"Mechanized Design Application"

Department: Mechanical Engineering

Course Name : Energy Engineering

Final Year of Mechanical Engineering (2015 Course)

Course Code : 402047

Course Objectives:

1. To study the power generation scenario, the components of thermal power plant, improved Rankin cycle, Cogeneration cycle.
2. To understand details of steam condensing plant, analysis of condenser, the environmental impacts of thermal power plant, method to reduce various pollution from thermal power plant.
3. To study layout, component details of hydroelectric power plant, hydrology and elements, types of nuclear power plant.
4. To understand components; layout of diesel power plant , components; different cycles ; methods to improve thermal efficiency of gas power plant
5. To study the working principle, construction of power generation from non-conventional sources of energy.
6. To learn the different instrumentation in power plant and basics of economics of power generation.

Course Outcomes:

On completion of the course, students will be able to -

CO1: Describe the power generation scenario, the layout components of thermal power plant and analyze the improved Rankin cycle, Cogeneration cycle

CO2: Analyze the steam condensers, recognize the an environmental impacts of thermal power plant and method to control the same

CO3: Recognize the layout, component details of hydroelectric power plant and nuclear power plant

CO4: Realize the details of diesel power plant, gas power plant and analyze gas turbine power cycle

CO5: Emphasize the fundaments of non-conventional power plants

CO6: Describe the different power plant electrical instruments and basic principles of economics of power generation.