AMR-26 COMPUTING METHODS IN MATERIAL ENINEERING

1. Introduction to programming language,

2. Differentiation, integration, finding roots of equation and solving linear algebraic equations,

3. Interpolation, extrapolation, application of regression analysis and curve fitting techniques,

4. Computer calculation of phase diagrams,

5. Numerical solution of partial differential equation pertinent to heat, mass and momentum transfer,

6. Computer application in solidification, potential energy diagrams,

7. Mass balancing, data reconciliation problem solving with material balance software package quantitative description of mineral processing units and its computer implementation,

8. Introduction to a general purpose modular, simulation for process analysis.

Reference Books:
1. Introduction to the Finite Element Method by J N Reddy
2. Finite Element Analysis: Theory and Programming by C S Krishnamoorthy