

LESSON PLAN-2023-2024

SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

Discipline- ELECTRICAL	Semester-6TH	Name of teaching faculty- BIPIN ROUT
SUBJECT- RES	No of days/ per week class alloted-6	SEM From date-16.01.2024 No of weeks-
Week	Class day	Theory Topics
4TH	1/16/2024	Introduction to Renewable energy
	1/17/2024	Environmental consequences of fossil fuel use.
	1/18/2024	Importance of renewable sources of energy.
	1/19/2024	Sustainable Design and development.
	1/20/2024	Types of RE sources.
	1/22/2024	Limitations of RE sources.
	1/23/2024	Assignments and doubt clearing Discussion about chapter-1
1ST	1/24/2024	Solar Energy
	1/25/2024	Solar photovoltaic system-Operating principle.
	1/27/2024	Photovoltaic cell concepts
	1/29/2024	Cell, module, array, Series and parallel connections
	1/30/2024	do
	1/31/2024	MPPT
	2/01/2024	Classification of energy Sources
2ND	2/02/2024	Extra-terrestrial and terrestrial Radiation.
	2/03/2024	Azimuth angle, Zenith angle, Hour angle
	2/05/2024	Irradiance, Solar constant
	2/06/2024	Solar collectors, Types and performance characteristics
	2/07/2024	Solar collectors, Types and performance characteristics
	2/08/2024	Do
	2/09/2024	Photovoltaic - battery charger, domestic lighting, street lighting
3RD	2/10/2024	water pumping, solar cooker, Solar Pond.
	2/12/2024	Assignments and doubt clearing Discussion about chapter-2
	2/13/2024	Wind Energy
	2/14/2024	Introduction to Wind energy
	2/15/2024	Wind energy conversion
	2/16/2024	Types of wind turbines
	2/19/2024	do
4TH	2/20/2024	Aerodynamics of wind rotors.
	2/21/2024	do
	2/22/2024	Wind turbine control systems; conversion to electrical power
	2/25/2024	do

	2/26/2024	Induction and synchronous generators.
1ST	2/27/2024	Grid connected and self excited induction generator operation.
	2/28/2024	Constant voltage and constant frequency generation with power electronic control.
	2/29/2024	Single and double output systems.
	3/01/2024	Characteristics of wind power plant
	3/02/2024	Biomass Power
2ND	3/04/2024	Energy from Biomass.
	3/05/2024	Biomass as Renewable Energy Source
	3/06/2024	Types of Biomass Fuels - Solid, Liquid and Gas
	3/07/2024	do
	3/09/2024	Combustion and fermentation
3RD	3/11/2024	Anaerobic digestion and aerobic
		Types of biogas digester
	3/12/2024	DO
	3/13/2024	Wood gassifier
	3/14/2024	Pyrolysis
	3/15/2024	Bio gas, Bio diesel
	3/16/2024	Other Energy Sources
4TH	3/18/2024	Tidal Energy: Energy from the tides
	3/19/2024	Barrage and Non Barrage Tidal power system
	3/20/2024	Ocean Thermal Energy Conversion (OTEC).
	3/21/2024	geothermal energy
	3/22/2024	Classification of geothermal energy
	3/23/2024	Hybrid Energy Systems
1ST	3/26/2024	do
	3/27/2024	Need for Hybrid Systems
	3/28/2024	Diesel-PV, Wind-PV, Microhydel-PV
	3/29/2024	do
	3/30/2024	Electric and hybrid electric vehicles.
	4/01/2024	do

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