

LESSON PLAN (SUMMER-2022)

Discipline: ETC	Semester:6th	Name of the Teaching Faculty: Amit Kumar Nayak	
Subject: Renewable Energy Sources	No of Days /per week class allotted: 4	Semester From date: 10.03.2022 To date: 10.06.2022 No of Weeks:15	
Week	Class Day	Theory / Practical Topics	Date
1st	1st	1.Energy Situation and Renewable Energy Sources (5) 1.1 Renewable and Non-renewable Energy Sources	11.03.2022
	2nd	1.2 Energy and Environment	12.03.2022
	3rd	1.3 Origin of Renewable Energy Sources	14.03.2022
	4th	1.4 Potential of Renewable Energy Sources	15.03.2022
2nd	1st	1.5 Direct-use Technology	21.03.2022
	2nd	2.Solar Radiation & Collectors (6) 2.1 Solar Radiation Through Atmosphere	22.03.2022
	3rd	2.2 Terrestrial Solar Radiation	25.03.2022
	4th	2.3 Measurement of Solar Radiation	26.03.2022
3rd	1st	2.4 Classification of Solar Radiation Instruments	28.03.2022
	2nd	2.5 Flat Plate Collectors	29.03.2022
	3rd	2.6 Optical Characteristics	02.04.2022
	4th	3.Low-Temperature Applications of Solar Energy. (6) 3.1 Swimming Pool Heating	04.04.2022
4th	1st	3.2 Solar water Heating Systems	05.04.2022
	2nd	3.3 Natural Convection water Heating Systems	08.04.2022
	3rd	Continue	09.04.2022
	4th	3.4 Solar Drying	11.04.2022
5th	1st	3.5 Solar Pond	12.04.2022
	2nd	4.Passive Space Conditioning & Collectors (7) 4.1 Principle Space conditioning	16.04.2022
	3rd	Continue	18.04.2022
	4th	4.2 Passive building concepts- Heating, Direct gain, Indirect Gain	19.04.2022
6th	1st	Passive Cooling, Shading, Paints, Collings	22.04.2022
	2nd	4.3 Construction of Concentrator	23.04.2022
	3rd	Continue	25.04.2022
	4th	4.4 Energy losses	26.04.2022
7th	1st	5.Solar Thermal Power Plants (8) 5.1 Introduction	29.04.2022
	2nd	5.2 Solar Collection System	30.04.2022
	3rd	Continue	02.05.2022
	4th	5.3 Thermal Storage for Solar Power Plants	06.05.2022
8th	1st	Continue	07.05.2022
	2nd	5.4 Capacity Factor and Solar Multiple	09.05.2022
	3rd	Continue	10.05.2022
	4th	5.5 Energy Conversion	13.05.2022

9th	1st	6.Solar Photovoltaics (8) 6.1 Band Theory of Solids, Physical Processes in a Solar Cell ,	14.05.2022
	2nd	6.2 Solar Cell Characteristics	17.05.2022
	3rd	6.3 Equivalent Circuit Diagram of Solar Cells	20.05.2022
	4th	6.4 Cell Types - Crystalline Silicon Solar Cell , Solar Cells for Concentrating Photovoltaic Systems , Dye –sensitized Solar Cell (DSSC)	21.05.2022
10th	1st	6.5 Solar Module	23.05.2022
	2nd	6.6 Further System Components -Solar inverters ,Mounting Systems,Storage Batteries ,Other System Components	24.05.2022
	3rd	6.7 Grid-independent Systems -System Configuration	27.05.2022
	4th	6.8 Grid-connected Systems -Small Roof Top Systems ,Medium-scale PV Generator ,Centralized System	28.05.2022
11th	1st	7.Wind Energy (5) 7.1 Wind Flow and Wind Direction	31.05.2022
	2nd	7.2 Wind Measurements	03.06.2022
	3rd	7.3 Measurement of Pressure Head. 7.4 Hot wire Anemometer	04.06.2022
	4th	7.5 Cup Anemometer (Robinson’s Anemometer)	06.06.2022
12th	1st	7.6 Wind Direction Indicators	07.06.2022
	2nd	8.Wind Energy Converters(8) 8.1 Historical Development	10.06.2022
	3rd	8.2 Aerodynamic of Rotor Blade -Wind Stream Profile	Extra Class
	4th	Buoyancy Coefficient and the Drag Coefficient	Extra Class
13th	1st	8.3 Components of a Wind Power Plant -Wind Turbine - Tower -Electric Generators –Foundation	Extra Class
	2nd	Continue	Extra Class
	3rd	8.4 Power Control -Slow Rotors;	Extra Class
	4th	Power Control Mechanism -Control of Fast Rotors	Extra Class
14th	1st	9.Energy economics (7) 9.1 Present worth, Life cycle costing (LCC), Annual Life cycle costing(ALCC),	Extra Class
	2nd	Annual savings. calculations for Solar thermal system	Extra Class
	3rd	9.2 Solar PV system,	Extra Class
	4th	Continue	Extra Class
15th	1st	9.3 Wind system,	Extra Class
	2nd	Continue	Extra Class
	3rd	9.4 Biomass system	Extra Class
	4th	Continue	Extra Class

Signature of the Faculty