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 Mathematics - III**

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

1. Solve the Linear Differential equations with constant coefficients by various methods
2. Find Laplace Transform of various types of functions and find Laplace Transform of Periodic, Impulse & Unit step function. Use LTto solve LDE
3. Find the solution of partial differential equation of first order, curve fitting by method of least square, correlation& regression & find the binomial & Poisson distribution
4. Test the analyticity, find the harmonic conjugates, and expand the function in Taylor's or Laurent's series, find conformal mapping.
5. Obtain the solution of algebraic solution of transcendental equation &the solution of linear system of equation by various methods
6. Differentiate vector point functions, find gradient of scalar point function, and find divergence and curl of vector point function. Evaluate line, surface, and volume integrals.

**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 and strains in the members subjected to axial, bending and torsional load
2. Analyze beams for shear force, bending moments and shear stress distribution
3. Determine strain energy in members under different loading conditions
4. Analyze beams with different loading conditions for slope and deflection

**3ME04 Engineering Thermodynamics**

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

1. Analyze various thermodynamic systems involving heat and work interaction.
2. Apply first law of thermodynamics to open and closed system.
3. Apply second law of thermodynamics to various engineering problems.
4. 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. Analyze the principle of impulse momentum to hydraulic jets.