co-ordinator Payment

- i. The designated SPOC of the Training Centre will receive a Login ID and the SPOC will login to the portal and select the CBT Invigilator and Co-ordinator tab under the Payments Claim tab.
- ii. Once this is completed, the co-ordinator payment details tab will open and the concerned batch number needs to be selected. Accordingly, the following details of the co-ordinator must be shared.



Name – as per the bank account



Account Type

Sank Name

IFSC Code

MICR Code

PAN Number (mandatory)

Copy of PAN (attachment)

Copy of Bank Passbook/
Cancelled Cheque (attachment)

Copy of nomination of invigilator by concerned Principal.

iii. Payment will be dusbursed directly to the co - ordinator according by NIMI, Chennai.

The screenshot of the landing page is shared in the Annexure – IV

8. Monitoring and Evaluation

A robust monitoring and evaluation framework will be established to ensure strict monitoring, evaluation, and learning from the scheme. The key components of this framework include:

1. Physical Visits

Physical inspections of the training centres will be conducted by the RDSDE, DGT, and NIMI teams. This will facilitate smooth functioning of the programme, and corrective actions may be suggested or taken as needed.



2. Virtual Verification

Virtual verification will be conducted for training centres if a physical visit is not possible.



3. Call Validation

Regular calls will be made to trainees to check training quality.



4. Assessment Monitoring

Assessments will be done under one trainer/supervisor, and if any violations are found, DGT will take strict action against the training centres.



5. Feedback Mechanism

Trainees will fill out feedback forms, which training centres will upload batch-wise on the https://suryaghar.nimiprojects.in portal.

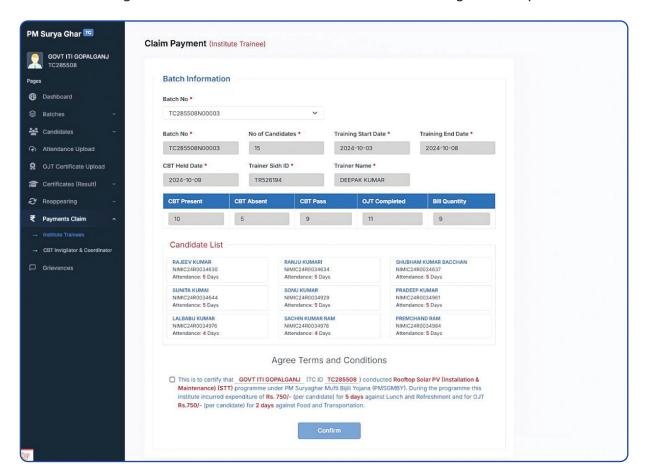


6. Grievance Handling

NIMI will resolve issues faced by TCs, trainers, and trainees directly through phone calls or via email communication.

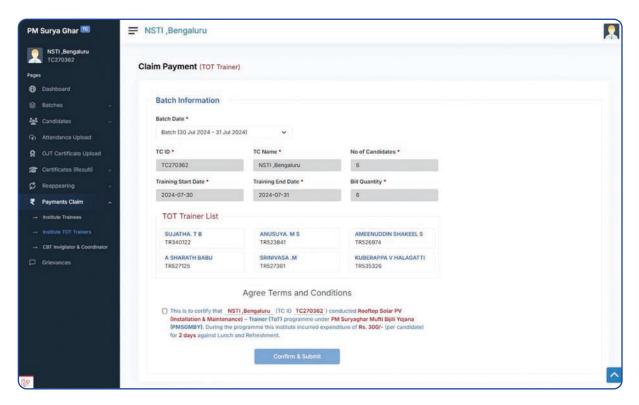
Annexure – 1

For Institutes registered under NIMI Portal for Solar Technician Program (Sample)



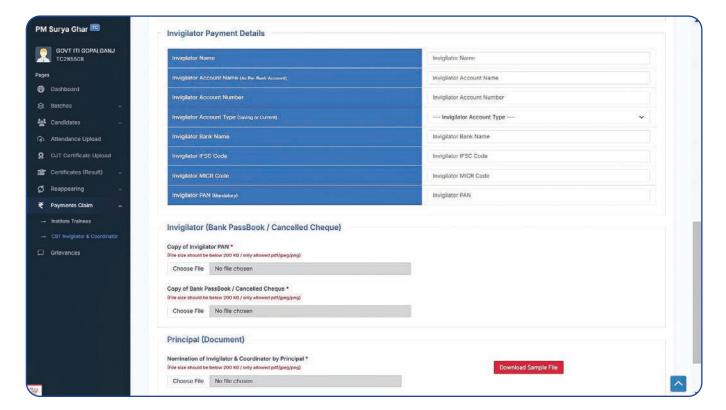
Annexure – 2

Form for Payment to ITI / NSTI / State Directorate for Training of Trainers (ToT) Program (Sample)



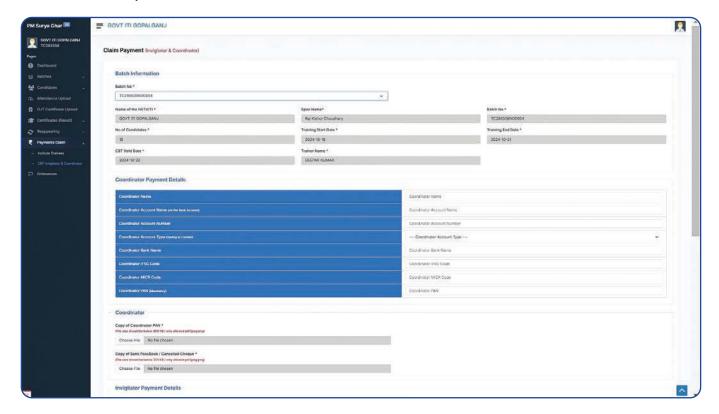
Annexure – 3

Invigilator Payment



Annexure - 4

Co-ordinator's Payment





Template for creating of TC



Video for Batch Creation



Video for Re-Exam



Books Demand Form



CBT Exam Guidelines



CBT Exam Whatsapp Group



Job Opportunities



Payment Guidelines



PM Surya Ghar



Learning Video



Institute Login for CBT Exam

Guidelines

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Directorate General of Training (DGT) under the Skill Development Component of

PM - Surya Ghar : Muft Bijli Yojana