



GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

BRANCH:- ELECTRONICS & TELECOMMUNICATION ENGINEERING

SEMESTER:- 6TH

SUBJECT:- RENEWABLE ENERGY SOURCES


Name of the Faculty- ER PRAGATI SAHU

	Topic to be taken				Actual topic taken			
Sl. No	Topic/Module	No. of period	Details of the topics	Date	Topic No.	Topic Name	Date	Remarks
1	Energy Situation and Renewable Energy Sources	05	1.1 Renewable and Non-renewable Energy Sources 1.2 Energy and Environment 1.3 Origin of Renewable Energy Sources 1.4 Potential of Renewable Energy Sources	18/01/2024 TO 25/01/2024	1.1	Renewable and Non-renewable Energy Sources	18/01/2024	
					1.2	Energy and Environment	20/01/2024 & 24/01/2024	
					1.3	Origin of Renewable Energy Sources	25/01/2024	
					1.4	Potential of Renewable Energy Sources	25/01/2024	
2	Solar Radiation & Collectors	06	2.1 Solar Radiation Through Atmosphere 2.2 Terrestrial Solar Radiation 2.3 Measurement of Solar Radiation 2.4 Classification of Solar Radiation Instruments 2.5 Flat Plate Collectors 2.6 Optical Characteristics	26/01/2024 TO 03/02/2024	2.1	Solar Radiation Through Atmosphere	26/01/2024	
					2.2	Terrestrial Solar Radiation	31/01/2024	
					2.3	Measurement of Solar Radiation	01/02/2024	
					2.4	Classification of Solar Radiation Instruments	01/02/2024	
					2.5	Flat Plate Collectors	02/02/2024	
					2.6	Optical Characteristics	03/02/2024	

3	Low-Temperature Applications of Solar Energy.	06	3.1 Swimming Pool Heating 3.2 Solar water Heating Systems 3.3 Natural Convection water Heating Systems 3.4 Solar Drying 3.5 Solar Pond	06/02/2024 TO 15/02/2024	3.1 Swimming Pool Heating 3.2 Solar water Heating Systems 3.3 Natural Convection water Heating Systems 3.4 Solar Drying 3.5 Solar Pond	06/02/2024 08/02/2024 08/02/2024 & 10/02/2024 13/02/2024 15/02/2024	
4	Passive Space Conditioning & Collectors	07	4.1 Principle Space conditioning 4.2 Passive building concepts- Heating, Direct gain, Indirect Gain, Passive Cooling, Shading,Paints, Collings 4.3 Construction of Concentrator 4.4 Energy losses	17/02/2024 TO 27/02/2024	4.1 Principle Space conditioning 4.2 Passive building concepts- Heating, Direct gain, Indirect Gain, Passive Cooling, Shading,Paints, Collings 4.3 Construction of Concentrator 4.4 Energy losses	17/02/2024 20/02/2024 & 21/02/2024 & 22/02/2024 22/02/2024 24/02/2024 & 27/02/2024	
5	Solar Thermal Power Plants	08	5.1 Introduction 5.2 Solar Collection System 5.3 Thermal Storage for Solar Power Plants 5.4 Capacity Factor and Solar Multiple 5.5 Energy Conversion	28/02/2024 TO 12/03/2024	5.1 Introduction 5.2 Solar Collection System 5.3 Thermal Storage for Solar Power Plants 5.4 Capacity Factor and Solar Multiple 5.5 Energy Conversion	27/02/2024 28/02/2024 & 29/02/2024 29/02/2024 & 02/01/2024 06/03/2024 & 07/03/2024 12/03/2024	

6	Solar Photovoltaics	08	6.1 Band Theory of Solids, Physical Processes in a Solar Cell , 6.2 Solar Cell Characteristics 6.3 Equivalent Circuit Diagram of Solar Cells 6.4 Cell Types - Crystalline Silicon Solar Cell , Solar Cells for Concentrating Photovoltaic Systems , Dye –sensitized Solar Cell (DSC) 6.5 Solar Module 6.6 Further System Components -Solar inverters ,Mounting Systems,Storage Batteries ,Other System Components 6.7 Grid-independent Systems -System Configuration 6.8 Grid-connected Systems -Small Roof Top Systems ,Medium-scale PV Generator ,Centralized System	13/03/2024 TO 23/03/2024	6.1 Band Theory of Solids, Physical Processes in a Solar Cell 6.2 Solar Cell Characteristics 6.3 Equivalent Circuit Diagram of Solar Cells 6.4 Cell Types - Crystalline Silicon Solar Cell , Solar Cells for Concentrating Photovoltaic Systems , Dye –sensitized Solar Cell (DSC) 6.5 Solar Module 6.6 Further System Components - Solar inverters ,Mounting Systems,Storage Batteries ,Other System Components 6.7 Grid-independent Systems - System Configuration 6.8 Grid-connected Systems -Small Roof Top Systems ,Medium-scale PV Generator ,Centralized System	13/03/2024 14/03/2024 16/03/2024 19/03/2024 20/03/2024 21/03/2024 21/03/2024 23/03/2024	
7	Wind Energy	05	7.1 Wind Flow and Wind Direction 7.2 Wind Measurements 7.3 Measurement of Pressure Head 7.4 Hot wire Anemometer 7.5 Cup Anemometer (Robinson's Anemometer) 7.6 Wind Direction Indicators	27/03/2024 TO 03/04/2024	7.1 Wind Flow and Wind Direction 7.2 Wind Measurements 7.3 Measurement of Pressure Head 7.4 Hot wire Anemometer 7.5 Cup Anemometer (Robinson's Anemometer) 7.6 Wind Direction Indicators	27/03/2024 28/03/2024 28/03/2024 30/03/2024 02/04/2024 03/04/2024	

8	Wind Energy Converters	08	8.1 Historical Development 8.2 Aerodynamic of Rotor Blade -Wind Stream Profile -Buoyancy Coefficient and the Drag Coefficient 8.3 Components of a Wind Power Plant - Wind Turbine -Tower -Electric Generators – Foundation 8.4 Power Control -Slow Rotors; Poor Control Mechanism -Control of Fast Rotors	04/04/2024 TO 18/04/2024	8.1 Historical Development 8.2 Aerodynamic of Rotor Blade - Wind Stream Profile -Buoyancy Coefficient and the Drag Coefficient 8.3 Components of a Wind Power Plant -Wind Turbine -Tower - Electric Generators –Foundation 8.4 Power Control -Slow Rotors; Poor Control Mechanism -Control of Fast Rotors	04/04/2024 04/04/2024 & 06/04/2024 09/04/2024 & 10/04/2024 & 13/04/2024 16/04/2024 & 18/04/2024	
9	Energy economics	07	9.1 Present worth, Life cycle costing (LCC), Annual Life cycle costing(ALCC), Annual savings. calculations for Solar thermal system 9.2 Solar PV system,	20/04/2024 TO 28/04/2024	9.1 Present worth, Life cycle costing (LCC), Annual Life cycle costing(ALCC), Annual savings. calculations for Solar thermal system 9.2 Solar PV system	20/04/2024 & 23/04/2024 & 24/04/2024 28/04/2024	



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