

**LESSON PLAN-2022-2023**  
**SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR**

Discipline- ELECTRICAL	Semester-6TH	Name of teaching faculty-SonaliSusmitaTripathy
SUBJECT- RES	No of days/ per week class alloted-6	SEM From date-20.02.2023 No of weeks-
<b>Week</b>	<b>Class day</b>	<b>Theory Topics</b>
4TH	2/20/2023	<b>Introduction to Renewable energy</b>
	2/21/2023	Environmental consequences of fossil fuel use.
	2/22/2023	Importance of renewable sources of energy.
	2/23/2023	Sustainable Design and development.
	2/24/2023	Types of RE sources.
	2/25/2023	Limitations of RE sources.
	2/27/2023	Assignments and doubt clearing Discussion about chapter-1
	2/28/2023	<b>Solar Energy</b>
1ST	3/01/2023	Solar photovoltaic system-Operating principle.
	3/02/2023	Photovoltaic cell concepts
	3/03/2023	Cell, module, array, Series and parallel connections
	3/04/2023	do
2ND	3/06/2023	MPPT
	3/07/2023	Classification of energy Sources
	3/09/2023	Extra-terrestrial and terrestrial Radiation.
	3/10/2023	Azimuth angle, Zenith angle, Hour angle
	3/11/2023	Irradiance, Solar constant
3RD	3/13/2023	Solar collectors, Types and performance characteristics
	3/14/2023	Solar collectors, Types and performance characteristics
	3/15/2023	Do
	3/16/2023	Photovoltaic - battery charger, domestic lighting, street lighting
	3/17/2023	water pumping, solar cooker, Solar Pond.
	3/18/2023	Assignments and doubt clearing Discussion about chapter-2
4TH	3/20/2023	<b>Wind Energy</b>
	3/21/2023	Introduction to Wind energy
	3/22/2023	Wind energy conversion
	3/23/2023	Types of wind turbines
	3/24/2023	do
	3/25/2023	Aerodynamics of wind rotors.
5TH	3/27/2023	do

	3/28/2023	Wind turbine control systems; conversion to electrical power
	3/29/2023	do
	3/31/2023	Induction and synchronous generators.
1ST	4/3/2023	Grid connected and self excited induction generator operation.
	4/4/2023	Constant voltage and constant frequency generation with power electronic control.
	4/5/2023	Single and double output systems.
	4/6/2023	Characteristics of wind power plant
	4/8/2023	<b>Biomass Power</b>
2ND	4/10/2023	Energy from Biomass.
	4/11/2023	Biomass as Renewable Energy Source
	4/12/2023	Types of Biomass Fuels - Solid, Liquid and Gas
	4/13/2023	do
	4/15/2023	Combustion and fermentation
3RD	4/17/2023	Anaerobic digestion and aerobic
		Types of biogas digester
	4/18/2023	DO
	4/19/2023	Wood gassifier
	4/20/2023	Pyrolysis
	4/21/2023	Bio gas, Bio diesel
	4/22/2023	<b>Other Energy Sources</b>
4TH	4/24/2023	Tidal Energy: Energy from the tides
	4/25/2023	Barrage and Non Barrage Tidal power system
	4/26/2023	Ocean Thermal Energy Conversion (OTEC).
	4/27/2023	geothermal energy
	4/28/2023	Classification of geothermal energy
	4/29/2023	Hybrid Energy Systems
1ST	5/1/2023	do
	5/2/2023	Need for Hybrid Systems
	5/3/2023	Diesel-PV, Wind-PV, Microhydel-PV
	5/4/2023	do
	5/5/2023	Electric and hybrid electric vehicles.
		do

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PRINCIPAL