IVYear -ISemester

COURSE OUTCOMES – MECHANICAL ENGINEERING

Operational Research

CO 1:- Identify and develop operational research models from the verbal description of the real system.

CO 2:- Understand the mathematical tools that are needed to solve optimization problems

CO 3:- Use mathematical software to solve the proposed models.

CO 4:- Develop a report that describes the model and the solving technique, analyze the results and propose recommendations in language understandable to the decision-making processes in Management Engineering.

Power Plant Engineering

CO 1:- Discuss the energy resources and energy conversion methods available for the production of electric power in India.

CO 2:- Determine the efficiency and output of a modern Rankine cycle steam power plant from given data, including superheat, reheat, regeneration, and irreversibilities

CO 3:- Calculate the heat rate, fan power consumption, flame temperature and combustion airrequirements of conventional steam generators (boilers).

CO 4:- Select the heat transfer tubes needed for condensers and feed water heaters

CO 5:- Explain the blade shapes, and calculate work output of typical turbine stages.

CO 6:- Calculate the performance of gas turbines with reheat and regeneration, and discuss the performance of combined cycle power plants.

CAD/CAM

CO 1:- At the end of this course the students are expected to be knowledgeable in CAD/CAM integration.

CO 2:- At the end of this course the students are expected to be knowledgeable in CNC Structure and its drives and control system details, CNC machine tool and work holding devices

CO 3:- At the end of this course the students are expected to be knowledgeable in CNC Part programming using manual and computer aided part programming.

CO 4:- At the end of this course the students are expected to be knowledgeable in Computer aided quality control

Instrumentation and Control Systems

CO 1:- Demonstrate the concepts of measurement systems

. **CO 2:-** Implement static and dynamic characteristics for analysing measurement system

CO 3:- Learn about the accuracy of the measurement system and statistical analysis of errors

CO 4:- Select appropriate measurement system based on characteristics, loading effect, reliability and economic issues.

Mechatronics

CO 1:- Develop a simulation model for simple physical systems and explain mechatronics design process

CO 2:- Outline appropriate sensors and actuators for an engineering application

CO 3:- Write simple microcontroller programs

CO 4:- Explain linearization of nonlinear systems and elements of data acquisition

CO 5:- Explain various applications of design of mechatronic systems

Unconventional Machining Process

CO 1:- identifying the classification of unconventional machining processes.

CO 2:- To understand the principle, mechanism of metal removal of various unconventional machining processes

CO 3:- To study the various process parameters and their effect on the component machined on various

unconventional machining processes.

CO 4:- To understand the applications of different processes.

Computer Aided Design& Manufacturing Lab

CO 1:- Students will be able to review and train in CAD modeling.

CO 2:- Students will be get trained on various areas of finite element analysis of mechanical components.

CO 2:- Students would get trained on part programming and program generation from a CAD model

CO 3:- Students would get trained on machining on CNC machines

CO 4:- Students would get trained on various modern measuring instruments

Production Drawing Practice and Instrumentation lab

CO 1:- Students will be able to prepare production drawing for various mechanical components.

CO 2:- Students will be able to know various transducers

CO 3:- To gain practical knowledge of the instruments used for the measurement of flow, pressure, temperature, and conductivity