National Institute of Electronics & Information Technology Gorakhpur
(Under Ministry of Electronics and Information Technology, Govt. of India)
MMMUT Campus, Deoria Road, Gorakhpur-273010
https://www.nielit.gov.in/gorakhpur/

Solar Power Installation, Operation and Maintenance

Solar Power Installation, Operation and Maintenance

2 Weeks Online Course

2 Weeks (2 Hrs. per day)

Objective

To make the participants familiar with the concept, installation procedure and maintenance aspect of SPV System.

Eligibility

10 +2, Diploma/Any Graduates.

Prerequisite

- ✓ Candidate must have latest computer/laptop / Smartphone
- ✓ Earphone with Microphone
- ✓ Webcam
- ✓ Internet connection with good speed *(preferably Min Bandwidth 256kbps or higher)*

Course Fees

Rs. 1200/- incl. GST& all other charges.

Certificate

Certificate will be provided to the participants, based on minimum 75% attendance and on performance (minimum 50% marks) in the online test, conducted at the end of the course.

Methodology

- ✓ Instructor-led live classes.
- ✓ Instructor-led hands-on lab sessions.
- ✓ Content Access through e-Learning portal.
- ✓ Assessment and Certification

How to

Step-1: Read the course structure & course requirements carefully.

Step-2: Visit the Registration portal and click on apply button.

Step-3: Create your login credentials and fill up all the details, see the preview and submit the form.

Step-4: Login with your credentials to verify the mobile number, email ID and then upload the documents, Lock the profile and Pay the Fees online, using ATM-Debit Card / Credit Card / Internet Banking / UPI etc.

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Course Content

Day	Topic	Day	Topic	Day	Topic
Day #01	Introduction to Solar Energy and applications, Renewable and Non-renewable sources, Electromagnetic spectrum of solar radiation, advantage and disadvantage of solar power system.	Day #02	Solar energy utilization, solar photovoltaic, solar power terminology, Incoming solar radiation, solar constant, concept of Peak sun hour(PSH), solar insolation, factors affecting Insolation, sun rays and latitude.	Day #03	Solar PV cell and its types; Monocrystaline and polycrystalline, Solar PV module; its Electrical and mechanical characteristics..
Day #04	Thermal characteristics of solar PV module, ambient temperature, STC, I-V curve variation with temperature, various types of SPV module; Thin film, Amorphous, cadmium telluride and copper indium gallium selenide solar cell.	Day #05	Measurement of electrical quantities; Voltage, current, energy and power, Estimating kWH from appliances, Backup time calculation requirement, Factors affecting SPV module energy output.	Day #06	Introduction to Solar PV System; its block diagram and types, Stand-alone SPV system and grid-connected SPV system, inverter, Charge controller and MPPT.
Day #07	Introduction to basic electronic components; Resistor, Capacitor, Inductor, Transformers, Diode, Transistor, ICs etc	Day #08	Introduction to Battery, Types of batteries; Lead-Acid Battery, Valve Regulated Lead-Acid Battery, Battery parameter and characteristics, Battery comparison.	Day #09	Design methodology of SPV System; Site selection, Array sizing, battery sizing, Inverter sizing and selection, Cable sizing.
Day #10	Precautions and Maintenance of Solar PV System;				

Course Coordinator

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