

## THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI-15

(A Govt. Aided Autonomous Institution affiliated to Anna University)

- where Quality and Ethics matter



## **QEEE COURSES**

## INTRODUCTION TO CONVECTION HEAT TRANSFER - HEAT TRANSFER

## **COURSE CONTENT:**

Introduction to Convection, Recapitulation of the Fluid Flow Equations, Boundary layer over a flat plate, Derivation of energy equation and identification of dimensionless terms, Concept of thermal boundary layer and derivation of thermal boundary layer equation, Thermal boundary layer over a flat plate

Internal flow: concept of thermally fully developed flow, solution for thermally fully developed Hagen-Poiseuille flow with different boundary conditions – (a) constant heat flux, (b) constant wall temperature.