



Certificate Course in Solar Power Technician

- Certificate Course in Solar Power Technician
- Duration 6 Months (400–450 Hours)
- Eligibility 10th / 12th Pass (Basic knowledge of electricity preferred)
- Course Type Vocational / Technical Skill Development



Course Objectives

Students will:

- Understand solar energy fundamentals
- Install and maintain solar power systems
- Work with solar panels, inverters, batteries
- Perform troubleshooting and safety checks
- Start small solar installation business



Course Structure

Module 1: Introduction to Solar Energy (Month 1)

- Basics of electricity Renewable energy overview
- Solar radiation & photovoltaic
- effect Types of solar systems (On-grid, Off-grid, Hybrid)
- Components of solar power system

Practical:

- Identifying system components

Reading solar system diagrams

Module 2: Electrical Basics & Safety (Month 2)

Topics:

- Voltage, current, power
- calculation
- DC & AC systems Wiring
- techniques Earthing &
- grounding Electrical
- safety standards

Practical:

- Multimeter usage
- Cable connection practice
- Safety drills

Module 3: Solar Panels, Inverters & Batteries (Month 3)

Topics:

Solar panel types (Mono, Poly, Thin-film)

- Panel mounting structures
- Inverter working & selection
- Battery types (Lead-acid, Lithium)
- Charge controllers

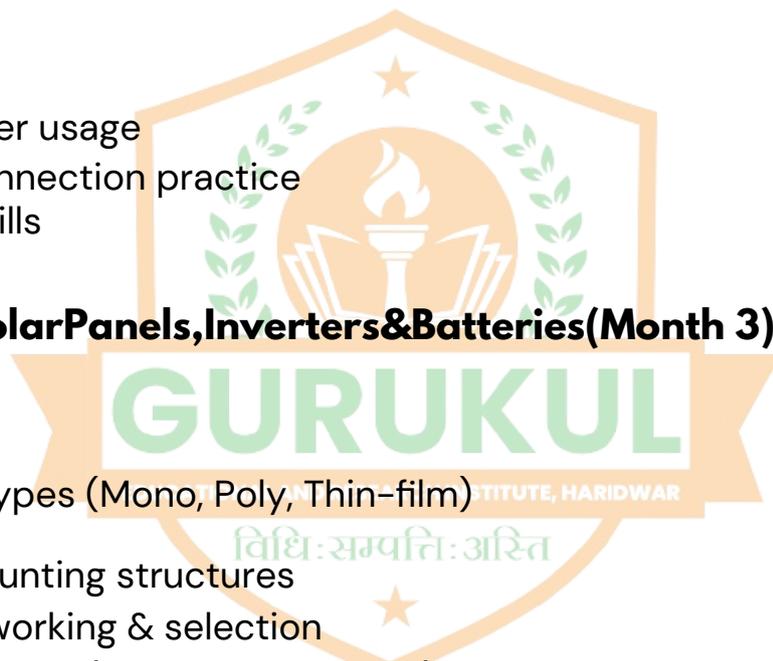
Practical:

- Panel mounting demo
- Inverter wiring
- Battery connection

Module 4: Installation & Commissioning (Month 4)

Topics:

- Site survey & load calculation
- System sizing Shadow analysis
- Installation steps
- Commissioning checklist



Practical:

- Real rooftop installation
- practice Load calculation exercises



Module 5: Maintenance & Troubleshooting (Month 5)

Topics:

- System inspection
- Common faults & repair
- Panel cleaning methods
- Performance
- monitoring Preventive
- maintenance

Practical:

- Fault diagnosis simulation
- Maintenance checklist
- preparation

Module 6 : Entrepreneur ship & Industry Exposure (Month 6)

Topics:

- Government solar schemes (India)
- Net metering process Cost
- estimation & quotation
- Business setup basics
- Customer handling

Practical:

- Preparing project quotation
- Internship / Site Visit





Infrastructure Required

- Training lab
- Demo solar panels
- Inverter & battery setup
- Multimeter & safety equipment
- Roof top demo installation area



Career Opportunities

After completion, students can work as:

- Solar installation technician
- Solar Maintenance Engineer
- Rooftop Solar Contractor
- Site Supervisor
- Self -employed Solar installer

