Solar Panel Installation

Class: B.Sc.II

Skill level: 7

Name of Co-ordinator: Mr. S. S. Patil

Department of Physics

1. Title: **Solar Panel Installation**

2. Year of implementation: 2020-21

Structure of Skill Development Course

Skill level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
7	20	30	50	03	30

Syllabus

Learning Objectives:

1. To Provide information to the leaner in order to understand the concept of solar panel installation.

2. To Provide information about components of solar electric system.

Theory (20 Hrs)

UNIT I: COMPONENTS OF A SOLAR ELECTRIC SYSTEM (10)
Solar panels
Batteries
Controller
Inverter
Electrical devices
Connecting everything together

UNIT II: INSTALLATION (10)
 Safety
 Assembling your toolkit
 Preparing your site
 Testing your solar panels
 Installing the solar array
 Installing the batteries
 Installing the control equipment
 Installing a grid-tie system
 Commissioning the system
 Charging up your batteries

Practical (24 Hrs)

1. Identification of batteries for given panel.
2. To calculate of power of given panel.
3. Preparing site for solar panel Installation.
4. Assembling the solar components
5. Installing the batteries.
6. To calculate optimum voltage
7. To calculate optimum current
8. Cable thicknesses determination

Field Visits **06hr**

Learning Outcomes: After completion of the course, students are able to:

1 understand the Solar panel installation
2 know the components of a solar electric system
Recommended Books:

1. Solar Power Hand Book:- Dr. H. Naganagouda (2014)
2. Solar Energy, Fundamentals Design, modeling and Application: Tiwari GN.-2015

3. Solar Electricity Handbook; Michale Boxwell; 2017 edition

4. Dawn of the Solar Age: An End to Global Warming and to Fear; Prem Shankar
   JHA; PHI publication - 2015

BOS Sub Committee:

1. Mr. S. S. Patil-Chairman **Experts**

2. Mr. A. S. Chaudhari Dr. Adinath Funde

3. Dr. P. K. Pagare Mr. S. B. Yadav (Solar industrialist)