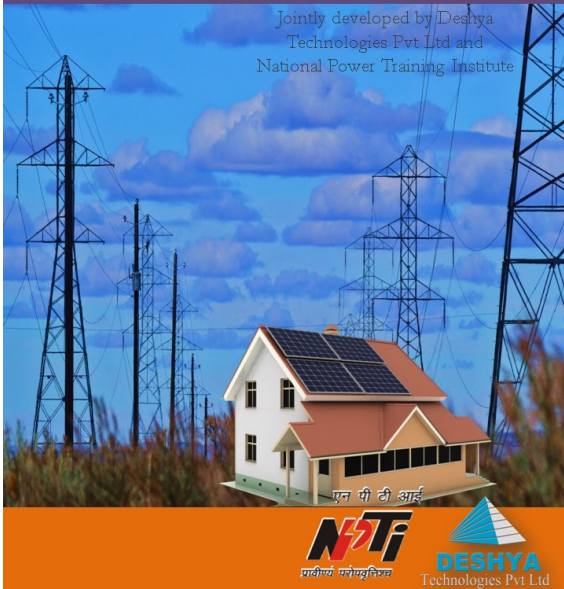


Solar Energy Technology: Fundamentals and Applications

Jointly developed by Deshya Technologies Pvt Ltd and National Power Training Institute



Module	Detail
1	Introduction to solar energy
2	The sun and solar energy
3	I vs. V Characteristics for solar cells
4	Models of solar PV cells
5	DC-DC converters
6	Boost and Buck-Boost converters
7	Operation of PV modules with load
8	Fundamentals of MPPT
9	MPPT algorithms
10	Single phase inverter
11	Three phase DC-AC inverters
12	Voltage control of DC-AC inverters using PWM
13	Interface of PV modules with grid
14	PV systems with battery storage
15	PV connection issues
16	PV Instrumentation fundamentals
17	PV sensors and instruments
18	Grid code for PV systems
19	Batteries energy storage
20	Sizing of PV systems: stand-alone with battery
21	Stand-alone with battery for homes: A case study
22	Solar PV hybrid systems
23	Environmental impact of solar PV systems
24	Hybrid solar thermal power plants

Preamble: This course is ideal for 3rd year and 4th year engineering students and is equivalent to 3 credit. Furthermore, this course gives a comprehensive overview of the PV technology and is apt for working professional who wish to upgrade their skills.

For registration and payment please contact NPTI, Dr. N.V.Kumar Director (Training/R&D), email: nvkumar@npti.gov.in, Ph.9899990981

Course format

Reading Material	eBook with 2D/3D Animation
Practice tools	Virtual Labs and Projects
Assessment tool	Proctored online exam
Video Lectures	With audio
Industrial Training	1 week—one of the NPTI Center

Other Info

Interactive session	Monthly webinar (on request)
Content Availability	On cloud 24/7
Course Duration	12 Weeks
Credit Equivalent	3

Fee - for students (non refundable, need valid Student ID, Bonafied Certificate)	Fee - for Others (non refundable)
Indian nationals: Rs. 6,000/- (incl. taxes)	Indian nationals: Rs. 25,000/- (incl. taxes)
Foreign nationals: \$100/- (incl. taxes)	Foreign nationals: \$1000/- (incl. taxes)

Certifying Agency - National Power Training Institute (NPTI)

According to the gazette of India July 1993, NPTI is a national **apex body** for **training and human resources development** in Power Sector. NPTI is an ISO 9001 & ISO 14001 organization is an autonomous organization of the **Ministry of Power, Govt. of India** with its existence of over 50 years operates through its Corporate Office at Faridabad and institutes at New Delhi, Nangal, Bengaluru, Neyveli, Durgapur, Guwahati & Nagpur.

Deshya technologies Pvt Ltd, incubated at IIT Guwahati is the technical partner of NPTI. **Deshya** is a single-source provider for e-Learning environment in Electrical Engineering education. Its e-Learning environment for the Electrical Engineering Education simplifies complex topics and makes learning fun.