INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

FACILITIES AVAILABLE AT INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT

WIND ENERGY TRAINING SYSTEM

Wind Energy Training System is a scaled down version of actual wind turbine power plant. This system facilitates us with working and configurable model of wind turbine. It gives the insight about individual components and consequences of changing the operating points of any wind turbine defined in terms of wind speed and pitch angle. Concepts like I-V characteristic, cut-off, cut-in speed etc. could be studied with the help of system.
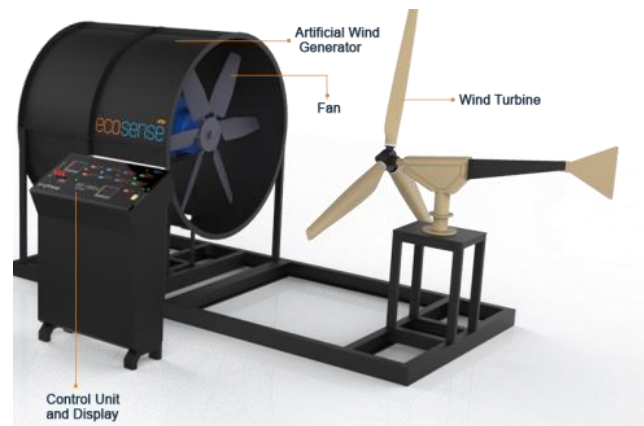
SOLAR CONCENTRATOR TRAINING SYSTEM

The Solar Parabolic Trough Collector Based System consists of parabolic reflectors, absorber tube, sun tracker, piping, storage tanks and a heat exchanger. A control panel would control different devices and also measure the different parameters of the system. The system can be used to perform experiments in heat transfer, parabolic trough characteristics and heat loss at different parts of the system. The system is highly flexible – it can be used with different working fluids, different absorbing materials, different piping insulation thickness and different types of storage tanks. This gives a lot of scope for research in heat transfer and related fields. Wind speed variation and flow velocity are other parameters which can be changed to show their impact on heat transfer and heat loss.

INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

SOLAR THERMAL TRAINING SYSTEM

Solar Flat-Plate Collector Based system is a replica of the solar water heating system designed to assist students to learn and experience different parameters of performance of Flat Plate Collector System. This system helps students in practical understanding of various technical parameters such as Overall Heat Loss Co-efficient, Heat Removal Factor and Efficiency at different flexible input parameters like radiation, wind speed etc. System has in built sensors which measure parameters like pressure, temperature, flow rate etc. mounted on a control unit.

SOLAR PV TRAINING & RESEARCH SYSTEM

Solar PV Training & Research System enables us to understand concepts about stand-alone PV systems. It provides research orientation on several concepts such as MPPT, inverter control & consists of individual plug-in units each with components for different experimental arrangements. Options to change of slope angle of the module will assist us to understand the effect of tilt.

SPECTRAL RESPONSE TRAINING SYSTEM

This tool can measure the spectral response and quantum efficiency of a given sample of solar cell. Moreover it also has some arrangement to analyze the internal quantum efficiency thus providing more insight to the quality of cell / wafer.

SOLAR SIMULATOR

Solar simulation system is used to measure the I-V characteristics of solar panel when change in the atmospheric conditions like intensity and temperature. In outdoor condition we cannot adjust the intensity and temperature of solar panel so in this simulation system there is intensity regulator to adjust the intensity falling on the solar panel, temperature controller to adjust the temperature of the solar panel. I-V curve of a PV module describes its energy conversion capability at the existing conditions of irradiance and temperature.

INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

CHARGE CONTROLLER

Charge controller system is a device is used to study the charge controlling techniques to charge the battery. When battery is charging using solar special techniques will be useful because of variable current source. With this device one can understand the efficiency of the charge controllers.

THERMAL STORAGE SYSTEM

In LHTS systems, a heat transfer fluid (HTF) transfers energy to or from the PCM. Melting of the PCM is initiated whenever the HTF temperature is above that of the fusion/melting temperature of the PCM. Energy storage takes place during the melting process which is referred to as a charging mode. In the discharging mode of operation, the HTF temperature is lower than that of the melting temperature of the PCM and initiates freezing. Thus one complete cycle in a LHTS system consists of energy charging and discharging modes during which the PCM undergoes alternate melting and freezing. The reliability of a LHTS unit depends highly on the number of cycles that the PCM can support without deterioration.

INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

LIST OF EQUIPMENTS

S.No.	Department	Name of Equipment	Make Company	Year
1		Wind Energy Training Setup	Ecosense Sustainable	2016
2		Solar Concentrator System		2016
3		Solar Thermal Training Sytem		2015
4		PV Integration Setup	kWatt Solutions	2016
5		In house Solar Simulator Setup		2016
6		MPPT Training System Setup		2016
7		Vegetable Dryer	Cosmo Product	2016
8		Box type Solar Cooker		2016
9	Institute of Renewable Energy Technology & Management	Solar Water Distillation System		2016
10		Thermal Energy Storage System	PowerLab	2016
11		Setup for DC-DC & DC-AC Converter	VI Microsystems	2017
12		Setup for Measurement of PV System Losses		2017
13		Advanced Photovoltaic Setup		2017
14		Concentrator type Solar Cooker	Aartech Solonics	2016
15		Low pass and High pass RC filters Kit	Omega Electronics	2017
16		To study the operation of 4 bit binary full adder and subtractor		2017
17		To study R-S/ J-K /M S J-K /D/T flip-flops using NAND		2017

INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

		ICs		
18		To study the operation of Multiplexer IC having 16: 1 channels		2017
19		To study the operation of Demultiplexer IC having 1:16 channels		2017
20		Verify the Boolean expressions		2017
21		Study of I-V characteristics of UJT & determine its intrinsic standoff Ratio		2017
22		Study of characteristics of Bipolar Junction Transistor in CB/CE/CC mode		2017
23		Study of switching and amplification actions of BJT		2017
24		Study of switching and amplification actions of JFET	Lab Electronics	2017
25		Study of switching and amplification actions of MOSFET		2017
26		LDR Characteristics Kit		2017
27		To study write/read operation of digital data into semiconductor memory		2017
28		Function Generator Range of 0.1Hz~5MHz		2017
29		Microprocessor 8085 Kit with LCD display, keyboard & Assembler	Dynalog India	2017
30		Digital Multimeter 3 1/2 Digit	Tirupati Electronics	2017
31		Characteristics of PN Junction & Zener Diode Kit	Nvis Technologies Pvt. Ltd.	2017
32		Voltage Regulation action of Zener diode Kit		2017

33		Study of half wave, full wave and Bridge rectifier with and without filter		2017
34		Study of I-V characteristics of SCR		2017

MISCELLANEOUS FACILITIES AVAILABLE

S.No.	Name of Equipment	Quantity
1	Air Conditioner with Metallic Mount	6
2	Almirah	5
3	Barcode Scanner	1
4	Black Deckker Screw Driver	1
5	Bread Board	2
6	Camera	1
7	Computer	20
8	Computer Chair	15
9	Computer Table	15
10	Dinner Set	1
11	Equipment Table	1
12	Ethernet Switch	1
13	Executive Chair Vogue Visitor	5
14	Executive Table RV 1500	5
15	ExpEYES Kits	5
16	Extension Spike	4
17	Fiber Centre Table	1
18	Fiber Shelf	2
19	Fibre Chair	8
20	Fibre Chair	2
21	First Aid Box	1
22	Green Board	3
23	HDMI Converter	2
24	Induction Cooker	1

INSTITUTE OF RENEWABLE ENERGY TECHNOLOGY & MANAGEMENT
PT. RAVISHANKAR SHUKLA UNIVERSITY
G.E. ROAD, AMANAKA, RAIPUR (C.G.)
Recognized by UGC, AICTE & Skill Council for Green Jobs
Website: www.prsu.ac.in   *E-Mail ID: renewable.prsu@gmail.com*

25	Interactive Board	1
26	Key Box	1
27	Ladder	1
28	Laptop	2
29	Magazine Stand	1
30	Microwave	1
31	Multimeter	13
32	Notice Board	1
33	Office Chair	6
34	Office Table	3
35	Podium	1
36	Printer	1
37	Projector with Fixed Screen & Wall Mount	4
38	Refrigerator	1
39	Rheostat	1
40	Router	1
41	Slide Changer	1
42	Solar Battery	2
43	Soldering Iron	1
44	Stool	21
45	Stop Watch	1
46	Students Dual Desk	45
47	Suggestion Box	1
48	UPS 5KVA	1
49	Water Cooler	1
50	Water Filter	1
51	Water Purifier	1
52	Web Camera	1
53	White Board	1
54	White Board Stand	1