**RENEWABLE ENERGY SOURCES**

**B. TECH IV YEAR II SEM**

LESSON PLAN

UNIT – I

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| --- | --- | --- | --- | --- |
| Sl. No | Name of the topic | No of periods | Teaching Methodology | Resources |
| 1 | Introduction to renewable energy sources – Role and potential | 2 | Black Board | T1 |
| 2 | Environmental impact of solar power, physics of the sun | 3 | Black Board | T1 |
| 3 | Solar constant, Extra terrestrial and terrestrial radiation | 3 | Black Board | T1 |
| 4 | Solar radiation measuring instruments | 4 | Black Board | T1 |

UNIT – II

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| --- | --- | --- | --- | --- |
| Sl. No | Name of the topic | No of periods | Teaching Methodology | Resources |
| 1 | Flat plate collectors | 3 | Black Board | T1 |
| 2 | Concentric collectors | 2 | Black Board | T1 |
| 3 | Solar energy storage | 3 | Black Board | T1 |
| 4 | Solar pond, solar energy applications | 4 | Black Board | T1 |

UNIT – III

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| Sl. No | Name of the topic | No of periods | Teaching Methodology | Resources |
| 1 | Sources and potential of wind energy | 2 | Black Board | T1 |
| 2 | Types of horizontal and vertical axis WECS | 2 | Black Board | T1 |
| 3 | Biomass conversion techniques | 2 | Black Board | T1 |
| 4 | Anaerobic digestion process and factors affecting biodigestion | 2 | Black Board | T1 |
| 5 | Types of bio gas digesters, economic aspects | 4 | Black Board | T1 |

UNIT – IV

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| Sl. No | Name of the topic | No of periods | Teaching Methodology | Resources |
| 1 | Sources of geothermal energy  Geothermal energy conversion | 3 | Black Board | T1 |
| 2 | Ocean Thermal Energy Conversion Systems (OTEC) principle and power generation | 2 | Black Board | T1 |
| 3 | Tidal energy, components of tidal energy plants | 3 | Black Board | T1 |
| 4 | Wave energy, Wave energy conversion devices | 2 | Black Board | T1 |

UNIT – V

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| Sl. No | Name of the topic | No of periods | Teaching Methodology | Resources |
| 1 | Seebeck, Peltier andJoule Thomson effects, | 2 | Black Board | T1 |
| 2 | Thermoelectric generators | 2 | Black Board | T1 |
| 3 | Magneto hydro dynamic generators | 3 | Black Board | T1 |
| 4 | Fuel cells | 3 | Black Board | T1 |