Bhubanananda Orissa School of Engineering
Lesson Plan

Discipline:E&TC	Semester:6th	Name of the Teaching Faculty:Jyoti Prakash Behura
Subject: RENEWABLE ENERGY SOURCES	No of Days/per week class allotted:4	Semester from10.03 2022 to10.06.2022 No of weeks:14
Week No.	Class Day TUE,WED,FRI,SAT	Theory Topics
1st	11-03-2022	Introduction of the Subject and Syllabus discussion.
	12-03-2022	**Energy Situation and Renewable Energy Sources** 1.1 Renewable and Non-renewable Energy Sources
2nd	15-03-2022	1.2 Energy and Environment
	16-03-2022	1.3 Origin of Renewable Energy Sources
3rd	22-03-2022	**Solar Radiation & Collectors** 2.1 Solar Radiation Through Atmosphere
	23-03-2022	2.2 Terrestrial Solar Radiation 2.3 Measurement of Solar Radiation
	25-03-2022	2.4 Classification of Solar Radiation Instruments
	26-03-2022	2.5 Flat Plate Collectors
4th	29-03-2022	2.6 Optical Characteristics
	30-03-2022	**Low-Temperature Applications of Solar Energy.** 3.1 Swimming Pool Heating
	02-04-2022	3.2 Natural Convection water Heating Systems
5th	5-04-2022	3.3 Solar Drying 3.4 Solar Pond
	6-04-2022	**Revision**
	8-04-2022	**Passive Space Conditioning & Collectors** 4.1 Principle Space conditioning
	9-04-2022	4.2 Passive building concepts- Heating, Direct gain, Indirect Gain
6th	12-04-2022	Passive Cooling, Shading, Paints, Collings

Bhubananda Orissa School of Engineering
Lesson Plan

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	13-04-2022	4.3 Construction of Concentrator
	16-04-2022	4.4 Energy losses
7th	19-04-2022	**Solar Thermal Power Plants** 5.1 Introduction
	20-04-2022	5.2 Solar Collection System
	22-04-2022	5.3 Thermal Storage for Solar Power Plants
	23-04-2022	**Class Test -I**
8th	26-04-2022	5.4 Capacity Factor and Solar Multiple
	27-04-2022	5.5 Energy Conversion
	29-04-2022	**Solar Photovoltaic** 6.1 Band Theory of Solids, Physical Processes in a Solar Cell.
	30-04-2022	6.2 Solar Cell Characteristics
9th	03-05-2022	6.3 Equivalent Circuit Diagram of Solar Cells
	04-05-2022	6.4 Cell Types - Crystalline Silicon Solar Cell , Solar Cells for Concentrating Photovoltaic Systems
	06-05-2022	Dye –sensitized Solar Cell (DSC)
	07-05-2022	6.5 Solar Module
10th	10-05-2022	**Intenal-I**
	11-05-2022	6.6 Further System Components -Solar inverters ,Mounting Systems, Storage Batteries ,Other System Components
	13-05-2022	6.7 Grid-independent Systems -System Configuration
	14-05-2022	6.8 Grid-connected Systems -Small Roof Top Systems
11th	17-05-2022	Medium-scale PV Generator, Centralized System.
	18-05-2022	**Revision**
	20-05-2022	**Wind Energy** 7.1 Wind Flow and Wind Direction

Bhubananda Orissa School of Engineering
Lesson Plan

	21-05-2022	7.2 Wind Measurements
12th	24-05-2022	7.3 Measurement of Pressure Head 7.4 Hot wire Anemometer
	25-05-2022	7.5 Cup Anemometer (Robinson's Anemometer) 7.6 Wind Direction Indicators
	27-05-2022	**Wind Energy Converters** 8.1 Historical Development
	28-05-2022	8.2 Aerodynamic of Rotor Blade -Wind Stream Profile -Buoyancy Coefficient and the Drag Coefficient
13th	31-05-2022	**CLASS TEST-II**
	01-06-2022	8.3 Components of a Wind Power Plant -Wind Turbine -Tower -Electric Generators –Foundation
	03-06-2022	8.4 Power Control -Slow Rotors; Poor Control Mechanism -Control of Fast Rotors
	04-06-2022	**ENERGY ECONOMICS** 9.1 Present worth, Life cycle costing (LCC), Annual Life cycle costing(ALCC),
14th	07-06-2022	**ENERGY ECONOMICS** 9.1 Present worth, Life cycle costing (LCC), Annual Life cycle costing(ALCC),
	08-06-2022	**Internal-II**
	10-06-2022	Questions Discussion

Jyoti Prakash Behera
Signature of Faculty

HOD,E&TC **Academic Coordinator** **Principal**