

2. Hydraulic Press : Deep drawing and extrusion operation.

4. **PROCESSING OF PLASTICS**

1. Injection Moulding
2. Blow Moulding

II Year B.Tech. Mechanical Engg. I- Semester	L	T	P	To	C
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ME211 COMPUTATIONAL METHODS FOR ENGINEERS LAB

Course Description & Objective:

To provide hands on experience in MAT LAB and to write simple codes to implement the numerical methods covered during the theory course.

Course Outcomes:

1. *This course will enable the Mechanical engineers to understand the fundamental criteria for the choice of numerical methods.*
2. *They will understand the use of computational simulations and modeling techniques which are applied to their engineering problems.*
3. *This course also enables them to understand non – linear statistical modeling methods and to utilize them in their real life situations.*
4. *The student will be able to apply the statical quality control techniques in the product quality and quantity.*
5. *They will be able to calculate polynomials to anylise data using interpolation.*

Write Programs in 'C' / MAT LAB:

1. To deduce error involved in polynomial equation.
2. To Find out the root of the Algebraic and Transcendental equations using Bisection, Regula-falsi, Newton Raphson and Iterative Methods. Also give the rate of convergence of roots in tabular form for each of these methods.
3. To implement Newton's Forward and Backward Interpolation formula.
4. To implement Gauss Forward and Backward, Bessel's, Sterling's and Evertt's Interpolation formula
5. To implement Newton's Divided Difference and Langranges Interpolation formula.
6. To implement Numerical Differentiations.

7. To implement Numerical Integration using Trapezoidal, Simpson 1/3 and Simpson 3/8 rule.
8. To implement Least Square Method for curve fitting.
9. To draw frequency chart like histogram, frequency curve and pie-chart etc.
10. To estimate regression equation from sampled data and evaluate values of standard deviation, t-statistics, regression coefficient, value of R^2 for at least two independent variables.