



Indian Institute of Technology

Course Details Report

Course No: AS5420

Course Name: Introduction to CFD

Course Type:

Theory

Description:

Introduction to numerical methods machine epsilon, numerical differentiation and integration. Advection and diffusion by wave equation, heat equation and Laplace equation. Properties of the solutions. Discretization schemes for the one dimensional first order wave equation. Dissipation, Dispersion and stability of such schemes. Simple extension to QuasiOneDimensional Euler equations and Full Euler equations. Solution to heat equation. Time marching schemesADI, LU approximate factorization schemes. Solution to Laplace equationPoint interactive technique. Properties of the solution. Introduction to grid generationalgebraic grids, elliptic grids. Applications to flow problems.

Course Content:

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Text Books:

NIL

Reference Books:

NIL