

LESSON PLAN-2023-2024

SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

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| Discipline- ELECTRICAL | Semester-6TH | Name of teaching faculty-Sonali Susmita Tripathy |
| SUBJECT- RES | No of days/ per week class allotted- 6 | SEM From date-16.01.2024 No of weeks- |
| Week | Class day | Theory Topics |
| 4TH | 1/16/2024 | Introduction to Renewable energy |
| | 1/17/2024 | Environmental consequences of fossil fuel use. |
| | 1/18/2024 | Importance of renewable sources of energy. |
| | 1/19/2024 | Sustainable Design and development. |
| | 1/20/2024 | Types of RE sources. |
| | 1/22/2024 | Limitations of RE sources. |
| | 1/23/2024 | Assignments and doubt clearing Discussion about chapter-1 |
| | 1/24/2024 | Solar Energy |
| 1ST | 1/25/2024 | Solar photovoltaic system-Operating principle. |
| | 1/27/2024 | Photovoltaic cell concepts |
| | 1/29/2024 | Cell, module, array, Series and parallel connections |
| | 1/30/2024 | do |
| 2ND | 1/31/2024 | MPPT |
| | 2/01/2024 | Classification of energy Sources |
| | 2/02/2024 | Extra-terrestrial and terrestrial Radiation. |
| | 2/03/2024 | Azimuth angle, Zenith angle, Hour angle |
| | 2/05/2024 | Irradiance, Solar constant |
| | 2/06/2024 | Solar collectors, Types and performance characteristics |
| 3RD | 2/07/2024 | Solar collectors, Types and performance characteristics |
| | 2/08/2024 | Do |
| | 2/09/2024 | Photovoltaic - battery charger, domestic lighting, street lighting |
| | 2/10/2024 | water pumping, solar cooker, Solar Pond. |
| | 2/12/2024 | Assignments and doubt clearing Discussion about chapter-2 |
| | 2/13/2024 | Wind Energy |
| 4TH | 2/14/2024 | Introduction to Wind energy |
| | 2/15/2024 | Wind energy conversion |
| | 2/16/2024 | Types of wind turbines |
| | 2/19/2024 | do |
| | 2/20/2024 | Aerodynamics of wind rotors. |
| | 2/21/2024 | do |
| 5TH | 2/21/2024 | do |

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| | 2/22/2024 | Wind turbine control systems; conversion to electrical power |
| | 2/25/2024 | do |
| | 2/26/2024 | Induction and synchronous generators. |
| 1ST | 2/27/2024 | Grid connected and self excited induction generator operation. |
| | 2/28/2024 | Constant voltage and constant frequency generation with power electronic control. |
| | 2/29/2024 | Single and double output systems. |
| | 3/01/2024 | Characteristics of wind power plant |
| | 3/02/2024 | Biomass Power |
| 2ND | 3/04/2024 | Energy from Biomass. |
| | 3/05/2024 | Biomass as Renewable Energy Source |
| | 3/06/2024 | Types of Biomass Fuels - Solid, Liquid and Gas |
| | 3/07/2024 | do |
| | 3/09/2024 | Combustion and fermentation |
| 3RD | 3/11/2024 | Anaerobic digestion and aerobic |
| | | Types of biogas digester |
| | 3/12/2024 | DO |
| | 3/13/2024 | Wood gassifier |
| | 3/14/2024 | Pyrolysis |
| | 3/15/2024 | Bio gas, Bio diesel |
| | 3/16/2024 | Other Energy Sources |
| 4TH | 3/18/2024 | Tidal Energy: Energy from the tides |
| | 3/19/2024 | Barrage and Non Barrage Tidal power system |
| | 3/20/2024 | Ocean Thermal Energy Conversion (OTEC). |
| | 3/21/2024 | geothermal energy |
| | 3/22/2024 | Classification of geothermal energy |
| | 3/23/2024 | Hybrid Energy Systems |
| 1ST | 3/26/2024 | do |
| | 3/27/2024 | Need for Hybrid Systems |
| | 3/28/2024 | Diesel-PV, Wind-PV, Microhydel-PV |
| | 3/29/2024 | do |
| | 3/30/2024 | Electric and hybrid electric vehicles. |
| | 4/01/2024 | do |

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