


## Lesson Plan

Subject Renewable Energy (Code) Th. 4(B) Name of faculty KONARK PATRA  
 Semester 6<sup>TH</sup> Class allotted 5 Period/Week Branch : ELECTRICAL ENGINEERING

Discipline	Semester	From date: <u>14/02/2023</u> To date: <u>23/05/2023</u>	Teaching Aid
Subject:	No. of days/ per week	Theory: Practical - Topics/Lesson	
Week	Date/Period		
1	14/2/23	Environmental consequences of fossil fuel, use	White board
	to 17/2/23	Importance of renewable source of energy Sustainable design and development. Types of RE sources	Marker
2	20/2/23	Limitations of RE sources, Present Indian and international energy scenario of conventional and RE sources, Solar, photovoltaic system.	White board
	to 25/2/23		Marker
3	27/2/23	Operating principle of PV system, Photovoltaic cell concepts.	White board
	to 4/3/23	Cell module, array, Series and parallel connections. Maximum power point tracking (MPPT)	Marker
4	6/3/23	Classification of Energy sources. Extra-terrestrial and terrestrial radiation.	White board
	to 11/3/23	Azimuth angle, Zenith angle, Hour angle, Incidence, Solar constant. Solar collectors,	Marker
5	13/3/23	Types and performance characteristics Application of Photovoltaic.	White board
	to 18/3/23	Battery charger, Domestic lighting, street lighting water pump, solar cooker. Solar pond	Marker
6	20/3/23	Introduction to wind energy. Wind energy concern.	White board
	to 25/3/23	Types of axial turbine, Aerodynamics and rotors.	Marker
7	27/3/23	Wind turbine control system: Conversion to electrical power.	White board
	to 31/3/23	Introduction to synchronous generator Grid connected and self excited induction generator operation,	Marker

  
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Week	Date/Period	Theory Practical Topics/Lesson	Teaching Aid
8	3/4/23	Control voltage and control frequency generation with power electronic etc.	White board & Markers
	to		
	8/4/23		
9	10/4/23	Single and double output system Characteristics of wind power plant	White board & Markers
	to		
	15/4/23		
10	17/4/23	Energy from biomass Biomass and renewable energy source.	White board & Markers
	to		
	21/4/23		
11	24/4/23	Types of biomass fuels; - Solid, liquid, and gas	White board & Markers
	to		
	29/4/23		
12	1/5/23	Composting and fermentation, Anaerobic digestion, Types of biogas digestion, Wood gasification, Pyrolysis. Applications of biomass - Biogas, bio diesel.	White board & Markers
	to		
	6/5/23		
13	8/5/23	Tidal energy: Energy from the tides, barrage, and non barrage tidal power system. Ocean thermal energy conversion (OTEC)	White board & Markers
	to		
	13/5/23		
14	15/5/23	Geothermal energy - Classification, Hybrid energy system, Needs for hybrid system, Diesel PV, wind PV, Micro hydro PV, Electric and hybrid electric vehicles.	White board & Markers
	to		
	25/5/23		
15	22/5/23		White board & Markers
	to		
	23/5/23		

  
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