**UNIT 1**

*Introduction; Various non-conventional energy resources-Introduction;Various non-conventional energy resources availability; Various non-conventional energy resources classification; relative merits and demerits. tutorial Solar Cells ;Theory of solar cells,assignment given; solar cell materials; solar cell array; solar cell power plant; limitations,assignment submitted ; unit test,tutorial*

**UNIT 2**

*Solar Thermal Energy: Solar radiation; flat plate collectors and their materials; applications and performance; focussing of collectors and their materials,assignment given; tutorial; applications and performance; solar thermal power plants; thermal energy storage for solar heating and cooling; limitations, assignment submission; unit test,tutorial*

**UNIT 3**

*Resources of geothermal energy; thermodynamics of geo-thermal energy conversion-electrical conversion; tutorial; non-electrical conversion; environmental considerations;Principle of working of MHD Power plant, assignment given; performance and limitations of MHD Power plant;Principle of working of various types of fuel cells and their working; performance and limitations of fuel cells, assignment submission; unit test,tutorial*

**UNIT 4**

*Thermo-electrical and thermionic Conversions: Principle of working; assignment given, performance and limitations of Thermo-electrical and thermionic Conversions;tutorial; Wind power and its sources; site selection and criterion, momentum theory; classification of rotors; concentrations and augments, wind characteristics; performance and limitations of energy conversion systems, assignment submission; unit test,tutorial*

**UNIT 5**

*Availability of bio-mass and its conversion theory; Ocean Thermal Energy Conversion(OTEC): Availability,assignment given; tutorial; theory and working principle of OTEC; performance and limitationsof OTEC; Wave and Tidal Wave: Principle of working; performance and limitations of Wave and Tidal Wave; Waste Recycling Plants, assignment submission, unit test,tutorial*

 



 

 





 