Vedang Institute of Technology, 2nd Shift

Khurda

Department of Electrical & Electronics Engineering

Lesson Plan for Odd Semester

Course: Diploma in Engineering

Teachers Name: Debananda Sunani

Semester: 6th

Subject : RENEWABLE ENERGY SOURCES

Session Duration: 2020-21 Classes From: 19/04/2021 to 13/08/2021

Week	Class Day	Topics to Cover
1st	1st	Renewable and Non-renewable Energy Sources
	2nd	Energy and Environment
	3rd	Origin of Renewable Energy Sources
	4th	Potential of Renewable Energy Sources
2nd	1st	Direct-use Technology
	2nd	Solar Radiation Through Atmosphere
	3rd	Terrestrial Solar Radiation
	4th	Measurement of Solar Radiation
3rd	1st	Classification of Solar Radiation Instruments
	2nd	Flat Plate Collectors
	3rd	Optical Characteristics
	4th	Swimming Pool Heating
4th	1st	Solar water Heating Systems
	2nd	Natural Convection water Heating Systems
	3rd	Solar Drying
	4th	Solar Pond
5th	1st	Principle Space conditioning
	2nd	Passive building concepts- Heating, Direct gain, Indirect Gain, Passive
	3rd	Cooling,Shading, Paints, Collings
	4th	Construction of Concentrator
6th	1st	Energy losses
	2nd	Principle Space conditioning
	3rd	Solar Collection System
	4th	Thermal Storage for Solar Power Plants

7th	1st	Capacity Factor and Solar Multiple
	2nd	Energy Conversion
	3rd	Solar Collection System
	4th	Band Theory of Solids, Physical Processes in a Solar Cell ,
8th	1st	Solar Cell Characteristics
	2nd	Equivalent Circuit Diagram of Solar Cells
	3rd	Cell Types - Crystalline Silicon Solar Cell , Solar Cells for Concentrating
	4th	Photovoltaic Systems , Dye –sensitized Solar Cell (DSC)
9th	1st	Solar Module
	2nd	Further System Components -Solar inverters ,Mounting
	3rd	Systems,StorageBatteries ,Other System Components
	4th	Grid-independent Systems -System Configuration
10th	1st	Grid-connected Systems -Small Roof Top Systems ,Medium-scale PV
	2nd	Generator ,Centralized System
	3rd	Wind Flow and Wind Direction
	4th	Wind Measurements
11th	1st	Measurement of Pressure Head
	2nd	Hot wire Anemometer
	3rd	Cup Anemometer (Robinson's Anemometer)
	4th	Wind Direction Indicators
12th	1st	Historical Development
	2nd	Aerodynamic of Rotor Blade -Wind Stream Profile -Buoyancy
	3rd	Coefficient and theDrag Coefficient
	4th	Components of a Wind Power Plant -Wind Turbine -Tower -Electric
13th	1st	Generators –Foundation
	2nd	Power Control -Slow Rotors; Poor Control Mechanism -Control of Fast Rotors
	3rd	Present worth, Life cycle costing (LCC), Annual Life cycle
	4th	costing(ALCC), Annualsavings. calculations for Solar thermal system
14th	1st	Solar PV system, Wind system, Biomass system
	2nd	
	3rd	
	4th	
15th	1st	Revision and Doubt Clearance
	2nd	
	3rd	
	4th	

Debananda Sarani
Faculty Signature

A. Sharda Dash
HOD