

### **ME 602 Computational Fluid Dynamics and Heat Transfer(3-0-0-6)**

Root finding; Solution of ODEs, Numerical quadratures; Classification of PDEs; Finite difference discretisation schemes; Convergence, stability, and consistency criterion of finite difference schemes; finite difference schemes for steady and unsteady heat conduction problems and boundary layer problems.

#### *Textsbooks:*

- [1] D A Anderson, J C Tannehill, and R H Pletcher, *Computational Fluid Mechanics and Heat Transfer*, 2nd ed, Taylor & Francis, 1997.
- [2] Y Jaluria and K E Torrance, *Computational Heat Transfer*, Springer Verlag, 1986.
- [3] S V Patankar, *Computational Fluid Mechanics and Heat Transfer*, Hemisphere, 1980.