



SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING, SHEGAON
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOMES OF ALL COURSES OF SIXTH SEMESTER
BE MECHANICAL ENGINEERING

6ME01 Design of Machine Elements

After successfully completing the course, students will be able to:

- 1 Apply principles and design considerations used in machine design
- 2 Design different temporary and permanent joints for static loading
- 3 Design shafts and couplings for various applications for static loading
- 4 Design bearings for various applications and IC engine parts
- 5 Utilize design data books in designing various machine elements
- 6 Generate geometric model/drawings using dimensions of designed machine elements

6ME02 Dynamics of Machines

After successfully completing the course, students will be able to:

- 1 Apply the concept of static force analysis to kinematic mechanisms.
- 2 Apply the concept of the dynamic force analysis to kinematic mechanisms.
- 3 Apply the concept of gyroscopic couple and forces on a dynamic body.
- 4 Apply the basics of longitudinal vibrations and determine the natural frequency of the vibrating system.
- 5 Apply the basics of transverse vibrations and calculate the natural frequency of the vibrating system.
- 6 Evaluate the balancing masses and their orientation for balancing of the rotating and reciprocating masses.

6ME03 Control System Engineering

After successfully completing the course, students will be able to:

- 1 Demonstrate the fundamental concepts of automatic Control, mathematical modeling & determination of the transfer function of control systems using various methods
- 2 Analyze the time response of various systems & determine the Static error coefficients for different input & type of the systems
- 3 Evaluate the stability of linear systems using various methods.
- 4 Design and selection of industrial controller and Understanding of automatic speed controllers for Machine tools, Prime Movers and Steam Generator.

6ME04 Non-Conventional Energy Sources

After successfully completing the course, students will be able to:

- 1 Illustrate basic concept of renewable and non-renewable sources
- 2 Apply the basic concept of solar energy utilization and storage.
- 3 Illustrate basics working of photovoltaic panel, fuel cell and geothermal energy
- 4 Apply the concept of energy from ocean
- 5 Apply the concept of energy from wind.
- 6 Demonstrate understanding the concept of bio-mass energy resources.

6ME04 Lean Manufacturing

After successfully completing the course, students will be able to:

- 1 Explain the concept and applications of lean manufacturing
- 2 Interpret different element of lean manufacturing
- 3 Interpret different tools of lean manufacturing
- 4 Apply lean manufacturing in real life situation
- 5 Identify the barriers in implementation of Lean Manufacturing.
- 6 Explain the concept of Six Sigma

6ME08 Computer Aided Design and Simulation

After successfully completing the course, students will be able to:

- 1 Understand the concept of CAD.
- 2 Apply knowledge using CAD modeling for component design
- 3 Apply the knowledge of geometric transformation.

4 Construct the Mechanical & Manufacturing simulation systems