

Skill Development Training Program

Suryamitra Skill Development Program

HETC involved in imparting Skill Development Training in the field of Renewable (Solar) Energy and organizing the “Suryamitra” Skill Development Programme (SSDP) in collaboration with **National Institute of Solar Energy (NISE)**, an autonomous institution of Ministry of New and Renewable Energy (MNRE), and the State Nodal Agency, **West Bengal Renewable Energy Development Agency (WBREDA)**. To achieve the target of "Skilling India" under the project of National Solar Mission to create 50,000 industry ready skilled manpower for various services and manufacturing sectors which are required for installation, commissioning, operation and maintenance in the field of Solar Technology.

SSDP's objective is to equip the students in 90 days / 3 Month with the skills in installation, commissioning, sales and service of renewable energy devices. Trained "Surya Mitras" shall have vast opportunities for employment in the growing Solar Energy Power Sector - Design, Installation, Commissioning, Operation & Maintenance. SSDP is also designed to prepare the candidates to take up Entrepreneurship in Solar Energy sector.

Course Outline at a glance:

1.0 Basic Electrical:

- Overview on Electricity
- Electrical Safety & Industrial Safety
- Different types of Electrical tools
- Wires & Cables
- Common Electrical Accessories
- Concept of Magnetism & Alternating Current
- Generation, Transmission and Distribution Of Electricity

2.0 Introduction to Renewable and Solar Energy:

- Renewable Energy and its prospects various RE sources
- Introduction of Photovoltaic Technology and its applications
- Components of a PV System: Battery, inverter and Charge controllers
- Fundamentals of PV system sizing
- Trouble Shooting of different PV system
- Importance of Tools and its applications used in the field of Solar Technology.

2.1 Installation of Solar Power plant

- Preparation and general considerations for installation (DC and AC components).
Installation of Array support structure and mounting of PV modules.
Installation of other System components, i.e. Inverter, battery etc
- Cable Tray and Cable Laying: SCADA and Control System
- Commissioning and Testing of Solar Power Plant
- Operation and Maintenance

3.0 Industrial Training

- Basics of Electrical & Electronics on Solar Technology and Measuring Equipment(s) / Instrument(s)
- Physic of Solar Photovoltaic Technology & Preparation of IV characteristics & Plotting
- Design, Installation & Maintenance of Solar Photovoltaic Systems
 - ❖ Solar Lantern
 - ❖ Solar Home System
 - ❖ Solar Street Lighting System
 - ❖ Solar Pump
 - ❖ Solar Road Traffic Signalling
 - ❖ Solar Power Plant: Off-Grid, On-Grid, Hybrid
- Design, Installation & Maintenance of Wind-Solar Hybrid System
Wind-Solar Hybrid System: Off-Grid, On-Grid
- Design, Installation & Maintenance of Solar Thermal Systems
 - ❖ Solar Water Heater – FPC & ETC
 - ❖ Solar Drier
 - ❖ Solar Distillation Plant
 - ❖ Solar Cooker
- Site Visit & Learning on System Installation & Maintenance Procedure of Solar Photovoltaic, Solar Thermal & Wind-Solar Hybrid System
- Application of Software – Remote Monitoring & Simulation & Use of app based RE Applications

Soft and Entrepreneur Skills

- Development Competency / Proficiency in English/Vernacular
- Effective Communication, Self & Time Management, Motivation Techniques, Interpersonal Skill Development, Computer Literacy, Life Skills
- Entrepreneurship

Program Status