

ELECTRICAL ENGG	STH	NAME OF THE TEACHING FACULTY- JYOTIRMAYEE SETHY, LECT(ELECT.)	
SUB-RE	No Of Days Per Week Class Alloted-5	SEMESTER FROM 14.02.2023 TO 25.05.2023 NO OF WEEK – 15 WEEKS	
WEEK	CLASS DAY	THEORY	STATUS
1 ST WEEK	1 ST day 2 nd day (govt holiday) 3 rd day 4 th day 5 th day	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. 1.4. Types of RE sources.	completed
2 nd WEEK	1 ST day 2 nd day 3 rd day 4 th day 5 th day	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	completed
3 RD WEEK	1 ST day 2 nd day 3 rd day 4 th day 5 th day	Solar Energy: 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). 2.3. Classification of energy Sources.	completed

4 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day (govt holiday) 5 TH day	<p>2 4. Extra-terrestrial and terrestrial Radiati</p> <p>2 5. Azimuth angle, Zenith angle, Hour angle, Irradiance Solar constant.</p> <p>2 6. Solar collectors, Types and performance characteristics.</p> <p>2 7. Applications: Photovoltaic - battery charger, domestic lighting, street lighting, water pumping, solar cooker. Solar Pond</p>
5 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	<p>Wind Energy:</p> <p>3 1. Introduction to Wind energy</p> <p>3 2. Wind energy conversion</p> <p>3 3. Types of wind turbines</p> <p>3 4. Aerodynamics of wind rotors</p>
6 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	<p>3 5. Wind turbine control systems; conversion to electrical power.</p> <p>3 6. Induction and synchronous generators</p> <p>3 7. Grid connected and self excited induction generator operation</p>
7 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	<p>3 8. Constant voltage and constant frequency generation with power electronic control</p> <p>3 9. Single and double output systems</p> <p>3 10. Characteristics of wind power plant</p>
8 TH WEEK	1 ST day 2 ND day 3 RD day (govt holiday) 4 TH day 5 TH day	<p>Biomass Power:</p> <p>4 1. Energy from Biomass</p> <p>4 2. Biomass as Renewable Energy Source</p> <p>4 3. Types of Biomass Fuels - Solid, Liquid and Gas.</p> <p>4 4. Combustion and fermentation</p>

9 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	4.5. Anaerobic digestion 4.6. Types of biogas digester 4.7. Wood gassifier 4.8. Pyrolysis, 4.9. Applications: Bio gas, Bio diesel	completed
10 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	Other Energy Sources 5.1 Tidal Energy: Energy from the tides, Barrage and Non Barrage Tidal power systems 5.2. Ocean Therna 5.3. Geothermal Energy – Classification: Energy Conversion (OTEC)	completed
11 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	5.4. Hybrid Energy Systems. 5.5. Need for Hybrid Systems. 5.6. Diesel-PV, Wind-PV, Microhydel-PV 5.7. Electric and hybrid electric vehicles	completed
12 TH WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	Class test for chapter 1	completed
13 TH WEEK	1 ST day (govt holiday) 2 ND day 3 RD day 4 TH day 5 TH day	Class test for chapter 2	completed
WEEK	1 ST day 2 ND day (govt holiday) 3 RD day 4 TH day 5 TH day	Class test of chapter 3	completed
WEEK	1 ST day 2 ND day 3 RD day 4 TH day 5 TH day	REVISION FOR EXAM	completed

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13/2/2023