

SYLLABUS :-

Prerequisites: AE21001, AE31003

3 - 0 - 0: 3 CreditsHypersonic flow: thin shock layers, entropy layers, viscous interaction, high-temperature and low-density flow; hypersonic shock and expansion wave relations and similarity parameter, Newtonian and modified Newtonian flow, local surface inclination methods, hypersonic inviscid flow: approximate and exact methods of solution; viscous hypersonic flow and hypersonic boundary layers, aerodynamic heating, hypersonic shock/boundary layer interaction; high-temperature flow and chemical effects in air, thermodynamics of chemically reacting gases, concepts of equilibrium and nonequilibrium flows.Books:J D Anderson, Jr, Hypersonic and High-Temperature Gas Dynamics, McGraw-Hill International.M J Zucrow and J D Hoffman, Gas Dynamics, Volume I and II, John Wiley.