

Session: 2026-27

Commencement: 01 July 2026

Target Completion: 31st October 2026

Total Theory Hours: 45 (3 hours/week)

Learning Outcomes (LOs):

- **LO1:** Explain construction & working of Solar PV and Concentrated Solar Power Plants
- **LO2:** Describe components & working principles of large & small Wind Power Plants
- **LO3:** Explain construction & working of Micro-hydro Power Plants
- **LO4:** Discuss properties of fuels & prepare layout for Biomass-based Power Plants

Month	Week	Hrs	Topics to be Covered	LO
July	W1	3	Course Introduction + Solar Map of India, Global solar radiation, Solar PV construction & working	LO1
July	W2	3	Concentrated Solar Power Plants: Power Tower, Parabolic Trough, Parabolic Dish, Fresnel Reflectors	LO1
July	W3	3	Solar Photovoltaic power plant: components, layout, construction, working, Rooftop solar PV system	LO1
July	W4	3	Large Wind Power Plants: Wind power density, Lift & drag principle, components & layout	LO2
August	W5	3	Geared type & Direct drive wind power plants, Generators (SCIG, DFIG, PMSG)	LO2
August	W6	3	Wound Rotor Induction Generator (WRIG), Variable Speed generators (WEG, PMSG)	LO2
August	W7	3	Small Wind Turbines: Horizontal axis – components, layout & working principle	LO2
August	W8	3	Vertical axis small wind turbines, Electric generators used in small wind plants	LO2

Month	Week	Hrs	Topics to be Covered	LO
September	W9	3	Internal Exam	
September	W10	3	Biomass Power Plant: Properties of solid fuels (bagasse, wood chips, rice husk, municipal waste)	LO4
September	W11	3	Properties of liquid & gaseous fuels (Jatropha, bio-diesel, bio-gas), Layout of Bio-gas plant	LO4
October	W11	3	Layout of Thermo-chemical (DPTG) & Agro-biofuel based power plants	LO4
October	W12	3	CULTURAL / ATHLETIC FEST	
October	W13	3	Micro-hydro Power Plants: Construction & working principle	LO3
November	W14	3	Leftover Portion(If any), Final Revision/ Doubt Clearing	

Prepared By :

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