



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

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COURSE OUTCOMES OF ALL COURSES OF THIRD SEMESTER  
BE MECHANICAL ENGINEERING

**3ME01 Engineering Mathematics - III**

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

- 1 Apply the knowledge linear differential equation to solve problems.
- 2 Apply Laplace transform to solve differential equation.
- 3 Apply the concept of Partial differential equation, probability and statistics.
- 4 Apply the knowledge of complex analysis.
- 5 Apply the knowledge of Numerical analysis.
- 6 Apply the knowledge of vector calculus to solve physical problems.

**3ME02 Manufacturing Processes**

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

- 1 Understand the working principles of basic manufacturing processes.
- 2 Apply the knowledge of casting processes for the specified working conditions.
- 3 Analyze the various causes of casting defects to provide remedial action.
- 4 Apply the knowledge of various forming processes for the given operating conditions.
- 5 Apply the knowledge of basic and advance welding processes for detection and prevention of welding defects.

**3ME03 Mechanics of Materials**

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

- 1 Determine stresses in uniaxial tension and compression conditions.
- 2 Draw SFD, BMD and calculate bending stresses in beams.
- 3 Apply torsion theory to shafts and helical springs.

- 4 Determine stresses in thin, thick cylinders and thin spherical shells.
- 5 Calculate strain energy and principal stresses given loading conditions.
- 6 Determine deflection of beams under various loading conditions.

### **3ME04 Engineering Thermodynamics**

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

- 1 Illustrate the basic concept of thermodynamics, thermodynamic systems, work and heat
- 2 Apply first law of thermodynamics to flow processes.
- 3 Apply first law of thermodynamics to Non-flow processes.
- 4 Apply second law of thermodynamics and explain concept of entropy.
- 5 Explain the properties of steam, work done and heat transfer during various thermodynamic processes.
- 6 Analyze thermodynamic cycles of various thermal systems.

### **3ME05 Fluid Mechanics**

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

- 1 Determine the values of various fluid properties at rest and in motion
- 2 Apply general governing equations for fluid flow problems
- 3 Apply the concept of Boundary layer theory for internal and external fluid flow
- 4 Solve numerical based on force exerted by jet on plate by principle of impulse momentum

### **3ME10 Machine Drawing**

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

- 1 Demonstrate the techniques of sectioning and visualizing the objects
- 2 Understand and sketch the missing views
- 3 Develop surfaces of objects and apply knowledge during their fabrication
- 4 Understand the concept of intersection of solid objects
- 5 Apply the conventions for materials and parts used in industries
- 6 Prepare the assembly and detail drawings of simple machine components