

Subject Code:25C1000325	Subject Title: Energy Technology
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COURSE OBJECTIVE:

This course is designed to get basic understanding of Energy Resources and technology

LEARNING OUTCOMES:

- Develop an actual understanding about Energy Resources.
- To know the basic knowledge of Geothermal energy and Wind Energy .

Teaching scheme (hours) per week		credit		Theory Examination		Practical Examination		Total
Theory	Practical	Theory	Practical	University Assessment	Cont. Assessment	University Assessment	Cont. Assessment	
2	---	2	---	35	15	---	---	50

Unit	Content	Lectures	Wt.(%)
1	Introduction: What is energy ?, Energy Science and Technology, Energy, mass and environment, Some well known forms of energy, Energy Resources and forms of energy, Energy demand, Energy Routes for Conventional energy resources, National energy strategies, and energy plan, Energy management, Cost comparison of energy resources and conversion, Energy Conservation opportunities. Environmental aspects of energy: Introduction, Pollution from use of energy, Combustion Products of Fossil Fuels, Particulate Matter, Electrostatic Precipitator(ESP), Fabric Filter and Baghouse.	7	50
2	Geothermal Energy: Introduction, Applications, Utilization of Geothermal Energy, Geothermal Energy Resources, Hydro Geothermal Resources, Hot Dry Rock Geothermal Resources. Merits and demerits of Petro-Geothermal energy Power Plant, Geothermal Electrical Power Plants, Classification and types of Geothermal Power plants, Wind Energy: Introduction, Applications of Wind Energy and Historical Background, Merits and limitations of Wind energy Conversion, Nature and Origin of Wind, Wind Energy Quantum, Variables in Wind Energy Conversion systems, Wind power density, Power in wind Stream, Wind turbine Efficiency. Types of wind Turbine-Generator Units, Characteristics of wind turbine generator	7	50

Basic Reference book:

1. Energy Technology by S.Rao and Dr. B.B. Parulekar, Khanna Pub.-1995 1st edition
2. Solar Energy conversion, An introductory course By A. E. Dikon and J. D. Loslie
3. Principles of Energy Conversion By Archie W. Cupl Jr