

Lesson Plan 2024(5)

Subject :-RE(Code) TH-4Name of faculty:-

AISURYA KUMAR MISHRA

Semester :-6thClass allotted p/w

Branch :- Electrical engg

Discipline	Semester:-6th	From date:-16/01/24 To date:26/04/24	Teaching Aid
Subject:	No. of days/ per week p/w: 5	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	16/01/24 – 20/01/24	Introduction to Renewable energy: 1.1. Environmental consequences of fossil fuel use. 1.2. Importance of renewable sources of energy. 1.3. Sustainable Design and development.	White board & marker
2	22/01/24 to 27/01/24	1.4. Types of RE sources. 1.5. Limitations of RE sources. 1.6. Present Indian and international energy scenario of conventional and RE sources	White board & marker
3	29/01/24 To 03/02/24	2.1. Solar photovoltaic system-Operating principle.2.2. Photovoltaic cell concepts 2.2.1. Cell, module, array, Series and parallel connections. Maximum power point tracking (MPPT).	White board & marker
4	5/2/24 To 10/2/24	2.3. Classification of energy Sources. 2.4. Extra-terrestrial and terrestrial Radiation	White board & marker
5	12/2/24 To 17/02/24	2.5. Azimuth angle, Zenith angle, Hour angle, Irradiance, Solar constant. 2.6. Solar collectors, Types and performance characteristics,	White board & marker
6	19/02/24 To 24/2/24	2.7. Applications: Photovoltaic - battery charger, domestic lighting, street lighting, water pumping, solar cooker, Solar Pond.	White board & marker
7	26/2/24 To 2/3/24	Wind Energy: 3.1. Introduction to Wind energy. 3.2. Wind energy conversion. 3.3. Types of wind turbines	White board & marker
8	4/3/24 To 9/3/24	3.4. Aerodynamics of wind rotors. 3.5. Wind turbine control systems; conversion to electrical power: 3.6. Induction and synchronous generators. 3.7. Grid connected and self excited induction generator operation.	White board & marker
9	11/3/24 To 16/3/24	3.8. Constant voltage and constant frequency generation with power electronic control. 3.9. Single and double output systems. 3.10. Characteristics of wind power plant.	White board & marker
10	18/3/24 To 23/3/24	4.1. Energy from Biomass. 4.2. Biomass as Renewable Energy Source 4.3. Types of Biomass Fuels - Solid, Liquid and Gas. 4.4. Combustion and fermentation.	White board & marker
11	27/3/24 To 30/3/24	4.5. Anaerobic digestion. 4.6. Types of biogas digester. 4.7. Wood gassifier. 4.8. Pyrolysis,. 4.9. Applications: Bio gas, Bio diesel	White board & marker
12	2/4/24 To 6/4/24	5.1. Tidal Energy: Energy from the tides, Barrage and Non Barrage Tidal power systems. 5.2. Ocean Thermal Energy Conversion (OTEC).	White board & marker & smart board
13	8/4/24 To 13/4/24	5.3. Geothermal Energy – Classification. 5.4. Hybrid Energy Systems. 5.5. Need for Hybrid Systems	White board & marker

	15/4/24 To 20/4/24	5.6 Diesel-PV, Wind-PV, Microhydel-PV, 5.7. Electric and hybrid electric vehicles	White board & marker
15	22/4/24 To 26/4/24	REVISION	White board & marker & smart board

Director, Institute provide
Signature of IIRD

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Signature of faculty