MT607: VISCOUS FLUID DYNAMICS-II

Syllabus: Starting flow in plane couette motion, Suction/injection through porous wall; Equation of energy; Temperature distribution : Between parallel plates, in a pipe, between two concentric rotating cylinders, Temperature distribution of plane Couette flow with transpiration cooling; Theory of very slow motion : Stoke's and Oseen's flows past a sphere; Concept of boundary layer; Derivation of velocity and thermal boundary equations in two-dimensional flow;: boundary layer on flat plate (Balsius Topfer solution); Simple solution of thermal boundary layer equation for $P_r = 1$

UNIT SCHEDULE

Unit 7   Starting flow and Suction/injection through porous wall
Unit 8   Temperature distribution in fluid motion
Unit 9   Theory of very slow motion
Unit 10   Concept of boundary layer theory
Unit 11   Velocity and thermal boundary equations in two-dimensional flow
Unit 12   Balsius Topfer solution