

Lesson Plan

Name of the Faculty : MAHAVIR

Discipline : Electrical Engineering

Semester : 5th

Subject : **Solar Panel Installation and Maintenance (SMIP)**

Lesson Plan duration: 15 weeks

Work load per week : Lecture-04 and Practical-02

Week	Theory		Practical	
	Lecture Day	Topic (Including assessment/test)	Practical Day	Topic
1 st	1 st	Subject introduction and overview	1 st	Practical introduction on solar system and define the uses of solar energy and solar panels
	2 nd	UNIT-1 CHECK SITE CONDITION, COLLECT TOOLS AND RAW MATERIALS: What is solar energy		
	3 rd	Basics on solar energy and power generation systems		
2 nd	4 th	Use and handling procedure of solar panels	2 nd	Practical work on panels connectios
	5 th	Energy storage, control and conversion		
	6 th	Basic electrical system and functioning		
3 rd	7 th	Mechanical equipment and its functioning	3 rd	Practical work on solar panels installation
	8 th	Maintenance procedure of equipment		
	9 th	Site survey, design and evaluation of various parameters		
4 th	10 th	Tools involved in installation of system	4 th	Checking of experiments
	11 th	Quality and process standards		
	12 th	Occupational health and safety standards		
5 th	13 th	UNIT-2 INSTALLATION OF SOLAR PANELS: solar energy system components such as panels	5 th	Define and seen the panel installation using tools
	14 th	Batteries, charge controllers, inverters		
	15 th	Significance of volts, amps and watts: series and parallel connection		

6 th	16 th	Voltage requirement of various equipment	6 th	Practical work of using tools and machines
	17 th	Panel mounting and inclination and angle of tilt		
	18 th	Placement of solar panel mounting		
7 th	19 th	Sunlight and direction assessment	7 th	Practical work on battery and inverter
	20 th	Site surveying methods and evaluation parameters		
	21 st	Tools involved in installation of system		
8 th	22 nd	1 st sessional test (Tentative)	8 th	Revised practicals
	23 rd	Assessment		
	24 th	UNIT-3 COORDINATE COLLEAGUES AT WORK: company's policies on incentives		
9 th	25 th	Delivery standards	9 th	Checking of experiments
	26 th	Personnel management		
	27 th	Importance of the individual's role in the workflow		
10 th	28 th	Reporting structure	10 th	Practical work on handling safety equipment
	29 th	Communicating effectively		
	30 st	Building team coordination		
11 th	31 nd	Best position for a solar panel	11 th	Practical work on safety precaution by installation of solar panels
	32 rd	Why solar panels are an advantage to society		
	33 th	Importance of solar energy technologies for development of rural area		
12 th	34 th	Pollution and energy in production	12 th	Practical on how do solar cell work
	35 th	Performance and degradation		
	36 th	2 nd sessional test (Tentative)		
13 th	37 th	Assessment	13 th	Checking of experiments
	38 th	UNIT-4 SAFETY AT WORKPLACE: maintaining the work area safe and secure		
	39 th	Handling hazardous material		
14 th	40 st	Operating hazardous tools and equipment	14 th	Revision
	41 nd	Emergency procedures to be followed such as fire accidents etc.		
	42 rd	UNIT-5 CONCEPT OF SOLAR TRACKING SYSTEM		
15 th	43 th	Define a solar tracking system	15 th	Revision
	44 th	3 rd sessional test (Tentative)		
	45 th	Assessment		
	46 th	Revision		