CH484: RENEWABLE ENERGY TECHNOLOGY

CREDITS = 4 (L = 4, T=0, P = 0)

1.	**REVIEW OF FORMS OF ENERGY:** choice of energy sources, cost comparison of energy sources and conversion, heat cycles, heat pumps, energy storage	5 Hours
2.	**SOLAR ENERGY FUNDAMENTALS:** merits and limitations, solar thermal energy conversion system, different collector plates, solar photovoltaic system, solar pond	7 Hours
3.	**WIND ENERGY:** nature and origin variable in wind energy conversion system, wind turbine ocean wave energy conversion, parameters of a progressive wave, wave energy convector, recent advances in ocean wave energy technology.	6Hours
4.	**GEOTHERMAL ENERGY:** hydro and petro geothermal deposits, their origin, geothermal gradients, different geothermal power plants-vapour and liquid dominated flashed systems.	3 Hours
5.	**FUEL CELLS**	2 Hours
6.	**URBAN WASTE:** energy from land fill bio-gas projects and incineration plants, principle and process of bio-mass gasification in India, bio-methanation, movable drum vs. fixed dome type plants, effects of different parameters on land fill gas recovery	6 Hours
7.	**MAGNETO HYDRO DYNAMIC ENERGY**	3 Hours
8.	**ENERGY CONSERVATION** heat recuperator, heat regenerator etc.	5 Hours
9.	**ENERGY AUDIT**	3 Hours

REFERENCE BOOKS

Title: Energy Technology
Author: Rao and Parulekar
Publisher: Khanna Publishers

Title: Solar Energy
Author: Sukhatme
Publisher: Tata Mc Graw Hill