

## BE MECHANICAL SEMESTER-II

<b>Name Of Subject:</b>	Energy Engineering
<b>Course Objectives:</b>	
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 an 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
<b>Course Outcomes:On completion of the course, students will be able to–</b>	
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 fundamentals of non-conventional power plants
CO6	Describe the different power plant electrical instruments and basic principles of economics of power generation

<b>Name Of Subject:</b>	Mechanical System Design (MSD)
<b>Course Objectives:</b>	
1	To enable student to design machine tool gearbox.
2	To introduce student to optimum design and use optimization methods to design mechanical components.
3	To enable student to design material handling systems.
4	To enable student to design cylinders and pressure vessels and to use IS code.
5	To enable student select materials and to design internal combustion engine components.
6	To develop ability to apply the statistical considerations in design and analyze the defects and failure modes in components.
<b>Course Outcomes: On completion of the course, students will be able to–</b>	
CO1	Design for machine tool gearbox.
CO2	Understand optimum design and use optimization methods to design mechanical components.
CO3	Design of material handling systems.
CO4	Design of cylinders and pressure vessels and learn to use is code.
CO5	Do the selection of materials and design for internal combustion engine components.
CO6	Apply the statistical considerations in design and analyze the defects and failure modes in components.

<b>Name Of Subject:</b>	<b>Industrial Engineering</b>
<b>Course Objectives:</b>	
1	To introduce the concepts, principles and framework of contents of Industrial Engineering.
2	To acquaint the students with various productivity enhancement techniques.
3	To acquaint the students with different aspects of Production Planning and Control and Facility Design.
4	To introduce the concepts of various cost accounting and financial management practices as applied in industries.
5	To acquaint the students with different aspects of Human Resource activities and Industrial Safety rules.
6	To acquaint students with different aspect of simulation modeling for various industrial engineering\applications.
<b>Course Outcomes:</b>	
CO1	Apply the Industrial Engineering concept
CO2	Understand, analyze and implement different concepts involved in method study.
CO3	Design and Develop different aspects of work system and facilities
CO4	Understand and Apply Industrial safety standards, financial management practices.
CO5	Undertake project work based on modeling & simulation area.

<b>Name Of Subject:</b>	Elective-IV (Advanced Manufacturing Processes)
<b>Course Objectives:</b>	
1	To analyze and identify applications of special forming processes.
2	To analyze and identify applications of advanced joining processes.
3	To understand and analyze the basic mechanisms of hybrid non-conventional machining techniques.
4	To understand various applications and methods of micro and nano fabrication techniques.
5	To understand advanced Additive Manufacturing (AM) technology for innovations in product development.
6	To understand various material characterization by advanced measuring instrument
<b>Course Outcomes:</b>	
CO1	Classify and analyze special forming processes.
CO2	Analyze and identify applicability of advanced joining processes.
CO3	Understand and identify applicability of hybrid non-conventional machining techniques.
CO4	Select appropriate micro and nano fabrication techniques for engineering applications.
CO5	Understand and apply various additive manufacturing technology for product development.
CO6	Students should able to distinguish different instruments used to measure material characterization., etc.