

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



PROGRESS REGISTER Session-2022-2023

Discipline: Electrical Engg.

Semester: 6th

Subject: Renewable Energy

Name of the Teaching Faculty: _____

Sec - A

Subject: RE No. of Days/per week class allotted 05

Semester From Date: 14/02/23 To Date: 23/05/23 No. of Weeks: 02.

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
15/2/23	Environmental Consequence of Fossil fuel use	Environmental Consequence of fossil fuel use	global warming Green house gas effect	<u>Bu</u>
17/2/23	Importance of RE Source of Energy	Importance of RE Source of energy	eco friendly, free of cost	<u>Bu</u>
20/2/23	Sustainable Design & development	Sustainable Design & Development	energy security energy pricing energy Policy Smart grid	<u>Bu</u>
21/2/23	Type of RE sources Limitation of RE sources	Type of RE sources Limitation of RE sources	Solar wind tidal, Geothermal	<u>Bu</u>
22/2/23	Present Indian & International energy scenario of	Present Indian & International energy scenario	Coal & mineral o- based plant (G ₁ + G ₂) RE Power	<u>Bu</u>
24/2/23	Conventional & RE sources	of Conventional and RE sources	Pl. of GW Installed Capacity Peak demand Thermal, hydro	<u>Bu</u>
25/2/23	Tutorial class	Doubt Discussion	nuclear renewable sector	<u>Bu</u>
27/2/23	Solar photo voltage system - operating Principle	Solar photo voltage system operating Principle	Semiconductor PN Junction PV module	<u>Bu</u>
28/2/23	"	"	"	<u>Bu</u>
1/3/23	Photo-voltaic Cell concept Cell Modul	Photo voltaic Cell concept Cell Module	central, power station system Distributed system	<u>Bu</u>
3/3/23	Array series & parallel Connection Max ^m power Point tracking (MPPT)	Array series & parallel Connection Max ^m Power Point Tracking (MPPT)	PWM switching Regular DC to AC Converter	<u>Bu</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
4/3/23	Tutorial class	Doubt Discussion	class	<u>Braab</u>
6/3/23	Classification of Energy Sources	Classification of energy Sources	Renewable non renewable Fossil Coal, Oil, Natural gas	<u>Braab</u>
10/3/23	Extra-terrestrial & Terrestrial Radiation	Extra-terrestrial & Terrestrial Radiation	Beam radiation Diffused radiation Scattering Absorption	<u>Braab</u>
11/3/23	Azimuth angle Zenith angle Hour angle	Azimuth angle Zenith angle Hour angle	Observer's θ_z meridian α Altitude Latitude	<u>Braab</u>
13/3/23	Irradiance Solar Constant	Irradiance Solar Constant	incident energy Ice, Sun-earth Geometry	<u>Braab</u>
14/3/23	Tutorial class	Doubt Clear	Problem Practition Solar Constant	<u>Braab</u>
15/3/23	Solar collector. Type & Performance Characteristics	Solar collector type & Performance Characteristics	Concentrating non concentrating	<u>Braab</u>
17/3/23	— do —	— do —	Flat plate liquid flat plate	<u>Braab</u>
18/3/23	— do —	— do —	Non focus type focus modified type flat plate	<u>Braab</u>
20/3/23	— do —	— do —	Cone focus Prism focus	<u>Braab</u>
21/3/23	Tutorial class	Doubt Discussion	Doubt Discussion.	<u>Braab</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
22/3/23	Application :- Photovoltaic - battery charger	Application Photovoltaic. battery charger	Solar panel battery charging Ckt, Battery	<u>Bn</u>
24/3/23	Domestic Lighting & Street Lighting	Domestic Lighting & Street Lighting	PV module charging system Battery, lighting system	<u>Bn</u>
25/3/23	Water Pumping	Water Pumping	Solar panel, sun Controller, motor, water Pump. Solar array	<u>Bn</u>
27/3/23	Solar Cooker solar pad	Solar Cooker Solar Pad	Reflection, Insulation, Cooking vessel Mirror, reflected Sunray Glass Sheet cover	<u>Bn</u>
28/3/23	Tutorial Class		Wooden box cover	<u>Bn</u>
29/3/23	Introduction to wind energy, wind energy Conversion	Introduction to wind energy wind energy conversion	Local wind Planetary wind	<u>Bn</u>
31/3/23	Type of wind Turbine	Type of wind turbine	Propeller type Multiblade Savonius type	<u>Bn</u>
3/4/23	Aero dynamics of wind Rotor	Aerodynamics of wind rotor	Drag FD Lift FD Magnus effect	<u>Bn</u>
4/4/23	Tutorial Class	Doubt Discussion		<u>Bn</u>
5/4/23	Induction Generator & Synchronous Gen ^r	Induction & Synchronous Generator	CS CF, VS EF VS VF Variable AF	<u>Bn</u>
8/4/23	Induction & synchronous Generator	Induction & Synchronous Generator	Inner, Coupled Const AF NS, P, F	<u>Bn</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
10/4/23	Grid & Connected Self excited	Grid Connected & Self excited	Station, rotor Power grid MVA	<u>Bray</u>
11/4/23	Induction Generator Operation	Induction Generator Operation	line frequency Rectifier, inverter coupler	<u>Brady</u>
12/4/23	Tutorial Class	Doubt Discussion	Doubt Discussion	<u>Brady</u>
15/4/23	Constant voltage Constant frequency	Constant voltage Constant frequency	Gearing & Coupler of induction Generator	<u>Brady</u>
17/4/23	Generation with Power electronics	Generation with Power electronics Control	Rectifier inductor load SCR	<u>Brady</u>
18/4/23	"	"	C/CF harmonic filter	<u>Bray</u>
19/4/23	single & Double output system	Single & Double output system	Wind turbine Gearing & Coupler Alternator rectifier	<u>Bray</u>
21/4/23	Tutorial class	Doubt Discussion class		<u>Brady</u>
24/4/23	single & Double output system	Single & Double output system	wind turbine Gearing & Coupling Slipring I/M Rectifier, inverter	<u>Bray</u>
25/4/23	Characteristics of wind power plant	Characteristics wind power Plant	Pumping Drainage Saw mill etc	<u>Brady</u>
26/4/23	Characteristics of wind power Plant	Characteristics of wind power plant	renewable clean, economic operation	<u>Brady</u>

Subject: RB No. of Days/per week class allotted 05

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
26/4/23	Tutorial Class	Doubt Discussion		<u>Br</u>
28/4/23	Biomass power:- Energy from Biomass	Biomass power:- Energy from Biomass	Energy Crop organic waste residue	<u>Br</u>
29/4/23	Biomass as Renewable Energy Source	Biomass as Renewable Energy Source	Photosynthesis Forest residue wild Plants	<u>Br</u>
29/4/23	Biomass as Renewable Energy Source	Biomass as Renewable energy source	Agricultural Crop residue Urban waste Industrial waste	<u>Br</u>
1/5/23	Type of Biomass Fuel :- Solid Liquid, Gas	Type of Biomass Fuel :- Solid Liquid, Gas	Aquatic Crop Animal waste Energy Crop	<u>Br</u>
2/5/23	Tutorial Class	Doubt Discussion		<u>Br</u>
2/5/23	Biomass fuel Solid, liquid Gas	Biomass fuel Solid, liquid gas	MSW, SLW Industrial waste	<u>Br</u>
3/5/23	Biomass fuel :- Solid Liquid Gas	Biomass fuel Solid liquid Gas	energy crop ethanol environment impact	<u>Br</u>
6/5/23	Combustion & Fermentation	Combustion & Fermentation	Roasting in presence of O ₂ ethano fermentation	<u>Br</u>
8/5/23	Anaerobic Digestion	Anaerobic Digestion	Decaying wet Biomass Anaerobic micro organism	<u>Br</u>
9/5/23	Tutorial class	Doubt Discussion Class		<u>Br</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
10/5/23	Type of Biogas Digester	Type of Biogas Digester	Hydrolysis Acidification Methane formation	<u>By</u>
12/5/23	Wood gasifier	Wood gasifier	Wood waste gasification Chemical reactor	<u>By</u>
12/5/23	Pyrolysis	Pyrolysis	Charcoal / char taros gases	<u>By</u>
13/5/23	Application of Bio-gas, Bio-Diesel	Application of Bio-gas & Bio-Diesel	Bio Pump Diesel engine Solvent properties	<u>By</u>
13/5/23	Tutorial class	Doubt Discussion	Doubt Discussion	<u>By</u>
20/5/23	Application of Biogas Bio-Diesel	Application of Biogas, Bio Diesel	Fuel filter on engine flash point	<u>By</u>
21/5/23	obtain source of energy, Tidal energy, Energy	Tidal energy from tides	Solar tide Lunar tide Neap tide Spring tide	<u>By</u>
21/5/23	From Tides Barrage & Non barrage tidal Power system	Barrage & Non-Barrage tidal Power system	Bulb-hanger Water flow Bulb casing Generator	<u>By</u>
22/5/23	do	do	Turbine Blade Distributor Bulb type rim type	<u>By</u>
22/5/23	Ocean thermal energy Conversion OTEC	Ocean thermal energy conversion (OTEC)	Rankine cycle Low pressure turbine	<u>By</u>
23/5/23	Tutorial class	Doubt Discussion	Doubt Discussion	<u>By</u>