

SYLLABUS :-

Prerequisite-none Fossil energy resources and reserves. Production and consumption pattern in India. Alternative energy resources. Characterization of coal, biomass and other fossil fuels including petroleum and petroleum products. Classification and commercial trading of coal. Coal preparation. Simulation and modeling of coal preparation circuits. Theory of coal pyrolysis and carbonization. Gasification of coal including producer and water gas. Conversion processes for coal into synthetic liquid fuel. Basic principle of combustion. Adiabatic combustion temperature, ignition temperature, etc. Coal combustion in fixed and fluidized bed. Pulverized coal firing processes. Text Book: 1. Fuels and Combustion by S. Sarkar 2. Fuels, Combustions and Furnaces by Griswold 3. Combustion Engineering and Furnace Technology by A. K. Saha